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The development of the Proto-Indo-European syllabic liquids in Greek

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The development of the Proto-Indo-European syllabic liquids in Greek

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Preface

This dissertation is the result of a project titled "Proto-Greek: a reconstruction" funded by NWO (Organisatie voor Nederlands Wetenschappelijk Onderzoek) within the program "Toptalent". The research was carried out within LUCL (Leiden University Centre for Linguistics) under the supervision of Prof. A. Lubotsky. Originally, the main objective of the project was to establish a relative chronology for the sound changes that took place from Proto-Indo-European, via Proto-Greek, down to the various dialects of Ancient Greek. In the initial stages of the project, I focused on the various waves of palatalizations that took place in the second millennium BC. In the course of my research, however, it gradually became clear that the vocalization of the syllabic liquids was one of the most crucial sound developments: not only for issues of relative chronology, but also for the prehistoric genesis of the four main dialect groups of Alphabetic Greek. When a new solution for the problematic double reflex of *$r̥$ started to present itself, I decided to devote the entire dissertation to this topic.

The bold hypothesis underlying this thesis is that -αρ-, not -ρα-, is the regular reflex of word-internal *$r̥$ in Ionic-Attic. The idea first took shape in a rudimentary way when I realized that two seemingly independent metrical peculiarities of Homeric Greek had to be related. In view of Wathelet's article (1966) on the origin of *muta cum liquida* scansions in Homeric words like δράκων and βροτός, it seemed logical to view not only their aberrant scansion, but also the outcomes -ρα- and -ρο- themselves, as a trace of the pre-forms with *$r̥$. It also appeared that the word κραδίη is hardly ever preceded by a short vowel in Homer, whereas other words of the same metrical structure make abundant use of this possibility, as discovered by Hoenigswald (e.g. 1991). In combination, these two peculiarities suggested that *$r̥$ had been preserved until not very long before Homer. Along with the novel hypothesis came a large number of problems: all Ionic-Attic forms with -ρα- had to be accounted for, and the evidence from all other Greek dialects had to be re-examined. Whether the solutions proposed here are correct or not, they would not have been found without the conviction that Wathelet's explanation of the Homeric *muta cum liquida* licence somehow had to be correct.

As the title suggests, this dissertation is primarily a work about historical phonology, but this is, I hope, not its only contribution. The solution proposed here for the development of *$r̥$ entails a new view on the relation between Epic Greek and the vernacular. The elaboration of the consequences for the prehistory of Epic Greek and for the synchronic understanding of Homer, however, must be left for another occasion.

I am grateful to the support staff of LUCL, in particular to the Institute Manager Gea Hakker, for help and support in practical matters. Furthermore, I would like to express my gratitude to the board of OIKOS (Netherlands Research School for Classical Studies) for kindly allowing me to follow part of their PhD program, including the 2010 Masterclass in Athens. I have learned a lot from my teachers at the Indo-European department of Leiden University: Rob Beekes, Frits Kortlandt, Sasha Lubotsky, Michiel de Vaan, Alwin Kloekhorst, Guus Kroonen, Michaël Peyrot; among those at the Classics department, I would like to mention Casper de Jonge and Adriaan Rademaker in particular. I am grateful to Frits Kortlandt for having encouraged me right from the start and for commenting on earlier versions of several chapters. During conferences and Summer Schools, I have learned much from discussions with colleagues and fellow students, of whom Jesse Lundquist deserves particular mention. Finally, I profited from the broad knowledge of Karl Praust and of Velizar Sadovski, who both stayed in Leiden as visiting scholars and discussed various topics from my work with me.

Working on this dissertation would not have been quite the same if it had not been for my friends and colleagues. My thoughts go out in the first place to Alwin, with whom I have shared an office for five years; to Michaël, Guus, and Tijmen: after you left Leiden, lunches simply have not been the way they used to be; and to Casper, for being an academic tutor right from the start. Finally, I thank my wife Annelies for her loving support and care: she alone knows how much time I spent working on this book, rather than with her.

Leiden, November 2013

Abbreviations and conventions

Languages and sources:

Aeol.	Aeolic
Alb.	Albanian
Arc.	Arcadian
Arc.-Cypr.	Arcado-Cyprian
Arm.	Armenian
Att.	Attic
Av.	Avestan
Boeot.	Boeotian
c.	century
Class.	Classical
Cret.	Cretan
CS	Church Slavic
Cypr.	Cyprian
Cz.	Czech
Dor.	Doric
Du.	Dutch
Fr.	French
G.	German
Gm.	Germanic
Goth.	Gothic
Gr.	Greek
Hitt.	Hittite
Hom.	Homer
IIr.	Indo-Iranian
Ion.-Att.	Ionic-Attic
inscr.	epigraphic
Ir.	Irish
It.	Italic
Ital.	Italian
Lat.	Latin
Latv.	Latvian
Lesb.	Lesbian
Lith.	Lithuanian
Lyc.	Lycian
MHG	Middle High German
Mo-	Modern
MoE.	Modern English (but E. = Euripides)
ms(s).	manuscript(s)
Myc.	Mycenaean
NWGr.	North West Greek
O-	Old-
OHG	Old High German
ON	Old Norse
OP	Old Persian
P-	Proto-
Pamph.	Pamphylian
PCelt.	Proto-Celtic
PGr.	Proto-Greek
Phryg.	Phrygian
PIon.	Proto-Ionic (= Proto-Ionic-Attic)
PIE	Proto-Indo-European
Ru.	Russian
RV	Rigveda
SCr.	Serbo-Croatian
Skt.	Sanskrit
Sl.	Slavic
Slov.	Slovene
Thess.	Thessalian
Toch.	Tocharian
Ved.	Vedic Sanskrit
W.	Welsh
WGr.	West Greek
YAv.	Young(er) Avestan

Symbols:

*	reconstructed form
<	developed from
>	developed into
<<	analogically developed from
>>	analogically developed into
←	was derived from
C	consonant
H	laryngeal
L	liquid
N	nasal
R	resonant
V	vowel

$|_P$ penthemimeral caesura
$|_T$ trochaeic caesura
$|_H$ hephthemimeral caesura
$|_B$ bucolic diaeresis

Grammatical abbreviations:

1/2/3	1st, 2nd, 3rd person	mg.	meaning
A	accusative	mid.	middle
act.	active	msc.	masculine
adj.	adjective	N	nominative
adv.	adverb	ntr.	neuter
aor.	aorist	opt.	optative
athem.	athematic	p.	plural
comp.	comparative	pass.	passive
D	dative	pf.	perfect
denom.	denominative	PN	personal name
du.	dual	prep.	preposition
fem.	feminine	pres.	present
fut.	future	pret.	preterite
HN	hydronym	ptc.	participle
I	instrumental	red.	reduplicated
impf.	imperfect	s.	singular
impv.	imperative	subj.	subjunctive
ind.	indicative	superl.	superlative
inf.	infinitive	them.	thematic
inj.	injunctive	TN	toponym
intr.	intransitive	tr.	transitive
L	locative		

Greek authors: I have generally followed the abbreviations of Greek authors and their works that are used in *LSJ*, with the exception of *Ol.*, *Pyth.*, *Nem.*, and *Isthm.* (instead of *O.*, *P.*, *N.*, *I.*) for the works of Pindar.

Translations: I have provided my own translations of Greek passages, unless otherwise indicated. When using existing translations, I have generally used Wyatt's recent reworking of Murray's Loeb translation of Homer, and Race's translation of Pindar (also in the Loeb series). In all other cases, the source for the translation is made explicit in the text.

1. Introduction

1.1 The Greek reflexes of *$\mathring{r}$ and *$\mathring{l}$: the problem and its relevance

The main aim of this book is to establish the reflexes of the syllabic liquids *$\mathring{r}$ and *$\mathring{l}$ in all dialects of Ancient Greek. In a number of phonological environments, Proto-Greek inherited these sounds from Proto-Indo-European, but like most Indo-European languages upon their first attestations, all first millennium Greek dialects have eliminated *$\mathring{r}$ and *$\mathring{l}$ in various different ways. For example, the Proto-Greek thematic aorist *am$\mathring{r}$t-e/o- 'to miss, fail' is continued in Ionic-Attic as ἁμαρτεῖν, but in Lesbian as αμβροτην (inscr.) and ἄμβροτε (Sapph.).

At first sight, the outcomes of *$\mathring{r}$ and *$\mathring{l}$ are an isolated topic of Greek dialectology and historical phonology. However, the reflexes of *$\mathring{r}$ are intimately connected with two much-debated questions that are of vital importance for the reconstruction of Greek prehistory. How did the four main dialectal groups of alphabetic Greek originate, and at which date? And when did the artificial language of Epic Greek, in the form familiar to us from Homer onwards, come into being?

1.1.1 A brief summary of previous accounts

In order to illustrate what is at stake, let us start with a summary outline of Ruijgh's view,[1] which consists of two major building blocks:

1. the syllabic liquids were eliminated from all Greek dialects already in the mid-second millennium. This resulted in a split into dialects with *o*-vocalism (Aeolic, Achaean) and dialects with *a*-vocalism (Ionic-Attic, West Greek).
2. the metrical behavior of certain Homeric formulae proves the existence of Epic verse, *grosso modo* in its Homeric form, in the mid-second millennium.

It is traditionally accepted that a regular *o*-colored reflex of the syllabic liquids is found only in the Aeolic dialects (Lesbian, Thessalian, Boeotian) and in Arcado-Cyprian. From the viewpoint of Classical Ionic-Attic, this reflex was considered so characteristic that Aeolic and Arcado-Cyprian were occasionally lumped together, in the first half of the previous century, as a special subgroup. After the decipherment of Linear B, however, most scholars agree that the fundamental division is between what Risch (1955) called North Greek and South Greek.[2] The two most important isoglosses between these two groups are the South Greek assibilation *$t^{(h)}i$ > *si* and the South Greek development of intervocalic *-$t^{(h)}\hat{i}$- through *-*ts*- and -*ss*- to -*s*-. The phonologically more conservative North Greek dialects retained *ti* and *ts*.[3]

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[1] As expounded in a large number of contributions throughout his scholarly career, for instance Ruijgh (1961, 1967, 1985, 1995, 1997).

[2] North Greek comprises the later West Greek and Aeolic groups, and Proto-South Greek is the ancestor of Achaean (= Mycenaean plus Arcado-Cyprian) and Proto-Ionic. The idea was already proposed before the decipherment of Linear B: see Risch (1949) and Porzig (1954).

[3] The examples are well-known: for **ti* > *si*, cf. e.g. Myc. *di-do-si* /didonsi/ 'they give', Class. τίθησι 'puts', and for *-$t^{(h)}\hat{i}$- > *-*ts*- > *-*ss*- > -*s*-, see Myc. *to-so* /to(s)son/ 'so much', Class. τόσος and Myc. *me-sa-to* /me(s)sato-/, Class. μέσος 'middle'. The crucial innovation of South Greek is the reduction of the affricate *-*ts*-, first to *-*ss*-, then to single -*s*-. In Aeolic and West Greek, neither development took place at an early date: the Boeotian and Cretan reflexes presuppose that the original affricate outcome of PGr. intervocalic *-$t\hat{i}$- was preserved until Proto-Aeolic and Proto-West Greek at least. In view of the ambiguous spelling of Linear B, it is impossible to determine with certainty whether Mycenaean had already undergone the development *-*ss*- > -*s*-.

The decipherment of Linear B also seemed to prove an early date for the vocalization of **r̥*. Mycenaean forms like *to-pe-za* and *qe-to-ro-po-pi*, which derive from PGr. **tr̥-ped-i̯a* and **k^{w}etr̥-pod-p^{h}i*, are all but universally interpreted as /torped^{z}:a/ and /k^{w}etropopp^{h}i/. These examples seem to prove that the vocalization had been accomplished already in the 14th c. BC in the Achaean dialects of South Greek, and perhaps even earlier. A much-cited argument in this connection is the development of an epenthetic *-d-*, attested already in Mycenaean and also in the Homeric form ἀνδροτῆτα < PGr. **anr̥tāt-* (see below). Since the insertion of *-d-* in ἀνδροτῆτα presupposes a vocalization of **r̥* to *-ro-*, it is concluded that both developments took place prior to the Mycenaean tablets.[4]

By extension, Ruijgh assumed that the other dialects vocalized **r̥* (and **l̥*) around the same time, even if these dialects are first attested at a much later date than Mycenaean. Thus, he supposed that the following developments took place in mid-second millennium Greek, resulting in a split into four dialect groups:[5]

South Greek: **t$^{(h)}$i > si*; **-t$^{(h)}$i̯- > *-ts- > -s-*	Achaean: **r̥ > -or-, -ro-*
	Ionic-Attic: **r̥ > -ar-, -ra-*
North Greek: **-t$^{(h)}$i̯- > *-ts-*	Aeolic: **r̥ > -or-, -ro-*
	West Greek: **r̥ > -ar-, -ra-*

Table 1.1: the mid-second millennium split into four dialect groups, according to Ruijgh

Note that the different outcomes of **r̥* are the only *phonological* criterion on which the proposed mid-second millennium split into four dialect groups is based. There are no other phonological developments that are demonstrably early and where the first millennium dialect groups have different reflexes.[6]

Let us now turn to the second issue: the prehistory of Epic Greek and the hexameter. The debate, as it stands nowadays, was initiated by Mühlestein (1958) in an article about Mycenaean names starting with *a-no-*, which he interpreted as /anor-/, corresponding to Class. ἀνδρο-. Mühlestein combined the Mycenaean form with a long-standing metrical problem from Homeric Greek. The formulae |$_{H}$ ἀνδροτῆτα καὶ ἥβην 'vigor and youth' and |$_{T}$ Ἐνυαλίῳ ἀνδρεϊφόντῃ 'man-slaying Enualios' (for older **ἀνδροφόντῃ*) are unmetrical as they stand in our Homeric text. Moreover, other formulae like ἀσπίδος ἀμφιβρότης |$_{P}$ 'man-covering shield' require application of the otherwise uncommon *muta cum liquida* licence.[7] These metrical irregularities would disappear if **r̥* were to be substituted for its Homeric outcome -ρο- (pre-forms **anr̥tāta*, **anr̥k^{wh}ontāi*, **amp^{h}imr̥tās*). Therefore, it seemed attractive to assume that these and other Homeric formulae were coined before the elimination of **r̥* from the dialect from which they were taken. If one accepts that the Achaean sound change **r̥ > -or-, -ro-* had been completed before the Linear B tablets, and that forms like ἀμφιβρότης and ἀνδροτῆτα (with their reflex -ρο-) originated in a direct ancestor of Mycenaean, it would

[4] In *a-di-ri-a-te* /andriantei/ 'with a man's figure', the PN *a-re-ka-sa-da-ra* /Aleksandrā/, and perhaps in the PN *a-da-ra-ko* /Andrark^{h}os/. Apart from Ruijgh, see e.g. Hackstein (2002: 6), but he mentions only *a-re-ka-sa-da-ra* and *a-da-ra-ko*, forms which did not contain syllabic *r̥*, but its prevocalic consonantal allophone.

[5] This is specifically Ruijgh's view (e.g. 1985: 162-3, 1992: 84-7, 1996: 117). Among the other scholars who defend a pre-Mycenaean origin of Epic Greek, West ("in the Mycenaean tablets that stage is already past; that dialect at least has moved irrevocably towards *or* or *ro*", 1988: 156-7) and Wathelet ("un fait relativement récent en mycénien et, sans doute, aussi dans l'ensemble du grec", 1970: 172) are more careful.

[6] For a summary overview of morphological criteria (the inf. act. in -ναι, -μεν, or -μεναι, or adverbs of the type ὅτε, ὅτα, ὅκα 'when') and lexical criteria (e.g. βούλομαι, βόλομαι, δείλομαι, etc.), see the classical study by Risch (1955), especially the table on p. 75. The most important question always remains whether a common innovation of the two South Greek dialect groups can be proven, or whether we are dealing with coexisting morphological archaisms.

[7] For the meaning of |$_{P}$, |$_{T}$, and |$_{H}$, see the abbreviations.

follow that the formulae in question were coined approximately in the mid-second millennium.[8]

This explanation of ἀνδροτῆτα and related forms was the standard view by the 1980's and early 1990's, but in the meantime, it had also become the topic of a severe controversy that was initiated by Tichy (1981).[9] Her main objection was that the unchanging existence of the Homeric hexameter for such a long period is a premise that cannot be relied upon. She argued, instead, that formulae like ἀσπίδος ἀμφιβρότης and Ἐνυαλίῳ ἀνδρεϊφόντῃ could be relatively recent creations, and that ἀνδροτῆτα καὶ ἥβην is not a phonological archaism, but a metrical archaism to be explained within the proto-hexameter framework provided by Berg (1978). In her view, the aberrant Homeric scansion of the form ἀνδροτῆτα was regular in a pre-stage of Epic verse, when a trochaeic fourth foot was still allowed. This scenario, or at least its possibility, has gained an increasing number of proponents in recent years.[10] Another point of criticism has been that the preservation of metrically irregular formulae over a period of seven centuries is implausible (cf. Haug 2002: 63-4).[11] Finally, it was observed that the formula ἀνδροτῆτα καὶ ἥβην, in its Homeric form, cannot have existed in (pre-)Mycenaean Epic because the conjunction καί is unattested in Mycenaean (Ruijgh 1997: 42-44, cf. Hackstein 2002: 6).[12]

Ruijgh's idea of an early split into *a*-coloring and *o*-coloring dialects has also been challenged in various different ways. First of all, scholars like Risch and Cowgill already remarked that the Mycenaean situation cannot be automatically projected on the other dialect groups: there is no particular reason to assume that the presence of *o*-coloring in two dialectal groups is due to a common development. For this reason, they remain agnostic about the precise date of vocalization of **r̥* and **l̥* in the various non-Achaean dialectal groups.[13] Moreover, the assumption that *o*-vocalism was the only regular treatment in Aeolic and Achaean has occasionally been challenged, most notably by Morpurgo Davies (1968).[14] Finally, Heubeck (1972) has argued that Mycenaean still preserved **r̥* until the period of the tablets, and proposed that Epic language and metre as they are known from Homer originated in the early Dark Ages.

Thus, there is no current consensus about the precise reflex of **r̥* in Aeolic or Arcado-Cyprian, about its date of vocalization in the various dialect groups, or about the origin of the metrically aberrant formulae with -ρο- in Homer.[15]

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[8] Mühlestein (1958: 224): "Demnach muss schon vor der Mitte des zweiten Jahrtausends in griechischen Hexametern von Mannheit gesungen werden sein". See also Ruijgh (as above), Wathelet (1966: 171-2), West (1988: 156-7). However, Mühlestein also argued (1958: 226, *Nachtrag*) that "der Weg zur homerischen Sprache (…) nicht durchs Mykenische hindurch, sondern am Mykenischen vorbei [geht]", in view of the abstract *a-no-qa-si-ja* /anork^{wh}asiā-/. For an evaluation of this argument, see chapter 7.

[9] Hackstein (2002: 6) calls it "ein beständiger Zankapfel zwischen der Philologie und der Sprachwissenschaft", but one might just as well speak of an apple of discord among linguists.

[10] E.g. Haug (2002), Hackstein (2002, 2010), Hajnal (2003).

[11] Haug's interesting arguments concerning Ἐνυαλίῳ ἀνδρεϊφόντῃ are further discussed in section 7.3.2.

[12] Ruijgh modified his views on the status of ἀνδροτῆτα καὶ ἥβην in his later publications, and focused on Ἐνυαλίῳ ἀνδρεϊφόντῃ instead as the main piece of evidence.

[13] Concerning the relative chronology of liquid vocalization, Risch remarked: "… die Verhältnisse sind hier im einzelnen so wenig übersichtlich und zum Teil sogar so widerspruchsvoll, dass sie sich einer klaren Beurteilung entziehen und dieses Merkmal daher für unsere Betrachtung ausscheidet" (1955: 72). Cowgill went even further with his remark that "the contrast of ορ and αρ is not very important for grouping Greek dialects" (1966: 82). In a similar vein, cf. Wathelet (1970: 172-3).

[14] See section 3.5.

[15] For instance, Cowgill (1966) has recently been cited approvingly by Parker (2008), and Heubeck (1972) has been accepted by García Ramón (explicitly in 1975, implicit in many later works). Rix (1992: 65) is slightly more reserved about the *o*-colored outcome in Mycenaean and Arcado-Cyprian. Scholars like Lejeune (1972: 197-8) assume a stronger "preference" for the *o*-colored outcome in Mycenaean and the Aeolic dialects. The

1.1.2 Research questions and hypotheses

Any evaluation of this almost inextricable jumble of questions and hypotheses has to depart from a thorough investigation of the non-Ionic-Attic dialectal evidence, as attested primarily in epigraphic material and secondarily in glosses. The first main goal of this book is, therefore, to review the evidence for **r̥* and **l̥* per individual dialect group, and to establish the regular development of these sounds. An evaluation of the etymological evidence for **r̥* in Mycenaean and the major non-Ionic-Attic dialects will be given in chapters 2 and 3, respectively. The much more extensive Ionic-Attic evidence, including that of Epic Greek, is the subject of chapters 4 to 9. Since the evidence does not necessarily suggest that the development of **r̥* was identical to that of **l̥*, I will treat the development of **l̥* in all dialects separately in chapter 10.

Unlike most previous treatments, my main focus throughout this book will be on the regular place of the anaptyctic vowel. Shorthand formulations like "PGr. **r̥* > Ion.-Att. αρ/ρα, Myc. *or*/*ro*" are commonplace in the scholarly literature (see section 1.1.1). But if such statements are taken at face value, the assumed variation would violate the principle of *Ausnahmslosigkeit*: sound changes normally do not have a dual outcome. We therefore have to ask, for each individual Greek dialect: was the regular reflex *-or-*, *-ro-*, *-ar-*, or *-ra-*? Although the evidence of many dialects is rather limited, especially within the West Greek group, it is remarkable that the treatment of the Aeolic dialects is diametrically opposed to that of Achaean. Anticipating my conclusions, Lesbian and Boeotian show a regular reflex **r̥* > -ρο- (chapter 3), but such a development can be excluded for Mycenaean (chapter 2).

The most complicated question is whether the regular outcome of **r̥* in Ionic-Attic was -αρ- or -ρα-. The origin of pairs like κραδίη ~ καρδία and κρατερός ~ καρτερός forms a long-standing problem, for which several solutions have been suggested since the late nineteenth century. Since none of these attempts has been particularly successful (see section 1.4), many scholars have resigned to the view that the original distribution cannot be fully recovered. At the same time, and in spite of the problems with this view, it is still widely believed that **r̥* > ρα was indeed the regular development in Ionic-Attic.

In order to solve these problems, I propose to assume a regular development **r̥* > -αρ- in spoken Proto-Ionic, and explain all instances of -ρα- by assuming a specific development for cases of **r̥* which were retained longer within Epic Greek.[16] I will briefly introduce the benefits of such a scenario in section 1.6, and elaborate this proposal in chapter 6. Thus, the second objective of this book is to make explicit the various mechanisms by which forms with original **r̥* were treated in Epic Greek.

We have seen that the vocalization of **r̥*, as an isogloss, has played an important role in previous discussions about the genesis of the four main Greek dialect groups. The reader may already have noticed my scepticism concerning the mid-second millennium date assumed by Ruijgh and others. The conclusion that Aeolic and Mycenaean / Arcado-Cyprian have two different outcomes of **r̥*, in spite of the fact that they share an *o*-colored reflex, deprives the idea of an early vocalization of all justification: there is no reason whatsoever to align these two different developments chronologically.[17] For reasons that will become clear later, I think that the vocalization of **r̥* must be pushed forward in time, towards our first attestations, as

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mainstream view concerning claim 1. is represented, beside Ruijgh, Wathelet, and West, by scholars like Sihler (1995: 92), Haug (2002: 59), and Hackstein (2002: 5-7).

[16] Henceforth, when speaking of Proto-Ionic, I will refer to the most recent common ancestor of Attic, Western Ionic, Central Ionic, and Eastern Ionic.

[17] García Ramón (1975) assumes a post-Mycenaean vocalization to -ρο-, -ορ- in Proto-Aeolic, basing himself on Heubeck's idea of retained **r̥* in Mycenaean. But in a similar way, there is no principled reason either to conclude, from the non-occurrence of a change in one (South Greek) dialect, that the change did not occur in a different (North Greek) dialect.

far as possible.[18] In this context, a particularly important question is whether Mycenaean still preserves *$\underset{\circ}{r}$, as Heubeck (1972) argued. The issue appears to be very hard to resolve on the basis of the Mycenaean evidence alone, and largely depends on one's opinions about the presence of Mycenaean forms and scansions in Homer. On the basis of my new proposal that -ρα- is the outcome in Epic Greek, as opposed to -αρ- in the Ionic-Attic vernacular, the value of the vocalization of *$\underset{\circ}{r}$ as an isogloss must be reconsidered.[19] This is our third main objective. An evaluation of all chronological indications will be presented at the end of this book, in chapter 11.

Before examining the previous solutions to the vexed question of -αρ- versus -ρα-, let us first of all delimit those phonetic environments where the Greek dialects did not diverge in their treatment of *$\underset{\circ}{r}$ and *$\underset{\circ}{l}$. These environments with a Pan-Greek or Proto-Greek vocalization to αρ and αλ are discussed in section 1.2, and will generally be left out of further consideration in the remainder of this book. After that, some problems surrounding the *o*-colored reflex of *$\underset{\circ}{r}$ will be treated (section 1.3): in which dialects do we find *o*-vocalism, and under which conditions? And is there any relation between the *o*-colored reflex of the syllabic liquids and that of the syllabic nasals?

1.2 Enviroments with Pan-Greek or Proto-Greek αρ, αλ

The sounds *$\underset{\circ}{r}$ and *$\underset{\circ}{l}$ were part of the inventory of Proto-Indo-European and continued to exist until a dialectally differentiated stage of Greek. In Proto-Indo-European, they can be viewed as allophones of /r/ and /l/ in interconsonantal position. A first, early development occurred in Proto-Greek when the laryngeals were eliminated: it is now commonly agreed that an anaptyctic vowel developed in front of liquids and nasals in the PIE sequence **CRHV*, yielding Proto-Greek **C$_{ə}$RHV* and then **CaRV*- in all Greek dialects.[20] The fact that liquids and nasals behave in a uniform way in this environment points to an early phonemicization of the anaptyctic vowel, which took place when the prevocalic laryngeals were lost in Proto-Greek. In what follows, all such cases will be left out of consideration.

A Common Greek *$\underset{\circ}{r}$ or *$\underset{\circ}{l}$ also turns up as -αρ- (-αλ-) in all Greek dialects in front of a semivowel *$\hat{i}$, and again, the development of the syllabic nasals in this position is identical. Let us first review the evidence for this development, before we consider the possibility of an early vocalization in three other environments: word-initial and word-final position, and the position before a nasal (**CLNV*-).

1.2.1 *$\underset{\circ}{r}$ and *$\underset{\circ}{l}$ in front of a glide

The loss of intervocalic laryngeals in Proto-Greek led to the phonemicization of the glides *$\hat{i}$ and *$\underset{\wedge}{u}$, as opposed to the vowels *i* and *u*. Thus, in PIE **med^{h}io*- > PGr. **met$^h\hat{i}o$*- 'middle', *-$\hat{i}o$- came to be phonologically distinct from the suffix *-*iH-o*- > PGr. *-*io*-.[21] It is widely

[18] In this respect, then, I agree with scholars like Wathelet (1970) and Heubeck (1972).

[19] Since the evidence for *$\underset{\circ}{l}$ is too limited, I will focus on the vocalization of *$\underset{\circ}{r}$ as far as chronological issues are concerned. It cannot be excluded on forehand that *$\underset{\circ}{l}$ vocalized earlier than *$\underset{\circ}{r}$.

[20] For this point, which has been sufficiently elucidated by previous scholars, see e.g. García Ramón (1985), Rix (1992: 74). Not long after the publication of his dissertation (1969), Beekes gave up the idea of laryngeal coloring from **CRHV*, mainly in view of ἀρήν 'lamb' < PIE **urh$_1$-ēn* beside Skt. *urán*-. A special development **CRHV* > **CoRV* has been assumed for Lesbian, but the evidence merely consists of the forms τόμοντες (Ion. ταμόντες 'cutting' < **tmh$_1$-ont-es*) and χόλαισι (Ion. χαλῶσι, from χαλάω 'to release, slacken') in Alcaeus. In my view, these two forms do not warrant such a drastic conclusion. For present purposes, it suffices that all dialects had the anaptyctic vowel in front of the liquid in the environment **CRHV* (PGr. **CəRV*).

[21] It is possible that a marginal phonemic difference between consonantal *r*, *l* and syllabic *$\underset{\circ}{r}$, *$\underset{\circ}{l}$ came into existence at this stage, because the sequence *-ur*- would have become differentiated from -$\underset{\wedge}{u}\underset{\circ}{r}$- in the position between two stops (e.g. Early PGr. **k^{w}et$\underset{\wedge}{u}\underset{\circ}{r}$to*- 'fourth', **t$\underset{\wedge}{u}\underset{\circ}{r}$kes* 'pieces of meat' beside the presumably early borrowing **púrgo*- 'bulwark'). As we will see, however, this already marginal difference seems to have been eliminated when -$\underset{\wedge}{u}\underset{\circ}{r}$- was reduced to $\underset{\circ}{r}$ after alveolar and labial stops (**k^{w}et$\underset{\wedge}{u}\underset{\circ}{r}$to*- > **k^{w}et$\underset{\circ}{r}$to*-, **aleip^h-$\underset{\wedge}{u}\underset{\circ}{r}$*

acknowledged that all Greek dialects regularly developed *a*-vocalism in front of a liquid between a PGr. consonant and prevocalic glide: **r̥, l̥* > αρ, αλ | **C_ i̯V*.[22] The main piece of evidence are the verbs in -αίρω, which never turn up with *o*-vocalism ([++]-οίρω) in any dialect. Potential instances of dialectal **-ori̯-* < **-r̥i̯-* are dubious: Lesbian ὄνοιρος (Sapph.) can be compared to Arm. *anurǰ* 'dream' < **onōri̯o-*, with shortening of the long diphthong by Osthoff's Law in Greek.

There are, however, two potential problems with the assumption that **r̥, l̥* > αρ, αλ was the regular development in the environment **C_ i̯V*. First of all, it is not so easy to adduce formations with **-r̥i̯-* that are demonstrably of Proto-Greek date. Most verbs in -αίρω may be inner-Greek denominatives to stems -αρ, such as τεκμαίρομαι 'to conjecture' from τέκμαρ 'sign'. In such cases, the *a*-vocalism could theoretically be due to the word-final development to -αρ, which may well have been Pan-Greek (see below), or it could even be due to restoration across a morpheme boundary.

Turning to the more isolated cases, it seems that the formation of χαίρω 'to rejoice' was inherited from earlier PIE **ǵʰr̥-i̯e/o-*, given the cognates Ved. *háryati* 'id.', Lat. *horior* 'to encourage', U. **heriiei** 'wishes'. However, a thematic *yod*-present of PIE age is uncertain, because the Sabellic and Vedic forms point to earlier root ablaut.[23] Another example of considerable antiquity could be μεγαίρω 'to begrudge', cognate with Arm. *mecarem* 'to hold in esteem', which derives from the exact same pre-form, and illustrates the intermediate stage in the semantic development from μέγα to μεγαίρω. Apart from χαίρω and μεγαίρω, I have not been able to identify any clearly inherited formations. It is even harder to find examples for **-l̥i̯-* of sufficient antiquity. A possible example is ἅλλομαι 'to jump', if this derives from **sl̥-i̯e/o-* and can be compared directly with Lat. *saliō*. The *a*-vocalism of the Latin verb, however, is difficult to explain from a root **sel-*, and perhaps rather points to **sh₂el-* (see de Vaan, *EDL* s.v.).[24]

A second problem concerns the relation between the outcome **-ari̯-*, **-ali̯-* (in the verbal formations just discussed) and the different syllabification found in forms like τριῶν (Gp.) 'three' < PIE **tri-om* or the feminine agent nouns in -τρία (Myc. *-ti-ri-ja*, *-ti-ra₂*) < PIE **-tr-i(e)h₂-*. According to Ruijgh (1992: 78ff.), the outcome seen in τριῶν and -τρία is regular, and the development to **-ari̯-*, **-ali̯-* is due to restoration across a morpheme boundary between **L/N* and **i̯*, as in the present stems in -Cαιρε/o- < **Cr̥-i̯e/o-*. But the converse could also be defended: τριῶν could be analogical after the Dp. τρισί or a hypothetical Ap. **trins*, and the feminine agent nouns in **-tr-ih₂-* also contain a morpheme boundary.

Although these issues are interesting in themselves, they need not be resolved here: all that matters for now is the lack of evidence for the retention of a syllabic liquid in front of a Proto-Greek **i̯*. In all Greek dialects, cases for which **-r̥i̯-* could be reconstructed invariably end up either with *-ri-* or with an anaptyctic *-a-* in front of the liquid: that is, we never find outcomes like **-rai̯-* or **-ori̯-*. The development of the syllabic nasals in the same environment may also shed some light on the issue.[25] Analogical restoration does not seem likely in the inherited and paradigmatically isolated present formations βαίνω 'to walk' <

'unguent' > **aleip[h]r̥*); there are no good examples for *-u̯r̥-* after velar or labiovelar stops. This allows us to regard Common Greek **r̥* as an allophone of /r/ between two consonants.

[22] Cf. e.g. Haug (2002: 53) following García Ramón (1985: 206-8).

[23] Cf. de Vaan (*EDL* s.v. *horior*). The reflex in Vedic *háryati* differs from that in *mriyáte* 'to die', which must contain the regular Indo-Aryan reflex of PIE **Cr-ie/o-* (cf. Lat. *morior* < **mr-ie/o-*). Even so, the Greek form is best derived from a thematic *yod*-present **kʰr̥-i̯e/o-* of at least Proto-Greek date, because its synchronically unexpected active voice speaks against a more recent formation based on the aorist χαρῆναι (contrast τέρπομαι : ταρπῆναι, with an expected middle present).

[24] Moreover, ἅλλομαι may have been influenced by the Hom. root aorist ἆλτο (*ἄλτο). Other examples like σκάλλω 'to hew' and σφάλλομαι 'to stumble' could derive from older nasal presents.

[25] Cf. García Ramón (1985: 207).

*g^wm̥̂ie/o- (Lat. *veniō*) and μαίνομαι < *mn̥̂ie/o- (Ved. *mányate*). It would therefore be attractive to explain χαίρω in the same way: in both cases, all Greek dialects have an outcome with *a*-vocalism in front of the liquid or nasal.

It is difficult to cite a single convincing example for the outcome of the syllabic liquids in the environment PGr. *$C_\underset{\frown}{u}V$. The problem can be illustrated by an example containing a nasal: μανός 'thin, sparse'. This adjective has ᾱ once in Empedocles, but ᾰ generally in Attic, and therefore presupposes a pre-form **manwó-*. However, μανός does not reflect PGr. **mn̥-wo-*, because the gloss μανύ (Hsch.) suggests that this form is due to the thematicization of an older *u*-stem **mnH-u-*.[26] Such a proto-form is also corroborated by the Arm. *u*-stem *manr* (G. *manu*) 'small'.[27] The same type of formation may underlie Hom. κᾱλός, Att. κᾰλός, Boeot. καλϝος: again, the antiquity of the thematic form is unclear, and the underlying root probably ended in a laryngeal.[28] The often adduced neuter φᾶρος 'cloth' (Hom.), *pa-we-a_2* (Myc.) has previously been compared with Lith. *bùrva* 'color, colored garment' and *bùrė* 'sail', but according to Fraenkel (*LEW* q.v.), the former was probably borrowed from Polish *barva*, itself from MHG *varwe* (MoHG *Farbe* 'color'), and the latter is considered to be a loan from Finno-Ugric. It is therefore uncertain whether PGr. **p^harwos* contains a reflex of **r̥*.[29]

1.2.2 Word-initial **r̥* and **l̥*

A number of discussions of the development of the syllabic liquids in Greek still use the term "syllabic **r̥* and **l̥* in anlaut".[30] However, it is clear by now that many apparent cases derive from PIE **HLC-*.[31] As Beekes (1969) and Rix (1970) have shown, an epenthetic vowel developed in word-initial **HLC-* in early Proto-Greek. In the ensuing **$H_ə$LC-*, the schwa was subsequently colored by the neighboring laryngeal.[32] Furthermore, the phonotactics of PIE probably did not allow word-initial **r-*.[33] Proto-Greek secondarily developed word-initial **r̥-* only in the precursor of ἄρσην 'male', where it was due to the loss of **w-* in the pre-form **wr̥sen-* in late PIE (Pronk 2009).[34] Leaving this case aside, examples of Gr. ἀρ- are generally derived from two types of PIE avatars:

(1) **h_2rC-* or **$h_2$erC-*, as in ἀρκέω 'to ward off' beside Hitt. *ḫark-* 'to hold', Lat. *arceō* 'to contain', or ἀρτύω 'to arrange, prepare' (ἀρτύς· σύνταξις Hsch.) beside Lat. *artus* 'joint', Ved. *ṛtú-* 'order, fixed time'.[35]

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[26] Cf. de Lamberterie (1990: 187-194).

[27] De Lamberterie (o.c. 192f.) proposes a further etymology: **mnH-u-* 'sparse, rare, thin' may be a derivation from the verbal root of Lith. *mìnti* 'to tread, break flax' if an older meaning of the adjective was 'broken into pieces'.

[28] In my view (see section 10.5), καλός is best reconstructed as a thematicization of PGr. **kalú-* < PIE **klH-u-*, from the root of Lith. *kìlti* 'to rise, emerge', Lat. *-cellō* 'to rise, excel'.

[29] García Ramón (1985: 210) equally remarks that there is no good evidence for the sequence **Cr̥$\underset{\frown}{u}V$-*, but makes a possible reservation concerning Hom. φᾶρος and Myc. *pa-we-a_2*. Since he also accepts that φᾶρος could be a loanword, I do not understand on which basis he concludes that "the Common Greek form must be reconstructed as **p^h°rwos* > **p^harwos*".

[30] Including e.g. Morpurgo Davies (1968) and García Ramón (1985). Thus already Schwyzer (1939: 342): "αρ erscheint im Anlaut und Auslaut, vor einstigem Halbvokal und vor Vokal".

[31] Cf. Haug (2002: 50).

[32] The effect is now known as "Lex Rix". On **HLC-*, see recently Vine (2005).

[33] Cf. Ruijgh (1992: 86 n. 31).

[34] The vocalization of ἄρσην may have been influenced by the full grade: dialectal ἔρσην shows that the Proto-Greek paradigm had ablaut. The Thessalian form ορσην excludes a Pan-Greek development of **r̥* in initial position. See section 9.1.7 for further discussion of this word.

[35] As various scholars have observed, there is no reason for deriving ἄρχω 'to rule; begin' from a form with **r̥-*. The comparison of the particle ἄρα, ἄρ (Hom.) 'then, so' with the Baltic conjunction Lith. *ir̃*, Latv. *ìr* 'and, also; even' and with the question particle Lith. *ar̃*, Latv. *ar*, has been taken to point to a reconstruction **r̥*. This is based, essentially, on the comparison of ἄρα, ἄρ with the Homeric clitic ῥα (cf. Hoenigswald 1953: 289-90, with

(2) **wr̥C-*, for which there are hardly any ascertained examples (perhaps in ἀρνειός 'ram' beside Ved. *vr̥ṣṇí-* 'id., ram-like').[36]

Word-initial **l̥-* may have existed in PIE, but there are no good examples for its reflex in Greek. For instance, the root underlying ἀλκή was **h₂lḱ-*, as is shown by the related ἀλέξω 'to ward off' < **h₂leḱ-s-*. Various words with initial λα- may have had **lh₂C-*, **sl̥-* or **wl̥-*. Ruijgh (1992: 86 n. 31) points at the interesting case of λεπτός 'delicate, small', which is attested already in Myc. *re-po-to*. As one would expect a pre-form **l̥ptó-* with zero grade root in this type of formation, roots of the structure **leC-* probably generalized the full grade at an early date.

1.2.3 Word-final **r̥* and **l̥*

In word-final position, we only have evidence for **-r̥*: there are no clear examples of **-l̥*.[37] Most scholars accept an early, Pan-Greek change **-r̥* > -αρ which took place before the vocalization of **r̥* in internal position.[38] Given the well-known parallels from Indo-Iranian and Celtic, such a scenario is indeed quite plausible.[39] According to García Ramón (1985: 212), an early vocalization is proven by ἔαρ 'spring' < PIE **ues-r̥* because in his view, the intervocalic lenition **s* > **h* could only have operated on a form ending in *-ar*. But since it is hard to exclude that the lenition of **s* also took place between a vowel and **r̥* (cf. Haug 2002: 51), the argument is not compelling.[40] There are, however, some other indications in favor of a pan-dialectal change **-r̥* > *-ar*: García Ramón (1985: 215) points at the Homeric particle αὐτάρ (cf. τάρ < **tr̥* and ἀτάρ), which turns up as *autar* in Cyprian, a dialect which is mostly supposed to have an *o*-colored outcome in word-internal position.[41]

An alternative scenario has been proposed by Ruijgh (1961: 205), who assumes a split between (1) -ορ in Aeolic and Achaean (Arcado-Cyprian and Mycenaean), and (2) -αρ in West Greek and Ionic-Attic. In his view, there was no difference between the word-internal and word-final development as far as the color of the anaptyctic vowel is concerned. This would allow a chronological alignment of both developments. Ruijgh's only direct argument are the two isolated Epic forms ἦτορ 'heart' and ἄορ 'sword', which he supposes to be

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a review of older literature). Upon this view, ἄρα arose as a conflation of ἄρ and ῥα, which are supposed to be two different outcomes of the same pre-form **r̥*. Haug (2002: 52) accepts the reconstruction **r̥*, but admits that all kinds of special accidents may have taken place, and therefore does not use ἄρα, ἄρ, ῥα as evidence. But since the origin of the variation ἄρ ~ ῥα remains obscure, we might as well connect only ἄρ with the Baltic forms and reconstruct a particle **h₂r*, **h₂ér* (*EDG* s.v. ἄρα, cf. also *DELG*). Prof. Kortlandt points out to me that this reconstruction potentially conflicts with the idea that the prohibitive particle Toch. A *mar* reflects **meh₁* (as in Gr. μή, Skt. *mā́*) plus **r*. It seems logical to relate its final *-r* directly to the particle Toch.B *ra*, which is usually derived from PIE **r* plus another particle PToch. **ā* or **ē*. In my view, it is possible to derive this particle from a pre-form starting with PIE **h₂r*, because it cannot be excluded this first developed to **r* in Proto-Tocharian, with loss of the laryngeal.

[36] On ἀρπαλέος < **walpaléo-*, see section 10.2.

[37] It is possible to explain some suffixes containing -αλ- by assuming an original Ns. in **-l̥*.

[38] For an early vocalization of final **-r̥* to -αρ in all Greek dialects, see e.g. Schwyzer (1939: 342), Lejeune (1972: 196), García Ramón (1985), and Sihler (1995: 92). Haug (2002: 51-2), who discusses García Ramón (1985) and Ruijgh (1961), does not make a decision between these two competing points of view.

[39] See García Ramón (1985: 203), and for the possibility of a conditioned development of **-r̥* in Latin, see Frotscher (2012). The vocalization of **-r̥* had already occurred in Vedic, as in *ū́dhar* 'udder' < PIE **(H)úHdʰr̥*, whereas *r̥* was preserved in word-internal position. Perhaps, accented **-ŕ̥* yielded *-úr*, as in *sthātúr* 'immovable wealth' and the 3p. pf. ind. *-úr*, as opposed to unaccented **-r̥* > *-ar*: see Frotscher (2012). In Irish, the word-final change **-r̥* > *-or* (OIr. *arbar* 'grain' < PCelt. **arawr̥* < PIE **h₂erh₃-ur*) differs from the word-internal development **-r̥-* > *-ri-* (OIr. *cride* 'heart' < **ḱr̥d-io-*); again, the latter change must have taken place later.

[40] Compare the possibility that **-s-* underwent lenition in the environment **-r̥sV-*: see section 9.1 on τραυλός.

[41] In addition, García Ramón (1985: 215-6) points at Arc. παρ < **pr̥*, Myc. *a-mo-ra-ma* /āmōr-āmar/ 'day by day' < **āmōr-āmr̥*, and the ligature *A-RE-PA*, which must represent /aleipʰar/. He also interprets Myc. *o-da-a₂* as containing a particle /ar/ and compares it with Hom. ἄρ, ῥα, ἄρα, which he derives from PIE **r̥*. But I agree with Haug (2002: 52) that it would be hazardous to base any conclusions on this particle.

Achaean elements in Homer. In addition, he uses the assumed Mycenaean development to -ορ to explain the *o*-vocalism in neuters like *pe-mo* (see section 1.3.2). By contrast, forms like Myc. *a-mo-ra-ma* /āmōr-āmar/ 'day by day' have in his view introduced the *a*-vocalism of the oblique cases in *-at-* < *-*n̥t-* into the NAs. in *-*or*. But as we will see (section 1.3.2), such a leveling is not the most convincing way to solve the problem posed by the Mycenaean neuters, and other scenarios for ἦτορ and ἄορ cannot be excluded.[42]

Finally, an almost forgotten idea by Hoenigswald (1988: 201f.) deserves to be mentioned. The normal and most widespread Ionic-Attic reflex of *-*r̥* is clearly -αρ, but Hoenigswald claims that all secure examples have a heavy root syllable. He proposes that the development depends on the weight of the preceding syllable: **āmr̥* > **āmar* after a heavy syllable (Hom. ἦμαρ, cf. Myc. *a-mo-ra-ma*), as against **arowr̥* 'cultivated land' > **arowra* after a light syllable (Hom. ἄρουρα, Myc. *a-ro-u-ra*). He adduces two other examples of *-*r̥* after a light syllable: Hom. ὑπόδρα 'looking sternly' < **upo-dr̥ḱ* and τόφρα 'so long' < **to-bʰr̥t*.[43] It would not be prudent, however, to base any conclusions on ἄρουρα, in view of the various competing reconstructions of this word.[44] Furthermore, it is noteworthy that both ὑπόδρα and τόφρα derive from a pre-form with word-final stop.

It is not possible, at this moment, to make a swift decision between the scenarios proposed by García Ramón, Ruijgh, and Hoenigswald. We will return to the chronological problems in chapter 9, when we will have obtained a clearer picture of the word-internal developments. This will also allow us to deal with the problematic form ὑπόδρα.

1.2.4 **r̥* and **l̥* in front of a nasal

Recently, Haug tentatively proposed that **r̥* and **l̥* also developed Pan-Greek *a*-vocalism in the environment **C_NV* (*N* = *m*, *n*): "Peut-être le développement de R̥ syllabique en αR ou Rα est-il grec commun non seulement devant voyelle, *y* et *w*, mais encore devant toute sonante. (…) on lit, à Mytilène et à Larisa, στάλλα (= att. στήλη) qui provient de **stl̥-nā-* (…). Il semble bien qu'il y ait eu développement d'une voyelle de timbre *a* devant sonante dans ces dialectes qui attestent normalement, en position interconsonantique, un *o*." (2002: 54).[45] In other words, Haug supposes that the syllabic liquids undergo the same treatment in front of **NV*, **HV*, and **WV*.

It is noteworthy that Haug only comments on the color of the anaptyctic vowel, not on its place. Apart from Aeolic στάλλα and the non-probative Myc. PN *wa-ni-ko*, he does not cite any further evidence for the alleged Common Greek development.[46] In fact, the assumed reconstruction of στήλη is not ascertained at all. Most handbooks (Rix 1992: 67, *DELG* s.v.) compare it with OHG and OS *stollo* 'support, post' (m. *n*-stem), which presupposes a form

[42] García Ramón remarks that ἦτορ and ἄορ stand beside the formulaic possessive compounds μεγαλήτωρ, χρυσάωρ, from which they "can hardly be explained separately" (1985: 213-4). In my view, this is not very likely: see section 9.3 for a more detailed treatment of ἦτορ and ἄορ.

[43] The latter reconstruction was proposed by Hamp (1983).

[44] The problems concerning ἄρουρα are extensively discussed by Peters (1980: 143ff.). In Hoenigswald's view, the outcome **arowr̥* > **arowra* would formally look like a feminine singular, after which the word took over the flexion of the *i̯a*-stems. Alternatively, one could assume that ἄρουρα continues an older collective (neuter plural) to a thematic stem in PGr. *-*wr-o-*: compare cases like ἄλευρον 'flour', νεῦρον 'sinew' < PIE **sneh₁-ur-o-*. Note, too, that Hom. βέλεμνα 'missiles' presupposes a thematic formation **gʷelh₁-mn-o-*, because the regular outcome of *-*mnh₂* would be Gr. *-*mnā*.

[45] Most handbooks do not treat the issue. This could be taken as an indication that they reject a special development of **r̥n* and **l̥n*.

[46] Myc. *wa-ni-ko* is often casually derived from a diminutive **wr̥n-isko-* that would contain the stem of ἀρήν 'lamb'. But the root of ἀρήν must have been **urh₁-*, in view of πολύρρην and Ved. *urán-*. Therefore, the oblique stem ἀρν- < **warn-* must be analogical for earlier **wrēn-* < **urh₁-n-*, with **war-* from the nominative **warēn* < **urh₁-ēn*. Thus, if *wa-ni-ko* is to be connected with the oblique stem of 'lamb' at all, it cannot be used to determine the regular reflex of **r̥n*.

with *st̥l-n-. But for στήλη, the alternative analysis as *sth$_2$-sleh$_2$- (Risch 1974: 110, Sihler 1995: 213) from *steh$_2$- 'stand' is attractive from a semantic point of view: a verbal root *stel- in the meaning 'to stand' exists in Germanic, but not in Greek, where στέλλω means 'to equip'.[47] There is also a phonological objection to *st̥lnā-: the geminate *-ll- resulting from *-l̥n- would not emerge early enough to take part in the first compensatory lengthening in Ionic-Attic (cf. section 10.5 on βάλλω, περικαλλής). Moreover, as a default assumption, *st̥lnā- is expected to develop *o*-vocalism in the Aeolic dialects, even if there is no direct evidence for the outcome of *l̥ in Lesbian (sections 3.4 and 10.6). In view of these objections and of Risch's alternative reconstruction, Aeolic στάλλα cannot be considered probative for Haug's thesis.

In fact, there is ample further material for the development of *r̥, l̥ in the environment *C_NV. Most of the evidence is found in nasal present formations, where the vowel always appears in front of the liquid.[48] A treatment of these forms is found in sections 9.5 (*-r̥n-) and 10.5 (*-l̥n-). Anticipating my conclusions, the evidence suggests that the vocalization of *-r̥n- and *-l̥n- took place in the individual dialects and dialectal groups.

1.2.5 Conclusion on early *a*-anaptyxis

The current *communis opinio* on specific conditioned developments of *r̥ in Ionic-Attic was formulated as follows in Schwyzer's *Griechische Grammatik* (1939: 342): "αρ erscheint im Anlaut und Auslaut, vor einstigem Halbvokal und vor Vokal". The presupposed distinction is, of course, that -ρα- is the regular development in other positions. As for the claim that -αρ- is regular in the environments mentioned by Schwyzer, it appears that a number of modifications and provisos have to be made:

1. instead of "vor Vokal", we have to read "in front of laryngeal plus vowel"
2. there is no evidence for -αρ- in front of *w; we have to read "in front of *yod*"
3. the development in word-final position is still debated
4. there is no good evidence for word-initial position

It is also important to distinguish chronological levels: change 1. is of Proto-Greek date, 2. may also have been early, but in 3. the dialect groups possibly diverged.

From now on, we may focus on the environments *CLT (where *T is any occlusive or *s) and *CLNV. Unless otherwise indicated, the debate concerning the Ionic-Attic "double reflex" αρ ~ ρα only concerns these environments.

1.3 The *o*-colored reflexes

As for the dialectally conditioned color of the anaptyctic vowel, the differences of opinion mainly concern two issues. First, it has been debated whether the *o*-colored reflex was the exclusive outcome of *r̥ and *l̥ in the *o*-coloring dialects, or whether it occurred only in some sort of labial environment. Since Mycenaean, Arcado-Cyprian, and the Aeolic dialects will be treated more extensively in chapters 2 and 3, I will limit myself to a brief introduction to the problem. Furthermore, a few remarks will be devoted to the marginal evidence for *o*-vocalism in Ionic-Attic. A second problem concerns the relation between the vocalization of the syllabic liquids and that of the syllabic nasals in the dialects which attest *o*-colored reflexes. I will argue that these two developments must be viewed independently.

[47] For the suffix *-sleh$_2$-, one may compare e.g. Lat. *scālae* 'stairs' < *skand-slā-.
[48] As Hirt already remarked, "die *nā*- und *neu*-Verben haben αρ" (1897: 157), mentioning as examples, among others, πτάρνυμαι and the gloss θάρνυσθαι.

1.3.1 Which dialects have a regular *o*-colored reflex?

As is well-known, *o*-colored reflexes of **r̥* appear in Arcado-Cyprian and the Aeolic dialects, and Mycenaean also spells the outcome with signs of the *o*-series. The most important question is whether the *o*-colored reflexes are conditioned by their phonetic environment or, put differently, how seriously the evidence for *a*-vocalism in these dialects should be taken. Since Morpurgo Davies (1968), it has been remarked time and again that the *o*-reflex frequently appears in a labial environment. Morpurgo Davies herself proposed a strict condition: only a preceding **w-* would have conditioned the *o*-coloring in Arcado-Cyprian and Mycenaean, and the normal reflex of **r̥* in these dialects would be *ra* or *ar*. However, anticipating the conclusions of chapters 2 and 3, I have not found a compelling reason to doubt a general *o*-colored reflex in these dialect groups, with the possible exception of Mycenaean, which may have preserved **r̥*.

Most scholars do not doubt that an unconditioned *a*-colored reflex is regular in Ionic-Attic and the West Greek dialects. A notable exception is Bader (1969), but her suggestions have not been taken very seriously, probably because she did not try to establish a distribution between *a*- and *o*-vocalism, and resigned to the conclusion that both reflexes may appear in any dialect without further conditioning (1969: 57-58).[49]

Let us consider the Ionic-Attic examples for *o*-vocalism discussed by Bader.[50] All forms in a non-labial environment can be eliminated without a problem, because reasonable alternative explanations are available. For instance, μητρόπολις 'metropolis' (Th.) may simply have the compostional vowel -o-. Ablatival forms like μητρόθεν 'from the mother's side' (Pi., Hdt., trag., later also πατρόθεν) may have been influenced by the Gs. μητρός or by compounds with μητρο-.[51] In compounds with a first member 'man-', ἀνδρο- is the normal form, but there are three instances of ἀνδρα-: ἀνδραφόνος 'manslayer' (ascribed to Solon), ἀνδρακάς (Hom.), and ἀνδράποδα 'slaves'.[52] Clearly, the form with *a*-vocalism is older, and there is no reason to doubt that Alphabetic Greek ἀνδρο- < **anr-o-* (with the compositional vowel) replaced the outcome ἀνδρα-. Finally, a few words with -ρο- < **r̥* occur mainly or exclusively in poetry, for instance βροτός 'mortal' < **mr̥tó-*, ῥόδον 'rose' (Myc. *wo-do-we* 'rose-scented', Sapph. βρόδον) < **wr̥do-*. In view of their restricted distribution, these forms cannot be used as evidence for the Ionic vernacular reflex.[53]

In my view, the only potentially promising candidate for a reflex -ορ- < **r̥* in Ionic-Attic is πόρρω 'further', which could be derived from PGr. **pr̥tr̥̂ō*. In view of the problems involved in the cognates of πόρρω, I will postpone its discussion to chapter 9. For now, we may conclude that there is no reason to doubt a general *a*-colored reflex for Ionic-Attic. Finally, among the West Greek dialects, there is evidence for *o*-vocalism in Cretan. As I will show in chapter 3, the Cretan evidence can be explained if we assume that the development of **r̥* was conditioned by the preceding (labial or non-labial) segment.

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[49] Bader's reference to the supposedly unconditioned double reflex of the syllabic resonants in Balto-Slavic is erroneous, because the conditioning factor for *-uR-* was a preceding labiovelar stop. This was originally proposed by Vaillant, whose hypothesis has recently been reinforced by Kortlandt (2009: 39-41).

[50] There are also instances of *o*-vocalism in Cretan and Theran, see section 3.2.2.

[51] Boeotian επιπατροφιον 'patronym' (Tanagra, 3rd c.) has been adduced as evidence for the Aeolic reflex -ρο-, under the assumption that it continues an instrumental *πατρόφι < **patr̥p^{h}i*. But as Ruijgh (1961: 196) remarks, the -o- in this form could be a "voyelle de liaison".

[52] The reflex -ρα- (rather than -αρ-) in these forms will be discussed in section 7.3.3. Outside of Ionic-Attic, we find the PN Ανδραπομπος (*IG* XII, 3, 1139, archaic period, Melos).

[53] Bader also mentions θρόνος 'chair' (Myc. *to-no*), but it is improbable that this derives from **t^{h}r̥no-*. See chapter 7 for a further discussion of forms with -ρο- in Homer.

1.3.2 The *o*-colored reflex of the syllabic nasals

The Greek vocalization of the syllabic liquids has often been compared with that of the syllabic nasals. The rationale behind this comparison is that all four syllabic resonants may turn up with either *a*- or *o*-vocalism, and that the Greek dialects which generally have *o*-colored reflexes of **r̥* also have instances of *o*-vocalism from **n̥*, and **m̥*. There are, however, some important differences between the regular development of **r̥* and that of the syllabic nasals. The following brief discussion does not intend to solve all the problems; its goal is merely to argue that these two sound changes are best considered independent developments.

First of all, it deserves attention that the similarities between the two changes are only superficial. The unconditioned regular reflex of **r̥* is -ρο- in the Aeolic dialects, -ορ- in Arcadian (see chapter 3), and either *r̥* or *-or-* in Mycenaean (chapter 2). On the other hand, there is no dialect which has *-o-* as the unconditioned reflex of the syllabic nasals: the normal reflex of **n̥*, **m̥* in all Greek dialects, including Mycenaean, is *-a-*.[54] This fact alone shows that we are dealing with two distinct developments. Furthermore, the phonetics underlying the two developments are different. The nasal feature completely disappeared when **n̥*, **m̥* were vocalized, probably through an intermediary nasalized vowel. On the other hand, **r̥* and **l̥* were vocalized due to the phonemicization of an anaptyctic vowel, and the liquids were retained as independent segments.[55]

It remains to explain how the *o*-colored reflex of **n̥*, **m̥* was conditioned. Most scholars accept the thesis, first formulated by Morpurgo Davies (1960) for Mycenaean, that the *o*-colored reflex is due to a neighboring labial consonant.[56] In my view, the strongest examples are *a-no-wo-to* /an-o^{h}woto-/ 'without handles' < PGr. **an-owsn̥-to-* (against Hom. οὔατα 'ears') and *e-ne-wo˚* 'nine-' < PGr. **en(n)ewn̥* (Class. ἐννέα).[57] A labial conditioning could also explain why Myc. has *a-mo* 'wheel' (also Np. *a-mo-ta*, DLp. *a-mo-si*) corresponding to Hom. ἅρμα, ἅρματα 'chariot', and *pe-mo* 'seed' beside Alph. σπέρμα 'id.'.[58] It could also explain the Homeric forms ὄπατρος 'of the same paternal descent' < **sm̥-patr-o-* and οἰετέας 'born in the same year' < **sm̥-wetes-*, whether these forms are of Achaean or Aeolic origin.[59] Note that there was no difference between the reflexes of **n̥* and **m̥* in

[54] Cf. recently Thompson (2010: 191), with a discussion of the most important Mycenaean material, citing *a-ki-ti-to* /aktiton/ 'uncultivated' < **n̥-* and Dp. *te-ka-ta-si* /tektasi/ 'builders' < **tektn̥-si*.

[55] Cf. Wathelet (1970: 175), who also remarks that an earlier vocalization of the syllabic nasals (as compared with the syllabic liquids) has a parallel in Indo-Iranian.

[56] Thus, for Mycenaean, Lejeune (1972: 198), Leukart (1994: 110), Sihler (1995: 98). These three authors assume that only preceding labials could color the outcome, but Vine (1998: 35) argues that both preceding and following labials could cause this effect. He adduces *o-wi-de-ta-i* < **n̥-wid-et-āhi* 'to the invisible [deities]' and *o-mi-ri-o-i* < **n̥-mr-io-* 'to the immortals' as possible examples for the latter case. More recently, Hajnal-Risch (2006: 212-13) and Thompson (2010: 191-2) pleaded in favor of the labial conditioning. See Thompson (1996-97: 316-20) for an overview of the potential evidence for **N̥* in Mycenaean.

[57] It has been repeatedly observed (e.g. Ruijgh 1961, Wathelet 1970) that much of the reputed evidence for **n̥*, **m̥* > *o* is found in the numerals. However, the analogical spread of *o*-vocalism through the numerals in certain dialects can in my view only be explained if there was a sufficient basis for the leveling. See below.

[58] A less secure example is *do-po-ta* 'lord' < **dm̥-pot-ā-* beside *da-ko-ro* < **dm̥-koro-* 'temple servant', both from Pylos. Myc. *do-po-ta* is the recipient of an offering, and therefore most probably a theonym (cf. δεσπότης). Myc. *da-ko-ro* is an occupational term, and usually compared with class. ζάκορος 'temple servant'.

[59] In οἰετέας, οἰ- spells (metrically lengthened) /ō/ before a following ε. It could be argued that ὄτριχας was triggered by οἰετέας, which directly follows it in *Il.* 2.765. If ὄτριχας was a nonce formation, this would explain its deviant semantics ("having the same *kind* of hair", rather than expected "having the same hair"). Whereas ὄτριχας and οἰετέας are hapaxes, ὄπατρος is clearly genuine, because it is attested twice in the formula κασίγνητος καὶ ὄπατρος (Ns. *Il.* 12.371, As. *Il.* 11.257). The only two other attestations of copulative ὀ- are found in Hsch.: ὄζυγες· ὁμόζυγες and ὀγάστωρ· ὁμογάστωρ, glosses to which not too much value can be attached. Ruijgh explains copulative ὀ- by an analogy that would have taken place in a psilotic dialect like Lesbian, where the preconsonantal variants ἀ- < **sm̥-* and ἀ- < **n̥-* had merged. This would have motivated the analogical creation of ὀ- beside prevocalic ὀμ- (< **som-*) after ἀ- beside prevocalic ἀν-. While this ingenious

Mycenaean or in any Aeolic dialect: cf. Myc. *a_2-te-ro* /hatero-/ 'next [year]' < **sm̥tero-* "the other [year]".

However, a persistent problem with the labial conditioning is formed by the variations in a few Mycenaean neuters: (1) *pe-ma* /sperma/ is also found at Pylos, but only in one scribal hand, and beside the much more frequent *pe-mo*, (2) *A-RE-PA* /aleip^{h}ar/ 'unguent', oblique stem *a-re-pa-te* /aleip^{h}atei/; *a-re-po-zo-o* beside *a-re-pa-zo-o* /aleip^{h}o-, aleip^{h}a-d^{y}oho-/ 'unguent boiler', (3) *e-ka-ma-te* /hek^{h}matei/ and *e-ka-ma-pi* /hek^{h}ma(t)p^{h}i/ < **hek^{h}-mn̥-t-* 'support' (part of a table), to be compared with Hom. ἔχμα 'support, prop' (of a ship or a wall).[60] These forms constitute a well-known crux of Mycenaean studies, and this is not the place to propose a solution or even to review all previous answers.[61] As before, I will limit myself to a discussion of Ruijgh's proposal.[62]

Ruijgh argued that the syllabic nasals had *a*-colored reflexes in all dialects, and that the Mycenaean instances of *o*-vocalism originated in *-or* as the regular outcome of the NAs. **-r̥*.[63] An older heteroclitic paradigm Ns. **-r̥*, Gs. **-n̥tos* which developed to Ns. **-or*, Gs. **-atos* could in principle be levelled in two different directions. A paradigm with -αρ, -ατος was the result in literary Lesbian, as well as in the Mycenaean heteroclitic *A-RE-PA*, *a-re-pa-te*, and the variant *a-re-pa-zo-o*.[64] In addition, Ruijgh supposes the existence in Mycenaean of "doublets" in **-or*, **-otos*, which arose by leveling in the other direction. He proposes to explain the *o*-vocalism in words like *a-mo* and *pe-mo* by a secondary extension of this "double flexion" (*˚at-* beside *˚ot-*) to non-heteroclitic neuters.[65] Traces of such "doublets" would be *pe-mo* beside *pe-ma* and *a-re-po-zo-o* beside *a-re-pa-zo-o*. Some neuter **mn*-stems like *e-ka-ma* would have retained only the expected *a*-vocalism, and other such stems like *a-mo* are supposed to have generalized the doublet with *˚ot-*.

Ruijgh's scenario cannot be correct. It is unlikely that *both* assumed suffix variants *˚at-* and *˚ot-* served as the productive marker of a morphological category in one single dialect. Moreover, Ruijgh does not explain why some neuters acquired *o*-vocalism and why others did not. Finally, there is no unambiguous proof that the heteroclitic stems ever had a NAs. in *-or* < **-r̥*. Considering the case of 'unguent', it would be much easier to assume that the productive suffix *˚ar*, *˚at-*, which arose after non-labial consonants, was introduced in *A-RE-PA*, *a-re-pa-te*, and that the compound *a-re-po-zo-o*, which denotes a profession, preserved the older oblique form (with the regular post-labial reflex of **n̥*) for some time.

In sum, I accept a conditioned *o*-colored reflex of the syllabic nasals in labial environments in Mycenaean, as in *a-no-wo-to* and *e-ne-wo˚*.[66] It must be admitted that *e-ka-ma* and the variation *pe-ma* ~ *pe-mo* continue to cause problems, but the conditioned change allows us to explain the pervasive *o*-vocalism of *a-mo* < PGr. **ar-mn̥*, and the fact that *pe-mo* is the normal form, with the exception of one single hand. In the remainder of this work, the syllabic nasals will not play a role, except in my explanation for numeral forms like Myc. *qe-*

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suggestion cannot be entirely excluded, it does not explain why Homer attests psilotic forms like ἄκοιτις 'spouse', rather than $^{++}$ὄκοιτις.

[60] Ruijgh (1961: 203) remarked: "M. Risch a pensé que le résultat de *n̥* est o dans un entourage labial, mais la forme *e-ka-ma-pi* prouve que cette hypothèse est gratuite."

[61] Hajnal (in Hajnal-Risch 2006: 212ff.) summarizes various proposals. I am sceptical about Risch's proposal to distinguish "mycénien normal" from "mycénien spécial".

[62] E.g. Ruijgh (1961: 205, 1967: 100-101), followed by Wathelet (1970: 173-5).

[63] Ruijgh (1961, 1985: 153ff.) assumes a change **-r̥* > *-or* both for Aeolic and the Achaean dialects. In his view, Hom. ἦτορ and ἄορ are Achaean words. On these forms, see section 9.3.

[64] But it cannot be easily excluded that the literary Lesbian forms in -αρ are epicisms or borrowings from Ionic: see section 3.4.3 and above.

[65] And also to *a-no-wo-to*, beside NAs. PGr. **ous* 'ear'.

[66] For other arguments, see section 1.3.2.

to-ro-, Thess. πετρο-, Class. τετρα-. In section 2.6, I will argue that these dialectal differences can be explained by analogy with the corresponding differences in 'nine' and 'ten'.[67]

1.4 Previous explanations of -αρ- versus -ρα- in Ionic-Attic

In his volume of the *Indogermanische Grammatik* about accent and ablaut, Kuryłowicz gives an instructive treatment of the Greek reflexes of **r̥*. He adduces the following evidence for the regular development to -ρα- (1968: 247): "Dass -ρα- lautgesetzlich ist, beweisen Gegensätze wie δέρκομαι : ἔδρακον; πέρθω : ἔπραθον; νημερτής aber ἔμβραται· εἵμαρται und ἐμβραμένη· είμαρμένη (Hesych)[68]; τέρπω : τραπείομεν; σπείρω : -σπρατός; δέρω : δρατός; τέρσομαι : τρασιά; θέρσος (äol.) : θρασύς; τέτταρες (für *τέττορες) : τράπεζα. Vgl. ferner isolierte Beispiele wie βραδύς : lat. *gurdus*; κράνος : lat. *cornus*; πράσον : lat. *porrum*."

Although not every example is equally compelling, this is indeed an impressive list. The apparent impossibility to give a different explanation for -ρα- in such pairs as δέρκομαι : ἔδρακον and πέρθω : ἔπραθον has always motivated the general consensus that -ρα- must be the regular reflex of **r̥* in Ionic-Attic. In other words, whenever *CraT*- is found as the zero grade reflex of roots of the structure *CeRT*-, it cannot be explained by normal analogical mechanisms.[69]

But this is not the end of the story. As was recognized long ago, cases of -αρ- < **r̥* are also found in roots of the structure *CreT*-. Osthoff (1879: 144-5) and Güntert (1916: 72) pointed at κάρτα beside κρατύς (κράτος, κρατέω, κραταιός), as well as ταρφύς, ταρφειαί, τάρφος beside τρέφω, τρόφις. Güntert eventually dismissed κάρτα in view of the possibility that Goth. *hardus* is etymologically related, and waved away ταρφύς and τάρφος with the assumption that they are artifical epic creations.[70] Neither claim can be easily substantiated. Within Greek, κάρτα belongs to the root κρετ-, with a different full grade slot. If ταρφύς would have been preferred over $^{++}$τραφύς for metrical reasons, it remains unclear why a similar reshaping did not take place in other Homeric adjectives like βραδύς, θρασύς, κρατύς.

Kuryłowicz dealt with κάρτα and ταρφύς by assuming that the fluctuation between zero grades *CraT*- and *CaRT*- from roots of the structure *CeRT*- induced a hesitation about the

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[67] See sections 2.5-6 and 3.4. Ruijgh (o.c.) also explained the numerals by analogical developments, but without invoking a conditioned change **n̥, *m̥ > o*. In his view, Arc. δεκο, Thess. Lesb. δεκοτος and forms of 'nine' (cf. Lesb. ενοτος) would have acquired their final -o from ὀκτο (attested in Boeot. and Lesb.), which would itself have developed from ὀκτώ under influence of δύο beside δύω. Subsequently, the final -o would have spread to 'nine' and 'ten'. This view has recently been accepted by Haug (2002: 51). But even if influence of 'two' on 'eight' is accepted, it is remarkable that in a sequence ἑπτά - ὀκτό - ἐννέα - δέκα, it was the final vowel of ὀκτο that prevailed. In my view, it would be much easier to explain the cases of *o*-vocalism in the numerals if 'eight' was assisted by 'nine' (Myc. *e-ne-wo* the regular reflex of **enewn̥* due to the preceding labial consonant; similar for Lesb. ενοτος). From 'nine' and perhaps also 'eight', the final *-o* could spread to 'ten'. The forms δέκο, δέκο-, δέκοτος could then easily induce further analogical changes, such as Arc. πεμποτος after δεκοτος (the latter also attested in Thess. and Lesb., and possibly in Myc. *de-ko-to* PN), and notably Myc. *qe-to-ro-*.

[68] This example is erroneously adduced by Kuryłowicz, because ἔμβραται is derived from the root of μείρομαι 'to receive as a share', and νημερτής from that of ἁμαρτεῖν 'to miss'. Moreover, ἔμβραται is not an Ionic-Attic form (it is ascribed to the Syracusan mimographer Sophron).

[69] Kuryłowicz (ibid.) mentions the following pairs of forms which are either attested with both -αρ- and -ρα-, or suggest the earlier existence of such a pairing. In his view, the form with -ρα- is the older reflex: "μάρπτω : βράψαι; βάρναμαι : μάρναμαι; παρδεῖν : πραδεῖν; καρδία : κραδία; ἔδαρθον : ἔδραθον; ταρπῆναι (…), aber τραπείομεν." In addition to the forms cited by Kuryłowicz, Güntert (1916: 71-2) adduces a few other relevant examples like γράφω 'to write' beside G. *kerben*. However, most of the examples adduced by Güntert do not survive closer scrutiny, e.g. βράκανα (n.pl.) 'wild vegetables' beside OHG *moraha* 'carrots', ῥάδαμνος 'branch' beside Goth. *waurts* 'root', ῥάπτω 'to sew' beside Lith. *verpiù* 'I spin', δράσσομαι 'to grasp with the hand' beside Lith. *dir̃žas* 'handle of an oar', τράμις 'perineum' beside G. *Darm* 'intestine'. The dubious status of a number of these etymologies will be discussed in section 9.4. Kuryłowicz rightly restricted himself to a group of more central examples.

[70] On Osthoff's explanation, see section 1.4.4 below.

correct zero grade of roots of the structure *CreT*-.[71] But it remains unclear why hesitation about the correct zero grade would occur in roots with a clear full grade. Kuryłowicz does not explain either why such etymologically incorrect -αρ- is found precisely in καρτερός, κάρτα and ταρφύς, nor why there are no by-forms $^{++}$κράτα and $^{++}$τραφύς. It is difficult, then, to dismiss κάρτα, καρτερός, and ταρφύς that easily.

An important question concerns the origin of doublets of the type καρτερός ~ κρατερός. In his *Grammaire homérique*, Chantraine observed that such doublets are mainly found in Homer, and proposed that they originated as follows (1942: 23): "Dans le développement des sonantes *r̥* et *l̥* l'élément consonantique s'est maintenu et l'α figure soit avant soit après la consonne: on observe un flottement entre ρα et αρ. Les aèdes ont naturellement choisi la forme la plus favorable à l'hexamètre dactylique".[72] Thus, Chantraine seems to assume that at some point, forms with [rə] and with [ər] were in competition as a result of phonetic developments. Only Epic Greek would preserve traces of the hesitation between the two competing realizations, and only in a small number of cases where it could be utilized for metrical purposes. There are, however, no other compelling reasons to assume a phonetic hesitation between [ər] and [rə] in pre-alphabetic Greek. The fact that no alternations between /ar/ and /ra/ are found within in the same formation in the Ionic-Attic vernacular speaks against a phonetic cause for the variants attested in Homer. Moreover, the limited number of examples excludes that the creation or retention of these pairs was due to metrical convenience only.

Departing from the idea that -ρα- is the regular reflex of **r̥*, most previous accounts use one or more additional hypotheses in order to explain the forms with -αρ- that cannot be due to analogical restoration.[73] Let us now summarize and discuss the most noteworthy proposals:

1. an accent-conditioned development, according to which secondarily accented **ŕ̥* would yield -άρ-: Kretschmer (1892), Schwyzer (1939: 342), Klingenschmitt (1974: 275), Hajnal-Risch (2006: 102-3 and 202-205).
2. -αρ- is the result of liquid metathesis: Hirt (1901: 232-38), Risch (1979: 98-99), Lejeune (1972: 196-97), Thompson (2002-2003), Hajnal-Risch (2006, l.c.).
3. secondary ablaut *CeRT*- : *CaRT*- before the vocalization of **R̥*: Kuryłowicz (1956 and 1968: 243-47), García Ramón (1985).
4. -αρ- is the regular reflex after a heavy onset cluster: e.g. Osthoff (1879: 144-45),

[71] "In manchen Fällen konnte das Nebeneinander von *TRaT* u. *TaRT* auch alte *TReT*-Wurzeln in Anspruch nehmen, so κρετ- (κρείττων, äol. κρέτος), wo neben κράτος, κρατερός, κράτιστος, κρατύνω auch die entsprechenden Formen mit αρ auftreten. Ferner findet sich neben τρέφω 'gerinnen lassen' ταρφύς 'dick, geronnen', ταρφειαί, aber das Jonische hat auch τραφερή (γῆ) 'feste Erde, Festland'." (Kuryłowicz 1968: 247).

[72] Chantraine discusses the following examples: "À l'attique καρδία « cœur » répond généralement l'homérique κραδίη: καρδίη n'est possible qu'au nominatif et au datif singulier devant un mot à initiale vocalique, l'hiatus abrégeant la longue finale (…); l'ionien-attique a employé concurremment θάρσος et θράσος « audace »; le dialecte homérique a normalement θάρσος (12 exemples), et une seule fois θράσος (…); il existe une répartition entre καρτερός « fort » qui est attique et κρατερός, cette seconde forme étant employée lorsque la syllabe finale est longue; suivant les besoins du vers Homère emploie soit τέταρτος « quatrième » qui est attique soit τέτρατος (…) qui, avec une finale brève, fournit une dactyle; enfin à βραδύς répond un superlatif βάρδιστος (…); βράδιστος ne pouvait entrer à aucune place du vers homérique." (1942: 23-4).

[73] Rix (1992: 65) only mentions the possibility of analogical influence of the full grade. Sihler explicitly admits that the problem has not yet been solved, and gives the following, rather neutral characterization: "The conditions governing the appearance in Greek of αλ and αρ vs. λα and ρα have not been determined. In some words the difference is dialectal, but not in most." (1995: 92). It is impossible, but also unnecessary, to review all previous proposals and discussions here. The arguments and conclusions of O'Neil (1971) are so manifestly wrong that they need not be discussed in extension. Idiosyncratic ideas on the coloring of the anaptyctic vowel are found in other articles like Wyatt (1971) and Bernabé (1977). These authors do not address the issue to which the present treatment pays most attention: the place of the anaptyctic vowel.

Hoenigswald (1953, 1968, and 1988), Lubotsky (1994: 97).

1.4.1 Accent-conditioned development

For the alternation between αρ and ρα in certain words, Schwyzer's *Griechische Grammatik* recommends the following explanation (1939: 342): "Für καρδία (aber hom. κραδίη, vgl. air. *cride*), θαρρεῖν (neben θρασύς), δαρτός (neben δρατός; vgl. got. *gataurþs* f. ai. *dŕ̥ti-* f.), σπαρτός, ἔφθαρκα, ἄγαρρις aus -ρσ- ist die Stellung des ρ in κῆρ θέρσος δέρω σπείρω φθείρω ἔφθορα ἀγείρω verantwortlich zu machen. Doch erklären sich andere unstimmige Fälle so nicht: κάρτα καρτερός neben κρατύς : äol. κρέτος κρέσσων κρατερός, μαρνάμενος usw., μάρπτω : βρακεῖν, μάρτυς : μέρμερος μέριμνα. Man darf wohl für solche Fälle mit der Möglichkeit rechnen, dass auch ein *r̥*, das sekundär den Akzent erhielt, zu αρ wurde (…)."

Schwyzer does not indicate more precisely how the accent would be responsible for the different outcomes in the examples he cites. For instance, how is the difference between καρτερός and κρατερός, both with the same accent, to be explained? The analogical explanation generally assumed for καρδία, that -αρ- is due to the influence of κῆρ, is not straightforward either (see chapter 6). These and similar problems arouse suspicion as to whether an accent rule can solve the problem.

The view canonicized in Schwyzer's grammar essentially goes back to Kretschmer (1892: 391-94). Kretschmer's main argument for the accent rule were the particles ἄρ (accented) beside ῥα (unaccented), which in his view retain the original distribution. For both particles, he departed from a pre-form PIE **r̥*. Other examples adduced by Kretschmer include the gloss στάρτοι (Hsch., with retracted accent) beside the normal form στρατός 'army', and μάρτυς 'witness' which he connected with βραβεύς 'arbiter'. But none of these examples is probative. The gloss στάρτοι is ascribed to Cretan, but in that dialect the reflex -αρ- is also regular in unaccented position; moreover, the etymological relation between βραβεύς and μάρτυς cannot be maintained. Finally, a solution for the distribution of -αρ- and -ρα- cannot be based on the particles ἄρ and ῥα, if only because these forms do not contain the environment **CL̥T*.[74] While Kretschmer did not consider any counterevidence to his rule, Grammont (1895: 26) pointed out a number of counterexamples, of which κατέδαρθον and τέταρτος are strongest, and to which I would also add καρτερός, ταρφύς, and καρπός.

More recently, Kretschmer's accent-conditioned development has been revived by Klingenschmitt (1974: 275-6), but only with very summary argumentation.[75] The inadequacy of this rule will be further illustrated in section 2.4, in a discussion of Hajnal's attempt (Hajnal-Risch 2006) to apply it to the Mycenaean material.

1.4.2 Liquid metathesis

Since the accent rule does not account for all instances of -αρ- < **r̥*, some scholars have invoked liquid metathesis as an additional mechanism. Hirt (1901: 232-38) argued as follows. On Crete -ρο- has been metathesized to -ορ-, and there is also evidence for metathesis of -ρε- to -ερ-. Therefore, forms with -αρ-, which are frequent on Crete, could also be due to metathesis from -ρα-. Starting from this observation, Hirt proposed that the metathesized forms with -αρ- spread from Crete to other dialects.

Apart from the fact that this construction is difficult to test, and that there is no further evidence for influence of Cretan on Ionic-Attic or on Epic Greek, one of Hirt's premises is manifestly wrong, and the other is not necessarily correct. There is no evidence for a metathesis ρε > ερ on Crete, the only example for this development being Pamph. περτ', a

[74] Cf. also Haug (2002: 52). The reconstruction of a particle PIE **r̥* (also embraced by Haug) is doubtful in itself, because word-initial **r-* was probably avoided in the proto-language. I would therefore prefer to reconstruct ἄρ as **h₂r* (cf. Beekes, *EDG* q.v.), and to leave ῥα unexplained.

[75] Klingenschmitt's article has been approvingly cited in a number of subsequent treatments (e.g. Leukart 1994).

cognate of Hom. προτί. But nothing is known for certain about the dialectal affiliations of Pamphylian, or about the expected reflex of *$r̥$ in this dialect (see section 3.6). As for Cretan, there are only two examples for the supposed metathesis ρο > ορ: Αφορδιτα and πορτι. Since both cases have -ορ- after a preceding labial consonant, I will argue in section 3.2 that the Cretan examples for both -αρ- and -ορ- contain the regular reflex of *$r̥$. This refutes a regular liquid metathesis for Crete, and it deprives the assumption of liquid metathesis in Ionic-Attic of its only clear parallel within Greek.[76]

Another much-cited treatment of the problem is Lejeune (1972: 196), whose reasoning goes as follows: "À l'intérieur du mot devant consonne, le traitement de type ρα est le plus frequent. (…) On serait tenté de le considérer comme régulier et d'attribuer le traitement de type αρ à des actions analogiques (…)." Lejeune then remarks that not all examples can be explained in this way, an important "pièce de résistance" being the Homeric doublet καρτερός ~ κρατερός, and concludes: "On est donc amené à invoquer la mobilité générale des liquides dans le syllabe."

In some languages, liquid metathesis operates completely regularly, for instance in the so-called *polnoglasie* forms in Slavic languages. The phonetic conditions for liquid metathesis may be highly specific: a noteworthy example is the regular liquid metathesis of unaccented *$ər$ > $rə$ in Le Havre French (see Blevins & Garrett 1998), which seems to be conditioned by a following labial fricative or labial nasal. The metathesis assumed for καρτερός ~ κρατερός by Lejeune, however, would be irregular and unconditioned. This is not a solution of the problem of -ρα- versus -αρ-: it merely amounts to admitting that one is unable to indicate a historical condition for the distribution.[77] In the course of this book, we will see that the situation in Mycenaean, Homeric, and Classical Greek is not so hopeless as to call for such a resignation. I will therefore leave liquid metathesis out of consideration from now on.

1.4.3 Secondary ablaut *TeRT- : TaRT-*

In his discussions of Indo-European ablaut, Kuryłowicz (e.g. 1956, 1968) has suggested that the "southern" IE languages (Greek, Italic and Celtic, in his view) could introduce a secondary zero grade *$TaRT$-, replacing forms of the type *$TR̥T$-V-. A Latin example is *carpō* 'to pluck' (PIE root *$kerp$-), where $^{++}$*corpō* would be the expected outcome of a zero grade root *$kr̥p$-. Kuryłowicz assumes (1968: 243) that the ablaut *TeR-V-* (full grade) : *TaR-V-* (zero grade), which came into being after the loss of the laryngeals in roots of the structure *TeRH-*, was analogically transferred to roots of the structure *TeRT-*, giving rise to a "secondary ablaut" *TeRT-* : *TaRT-*. This model would explain why we find secondary zero grades with roots of the structure *TeRT-*, but not with those of the structure *TReT-*, where there was no corresponding model of the type $^{++}$*TRe-* : $^{++}$*TRa-*.

To start with, it must be stressed that the evidence for "Indo-European" secondary ablaut of the type *$TR̥T$- → *$TaRT$- is marginal. It is safe to say that the mechanism was originally devised for Latin: all nine roots adduced as evidence by Kuryłowicz (1968: 243-4) have a Latin example with *a*-vocalism, and in seven or eight cases the Latin forms are the

[76] Hirt further believes that Homeric -αρ- may be due to metrical considerations: in pairs like κρατ- / καρτ-, θρασ- / θαρσ-, ἀταρπιτός / ἀτραπιτός "[liegt] bei Homer kein beliebiger Wechsel von ρα und αρ vor, sondern αρ findet sich da, wo wir metrische Dehnung erwarten sollten." But: "Dass damit freilich noch nicht alle αρ des Griechischen beseitigt sind, sehe ich wohl, indess glaube ich doch annehmen zu können, dass ρα der alleinige Vertreter von $r̥$ ist." (Hirt 1901: 238). On an earlier occasion, Hirt remarked: "Die Hauptargumente für unsere Ansicht werden bleiben: der Lok. Plur. πατράσι, und ὑπόδρα(κ) zu δέρκομαι." (1897: 158).

[77] The problematic instances of -αρ- have often been tucked away in previous treatments. A good example is the discussion by Güntert (1916: 69-74). On the one hand, he accepts Kretschmer's accent-conditioned development. But in addition, he states that Hirt's discussion, which departs from the assumption of liquid metathesis, has shown "dass es kaum noch erwartet werden kann, in jedem Einzelfall die Verteilung von αρ und ρα zu erklären." In this way, the argument is protected against undesired falsification – a clear *ad hoc* strategy.

only reason to assume a pre-form with **TaRT-*. The Latin *a*-vocalism is a post-PIE, inner-Italic problem for which several other proposals have been made.[78] As far as we know, the main laryngeal developments took place in the individual branches, so that Kuryłowicz's idea of a "Southern" subgroup of Indo-European can no longer be upheld. In view of these arguments, the Greek forms with -αρ- constitute a separate problem.

Let us now briefly discuss the Greek forms adduced by Kuryłowicz (1968). For a secondary zero grade **TaNT-*, the only two examples he cites are: (1) κάνδαρος· ἄνθραξ 'piece of charcoal' (Hsch.), which would be related to Lat. *candeō* 'to shine', Ved. *cand-* 'to shine', and (2) σκάνδαλον 'trap; outrage', which would be related to Lat. *scandō* 'to rise, ascend', Ved. *skand-* 'to leap'. But since κάνδαρος is only attested as a gloss, it can hardly be called compelling evidence. Neither is σκάνδαλον admissible as evidence, because its first attestation is in the *Septuagint*. It may well be a loanword from Semitic, and the connection with **skend-* is not evident semantically. Finally, it is noteworthy that neither κάνδαρος nor σκάνδαλον has an inner-Greek cognate formation with a corresponding full grade of the root.

For secondary **TarT-*, the only Greek form mentioned by Kuryłowicz is ἅρπη 'sickle', related to OCS *srьpъ*, Latv. *sirpis*, and possibly also to OW. *serr*, MIr. *serr* (all 'id.'). In addition, García Ramón (1985: 217-18) proposed that Kuryłowicz's explanation of Lat. *carpō* could be extended to Greek καρπός 'fruit, harvest'. Kuryłowicz' original idea was that Lat. *sarpō* 'to prune the vine' and *carpō* 'to pluck' contained analogical prevocalic zero grades **TaRT-V-* of late-PIE date. However, this explanation is not necessary: Schrijver (1991: 493) suggested that the root *sarp-* may either have been generalized from the pre-consonantal zero grade, as in the ppp. *sarptus* < **srp-to-*, or that the *-a-* may have been taken from the semantically and formally close verb *sarriō* 'to hoe, weed'. It is best, in my view, to explain the Greek and Balto-Slavic evidence from a root noun **s̥rp-* (or ablauting **serp-* / **s̥rp-* if one wishes to include the Celtic forms). For a more detailed criticism of García Ramón's interpretation of καρπός, see section 2.1.

The lack of convincing evidence is the main reason to reject Kuryłowicz's secondary ablaut as an explanation for Greek forms with -αρ-. Moreover, it is difficult to indicate a motive for the analogical introduction of *a*-vocalism as long as **TR̥T-* was still analyzable as a regular zero grade. In what follows, I will exclusively make use of regular analogies, which could only take place after the vocalization of the syllabic liquids in the individual branches. As a consequence, the isolated words καρπός and ἅρπη require a different explanation.

1.4.4 Conditioning by neighboring consonant clusters

In his contribution to the second volume of *Morphologische Untersuchungen*, Osthoff remarked that the outcome αρ < **r̥* in Greek cannot always be understood as analogical: "Es gibt fälle, in welchen man dem αρ = r schwerlich mit irgend welchem "systemzwange" wird beikommen können. Bei καρδία neben κραδίη, ἔδαρθον neben ἔδραθον (…) und wol noch in anderen fällen fehlt uns im griechischen jegliche spur einer anderen, stärkeren ablautsstufe derselben wurzeln. (…) Vollends bei κάρτος, καρτερός und κράτος, κρατερός, κρατύς würde uns die zuhilfenahme von κρέσσων (ion.), κρέτος (lesb.), Τιμο-κρέτης allenfalls nur zu dem nicht gesuchten entgegengesetzten resultat führen können, dass αρ lautgesetzmässig und ρα durch die analogie bewirkt sei. Und aus demselben grunde würden die doch nur zu τρέφω 'dick werden lassen, gerinnen machen' unmittelbar gehörenden ταρφέες 'dicht', τάρφος 'dickicht' unbegreiflich bleiben." (1879: 144-5). Osthoff then proposed that the preceding word-end could influence the development: "Hiess es ursprünglich ἡ κραδία mit κρα- im

[78] To be sure, none of these proposals has won general acceptance. For example, Schrijver proposed a conditioning by an adjacent pure velar (1991: 425-35), or the early phonologization of an epenthetic vowel as /a/ before three consonants (1991: 488-98).

anschluss an das vocalisch auslautende, aber τῆς καρδίας mit καρ- hinter dem consonantisch schliessenden proklitikon?" (1879: 145).

An obvious drawback of this hypothesis is that it cannot be tested against the evidence: it merely assumes the earlier existence of a now-lost sandhi phenomenon. Furthermore, the definite article had not yet developed when the syllabic liquids vocalized. Finally, there are counterexamples: as Kretschmer remarks, "Osthoffs vermutung, dass vorhergehende consonantenhäufung die lautfolge αρ αλ bedinge, lässt sich nicht begründen, und fälle wie στρατός, ὀφιόσπρατος, τράπεζα aus *πτράπεζα sprechen gegen sie." (1892: 391).[79] Well into the twentieth century, a solution along the same lines has been attempted by Hoenigswald (1953, 1968, 1988), but again without considering the counterevidence.[80]

The idea of a special reflex -αρ- after a heavy initial cluster has more recently been advanced by Lubotsky (1994), in a discussion of σάρξ 'meat', but in a somewhat different way. In his view, this etymon regularly derives from a non-ablauting zero grade root PIE *$t\underset{\circ}{u}\underset{\circ}{r}k'$-: "… it is by no means certain that every Gr. αρ < *$\underset{\circ}{r}$ must necessarily be attributed to the influence of full grade forms. I believe that an important role in the vocalization of the Greek liquidae was played by the initial clusters. An example may clarify the issue. The vocalization -αρ- in σπάρξαν 3pl. aor. 'to wrap', σπάργανα pl. 'swaddling-clothes' can hardly be explained by the full grade attested in σπεῖρον 'piece of cloth' or σπεῖρα 'coil, etc.' because the latter words contain a different root. On the other hand, since the initial cluster σπρ- is unattested in Greek, we may suggest that the vocalization *$spr_{\partial}C$ > σπρα*C*, etc. was phonetically impossible and that the sequence *$sprC$- regularly yielded *$sp_{\partial}rC$ > Gr. σπαρC-. Similarly, vocalization in forms like ἄσφαλτος, σκαλμός, φθάρμα, etc. may be explained by the particular initial clusters."

Thus, Lubotsky suggests that the vocalization of *$\underset{\circ}{r}$ to -αρ- was regular after a word-initial or syllable-initial onset /sC-/ or /TC-/. Unlike Osthoff and Hoenigswald, he formulates a sound change that is supposed to have operated independent of sandhi phenomena, so that the proposal can be tested. It predicts that no forms with σπραC-, σπλαC-, σφραC-, etc. were present when the liquids vocalized, because these clusters were phonotactically disallowed at that time. However, in groups of *s* plus dental stop, the onset cluster στρ- is not problematic at all (e.g. στρατός, στρωτός, στρέφω, etc.), and with a velar stop, we find σκληρός 'withered' and a verbal root allomorph σκλη- 'to wither'. This means that the phonotactic rule would have to be limited to clusters containing a labial stop. With σπλ-, we find σπλάγχνα 'intestines' from the PIE word for 'spleen' (cf. σπλήν). Moreover, a case like σφρηγίς 'seal, brandmark', even if it has a long root vowel, shows that the initial cluster σφρ- was tolerated in Greek from the loss of the laryngeals until the first attestation of this word.[81] In other

[79] Although Kretschmer's criticism of Osthoff's solution is partly justified, we have already seen that his own proposal (the accent rule) does not offer a convincing solution either.

[80] Hoenigswald formulated his idea as follows: "the element of syllabicity which we have symbolized by [ь] crops up, with some phonetically recognizable effect in the daughter languages, after every two consonants not separated by a phonemic vowel ([..CCьCCьC..])." (1968: 22). In this way, two allophones of the syllabic liquids would have come into being: [Lь] after a single consonant (or light syllable), and [ьL] after a double consonant (or heavy syllable). Subsequently, "the post-light allophone merges with the consonant-vowel sequence ρα (ρο), while the post-heavy allophone merges with the vowel-consonant sequence αρ (ορ), thereby becoming prosodically long." (ibid.). Earlier on, Hoenigswald had referred to Grammont (1948: 285-86) for the idea "that the difficult vacillation between αρ and ρα for *$\underset{\circ}{r}$ (…) is also due to the structure of the preceding syllable" (1953: 289-90). In this article, Hoenigswald merely based his idea on an analysis of the particles ἄρα (ἄρ) versus ῥα (ῥ'). Even if the metrical behavior of these particles is peculiar, I do not think that they can be derived from different vocalizations of *$\underset{\circ}{r}$, among other reasons because PIE did not have this phoneme in word-initial position (see section 1.2.2).

[81] We do not find the disyllabic reflex $^{++}$σφαραγίς, nor a form $^{++}$σφαρᾱγίς with anaptyctic vowel. For the etymology of σφρηγίς, see Tichy (1983: 178-80) and Rico (2002); the latter reconstructs a PIE root *$(s)b^hreh_2g$- and derives both σφρηγίς and σφαραγέομαι from a zero grade *sb^hrh_2g-.

words, there is no phonotactic reason as to why **sprC-* would have to vocalize as σπαρC- rather than as σπραC-.

As far as the examples are concerned, it is not certain whether the non-ablauting root σφαλ- should be reconstructed with or without a laryngeal (**sg^{wh}el-* or **sg^{wh}h$_2$el-*: the latter is adopted e.g. by *LIV*^{2} s.v. **(s)g^{wh}h$_2$el-* and de Vaan, *EDL* s.v. *fallō*). The vowel slot of φθάρμα can also be explained by the full grade seen in φθείρω 'to destroy' and its pf. -έφθορα, cf. also pf. mid. -έφθαρμαι, aor. φθαρῆναι 'to perish'. The etymology of σκαλμός is uncertain (see section 10.1), and the key example σπάρξαν, σπάργανα also lacks a clear etymology.[82] Thus, both σκαλμός and σπάργανα could owe their α to the fact that they were borrowed.

I conclude that the examples adduced by Lubotsky for a vocalization **sp̥rC-* > σπαρC- are open to other interpretations, and that the counterevidence speaks against "/ **sC_*" as the conditioning environment of the reflex -αρ-. On the other hand, Lubotsky's proposal to regularly derive σάρκες from **tu̯ŕ̥k-es*, without the intervention of a now-lost full grade form, seems attractive to me. I will return to the problems surrounding this word in section 2.5, in connection with the reconstruction of τράπεζα.

1.5 A metrical explanation for -ρα-

Previous scholars have applied the entire linguistic toolkit to the problem of -αρ- versus -ρα- in Ionic-Attic, but without being able to explain all attested forms. Within the framework of a regular change to -ρα-, it appears to be impossible to provide a solution for καρτερός, κάρτα and ταρφύς. Other problematic forms with -αρ- are καρπός and ἅρπη. I therefore depart from the assumption that these forms are what they look like, namely the outcome of a regular sound change **r̥* > -αρ- in Proto-Ionic. Now, it is remarkable that almost every form with -ρα- < **r̥* is attested in Epic Greek, and that we find corresponding vernacular forms with -αρ- in a number of cases. In some cases, these vernacular forms are limited to Ionic-Attic prose; in others, they are also present in Homer as variants of the form with -ρα- (καρτερός ~ κρατερός, καρδίη ~ κραδίη). It is within Epic Greek, then, that the forms with -ρα- will have to be explained.

Previous scholars, however, have interpreted the reflex -ρα- as a retained phonological archaism. For example, the regular aorist of τέρπομαι 'to enjoy' in Homer is ταρπῆναι, but the 1p. subj. τραπείομεν is also attested in a formulaic verse. Whereas ταρπῆναι can be easily analyzed as an analogical formation, built on the present τέρπομαι following normal ablaut schemes, the irregular form τραπείομεν looks like a phonological archaism that was retained because of its metrical utility. This explanation is not implausible in itself, but given the large number of metrically induced formations in Homer, it is also possible to consider forms like τραπείομεν as artificial creations of Epic Greek.[83] In this connection, it must be stressed that the pair κρατερός ~ καρτερός does not admit of a similar explanation as τραπείομεν ~ ταρπῆναι.[84] As we will see in chapter 5, κρατερός ~ καρτερός is a special case which takes us right into the heart of Epic diction and its complicated analogical mechanisms.

The idea of a special Epic reflex -ρα- is confirmed by a second cardinal point: the Homeric forms with -ρα- display metrical peculiarities. Words like τράπεζα 'table' and δράκων 'snake' regularly undergo *muta cum liquida* scansion, which is an otherwise highly

[82] The attestations of σπαργ- are fairly old: σπάργανα (n.pl., rarely sg. -ον) 'swaddling clothes' (poetic, *h.Merc.*, Pi.+), σπάρξαν 'wrapped in swaddling clothes' (*h. Ap.* 121), denom. σπαργόω 'id., swathe'. However, the forms have no etymology and may well have been borrowed already containing their *a*-vocalism, e.g. from Pre-Greek. They therefore prove nothing in the context of our problem.

[83] As Chantraine (1942: 111) remarks, "toute la morphologie est commandée par des préoccupations métriques et nous aurons à chaque instant à faire appel à cette considération". For artificial formations in Epic Greek, see the articles by Witte in *Glotta* 1-5, Meister (1921), and most recently Hackstein (2010).

[84] Moreover, as I will argue below on several occasions, it is also highly problematic to explain καρδίη (~ κραδίη) and τέταρτος (~ τέτρατος) as analogical forms (after κῆρ and τέσσαρες, respectively), as is usually done.

uncommon licence in Homer. The same phenomenon is found in certain words with -ρο- from *$\mathring{r}$, such as βροτοῖσι 'mortals'. Wathelet (1966) therefore explained such cases by assuming that the metrical irregularity resulting from the vocalization of *$\mathring{r}$ > -ρα- (Aeolic or Mycenaean -ρο-) was preserved only in certain formulae. In his view, the *muta cum liquida* licence acquired a limited currency only at a much later date, when the practice was gradually extended beyond the group of words where -ρα- and -ρο- derive from *$\mathring{r}$.

Although Wathelet's conclusions have been fairly broadly accepted, his argument also involves certain problems that will be further discussed in chapter 6. At this point, however, the evidence for *muta cum liquida* scansions may already appear in a different light when we consider the idea of a regular sound change *$\mathring{r}$ > -αρ-. Could *$\mathring{r}$ have been retained for some time within Epic Greek after it had vocalized in the Ionic vernacular? And if so, may -ρα- have come into being as an artificial reflex of this retained *$\mathring{r}$? As we will see, this idea is confirmed in a beautiful way by Hoenigswald's discovery (1991) that κραδίη is never used to generate length by position in Homer. In other words, κραδίη metrically behaves as if the underlying phonological shape was still /kr̥diā-/. We will encounter other metrical peculiarities along the way in chapters 5 to 8.

In line with the above arguments, I propose to assume two distinct developments:

1. *$\mathring{r}$ regularly developed to -αρ- in spoken Proto-Ionic.
2. *$\mathring{r}$ was retained in Epic Greek at this point, and developed to -ρα- (but to -ρο- after a labial consonant) at a much later date.

Within this new framework, a number of pieces suddenly fall into place. Assuming that *$\mathring{r}$ was vocalized in spoken Proto-Ionic a number of centuries before Homer, a prolonged retention of *$\mathring{r}$ within Epic Greek until not too long before Homer may explain why metrical traces of this sound are so numerous in the *Iliad* and *Odyssey*. In other words, we no longer need to assume that metrically aberrant formulae were preserved over the course of seven centuries or so (cf. section 1.1.1). More importantly, a solution for the problem of -αρ- versus -ρα- comes within reach, provided that a convincing explanation for all other forms with -ρα- can be given. At the same time, we may explain the Epic forms with -ρο- and *McL* scansion by a conditioned change, rather than as Aeolic or Achaean forms. Many details are intricate and require rather long digressions, for instance about the lexical differences between the Ionic-Attic vernacular and the Epic *Kunstsprache*, the metrical behavior of certain lexemes in Epic Greek, or the prehistory of metrical lengthening. This is what I set out to do in chapters 6 to 8.

It is normally assumed that Epic Greek underwent the linguistic changes of the underlying vernacular of the poets, with the exception of forms that were formulaic or metrically protected in some other way.[85] Thus, the above scenario, which assumes a prolonged retention of the sound *$\mathring{r}$ in Epic Greek, entails a change of paradigm concerning the nature of Epic Greek as an artificial language. This may seem a rather drastic measure at first sight, but it appears to be the only way to account for the distributions of forms with -αρ- and -ρα-.[86] In fact, it has another benefit: it might enable us to solve the vexed question of the composite dialectal nature of the Epic language. As we will see in chapters 6 to 8, the dialect of Epic Greek must have been essentially Ionic (or more generally South Greek) throughout its reconstructible prehistory. Moreover, the underlying verse form must have been much like the Homeric hexameter all along.

[85] Cf. Parry (1971: 331) and section 6.6.
[86] See especially section 6.6.

1.6 Outlook

For cases of **r̥* and **l̥* as delimited in section 1.2, we will try to provide an answer to the following three questions:

1. What was the regular development of **r̥* and **l̥* in the major Greek dialect groups?
2. Which mechanisms underlie the treatment of forms with etymological **r̥* in Epic Greek?
3. What can be inferred, from the vocalization of **r̥* as an isogloss, about the genesis and prehistory of the four main dialect groups, and about that of Epic Greek?

In view of the possibility that **r̥* and **l̥* vocalized in different ways and at different times, the evidence for **l̥* will be treated separately in chapter 10. We will start, in chapters 2 and 3, with the regular development of **r̥* in all dialects except Ionic-Attic and Epic Greek, which requires that we evaluate and sift all available etymological evidence. Special emphasis will be laid throughout on the regular place of the anaptyctic vowel.

The discussion of the Ionic-Attic evidence for -αρ- and -ρα- starts in chapter 4 with a discussion of the so-called "Caland formations". This part of the material is of special importance, because it shows that many forms with -αρ- and -ρα- do not reflect original **r̥*. Chapter 5 is devoted to the root of κρατερός ~ καρτερός, which furnishes the most extensive "Caland system" attested in Greek. All kinds of different formations are attested and various analogies have taken place, both in the vernaculars and within Epic Greek. The root κρατ- ~ καρτ- is also of prime importance for the relation between Epic Greek and the vernacular.

In chapter 6, this relation will be revised on the basis of all Homeric forms with -ρα-, most of which are characterized by metrical peculiarities such as *muta cum liquida* scansion. An analysis of the metrical distributions leads to the hypothesis that Epic **r̥* was retained longer, in the way sketched above. In chapter 7, this new framework is applied to Epic forms with -ρο-, which arose as a conditioned reflex of Epic **r̥* after a labial consonant. The evidence for -αρ- and -ρα- in thematic aorist forms is discussed separately in chapter 8, because the metrical behavior of these formations is different from that of other forms with Epic **r̥*.

Chapter 9 treats the remaining evidence for both -αρ- and -ρα-, including the more marginal and uncertain etymologies. We will also return to a detailed treatment of three specific environments: **-r̥s-*, word-final **-r̥*, and **-r̥n-*. In chapter 11, the new insights in the dialectal developments and in the treatment of forms with Epic **r̥* are used to obtain a relative chronology. This allows us to draw some definite conclusions about the value of **r̥* as an isogloss for Greek dialectal prehistory. In chapter 12, finally, I will take stock on the basis of a summary of the main conclusions, and ask whether the obvious benefits of the new framework outweigh its potential drawbacks.

2. The Mycenaean reflex of *$\underline{r}$ and the numeral ‘four’

It is widely assumed that the regular reflex of interconsonantal *$\underline{r}$ in Mycenaean was *-ro-*. I will argue that this hypothesis is incorrect: in Linear B, the reflex of **C$\underline{r}$* is regularly spelled *<Co->*, which can only represent *-or-* or unchanged *-$\underline{r}$-*. Before we can evaluate the relevant Mycenaean evidence, the material has to be sifted. We will therefore start by reconsidering the evidence for an *a*-colored reflex, departing from García Ramón’s treatment (1985). As a second preliminary, we will consider the apparent alternation between the spellings *<Co->* and *<Co-ro->* in a number of Mycenaean words, from which Heubeck (1972) drew the conclusion that *$\underline{r}$* was preserved as such in Mycenaean.

It is necessary to make some preliminary remarks on the use of onomastic evidence, which makes up a large portion of the Mycenaean material. Since anthroponyms do not have a meaning in the same way as appellatives do, they always have to be treated with caution in etymological questions. They are, however, not entirely devoid of linguistic context, because Greek inherited an Indo-European naming tradition which made abundant use of traditional poetic phraseology. It is clear, for instance, that *e-te-wo-ke-re-we-i-jo* must be interpreted as /Etewo-kleweh-io-/ ‘of Etewoklewēs’, and that the underlying name can be identified with Class. Ἐτεοκλῆς “True-Fame”. Similarly, we can be quite confident about the identification of *a-no-me-de* with class. Ἀνδρομήδης and its reconstruction as **An$\underline{r}$-mēdēs*. This second example, though potentially more ambiguous, can be relied upon for two reasons. The interpretation of *˚me-de* as /-mēdēs/, -μήδης is confirmed by other Mycenaean names with this second member, as well as by the *s*-stem inflection of some such names. Moreover, the interpretation of *a-no-* as /an$\underline{r}$-/ is quite secure because, as Mühlestein (1958) saw, this first member provides a pendant to the second members in *-a-no* /-ānōr/ and *-a-do-ro* /-andro-/, from the stem **an$\underline{r}$-* ‘man, hero’. In other words, if *a-no-* does not represent /an$\underline{r}$-/, the second member *-a-no* /-ānōr/ would be left without a corresponding first member.

However, only a relatively small part of the names found in the tablets can be etymologized at all. It is often assumed that names in *-e-u* (Hom. and class. -εύς) and *-o* (class. -ος) are hypocoristic or truncated forms of compounded names. Although this analysis may be correct in a number of cases, it must not be forgotten that names ending in *-e-u* were highly frequent in the substrate language (Pre-Greek), and that a large number of Mycenaean PNs ending in *-e-u* resist interpretation. Another type of uncertainty is encountered in a name like *pa-ra-to*, which has been interpreted as /Platōn/, but could theoretically also represent /Prātos/.

In conclusion, I exclude hypocoristic or truncated PNs from the evidence, and include compounded PNs with a pre-form containing *$\underline{r}$ only: (1) when they have a clear avatar in alphabetic Greek (e.g. *a-no-me-de* ~ Ἀνδρομήδης), or (2) when they contain traditional phraseology (e.g. *a-no-qo-ta* ~ *$h_2n\underline{r}$- + *g^{wh}en-*, a poetic syntagm for which further evidence is found in Homer, Mycenaean, and Vedic).

2.1. The color of the anaptyctic vowel in Mycenaean

In an influential contribution to the discussion, Morpurgo Davies (1968) argued that the regular outcome of *$\underline{r}$ was normally *ar/ra* not only in Ionic-Attic and West Greek, but also in Mycenaean and Arcado-Cyprian. All instances of *o*-vocalism that are secure in her view, such

as Myc. *wo-ze* ‘works’ < **wr̥gi̯ei*, would be conditioned by the preceding *w-*.[87] But this conclusion cannot be upheld, because Morpurgo Davies left a number of crucial factors out of consideration, a fact to which García Ramón (1985) has drawn attention. He argued that the spellings <*Ca-*> and <*Ca-ra-*> may be explained in various ways, and that the unconditioned and regular outcome of PIE **C̥rC* in Mycenaean was *-CorC-* or *-CroC-* (spelled <*Co-*> and <*Co-ro-*>).[88]

First of all, the outcome in word-internal position must be distinguished from that in other positions. In word-final position, **-r̥* > -αρ may have preceded the dialectal vocalization of word-internal **-r̥-*.[89] Secondly, most Mycenaean forms with <*Ca-*> or <*Ca-ra-*> were excluded from the evidence by García Ramón on other grounds. In some cases, the *a*-vocalism is due to a laryngeal development: for the pan-Greek developments **CRHV* > **CaRV-*, **HRC-* > **H₃RC-*, and **r, l* > αρ, αλ | **C_ i̯V*, see section 1.2. In other cases, the etymology or interpretation accepted by Morpurgo Davies is too uncertain. After these reductions, García Ramón retains the following evidence for spellings with <*Ca-*> or <*Ca-ra-*> in forms with etymological **C̥rC*:

1. *ka-po* /karpo-/ (KN F 841.5, class. καρπός ‘yield’)
2. *ra-pte* /ʰraptēr/ ‘saddler’ (KN Fh 1056+, PY An 172.1+), *e-ra-pe-me-na* /ʰeʰrapmena/ (class. ῥάπτω ‘to sew, stitch’, ptc. pf. ἐρραμμένα)
3. *ta-pa-e-o-te* (KN B 823), interpreted as /tʰarpʰa eʰontes/ (Hom. ταρφύς ‘dense’)
4. PN *ta-ta-ke-u* (PY Cn 655.20), interpreted as /Start-ageus/ or /Start-arkʰeus/ “Army-Leader”
5. *tu-ka-ṭą-ṣi* /tʰugatarsi/ (MY Oe 112, 134.2), Dp. ‘daughters’
6. PN *wa-ra-pi-si-ro* /Wrapsilos/ (PY Cn 436.7, MY Au 102.1), interpreted by Heubeck as a short form of **Wrapsi-lāwos* “who beats the people (with a stick)” containing the root of ῥαπίζω ‘to strike with a stick’. Heubeck and García Ramón identify the roots of ῥαπίζω and ῥέπω ‘to incline’.

As García Ramón points out, the analysis of scribal hands offers no evidence in support of Risch’s idea that the forms with <*Ca-*> or <*Ca-ra-*> are from a different sociolect “mycénien spécial”, as opposed to <*Co-*> or <*Co-ro-*> from “mycénien normal” (Risch 1966). Since there is no evidence for a phonologically conditioned change either, García Ramón concludes that the forms with <*Ca-*> or <*Ca-ra-*> are due to analogical developments. Following an idea by Kuryłowicz (see section 1.4.3), he assumes that the six forms with *a*-vocalism contain an early, pan-Greek secondary zero grade. He concludes that in words deriving from a pre-form **C̥rC*, “the spellings *Ta* (…) and *Ta-ra* (…) render /*Tar*/ and /*Tra*/ respectively, with a full *a*-vowel to be interpreted as morphologically conditioned” (1985: 222-3).

Since I do not accept Kuryłowicz’s idea of a secondary zero grade, I will now propose alternative explanations for each of the six cases of <*Ca-*> or <*Ca-ra-*> listed by García Ramón. The verb ῥάπτω has no Indo-European etymology.[90] Given that we are dealing with artisanal vocabulary, ῥάπτω could well be a loanword.[91] As García Ramón himself noted

[87] In this chapter, I focus on the Mycenaean evidence; the Arcado-Cyprian material is treated in chapter 3.

[88] Throughout this paragraph, I use the notation <*Ca-*> instead of García Ramón’s <*Ta-*> (etc.) because the evidence does not only include examples where *T* = occlusive or **s*, but also examples containing *w-*.

[89] Compare the distinct development of e.g. *ásr̥k* ‘blood’ and *áhar* ‘day’ in Indo-Aryan, where the final *-k* of *ásr̥k* was added before the vocalization of **-r̥* in *áhar*. See section 1.2.3 and 9.3 for a more elaborate discussion.

[90] See *GEW*, *DELG*, and *EDG*.

[91] García Ramón thinks that regularly formed middle perfect **se-sr̥bʰ-toi* may have yielded **hehrptai* or even **herptai* by application of the sound changes. These outcomes would have been awkward in terms of paradigmatic alternations (they “would not have fitted into the pattern of the root structure **TReT*,” 1985: 219).

(1985: 201-3), the name *ta-ta-ke-u* could also be interpreted as /Stāt-ageus/ or /Stāt-ark^{h}eus/. Heubeck's interpretation of the name /Wrapsilos/ is called "cogent" by García Ramón (1985: 222). In my view, it is not compelling at all, and even if it would be correct, it cannot be excluded that the root of ῥαπίζω 'to strike with a stick' was borrowed as **wrap-*, and unrelated to ῥέπω 'to incline'. As Haug remarked (2002: 59), *tu-ka-ṭạ-ṣị* is a "lecture peu sûre sur laquelle il serait imprudent de fonder une théorie", especially given that other scholars have read *tu-ka-ṭọ-ṣị*.

The two remaining forms require a more detailed discussion. Myc. *ka-po* is generally interpreted as /karpó-/, the same form as alphabetic Greek καρπός 'fruit, harvest'. This word is etymologicaly isolated within Greek, but derives from the PIE root **kerp-*. Concrete evidence for an ablauting PIE root **kerp-* is found in Lith. *kir̃pti*, 1s. pres. *kerpù* 'to cut off, shear'. The root is also attested in Hitt. *karp-(i̯e/a-)^{zi}* 'to lift, take away; pluck'.[92] The *a*-vocalism of Lat. *carpō* remains problematic, but that is an issue to be resolved within Italic.[93]

Following Kuryłowicz's explanation (1968: 244) of Lat. *carpō* as a case of secondary ablaut, García Ramón explains καρπός as an old, Proto-Greek replacement of **kr̥pó-*. I see no motivation, however, for such a replacement. This means that the Ionic form καρπός is best interpreted as the regular outcome of PIE **kr̥pó-*. As for Mycenaean *ka-po*, it is important to consider the context of this form. It is attested only in KN F 841, of which lines 5-6 read:[94]

su-za NI 75 *ka-po e-*[
]*wa* OLIV 46 *e-ra-wa*[

The view that "*ka-po e-*[*ra-wa* is surely to be interpreted as 'fruits of olive'" (García Ramón 1985: 217) is widely accepted.[95] But for *su-za* earlier in the same line, Chadwick remarked that the interpretation 'fig-trees' is plausible, "as the annotation [*NI* 75] would seem superfluous if the fruit is meant" (*Docs*.^{2} 440). If this is correct, *ka-po e-*[could be interpreted as /kāpo- e[laiwās/ '[olive] plantation', in which case *ka-po* would have the same meaning as κῆπος 'plantation, orchard' in Homer.[96] Nothing in the context of KN F 841 would rule out this interpretation.[97]

The final example *ta-pa*˚ only occurs in the form *ta-pa-e-o-te* (KN B 823). It has been interpreted as /t$^{(h)}$arp^{h}a/ and compared with Homeric ταρφύς 'numerous, dense', which derives from τρέφομαι 'to grow thick', originally 'to coagulate' (cf. de Lamberterie 1990: 676-82 and section 4.3 below). Departing from the original interpretation by Ventris and

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For this reason, he argues, a secondary zero grade **srab^{h}-* could be introduced not only in the middle perfect **he-hrap^{h}-toi*, but also in the intransitive aorist **e-hrap^{h}-ē* and the *yod*-present **hrap^{h}-i̯e/o-*.

[92] This means that the Greek *a*-vocalism cannot be explained by assuming a European substrate root **karp-*.

[93] According to a rule of Schrijver's (1991: 429-30), *carpō* may owe its *a*-vocalism to forms with a following consonant. See section 1.4.3.

[94] García Ramón (1985: 217 n. 82) remarks that the ligature *KA-PO* probably has nothing to do with *ka-po*. Indeed, its meaning cannot be established on the basis of the attestations (in PY Un 267, it occurs in a list together with WINE, CONDIMENT, and WOOL). Sacconi (1972) proposed to compare *KA-PO* with class. κάρφος 'dry stalk', esp. of cinnamon. This is only possible if κάρφος contains an old **a* and is etymologically unrelated to Lith. *skrebìnti* 'to shrivel' (on which see section 9.4).

[95] See e.g. *DMic*. s.v. *ka-po*: "la interpretación más verosímil, y generalmente aceptada, es καρπός." Similarly *Docs*.^{2} 219. As far as I have been able to trace, the possible parallel καρπὸς ἐλαίας 'yield of the olive tree' in Pindar (*Nem*. 10.35) has not been noticed so far. But this syntagm does not carry too much weight, because it may have been created at any date, given the meanings of its constituents.

[96] It has been suggested that the older meaning of κῆπος was simply 'lot, (uncultivated) plot of land', as in Cyprian (cf. Masson, *ICS*^{2} 217 and 316). But in Homer, κῆπος refers to an ὄρχατος (a plot of land with trees on it) in *Od*. 4.737 (κῆπον … πολυδένδρεον), 7.129, 24.247 and 338. Moreover, κᾶπος refers to fertile enclosures in Pindar (*Ol*. 3.24, *Pyth*. 5.24, *Pyth*. 9.53). The word also occurs in Arcadian and in classical Ionic-Attic prose.

[97] The interpretation /kāpoi/ is also mentioned as a possibility by Bartoněk (2003: 194) as an alternative to /karpoi/, but without any reference.

Chadwick, Lejeune (1971: 239) proposed to read *ta-pa-e-o-te* VIR[b] 10 *a-pe-o-te* VIR[b] 4 as /t[(h)]arp[h]a e[h]ontes … amp[h]-e[h]ontes/, to be translated as "being directly attached ("agglomeré") [to the sanctuary]: 10 men; being in the surroundings ("périférique") [of the sanctuary]: 4 men".[98] This interpretation was accepted by García Ramón (1985: 199-200).

If /t[(h)]arp[h]a/ is the correct interpretation of *ta-pa*˚, the form would have the wrong vowel slot in comparison with τρέφομαι, so that a normal analogical origin of *-ar-* cannot be justified. This problem, which also concerns the alphabetic form ταρφύς, is dealt with by García Ramón in the following way: "As in the case of *ka-po* and *ra-pte*, and irrespective of the base form of the root (**TReT*- […] or **TeRT*- […]), the shift **t̥rp[h]ús* → ταρφύς (: τάρφα) may be due to a secondary apophony. This reinterpretation of τάρφα : ταρφύς (cf. also τάχα : ταχύς, θαμά : θαμύς) seems to be supported by the existence of other adverbs of a structure similar to that of τάρφα (cf. τάχα, θαμά, κάρτα, μάλα)" (1985: 219).

García Ramón's argument is rather vague. On a charitative reading, he may be taken to mean that the *-a-* was imported in *τάρφα 'dense, numerous' from θαμά (with identical meaning), just like κάρτα 'very' may have taken the root vocalism of μάλα 'very'. But even if such an analogical introduction of *a*-vocalism is accepted, the problem of the wrong vowel slot of **t[h]arp[h]a* ("irrespective of the base form of the root", García Ramón) cannot be so easily dismissed. As I will argue in chapters 4 and 5, the -αρ- in κάρτα and ταρφύς is to be understood as the regular outcome of **r̥* in Ionic-Attic.

Since I accept García Ramón's conclusion that the regular spelling of the outcome of **r̥* in Mycenaean was with the *o*-series, a putative Mycenaean /t[h]arp[h]a/ cannot be explained from a pre-form **t[h]r̥p[h]a*: that would contradict the evidence of *to-pe-za*, *a-no-qa-si-ja*, and *to-qi-de*, all of which contain a reflex of **r̥* after a dental consonant and before a labial stop.[99] It therefore seems unlikely to me that Lejeune's interpretation of *ta-pa-e-o-te* is correct, even if I have no convincing alternative interpretation.

In conclusion, there is no reason to assume the existence of pan-Greek secondary ablaut *TeRT* : *TaRT*. Of course, the ablaut *TeRT* : *TaRT* did occur on a large scale in Greek, but only in dialects where the syllabic liquids developed an *a*-colored reflex. Notwithstanding this criticism, García Ramón's conclusion that there is no compelling evidence for *a*-vocalism among the Mycenaean reflexes of PIE **Cr̥T* still stands firmly. From now on, we may concentrate on Mycenaean words that are spelled <*Co-ro-*> and <*Co-*>. Which of these spellings writes the regular reflex of **Cr̥-*?

2.2 Syllabic *r̥* in Mycenaean?

A basic orthographic rule of Linear B tells us that /Cro-/ is regularly spelled <*Co-ro-*> (e.g. *po-ro-* /pro-/ 'before, in front'), and that (preconsonantal) /Cor-/ is regularly spelled <*Co-*> (e.g. *-wo-ko* /-worgos/ '-maker'). Among the words derived from a pre-form with **r̥*, some present the spelling <*Co-ro-*> (e.g. Ip. *qe-to-ro-po-pi* 'cattle' < PGr. **k[w]et̥r̥-pod-p[h]i*), but most cases have the spelling <*Co-*> (e.g. 3s. pres. ind. *wo-ze* 'works' < PGr. **wr̥g̱ei*). For the interpretation of this orthographic difference, there are four basic options:

a) the spelling <*Co-ro-*> writes the regular reflex of **r̥*, to be interpreted phonologically as /Cro/; that other items are written <*Co-*> is due to various causes (e.g. analogy)

[98] In *Docs*.[1] (171 and 408), the opposition *ta-pa-e-o-te* : *a-pe-o-te* was interpreted as /t[(h)]arp[h]a e[h]ontes/ : /ap-e[h]ontes/ = 'present' : 'absent'. But since one would expect the meaning 'present' to be expressed by /par-e[h]ontes/ (cf. alphab. παρέοντες), other scholars (e.g. Ruijgh) have proposed to interpret *ta-pa-e-o-te* as /tāi par-e[h]ontes/, where /tāi/ 'there' would be an adverbial use of the Ds. fem. of the demonstrative pronoun. This explanation has its own problems, see García Ramón (l.c.).

[99] For a discussion of these forms, see below.

b) the spelling <*Co-*> writes the regular reflex of *$\underset{\circ}{r}$, to be interpreted phonologically as /Cor/; that other items are written <*Co-ro-*> is due to various causes (e.g. analogy)
c) the spelling <*Co-*> writes preserved $\underset{\circ}{r}$; that other items are written <*Co-ro-*> is due to various causes (e.g. analogy)
d) the spellings <*Co-*> and <*Co-ro-*> are different attempts to write a preserved $\underset{\circ}{r}$.

Various previous scholars have opted for a), transposing to Mycenaean the broadly accepted of the difference between Ion.-Att. -ρα- and -αρ-. In what follows, we will see that this explanation conflicts with the Mycenaean evidence. Option b) is preferred by Haug (2002: 59), but he does not explicitly take a position on the place of the anaptyctic vowel.[100] Option c) has not been proposed before, and d) has been championed by Heubeck (1972).

In a few lexical items like *ma-to-ro-pu-ro* ~ *ma-to-pu-ro*, the spellings <*Co-ro-*> and <*Co-*> seem to alternate. In his discussion of these examples, Heubeck argued that the orthographic variation results from attempts to represent one and the same sound $\underset{\circ}{r}$, the allophone of /r/ between two consonants. This view is often referred to with skepticism, and has been subjected to a detailed criticism by Haug (2002).[101] To my knowledge, the only scholar who explicitly accepted Heubeck's thesis is García Ramón (1975: 62-63).[102] A general criticism has been that Linear B does not normally display such variation when it represents a single phoneme.[103] Scholars unwilling to accept Heubeck's conclusions make various additional assumptions in order to account for the fluctuation between <*Co-ro-*> and <*Co-*>: incidental spelling errors, a distribution depending on the accent, liquid metathesis, or a combination of these factors.

2.2.1 Heubeck's argument for the preservation of $\underset{\circ}{r}$ in Mycenaean

Let us now consider the evidence adduced by Heubeck, along with Haug's criticism of it. The spelling variation between <*Co-ro-*> and <*Co-*> is attested in the following words:

1. *ma-to-ro-pu-ro* (PY Cn 595.5) ~ *ma-to-pu-ro* (PY Mn 1412.4), for /Mātro-pulos/ ~ /Mā$\underset{\circ}{t}$r-pulos/ "Mother-Pylos", cf. μητρό-πολις 'metropolis (of a colony)'.
2. *qe-to-ro-po-pi* 'cattle' (PY Ae, Ip.) ~ *to-pe-za* 'table' (PY Ta *passim*, KN V). In both cases, $\underset{\circ}{r}$ is expected on etymological grounds: PGr. *k^we$\underset{\circ}{t}$r-pod-p^hi versus *$\underset{\circ}{t}$r-ped$\underset{\circ}{i}$a.[104]
3. *to-no* 'ornamented chair, throne' (PY *passim*) ~ *to-ro-no-wo-ko* interpreted as 'chair-makers' (KN As 1517.11).[105]

[100] "Pendant toute cette discussion, nous avons admis que T$\underset{\circ}{r}$T donne T*or*T en mycénien." (Haug 2002: 59). Thompson (2002-2003: 356-9) also seems to consider b) the most likely option. According to Heubeck (1972), option b) is "generally assumed", but few accounts explicitly claim that the regular outcome of *$\underset{\circ}{r}$ in Mycenaean was *-or-*, rather than *-ro-*.

[101] While Hajnal does not accept the preservation of $\underset{\circ}{r}$ in Mycenaean, he admits that "Heubecks Lesart strenggenommen nicht als falsch erwiesen werden kann" (Hajnal-Risch 2006: 202f., referring to García Ramón 1985: 196). Hajnal's main argument against the preservation of $\underset{\circ}{r}$ is that it leaves the supposed alternative Mycenaean reflex *-ar-* unexplained. If indeed *ar* can be a reflex of *$\underset{\circ}{r}$, we would have not only variants <*Co-*> ~ <*Co-ro-*>, but also variants <*Ca-*> ~ <*Ca-ra-*>, i.e. four different ways of spelling a single phoneme. But as we have just seen, none of the examples for <*Ca-*> or <*Ca-ra-*> is convincing.

[102] In his discusion of the relative chronology of Proto-Thessalian developments, García Ramón dates *$\underset{\circ}{r}$ > ορ, ρο after 1200 on the basis on Heubeck's thesis for Mycenaean. Since Mycenaean is a South-Greek dialect, this is not compelling: it cannot be excluded that the elimination of the syllabic liquids in Proto-Aeolic occurred before our Mycenaean sources. In a later publication, García Ramón has remarked that "Heubeck's theory can hardly be definitively confirmed or disproved" (1985: 196).

[103] E.g. Ruijgh: the Myceneaen writing system "montre en général une économie rigoureuse, qui n'admet guère de graphies alternatives. C'est pourquoi l'hypothèse d'un doublet graphique *to*/*to-ro* pour l'expression de la syllabe τ$\underset{\circ}{r}$ nous paraît extrêmement invraisemblable." (1978: 420).

[104] On the origin of the first element *$\underset{\circ}{t}$r-, see section 2.5 below.

[105] Perhaps also present in *to-no-e-ke-te-ri-jo*, if for /t^horno-hektērion/ (Risch 1972: 18).

We may leave aside the following forms adduced by Heubeck, for which I refer to Haug's arguments (2002: 57-8):

4. *ku-su-to-ro-qa* 'sum, total' (KN, PY *passim*) beside *ku-su-to-qa* (PY Eb 847.2)[106]
5. *po-po-i* (MY Oi 702.3) as a variant of *po-ro-po-i* (Oi 701.4)[107]
6. PN *o-pe-to-re-u* (PY Ep 704.1) beside *o-pe-te-re-u* (PY Ea 805, Eb 294.1)[108]

According to the most widespread view, there are no instances of the thematic vowel *-o-* in Mycenaean compounds.[109] If this is correct, *ma-to-ro-pu-ro* would have to represent the direct outcome of a compound with **mātr̥-*. However, Haug (2002: 55ff.) has argued that the compositional vowel does appear in a limited number of cases: *ko-to-na* /ktoinā/ ~ *ko-to-no-o-ko* /ktoino-^{h}ok^{h}os/, *o-wo-we* /o^{h}wo-wens/, PN *i-su-ku-wo-do-to* /$^{(h)}$isk^{h}uo-dotōi/ (Ds.), PN *ke-ro-ke-le-we-o* /K^{h}e^{h}ro-klewe^{h}os/ (with a first member 'hand'), *di-wo-pu-ka-ta* /Diwo-P…/. More recently, this view was also accepted by García Ramón, in a discussion of *i-su-ku-wo-do-to* (2007b: 326).

Not every single one of these cases is equally convincing in my view. The precise interpretation of *di-wo-pu-ka-ta* is uncertain (cf. *DMic*. s.v.). In the case of *ko-to-na* 'plot of land', we could be dealing with an older collective, in which case the thematic stem form in the compound is expected.[110] Haug's interpretation of *o-wo-we* as /o^{h}wo-went-/ 'with handles on it' is doubtful, because the compositional vowel is not attested in other Mycenaean possessive adjectives in *-went-*.[111] I therefore prefer the traditional interpretation /oiw-o^{h}wes/ 'with a single ear'. We are left, then, with the compounded personal names *di-wo-pu-ka-ta*, *i-su-ku-wo-do-to*, and *ke-ro-ke-le-we-o*. The evidence is slight, but since *ma-to-ro-pu-ro* is also a name (toponym), I agree with Haug that it may well belong in the same series.

The difference between the outcomes <*to-ro-*> in *qe-to-ro-po-pi* and <*to-*> in *to-pe-za* is a long-standing problem of Mycenaean studies. Since the respective etymological relatives have -ρα- in Alphabetic Greek (τετράποδα, τράπεζα), most scholars have tried to explain the spelling <*to-*> as secondary in some way or another (see section 2.4). A notable exception is Haug, according to whom *to-pe-za* must contain the regular development. He suggests (2002: 57) that the scribe who wrote <*qe-to-ro-*> tried to express the morpheme boundary between /k^{w}etr̥-/ and /pod-/ more clearly by adding the extra sign <*ro*>.[112] But since $^{++}$<*qe-to-*> would have represented either /k^{w}etor-/ or /k^{w}etr̥-/ in an unambiguous way, this sounds slightly *ad hoc*. As an alternative, de Lamberterie suggested (*apud* Haug, l.c.) that the syllabification /k^{w}etropodp^{h}i/ may have been preferred over /k^{w}etorpodp^{h}i/ after the model of the prevocalic

[106] A restored form on the basis of a drawing. Heubeck (o.c. 64-5) regards the latter form as a scribal error, because one expects *o*-grade of the root in an *ā*-stem. As Haug remarks, PY Eb 847.2 is now generally corrected to *ku-su-qa*, so the form has to be removed from the evidence.

[107] The interpretation of the latter form is quite uncertain. Heubeck mentions the possibilities /pōl-opo-/ and /propo-/, and judges the latter to be more probable. If this is correct, we are dealing with an *o*-grade, in which case the form has to be eliminated from the evidence anyway.

[108] These are interpreted as referring to the same person, and may therefore be variants of the same name. See Thompson (2002-2003: 262-65) for a critical discussion of the supposed phenomenon of epenthesis.

[109] See e.g. Hajnal-Risch (2006: 103 n. 183); for a general assessment, cf. Meissner and Tribulato (2002: 320-3).

[110] Cf. Meissner and Tribulato (2002: 322), following Leukart (1994: 315).

[111] Haug objects to the commonly accepted interpretation /oiw-o^{h}wes-/ 'with a single ear' that οἶος does not occur as the first member of possessive compounds in alphabetic Greek. In his view, the abbreviation MO 'alone, only' would show that **monwos* is the normal word for 'single, alone' in Mycenaean. This is hardly a compelling argument. It is possible, for instance, that **oiwo-* was replaced by **monwo-* in the simplex, but retained in some compounds. Moreover, it cannot be excluded that the two forms belonged to different registers.

[112] The only parallel adduced by Haug is *a-ra-ro-mo-te-me-na* /ararmot-mena/ (pf. mid. ptc. of /armot-/, Class. Att. ἁρμόττω): "Là aussi, ce sont sans doute des considérations morphologiques qui ont mené à une graphie plus complète" (l.c.).

allomorph /k^{w}etr-V-/. It could be objected, however, that this syllabification was not preferred in other cases like preconsonantal *a-no-* < **anr̥-* beside *a-re-ka-sa-da-ra* < **aleks-anr-ā* (cf. class. ἀνδρο-). In sections 2.5 and 2.6, I will propose a new explanation for *qe-to-ro-*. Anticipating this conclusion, we may conclude that *qe-to-ro-po-pi* beside *to-pe-za* is not a convincing example of the fluctuation studied by Heubeck.

The third example, *to-no* /t^{h}ornos/ or /t^{h}r̥nos/ 'seat, throne' (PY *passim*), is often compared with *to-ro-no-wo-ko* (hapax, KN) under the interpretation /t^{h}rono-worgoi/ 'chair-makers'. Since the simplex *to-no* is not attested in Knossos, some scholars have assumed a dialectal difference between Pylian *to-no* and Knossian *to-ro-no*. However, in view of the unclear context of KN As 1517, it is impossible to establish the meaning of *to-ro-no-wo-ko* with certainty. Since the example has played such an important role in previous discussions, let us consider the tablet more extensively. It starts with]-*no re-qo-me-no*, where the last word probably represents /leik^{w}omenoi/ 'being left' (*Docs*.^{2}). This is followed by a number of masculine proper names (*to-so* MEN^{b} 17, line 10). After an empty line, there follows:

12.	*o-pi*	*e-sa-re-we*		*to-ro-no-wo-ko*	
13.	*po-to-ri-jo*	I		*pe-we-ri-jo*	I
14.		*ḍụ-ni-jo*	I		

These lines may be translated as: "At the *e-sa-re-u* [there are the following] *t^{h}rono-worgoi*: *po-to-ri-jo, pe-we-ri-jo, ḍụ-ni-jo* (…)." Chadwick (*Docs*.^{2}: 172) remarks that "*e-sa-re-u* seems to be the title of an official, but the meaning of the whole passage is unclear. *Thronoworgoi* may be makers of chairs or garlands, but notice that the form of θρόνος at Pylos is *to-no*". As was also noted by Haug (2002: 57), it cannot be excluded that the first member contains the word for 'embroideries', Hom. θρόνα.[113]

The main reason why *to-ro-no-wo-ko* is thought to mean 'chair-manufacturers' seems to be that embroidering is considered an unlikely activity for male laborers.[114] But first of all, one wonders whether it can be excluded that male laborers made embroideries, both generally speaking and in Mycenaean Greece in particular.[115] Secondly, it is unclear whether the original meaning of θρόνα was indeed 'embroideries'. The etymology of θρόνα is unclear.[116] In Hellenistic poetry, it occurs in the meaning 'medicinal herbs', but this is clearly inapproriate in Homer. In its only Homeric attestation, Andromache is still unaware of Hektor's death while she is weaving a two-layered purple fabric: δίπλακα πορφυρέην, ἐν δὲ θρόνα ποικίλ' ἔπασσε 'and she embroidered it with varicolored θρόνα' (*Il*. 22.441). The Homeric scholia and Eustathius state that (ἐμ-)πάσσω in the meaning 'to embroider, weave into' is a Cyprian word (cf. Ruijgh 1957: 166, Bowra 1934: 70-1). But what did Andromache weave into the purple cloth? Some scholia explain the word as referring to flowers or figurines, but others (see Erbse ad *Il*. 22.441) gloss θρόνα with τὰ βαπτὰ ἔρια 'dyed wool' and ἄνθη ποικίλα, ἐξ ὧν βάπτουσι 'varicolored flowers(?) used for dyeing'. This is also attested in Eustathius (1278, 46): θρόνα δὲ κυρίως μὲν τὰ ἐκ θηρίων ἢ τὰ ἐκ γῆς ἀναθορόντα ὀνήσιμα φάρμακα, νῦν δὲ κατὰ μετουσίαν θρόνα ἤγουν φάρμακα ἔφη τὰ βεβαμμένα λίνα ἢ ἔρια. In

[113] This problem is stepped over in many discussions of these words (e.g. Thompson 2002-2003: 359-60).
[114] For instance, "derivation from Hom. θρόνα 'embroidered flowers' seems less likely." (*Docs*.^{2}, 587).
[115] According to Dr. G. Vogelsang-Eastwood of the Leiden *Textile Research Centre* (p.c.), whom I asked about this matter, professional male embroiderers would even be more likely if the garments in question were destined to be exported. For domestic produce, on the other hand, female embroiderers would definitely be expected.
[116] The connection of θρόνα with Alb. *drëri* 'deer', if < **d^{h}roni-* 'varicolored' (Frisk s.v.), cannot be further substantiated. Various scholars (Furnée 1972: 189, but already Lawler 1948: 81) have proposed that θρόνα is a Pre-Greek word because of the variant τρόνα· ἀγάλματα, ἢ ῥάμματα ἄνθινα 'ornaments, or stitchings of flowers' (Hsch.).

other words, both the herbs or plants (φάρμακα) from which the dyes were obtained and the dyed products themselves (λίνα ἢ ἔρια) could be called θρόνα.

The interpretation of θρόνα as 'embroidered flowers or figurines' would make good sense in the Homeric passage, but so would 'dyed wool, colored threads'.[117] In my view, the interpretation as 'threads of dyed wool' is preferable, because it is a *lectio difficilior*.[118] If this is correct, the Mycenaean *to-ro-no-wo-ko* could be workers who produced colored threads by dyeing wool, which is definitely an occupation of men, not of women.

Thus, it cannot be excluded that *to-ro-no-wo-ko* contains not 'throne', but a cognate of Hom. θρόνα as its first member. The consistent spelling of *to-no* 'ornamented chair' in Pylos favors this interpretation. Since there is no evidence for **r̥* in θρόνα, *to-no* ~ *to-ro-no-wo-ko* is not a compelling example of the orthographic variation <*Co-*> ~ <*Co-ro-*> studied by Heubeck. As for *to-no*, it could theoretically be the outcome of a pre-form **t^{h}r̥no-*. But as we will see in chapter 7, the reconstruction of this word is beset with difficulties. For this reason, I exclude *to-no* from the compelling evidence for **r̥* in Mycenaean.

Haug (2002: 59) concludes his criticism of Heubeck's argument with the following words: "Les meilleurs exemples disparaissent lorsqu'on se rend compte que la thématisation dans les composés et les dérivés est un processus qui est déjà amorcé en mycénien. Les autres exemples se heurtent à des difficultés diverses; souvent, les données dialectales ou la structure morphologique du mot empêchent de poser un *r* voyelle original, et parfois, les données philologiques ne sont pas assez sûres pour que l'on puisse y faire confiance."

It is indeed difficult to give one firm instance of the orthographic fluctuations on which Heubeck bases his argument for the preservation of *r̥*.[119] I agree with Haug that the introduction of a compositional thematic vowel cannot be excluded for *ma-to-ro-pu-ro*, and that the lexeme underlying *to-ro-no*˚ may be related to Hom. θρόνα rather than to *to-no* 'chair'. It only remains to explain *qe-to-ro-po-pi* versus *to-pe-za*, to which we shall return in section 2.4. I do not agree with Haug, however, that **r̥* had already vocalized to *-or-* prior to Mycenaean. The case made by Heubeck for the preservation of *r̥* is not only based on the fluctuations within Mycenaean, but also on the idea that certain Epic words with -ρο- or -ρα- would scan properly only if we restore a pre-form with **r̥*. This argument is not accepted by Haug, but can in my view be bolstered with new arguments. The matter is taken up in chapters 7 and 11, where I will defend option c) mentioned above.

2.3. The Mycenaean evidence

The evidence is divided into two parts. In section 2.3.1, the reliable and probable evidence for **r̥* is listed in alphabetical order, and each item is given a brief discussion. Section 2.3.2 contains evidence of which the interpretation contains too many uncertainties, or which has been wrongly adduced by previous authors. The material has been collected from the evidence listed by Morpurgo Davies (1968), Heubeck (1972), García Ramón (1985), Thompson (2002-03), and Hajnal-Risch (2006). Anticipating the probable conclusion that **r̥* was preserved in Mycenaean (see chapter 11), my phonological interpretation of the reflex

[117] The meaning '(threads of) dyed wool' would also fit the Homeric compounds in -θρονος quite well: see the discussion in section 7.3.6.

[118] The first interpretation may have been based on the scholiasts' interpretation of the context of the Homeric passage. Similarly, Risch (1972: 19) judged that "aus dem Zusammenhang [sich] am ehesten die Bedeutung 'Stickereien, Figuren irgendwelcher Art', evtl. 'bestimmte Figuren oder Ornamente' [ergibt]". But did he perhaps take this information from the scholiast on Theoc. 2.59, who wrote that θρόνα means τὰ ἀνθινὰ ἱματια 'clothes decorated with flowers' in Cyprian, and τὰ πεποικιλμένα ζῶα 'embroidered figures' in Thessalian? Hsch. also has an entry θρόνα· ἄνθη. καὶ τὰ ἐκ χρωμάτων ποικίλματα 'embroideries consisting of ornaments'.

[119] Cf. also Thompson's remark that if Heubeck would be correct, "it is surprising that we do not see more variation of this sort" (2002-03: 358).

<*Co-*> is /C̥r̥-/, and that of <*Co-ro-*> is /Cro-/. Those who disagree with this conclusion may prefer to read <*Co-*> as /Cor-/ instead.

2.3.1 Examples deserving consideration

1. PNs *a-no-me-de* /An̥r̥-mēdēs/ (only PY Jn 706.5) and *a-no-qo-ta* /An̥r̥-k^{wh}ontās/ (KN *passim*).
2. *a-no-qa-si-ja* /an̥r̥-k^{wh}asiā-/ ‘manslaughter’ (only PY Ea 805).
3. TN *ma-to-pu-ro* /Mātr̥-pulos/ “Mother Pylos” (only PY Mn 1412.4), assuming that the by-form *ma-to-ro-pu-ro* (only PY Cn 595.5) stands for thematicized /Mātro-pulos/ (see section 2.2).
4. *qe-to-ro-po-pi* /k^{w}etro-pod-p^{h}i/ ‘cattle’ (PY Ae, Ip.).
5. *to-qi-de* /st̥r̥k^{wh}idei/ ‘with a spiral’ (PY Ta 642.3+), also in *to-qi-de-we-sa* /st̥r̥k^{wh}id-wessa/ ‘provided with spirals’ (PY Ta) and *to-qi-de-jo*, *-ja* (PY Ta).
6. *o-pa-wo-ta* /op-āwr̥ta/ (PY, KN) ‘pads’ or ‘plates’ attached to body armour
7. *to-pe-za* /tr̥-pedd^{y}a/ ‘table’ (PY Ta *passim*, KN V).
8. PN *To-si-ta* /T^{h}r̥sĭtās/ (PY Cn 719.2).
9. *wo-do-we* /wr̥do-wen/ ‘rose-scented’, qualifies fragrant oil (PY Fr 1203 etc.).[120]
10. *wo-ze* /wr̥dd^{y}ei/ ‘works’ (PY *passim*) and many other inflected forms of the present stem with the zero grade of this root (both PY and KN, for attestations, see *DMic*. s.v. *wo-ze*).

Comments on the individual items:

1. Since Mühlestein (1958), the PNs *A-no-me-de* /An̥r̥-mēdēs/ (PY Jn 706.5) and *A-no-qo-ta* /An̥r̥-k^{wh}ontās/ (KN, frequent) are compared with class. Ἀνδρομήδης and Hom. ἀνδρεϊφόντης (epithet of Ares Enualios). An important argument in favor of Mühlestein’s interpretation (1958: 224) is that *-a-do-ro* /-andro-/ and *-a-no* /-ānor-/, which are both frequent as second members in personal names, would lack a corresponding onomastic first member if *a-no-* would not be from **an̥r̥-*. A clear overview of all Mycenaean PNs in /-k^{wh}ontās/ is given by Leukart (1994: 51ff.), who criticizes the interpretations with first member /Anō-/ ‘up, above’ suggested by Ruijgh and Palmer. The absence of the compositional vowel *-o-* in Mycenaean is an archaism.[121]

The form *a-na-qo-ta* (KN B 798.4) is sometimes identified as the same person as *a-no-qo-ta* (Leukart 1994: 54 with lit.). If this is correct, the form with *a-na-* may be a mistake for the otherwise frequent name with *a-no-*, unless one wants to follow Heubeck (1972: 68-9) in the assumption that **C̥r̥-* could also be spelled with the *Ca*-series.

2. The abstract noun *a-no-qa-si-ja* ‘manslaughter’ is attested in the syntagm *e-ne-ka a-no-qa-si-ja* /eneka an̥r̥k^{wh}asiās/ ‘on account of manslaughter’ (PY Ea 805). This syntagm has been convincingly compared with Class. ἕνεκα ἀνδροκτασίας ‘id.’ by García Ramón (2007a).[122] The underlying pre-form PIE **h$_2$n̥r̥-g^{wh}n̥-t-* may reflect traditional phraseology: cf. Ved. *nr̥-hán-* ‘slaying heroes’, which qualifies the Maruts’ deadly weapon.

4. A long-standing problem of Mycenaean philology is how to interpret the difference between the outcomes <*to-ro-*> in *qe-to-ro-po-pi* and <*to-*> in *to-pe-za*. Most accounts try to explain <*to-*> in *to-pe-za* as secondary; a number of them will be discussed in the following section. It deserves attention that Haug proposes to explain the outcome <*to-ro-*> in *qe-to-ro-*

[120] Probably, the word for ‘rose’ also occurs in derivatives and personal names, but not as a simplex (cf. Thompson 2002-03: 361).

[121] On the collective ἀνδράποδα ‘slaves’ and ἀνδρακάς ‘man by man’ (both Hom.+), which do not seem to have a trace of the compositional vowel either, see section 7.3.3.

[122] That the root κτα- replaced φα- < **k^{wh}a-* is probably due to metrical reasons: see section 7.3.2.

as secondary. In sections 2.5 and 2.6, I will propose a different analogical model to explain /k^{w}etro-/.

5. *to-qi-de* 'with a spiral' refers to a kind of decoration used on vessels and furniture. It is generally reconstructed as **tr̥k^{w}id-* or **str̥k^{wh}id-*. In the first interpretation, which is the most widely accepted one (see *DMic*. s.v. *to-qi-de*), the word would be related to τρέπω. Within Mycenaean, the *o*-grade attested in *to-ro-qe-jo-me-no* /trok^{w}e̯i̯omeno-/ 'making tours' (PY Eq 213) has been compared. For the *i*-stem formation, Hom. τροπίς 'keel' has cited as a parallel, but a rather incomplete one because that word has an *o*-grade. The second interpretation, proposed by Palmer, is semantically much more plausible: to derive *to-qi-de* from the root of στρέφω 'to whirl, turn around'. Note that in alphabetic Greek, τρέπω primarily means 'to direct' rather than 'to turn', whereas στρέφω mostly denotes circular motion around a vertical axis. But however this may be, given that we are dealing with a full grade II in either case, *to-qi-de* is an important piece of evidence against a regular development **r̥* > Myc. *ro*.

6. *o-pa-wo-ta* (KN Sk 5670.2+, PY Sh 737+) /op-āwr̥ta/. Although the precise referent is unclear, it is agreed that at least part of the attestations refer to something like "'plates' or 'pads' attached to body-armour" (*Docs*.^{2}, glossary).[123] An accessible summary of the attestations and their contexts has been given by Vine (1994: 37-39). The pre-form **op-awr̥-to-* is a compounded verbal adjective containing the zero grade root of **awer-* 'to hang, attach' that is continued in Homer as ἀείρω. Note, however, that an analogical reshaping of the zero grade **awro- >> awor-* after the full grade **awer-* cannot be entirely excluded if one accepts that **r̥* had already vocalized in Mycenaean.

7. Concerning the reconstruction of *to-pe-za* as **tr̥-pedi̯a*, it is usually thought that the first member derives from **k^{w}twr̥-* 'four-'. There are, however, reasons to think otherwise (cf. Thompson 2002-03: 356-7 and section 2.5 below). Thompson sticks to the reconstruction with **tr̥-* on the basis of the internal Greek evidence, but I do not share his doubts concerning the IE origin of the word. For more details, see below.

8. Of course, *to-si-ta* is only a personal name and must be treated with care. It is traditionally compared with Hom. Θερσίτης, but would have to contain the (more original) zero grade of the root. Leukart (1994: 191-4) has suggested to analyze *to-si-ta* as a hypocoristic name derived from */T^{h}r̥si-telēs/. This could make sense in view of the PNs Θερσίλοχος and Arc. Θορσυλοχος (name of a man from Eastern Achaea), which contain λόχος 'ambush, armed band'. Similarly, */T^{h}r̥si-telēs/ would contain τέλος in the sense 'military unit, division' (*LSJ* q.v., mg. I.10). This would imply that *to-si-ta* was derived from a possessive compound 'whose unit has θάρσος'.

This analysis is quite possible, but as always in Mycenaean onomastics, it requires that we make a number of assumptions. Alternatively, it could be envisaged to derive *to-si-ta* directly from an inherited adjective **d^{h}r̥sitó-*, as reflected in Ved. *dhr̥ṣitá-* 'strong' (e.g. of weapons) and YAv. *daršita-*, which could point to the existence of such an adjective in Proto-Indo-Iranian and even earlier.[124] Although there is no further trace of this formation in Greek, this analysis works excellently from a formal perspective. It does not explain, however, the

[123] Vine suggests that a heteroclitic neuter **opā-wr̥, *opā-wn̥t-* underlies (part of the attestations of) the Myc. form *o-pa-wo-ta*. He suggests that the tablets distinguish between two types of *o-pa-wo-ta*: for helmets (*o-pi-ko-ru-si-ja o-pa-wo-ta*) and for corslets (plain *o-pa-wo-ta*). The first "may mean something like "helmet spikes", continuing the same word as alphabetic Greek ὄπεαρ" (p. 38); the second would indeed be /op-aworta/ (chest-protecting plates or pads). If Vine is right, part of the attestations of *o-pa-wo-ta* would still require the traditional analysis.

[124] The formation of the adjective **d^{h}r̥sitó-* is odd. Could it be assumed that the original form was a compound **d^{h}r̥si-h$_1$i-t-* or **d^{h}r̥s-h$_1$i-t-* 'going straight at', with a by-form **d^{h}r̥s-h$_1$it-ó-* 'one who goes straight at'?

form of Homeric and later alphabetic Greek Θερσίτης (with long -ī-), for which the traditional analysis as a hypocoristic remains the most promising solution.[125]

9. The alphabetic Greek form of this word is ῥόδον. Arguments in favor of reconstructing the pre-form of *wo-do-we* as **wr̥do-went-*, rather than **wordo-went-*, depend partly on the interpretation of the alphabetic Greek material to be provided in chapter 7. For now, it deserves attention that the reconstruction of a pre-form **wr̥do-* allows us to avoid the conclusion that the alphabetic form ῥόδον is due to liquid metathesis. The possibility is often granted that the diverging dialectal reflexes of this word are due to borrowing from a Near-Eastern source, such as an Iranian **u̯r̥da-*. But although the word could indeed be of foreign origin, it seems preferable to try and explain all Greek forms from a pre-form with **r̥*, as long as we are not led into contradictions (cf. Morpurgo Davies 1968: 811).

10. Theoretically, the zero grade of *wo-ze* may be analogical after the full grade **werg-*. A different avatar with zero grade has been assumed in *wo-ro-ki-jo-ne-jo* (PY Er 312.7, 718.11), but I exclude this form from the evidence (see below).

2.3.2 Doubtful and irrelevant examples

1. *a-mo-ra-ma* 'day by day' was interpreted by Heubeck as representing /āmr̥(r)-āma/ but preferable is /āmōr-āmar/ (cf. Leukart 1987: 349ff.).

2. In *a-re-pa-zo-o ~ a-re-po-zo-o* 'unguent-boiler', Heubeck (1972: 69) suggested to derive the second form from **aleip^{h}r̥-*, but "only with reserve". As against the commonly accepted **aleip^{h}n̥-* (see *DMic.* s.v.), Heubeck's suggestion is uncertain and cannot be relied upon.

3. *do-ka-ma-i* '?' (PY An 1282.3, Dp.) occurs on a tablet which assigns numbers of laborers to the production of certain chariot parts, such as wheels and halters. It therefore probably refers to a part of the chariot, but it is unknown to which part exactly. The following interpretations have been proposed:[126] (a) comparison with δοχμή 'hand's breadth', (b) with δραχμή, the later monetary unit, as from **dr̥k^{h}māhi*. According to Chadwick (l.c.), neither option "offers satisfactory sense". (c) A connection with δοκός 'beam' could make sense in the context of the tablet, but it is hard to see how a form **dokmā* could be derived from δοκός.

Alternatively, it is possible that *do-ka-ma* contains a substantivized form of the adjective δοχμός 'oblique, slanted'. It is likely that δοχμή 'hand's breadth' (com.) developed from *"the distance across (the hand)", and it seems quite possible that parts of the chariot frame were called 'crosswise, oblique' (cf. the English word *cross-beam*).[127] However, as mentioned by *Docs.*^{2}, the group of men assigned to the task of producing *do-ka-ma*'s is double the size of the group working on wheels. This is problematic because the production of wheels is known to have required much more labor than that of most other chariot parts, including cross-beams. As long as the interpretative problems concerning *do-ka-ma-i* have not been solved, the form cannot be used in our discussion.

4. *do-qe-ja*, which occurs repeatedly on a much-discussed tablet (PY An 607), has been tentatively interpreted as /dork^{w}eiai/ 'female reapers' (e.g. in *Docs.*^{2}: 167), from the root

[125] If Myc. *to-si-ta* and Hom. Θερσίτης are not directly related, one could also account for a formal difference between Mycenaean and alphabetic Greek: if the earlier form of the name was **T^{h}r̥sitās*, it would not make sense to introduce the full grade θερσ-, because this would destroy the metrical structure of the form. If the Myc. form was already /T^{h}orsītās/, as Leukart assumes, this difficulty would vanish. However, in my view it is more likely that Mycenaean preserved **r̥*, for reasons that will become clear later on.

[126] See *Docs.*^{2}: 522. For other, implausible suggestions, cf. *DMic.* s.v.

[127] In other words, δοχμή does not from δέχομαι, as is assumed by *LSJ*. The barytone accentuation of the variant δόχμη may be connected with its substantivization.

of δρέπω ‘to reap’. But other scholars think the form is a female theonym (cf. the older lit. in *DMic*. q.v.).[128]

5. *mo-ro-qa* (PY, KN), the title of high officials notably at Pylos, has been compared by Mühlestein (1958) with the classical form βράβης, a variant of βραβεύς ‘arbiter’. Since the word has no etymology and the equation is not clear-cut, there is no way to test whether either of these words had **r̥*. For the same reason, Palmer’s alternative interpretation as /mo(i)ro-kkwā-/ “holder of a plot” (see *DMic*. q.v. with references) remains uncertain too.

6. *pa-wo-ke*, *pa-wo-ko* (both PY), appellatives denoting female persons, have been interpreted as containing a second member /-wr̥ges/, /-wr̥gōn/. While this is possible in principle, it is problematic that no convincing interpretation of the first member has been given so far. Possibilities include /pan-/ (cf. class. πανοῦργος ‘criminal’), /par-/ (cf. class. πάρεργον, παρεργάτης), and /p^{h}arwo-/ (cf. Myc. *pa-we-a$_2$* Hom. φάρεα ‘clothes’).[129] We may safely leave the form away from the evidence, because it adds nothing new to the information provided by *wo-ze*.

7. *to-mi-ka* (KN, of clothing) has been interpreted as /tor-miska/ “vierfädig, viergezwirnt” by Mühlestein (1968: 115, also *apud* Morpurgo Davies 1968: 813). He suggested that <*to-*> < **t̥r-* ‘four’ is the same element found in *to-pe-za*, and compared the Pamphylian gloss τριμίσκον· ἱμάτιον. Ἀσπένδιοι (Hsch.), which would contain the numeral ‘three’ and originally mean “dreifädig”. He compares the second member /misko-/ ~ -μίσκον with the root of class. τρίμιτος ‘woven from three threads’, and assumes that syncope took place in an original **-mitisko-*. He finds the Mycenaean pendant of the Pamphylian gloss in the broken attestation *ti-ri[mi-ka* (KN Ld 788 A, on the B-side of which he restores find *pa-we]-a$_2$*), which in his view shows that **t̥r-* developed out of **k^{w}tw̥r-* ‘four-’. Needless to say, this proposal is far too speculative to be used in the present discussion (cf. the remark by Thompson 2002-03: 357).

8. *tu-ka-ṭọ-ṣị* /t^{h}ugatorsi/ ‘daughters’ (reading by Mühlestein and Lejeune, accepted by Heubeck 1972), *tu-ka-ṭạ-ṣị* /t^{h}ugatarsi/ (reading accepted by most other scholars). As Haug remarks, this is a “lecture peu sûre sur laquelle il serait imprudent de fonder une théorie” (2002: 59).

9. The Dp. *u-do-no-o-i* (PY Fn 187.13) refers to male individuals. It is generally supposed that the second member /-noho-/ derives from the root of νέομαι ‘to return’, and that the compound means something like ‘who bring in water’. It is often assumed that the first member represents the outcome of **udn̥-* ‘water’ (cf. *DMic*. l.c., Bartoněk 2003, index), but this is unlikely if **n̥* yielded Myc. *-o-* in a labial environment only (cf. section 1.3.2). Heubeck interprets the form as /udr̥-no^{h}oi^{h}i/. However, no interpretation of the tablet context has found general acceptance (see the discussion of various proposals in *DMic*. s.v.), which leaves the proposal a mere possibility.

10. The toponyms *u-pa-ra-ki-ri-ja* (PY An 298.1) and *u-po-ra-ki-ri-ja* (PY Cn 45.4-7, 11) are clearly similar to the later, classical expressions τὰ ὑπεράκρια ‘the highlands’, οἱ Ὑπεράκριοι ‘inhabitants of the poor highlands of Attika’, i.e. “which lies (or: those who live) on the other side of the hilltops”. Heubeck proposes to interpret *u-pa-ra-* and *u-po-ra-* as variant spellings representing one and the same underlying form /upr̥(r)-a˚/. The zero grade

[128] Chadwick (o.c.) comments that “the word will perhaps mean ‘picker’, possibly ‘reaper’ or ‘gleaner’.” This proposal could be attractive because μαλοδρόπηες ‘apple-reapers’, which presupposes a simplex agent noun *δροπεύς ‘reaper’, is attested in Sappho. (As *Docs*.^{2} remarks, a man’s name *do-qe-u* is attested in KN B 804, but its appurtenance to the word in question is uncertain.) It might be objected, however, that the etymological connection of δρέπω with the Slavic root of SCr. *dŕpati* ‘to tear’, Cz. *drpati* ‘to pick, scratch, crumble’ precludes a labiovelar in Mycenaean. If the reconstruction of *do-qe-ja* as **dr̥k^{w}-ēw-ya*, the motional feminine of an agent noun δροπεύς, is correct, the form provides another argument against *-ro-* as the regular outcome of **r̥*.

[129] The latter has been proposed by Bader (1965: 163ff.), followed by Morpurgo Davies (1968: 812). However, a first member /p^{h}arwo-/ is extremely unlikely because both Myc. *pa-we-a$_2$* and Hom. φᾶρος are *s*-stem forms.

first member **upr̥* must in his view be compared with Pamph. ὕπαρ. The reintroduction of **upr̥*, of which the form with *u-po-ra-* would be the regular spelling, is supposed to be due to the "analogical effect of other compounds in which the second part had an initial consonant" (1972: 67). The form *u-pa-ra-* is supposed to have been written by a scribe who heard [upra-]. Heubeck gives a similar interpretation of the PN *a-no-ra-ta* as /Anr̥(r)-altās/ 'feeder of heroes'.

In my view, this interpretation is unlikely: *r̥* was an allophone of *r* in the position between two consonants, and there never was a phoneme /r̥/ distinct from /r/. An alternative to Heubeck's assumption is the following. If we suppose that *u-pa-ra-ki-ri-ja* /upr-akria/ represents the regular outcome of the Proto-Greek pre-form **upr-akria*, *u-po-ra-ki-ri-ja* can hardly have been an alternative realization. The synchronic form of the preposition may have been /upor-/, e.g. by analogy with /upo-/ or by regular development of word-final **-r̥*. it cannot be excluded, then, that /upor-/ was introduced in *u-po-ra-ki-ri-ja*.[130] This explanation of *u-po-ra-ki-ri-ja* has also been suggested, be it with reservation, by Thompson (2002-2003: 363-65); he also extensively discusses other possible interpretations, and conveniently summarizes the literature on the alleged phenomenon of anaptyxis in Mycenaean.

11. *wo-ne-we* (PY Cn 40.2, 643, 719), Np. msc. of an adjective, describing flocks of sheep. It has been analyzed by some scholars as /wornēwes/ and would consequently belong to ἀρήν, ἀρνός 'lamb, sheep', deriving from a pre-form with **wr̥n-*. This interpretation is impossible because the root of this word was actually **urh₁-* (cf. Beekes 1988a: 74), and ἀρνός must be analogical after the Ns. ἀρήν < **urh₁-ēn* (cf. κύων 'dog', Gs. κυνός). Other scholars have interpreted *wo-ne-we* as /woinēwes/ 'wine-colored', but the value of such interpretations remains unclear (cf. *DMic*. s.v. and Bartoněk 2003, indices).[131]

12. *wo-ro-ki-jo-ne-jo* '?' (PY Er 312.7, 718.11) has been interpreted as /wrogiōneion/, supposedly from the zero grade root **wr̥g-* of *wo-ze* 'works'.[132] It is an adjective which qualifies plots of land (*ka-ma* or *e-re-mo*) and seems to be derived from a base form in *-iōn-*. However, the semantics of the context are unclear, and it has also been suggested that the underlying form is a PN **Wroikiōn-* who was the owner of the plots in question (see Thompson 2002-03: 362). The form can therefore be left out of consideration.

13. The interpretation of *wo-ro-ne-ja* (MY Oe 111.2), probably an adjective qualifying wool, remains unclear. The interpretation as /wroneia/ 'of lamb', comparing class. ἀρήν, is adopted by many scholars (see *DMic*., s.v., and Thompson 2002-03: 357-8). But this is impossible because the root contained a laryngeal (see above on *wo-ne-we*).[133] Further, the interpretation /wloneia/, from **wolno-* > class. οὖλος, "with the metathesis seen in the by-

[130] See section 1.2.3 on the outcome of word-final **r̥*. For an analogical final vowel in prepositions, cf. Myc. *pa-ro* /paro/ beside class. παρά.

[131] The formation in *-e-we*, in combination with the adjectival semantics, could be taken to point to a *u*-stem adjective. I think of an interpretation /wolnēwes/ or /wl̥nēwes/, from an ablauting *u*-stem adjective **welnú-*, **wl̥néw-* which would belong to the root of εἴλομαι 'to throng, be compact'. It would form a nice counterpart to Hom. ἀολλέες 'thronged, all together' < **sm̥-wl̥n-es-* (on which see section 10.5.2). Semantically, this fits the attestations of *wo-ne-we* fine, because the Cn-tablets deal with flocks of small cattle (cf. the analysis of these cattle inventories in Palmer 1963: 164ff.). From the same root is probably derived Hom. οὐλος 'thick, compact, woolly' < **wolno-*, qualifying animal hair and wool. It must be admitted, however, that a number of details of interpretation of the three tablets on which *wo-ne-we* occurs are unclear. This analysis would require that the vocalization of **l̥* took place after the development of intervocalic **-ln-* to *-ll-*, because *o-pe-ro-si* /op^{h}ellonsi/ does not have *-ln-* anymore in Myc. This chronology is, of course, quite possible.

[132] Cf. the discussion by Bader (1965: 17-19, following Palmer), who shows that *wo-ro-ki-jo-ne-jo* cannot be compared with alphabetic ὀργίων, since that form probably stands for ὀργειών, an older form of ὀργεών < **worgāwon-*. Bader's assumption of metathesis in *wo-ro-ki-jo-ne-jo* /wrogioneyo-/ from earlier */worg-/ is led by her desire to connect the form with the root **werg-* 'to do, perform'. But nothing assures this connection, because the interpretation of the context remains unclear in both attestations.

[133] The notation */u̯r̥(h₁)en-/ adopted by Hajnal (2006: 205) is illustrative for the embarrasment.

form λῆνος < *wlānos?" (*Docs.*[2]: 322), is hardly understandable. If Chadwick means that **wolno-* may have been reshaped to **wlono-* under the influence of *wlānos-*: this cannot be entirely excluded, but does not seem very likely.

From this overview of the evidence, it appears that the strongest candidates to contain the regular outcome of **r̥* (section 2.3.1) have the spelling <*Co-*>. These are: *a-no-me-de* /Anr̥-mēdēs/, *a-no-qo-ta* /Anr̥-k^{wh}ontās/, *a-no-qa-si-ja* /anr̥-k^{wh}asiā-/, *ma-to-pu-ro* /Mātr̥-pulos/, *to-pe-za* /tr̥-pedd^{y}a/, *to-qi-de* /str̥k^{wh}idei/, and possibly *wo-do-we* /wr̥do-wen/. On the other hand, the interpretation of *mo-ro-qa*, *wo-ro-ki-jo-ne-jo*, and *wo-ro-ne-ja* remains unclear. If *qe-to-ro-po-pi* can be explained in a different way, we may conclude that syllabograms of the type <*Co-*> write the regular reflex of **Cr̥*.[134]

2.4 Previous explanations of *qe-to-ro-po-pi* versus *to-pe-za*

Before proposing my solution, I will now first review three previous attempts to explain the difference between *qe-to-ro-po-pi* and *to-pe-za*: (1) liquid metathesis in *to-pe-za*, (2) analogical explanation of *to-pe-za*, (3) an accent-conditioned development.

2.4.1 Liquid metathesis

Variations like *to-no* ~ *to-ro-no-* have been interpreted by Risch (1966) as a means to distinguish *mycénien spécial* from *mycénien normal*. In his view, the variant with *-or-* has undergone metathesis and is characteristic for Pylos, whereas the original form with *-ro-* is characteristic for Knossos.[135] He connected the supposed metathesis in *to-no* with the anaptyxis of *-o-* in forms like PN *o-pe-to-re-u* ~ *o-pe-te-re-u*: both phenomena would be due to the avoidance of clusters consisting of stop plus liquid.

More recently, Risch's hypothesis has been analyzed by Thompson (2002-03: 259), who rejects the evidence for liquid metathesis in words which originally contained **r̥*. It has been supposed that the loss of *-w-* in *to-pe-za* can only be explained if an intermediate stage was **tropedi̯a* < **twropedi̯a*, where the glide was lost in front of a consonant. If so, *to-pe-za* /torpedd^{y}a/ would be an instance of liquid metathesis. However, Thompson remarks that this analysis can only be upheld if a chain of assumptions is made concerning the original form of the word. Generally, he concludes that "liquid metathesis is restricted to a handful of words, and so does not provide evidence of dialect diversity – certainly not that *mycénien normal* underwent metathesis of *ro* generally." (2002-03: 366). Although I severely doubt that there is any evidence for liquid metathesis in Mycenaean at all (note that all the alleged examples contain the vowel *o*), I agree with Thompson on his conclusion about words with etymological **r̥*.[136]

In connection with the Mycenaean material, it has been repeatedly remarked that liquid metathesis is found in many languages, and that it may apply irregularly.[137] But when invoked *ad libitem*, an irregularly operating liquid metathesis has no real predictive or

[134] Whether it stood for *r̥* or *or* cannot be decided on the basis of Mycenaean alone; I will return to this issue in section 2.7 and in chapter 7.

[135] In Hajnal-Risch (2006: 102-3), Hajnal seems to suggest that *qe-to-ro-* can be analyzed as a metathesized form, whereas the regular form should be seen in *to-pe-za*. This is apparently based on a misunderstanding of Risch's original doctrine.

[136] Cf. Thompson's seemingly ironic remark that "the reflexes of **r̥* provide a fertile ground for looking for examples of liquid metathesis" (o.c. 356), suggesting that liquid metathesis cannot be the correct solution.

[137] Later, Risch repeated this view with the following comment: "… die Liquidenmetathese ist auch in späteren griechischen Dialekten, aber auch in anderen Sprachen häufig, z.B. Homer κραδίη und καρδίη, vgl. auch dtsch. *Brunnen - Born*. Für eine Dialektklassifizierung eignet sie sich nur selten, so im Slavischen, wo z.B. *gród* fürs Polnische, *górod* fürs Ostslavische und *grad* fürs Südslavische charakteristisch sind (…)" (1979: 99). Cf. also Thompson (2002-03: 362), Hajnal-Risch (2006: 203).

explanatory power.[138] If the Mycenaean facts can be explained by sound change and analogy – and they can – we need not take refuge in this *asylum ignorantiae*.

2.4.2 Ruijgh's analogical explanation of *to-pe-za*

The hypothesis that the four main dialect groups of Greek already existed in the middle of the second millennium is based on the vocalization of the syllabic liquids (section 1.1.1). Ruijgh stated his arguments for this view, and against Heubeck's hypothesis of retained *r̥*, as follows: "L'arcado-chypriote et l'éolien présentent ορ et ρο comme substituts de *r̥* dans les mêmes conditions où l'ionien-attique et le grec occidental ont αρ et ρα; ainsi, l'arcadien fournit τέτορ-τος répondant à att. τέταρ-τος. Il est donc évident que la distinction graphique du type *to-ro : to* répond à la distinction phonologique τρο : τορ, conformément aux règles orthographiques du mycénien (…)" (1978: 420).

Ruijgh apodictically claims that the place of the anaptyctic vowel is, in principle, the same in all four major dialectal groups. But this claim is not borne out by the evidence. In a number of cases, Aeolic dialects have -ρο- where Ionic has -αρ-, e.g. Lesb. αμβροτην 'to transgress' beside Ion.-Att. ἁμαρτεῖν. Particularly embarassing are Thess. πετροτος and Boeot. πετρατος beside Arc. τετορτος and Ion.-Att. τέταρτος.

Since Ruijgh accepts that *-ro-* is the regular outcome of **r̥*, he contrives a special explanation for *to-pe-za*. This isolated lexeme would have acquired *-or-* by analogy with the cardinal **k^{w}etortos*, whereas *qe-to-ro*˚ /k^{w}etro-/ would be the regular development of **k^{w}et(w)r̥-*. But the place of the anaptyctic vowel in the cardinal **k^{w}etortos*, which is actually unattested for Mycenaean, requires an explanation itself. Here, Ruijgh assumes that the vowel slot was adapted from an older form *tur-* that was once present in the ordinal *τυρτός 'fourth', a form which in his view underlies the PN Τυρταῖος (e.g. Ruijgh 1992: 87 with n. 32, 1996: 117). This emergency solution for *to-pe-za* is highly unsatisfactory.[139] It is unlikely that a morphologically opaque form */tro-/ was replaced by another opaque form /tor-/ that was taken from the ordinal **k^{w}etortos*, which itself is supposed to be analogical. If the first member of *to-pe-za* would have been restored, one would expect to find the synchronically productive compounding allomorph *qe-to-ro*˚.[140] Thus, *to-pe-za* cannot be readily explained by analogy if *-ro-* was indeed the regular outcome of **r̥*. As we will see, a much better candidate to have undergone analogical reshaping is *qe-to-ro-po-pi*.

2.4.3 Klingenschmitt's accent-conditioned explanation

Departing from a regular development **r̥* > Myc. *ro*, Klingenschmitt has proposed to explain *to-pe-za* by a further conditioning: "Die mykenische Form des Wortes für 'Tisch', *to-pe-za* [**tórpeza*] zeigt gegenüber späterem τράπεζα sogar die lautgesetzliche Vertretung von betontem *r̥* im Wortinlaut; ebenso ist wohl myk. *wo-ze* [**wórzei*] < **u̯r̥ĝie-i̯* zu beurteilen. Das spätere τράπεζα hat *ra* wohl analogisch aus ursprünglich endbetonten Formen des Paradigmas

[138] The following remarks by Hajnal are illustrative: "Im einzelnen bleibt es allerdings schwierig zu entscheiden, in welchen Fällen wirklich Metathese vorliegt, oder wo /or/ bzw. /ro/ lautgesetzlich sind, da ersteres akzentuiertes */ŕ̥/, letzteres unakzentuiertes */´-r̥-/ bzw. */-r̥-´/ fortsetzt." (2006: 102), and: "Im Einzelfall wird die Entscheidung, ob Liquidametathese vorliegt, noch zusätzlich durch mögliche analogische Einflüsse (etwa seitens vollstufiger Formen) erschwert, welche für alle die oben genannten Lautungen verantwortlich sein könnten." (ibid. 103)

[139] Perhaps, there is a reason why Ruijgh erects this unlikely construction. He wants a development **r̥* > *-or* in word-final position, in order to explain the *o*-vocalism in the neuter *n*-stems. Even so, it could be assumed that Mycenaean had the word-final development to *-or* and at the same time preserved **r̥* in word-internal position. For the syllabic nasals, see section 1.3.2.

[140] For arguments in favor of deriving **tr̥-* from 'three', see section 2.5.

(Gen. Sg. **trapezãs* usw.) bezogen" (1974: 275-76).[141] In other words, he supposes that secondarily accented **ŕ̥* yielded *or* or *ar* in all Greek dialects, whereas unaccented **r̥* yielded *ro* or *ra*.

In his article, Klingenschmitt did not discuss the Mycenaean evidence in full. Assuming that the Limitation Law operated before Mycenaean[142], the following examples form potential counterevidence against the accent-conditioned rule (in alphabetical order):[143] PNs *a-no-me-de* /Anr̥-mḗdēs/, *a-no-qo-ta* /Anr̥-k^{wh}óntā-/, *a-no-qa-si-ja* /anr̥-k^{wh}asíā-/ 'manslaughter', *o-pa-wo-ta* /op-áwr̥ta/ 'pads or plates attached to armor', *qe-to-ro-po-pi* /k^{w}etró-popp^{h}i/ 'cattle' < **k^{w}et(w)ŕ̥-pod-*, PN *to-si-ta* /T^{h}r̥sī́tās/, *wo-do-we* /wr̥dówen/ 'rose-scented'.

It is true that not all these counterexamples are equally compelling. The Myc. form of the simplex 'rose' is unattested, but was probably root-accented, just like alphabetic Greek ῥόδον. It is also possible to argue that *o-pa-wo-ta* is analogical for **-awrota* after the full grade **awer-*. Serious counterevidence, however, is the difference between *a-no-me-de*, *a-no-qo-ta*, *a-no-qa-si-ja* (all with unaccented **r̥*) and the corresponding classical forms with Ἀνδρο-, ἀνδρο-. Since names with a second member in *-andr-* are frequent in the tablets (e.g. *a-re-ka-sa-da-ra* /Aleks-andrā/), and since *andr-* must have been the oblique stem of the simplex, I do not believe that the first member *a-no-* can be analogical after compounds in -ήνωρ.[144] If a first member **andro-* had come into existence by regular sound change, there would have been no clear motive to replace it. It is also questionable to assume that *qe-to-ro-* was generalized from compounds with an accented second member. Possessive compounds generally have a recessive barytone accent in Greek, and most of them would have had an accented first member.

In his discussion of the evidence for *-ro-* and *-or-* from **r̥*, Hajnal (Hajnal-Risch 2006: 102-3, 202-205) concludes that the evidence cannot be explained in its entirety by the accent-conditioned development. However, his assumption of irregular liquid metathesis in forms like *a-no-me-de* and *qe-to-ro-po-pi* is designed merely to save Klingenschmitt's rule, and may be safely discarded.[145] In fact, the accent-conditioned development itself hardly has explanatory power. Consider the following examples, which according to Hajnal (Hajnal-Risch 2006: 102 n. 182) could be explained with the accent-conditioned development:[146]

1. *wo-ze* 'works' and other present stem forms of the same verb. This depends on whether verbs had already acquired recessive accent at this stage (**u̯ŕ̥ǵ-i̯e/o-*), which seems likely but cannot be proven. The present stem *wo-ze* can be explained without a problem if <*Co-*> writes the regular reflex of **r̥*. Hajnal's derivation of *wo-ro-ki-jo-ne-jo* from this root as /wrogiōnei̯on/ "(ein bestimmtes Grundstück)" is too uncertain to rely upon: see above.

2. According to Hajnal, who adopts the reconstruction **d^{h}ŕ̥no-* for Myc. *to-no* beside Hom. θρόνος 'chair, throne', the compound *to-ro-no-wo-ko* (KN As 1517.11) /t^{h}rono-worgoí/ would have the regular development in unaccented position. Apart from the fact that one would expect *to-no* to be restored if the compound means 'chair-makers', we have already seen that *to-ro-no-wo-ko* may contain a different etymon (Hom. θρόνα). In my view, *to-no*

[141] See section 1.4.1 for the problems with applying this rule to alphabetic Greek. Klingenschmitt's account has been followed in a considerable number of subsequent discussions, e.g. Leukart (1994: 54 n. 23), Thompson (2010: 190).
[142] This assumption potentially affects only the forms *o-pa-wo-ta* and *qe-to-ro-po-pi*.
[143] The material has been gathered from Hajnal-Risch (2006: 102-3, 202-205).
[144] Cf. also *a-di-ri-ja-te* /andriantei/ 'with a man's figure', which was probably based on an adjective /andrio-/ < PGr. **anr-io-*.
[145] This also applies to the analysis by Thompson (2002-2003), discussed in section 2.4.1.
[146] In the PN *ke-ro-ke-le-we-o*, Gs. /K^{h}erro-kléwe^{h}os/ "Hand-Famous" (PY Sa 487), Hajnal assumes a pre-form **k^{h}es-r̥-*, but a compositional thematic vowel cannot be excluded.

does not derive from a pre-form *$d^h\acute{r}$no-, but even if this reconstruction would be correct, the hypothesis that <*Co*-> writes the regular reflex of *$\mathring{r}$ explains the material as well.

Thus, there are no cases where the accent-conditioned rule helps us to explain the Mycenaean reflexes of *$\mathring{r}$. On the contrary, a number of forms remain in need of yet another analogical explanation, among them *qe-to-ro-po-pi*. Since Klingenschmitt's rule seems to have been devised precisely in order to explain the difference between *to-pe-za* and *qe-to-ro-po-pi*, we may safely reject his proposal.

It has already become clear that *to-pe-za* is a hard nut to crack if <*Co-ro*-> is assumed to write the regular reflex of preconsonantal *$C\mathring{r}$-. I will therefore depart from the simple hypothesis that the spelling <*Co*-> writes the regular outcome of *$C\mathring{r}$, and that all evidence for <*Co-ro*-> must be explained in a different way. I will now argue that *qe-to-ro*-, like Hom. τετρα-, has an analogical vowel after other compounding first elements (Myc. *e-ne-wo*-, Hom. πεντα-, …, δεκα-).

2.5 Ion.-Att. τέταρτος and the reduction of *-*tw*-

In order to make an analogical origin of *qe-to-ro*˚ plausible, I will now consider the Homeric and alphabetic reflexes of 'four'. The key question is: how can we explain the loss of the glide -*w*-, which supposedly took place both in *qe-to-ro*˚ and in *to-pe-za*?

In the paradigm of PGr. N. *$k^wetwores$ 'four' and related formations, there are three forms which have no trace of the labial glide: the dative *$k^wet\mathring{r}si$ > τέτρασι (Hes.+), the first member *$k^wet\mathring{r}$- (Ion.-Att. τετρα-, Myc. *qe-to-ro*, Thess. πετρο-), and the ordinal *$k^wet\mathring{r}to$- (Hom. τέτρατος, Ion.-Att. τέταρτος, Arc. τετορτος, Thess. πετροτος). Most previous treatments of these forms departed from the assumption that the loss of -*w*- occurred only in front of a consonant, and never in front of syllabic segments. Klingenschmitt reasons as follows: "Es gibt nun sogar ein zwingendes Argument, welches die Annahme einer mykenischen Vertretung von ursprünglichem wortinlautendem $\mathring{r}$ als *or*/*ro* unumgänglich erscheinen lässt. Mykenisch *k^wetro- (*qe-to-ro-po-pi*) < *$k^wet\mathring{u}\mathring{r}$- und *tór- (*to-pe-za*) < *$k^wt\mathring{u}\mathring{r}$- können indogermanisches $\mathring{u}$ nur bei Vorliegen einer Gruppe *tw* (< idg. *tu̯*) + konsonantischem *r* eingebüsst haben: *$k^wet\mathring{u}\mathring{r}$- > *$k^wet^wr\partial$- > *$k^wetro$-; *$k^wt\mathring{u}\mathring{r}$- > *$twr\partial$- > *tro*- (urgriechisch etwa *$tr\partial ped'i\tilde{a}s$); danach analogisch *tor*- für *twor*- (*$tw\acute{\partial}rped'ia$)."[147]

The argument supposes that -*w*- was lost only after *$\mathring{r}$ had vocalized as -ρα- or -*ro*-. This would indeed explain the forms τέτρασι, τετρα-, Myc. *qe-to-ro*, and τέτρατος. However, it requires that we make a number of additional assumptions. In order to explain *to-pe-za*, Klingenschmitt needs to assume leveling of a paradigm *$tw\acute{o}rped\hat{i}a$, G. *$troped\hat{i}\tilde{a}s$ to *$t\acute{o}rped\hat{i}a$, G. *$troped\hat{i}\tilde{a}s$, then to *$t\acute{o}rped\hat{i}a$, G. *$torped\hat{i}\tilde{a}s$. This would mean that neither *to-pe-za* nor *qe-to-ro-po-pi* is the regular outcome of its pre-form, which is theoretically possible but not very likely.

Furthermore, it presupposes that Ion.-Att. τέταρτος and Arc. τετορτος are secondary forms, and that the regular outcome of the ordinal form is reflected in τέτρατος. This is hard to accept for three reasons. First, there was no motive to replace a regular outcome τέτρατος, because this form would have been protected by the first member τετρα-. There is no clear model for the replacement either: a proportional analogy with the cardinal would normally have yielded Att. $^{++}$τέτταρτος (etc.).[148] Secondly, a stem τεταρ- is not found elsewhere, and an analogy which eliminates a perspicuous stem form (τετρα-) with a novel one (τεταρ-) is hard

[147] Cf. more recently Thompson (2010: 190): "The cluster *tw before a consonant has simplified to *t* in e.g., *qe-to-ro-po-pi*, *$k^wetropopp^hi$ "four-footed animals" (instr. pl.) < *$k^wetwropodp^hi$ < *$k^wetw\mathring{r}podp^hi$ (showing that this simplification must postdate the changes to $\mathring{r}$) (…)".

[148] Cf. Hirt (1901: 235): "Nach Brugmann (…) hat τέταρτος sein einfaches τ von τέτρα bezogen (…). [Aber h]ätte es ein *τέτταρτος gegeben, so wäre es wohl durch τέτταρες gehalten." Influence of a hypothetical *τυρτός on τέτρατος (proposed by Ruijgh, e.g. 1996: 117) cannot be upheld either.

to sustain. Thirdly, the *a*-vocalism of τέταρτος cannot have been taken from the cardinal form (Att. τέτταρες, Hom. τέσσαρες), because τέσσερες occurs beside the ordinal τέταρτος in Eastern Ionic.[149] The same argument applies to Arcadian, which has τεσσερες beside τετορτος.[150] Thus, it is doubtful that τέτρατος was replaced by τέταρτος on the basis of the cardinal in any Greek dialect, let alone in three dialects independently. Anticipating my explanation for the poetic form τέτρατος, I conclude that Ion.-Att. τέταρτος and Arc. τετορτος are the regular outcomes, in these dialects, of the Proto-Greek ordinal form **k^{w}etwr̥to-*.

Since PIE **-tu-* turns up before a consonant as **-tu-*, not as **-tw-*, the condition "before consonant" proposed for the reduction of **-tw-* is uninformative.[151] All instances of the reduction of **-tw-* before a surfacing consonant contain an underlying prehistoric **r̥*. Therefore, I propose that the condition for the reduction was **tw > t | _ r̥*, and that this sound change took place prior to the vocalization of **r̥*. The loss of a labial segment between two non-labialized phonemes is phonetically natural (note that labialized rhotics are difficult to realize, and typologically rare). The *-w-* was preserved in front of a vowel in most case forms of the cardinal: Ion. and Arc. τέσσερες, Att. τέτταρες (with secondary -α-), etc.[152]

A seeming objection to this scenario is σάρξ 'meat', where **tw-* was not reduced to *t-* in front of **r̥*. The pre-form of σάρξ is PIE **turḱ-*, which regularly vocalized as **tu̯r̥ḱ-* in Greek.[153] Why did this form not develop into $^{++}$τάρξ? There are two ways to proceed. First, one could think that a full grade form of the root was around in Greek. In Schindler's view (1972: 34), Aeolic and Doric σύρξ (attested in glosses like σύρκεσι· σαρξίν. Αἰολεῖς Hsch.) point to a full grade form **tu̯orḱ-* elsewhere in the paradigm, with *o > u* by Cowgill's Law.[154] It could then be assumed that a paradigm Np. σύρκες, Dp. *ταρξί was first leveled to σύρκες,

[149] The regular form in Herodotus and in Ionic inscriptions is τέταρτος. The Magnetian form τετταρ[τ]ος is explained by Nachmanson (1904: 146-7, who calls the form "ominös") as due to influence of τετταρακοστην in the previous line. That form is probably due to Attic influence. A similar form is read in Miletus: see Scherer (1934: 58), who thinks that it may have been "durch das Kardinale beeinflusst". But since the cardinal had -σσ- in Ionic, we may have to reckon with incidental geminate spellings.

[150] See section 3.5.3. Morpurgo Davies states that "we expect for the Arcadian ordinal an original *τέτροτος (or *τέτρατος) because otherwise it would be impossible to justify the presence of a single τ instead of the geminate -ττ- expected as a treatment of the cluster *-*tu̯*-" (1968: 795). This argument is invalid, because it depends on the relative chronology (see below).

[151] It is possible that prevocalic PIE **-tu-* had already become monophonemic **-t^{w}-* early in Greek. When I write **-tw-* in reconstructed forms that postdate Proto-Greek, I do not mean to exclude this possibility.

[152] An additional advantage of this scenario is that it may explain the West Greek cardinal form τέτορες. The loss of **-w-* in this form has been ascribed to a dissimilation against the initial **k^{w}-* (Szemerényi 1960: 148), but this dissimiation did not take place in the cardinal form in other dialects. In the *Grundriss* (II 2, 13), Brugmann already assumed that WGr. τετορες was influenced by τετρα- and τέτρατος, which seems much more logical. Of course, Brugmann also departed from the assumption that the vocalization of **r̥* to -ρα- preceded the loss of digamma. Within the present scenario, we may simply assume that the ordinal form **k^{w}etr̥to-* and the first member **k^{w}etr̥-*, perhaps assisted by case forms with single *-t-* like G. **k^{w}eturōm* (cf. Lillo 1990: 15-16), influenced the old nominative form of the cardinal **k^{w}etwores* to become remodelled to **k^{w}etores* in West Greek.

[153] The Greek vocalization of **CurC, *CunC* as *Cu̯r̥C, Cu̯n̥C* has been variously explained. Ruijgh (1992: 78) refers to a "règle de Beekes" (referring to Beekes 1985: 134-135), which states, in Ruijgh's terms, that the semivowel is always vocalized in a sequence of semivowel (*i, u*) plus semiconsonant (liquid or nasal) between two consonants, (e.g. not only **klut-, *krit-*, but also *-um, -im, link^{w}-* rather than *-u̯m̥, -i̯m̥, li̯n̥k^{w}-*). This goes against the rule formulated by Edgerton and Schindler that the second of two resonants always vocalizes. Beekes departed from the two Vedic Ap. endings *-yas* and *-ias*, a problem which certainly deserves consideration. But since syllabification was subphonemic (and therefore automatic) in PIE, and since this automatic vocalization could change in the daughter languages, the Greek evidence for *Cu̯r̥C, Cu̯n̥C* may also be due to a post-PIE resyllabification. There is no need to insist, with Ruijgh, on analogical origin of such sequences within Greek. Moreover, the issue is not strictly relevant for the present discussion, because forms like **k^{w}etwr̥to-* are post-PIE creations in any case.

[154] The form συρκ- is ascribed to Aeolic in most lexicographical sources, but to Doric ("Δωριεῖς") in *EM* 708.33. See Vine (1999) on Cowgill's Law in connection with σάρξ.

σαρξί, and then to σάρκες, σαρξί in Ionic. But it is perhaps not very likely that the root had ablaut in Greek, given that Lubotsky (1994) has pointed at the general lack of evidence for a full grade in other reflexes of this PIE root.[155] The forms σύρκες and σάρκες could also be due to dialectally different vocalizations of a pre-form PGr. *$t^s w̥rk$-.

A second option is to depart from the different development of *tw- in word-initial position. Apart from σάρξ, two examples prove that the underlying affricate *t^s- < *$t^s w$- was reduced to *s*- relatively early.[156] The adjective σάος 'safe and sound' < PGr. *twáwo*- has σ- in all dialects, and Att. σάττω 'to stuff' PGr. < *$tw̥nk$-$i̯e/o$- is also found in Cret. συνεσσακσαι = συν-εκ-σάξαι (see Bile 1988: 145). This may be contrasted with the development of word-internal *-tw-, which yields -ττ- in Attic τέτταρες. In other words, word-internal *-tw- behaves like *-$ki̯$-: both groups yield -σσ- in Ionic and most other dialects, but -ττ- in Attic, Boeotian and Cretan.[157] In word-initial position, on the other hand, *tw- > σ- contrasts with the development of *$ki̯$-, which yields Attic τ-, but Ionic σ- (as in τήμερον 'today', beside Ionic σήμερον; cf. also Att. τῆτες 'this year', Myc. *za-we-te* /kyā-wetes/ 'this year's').[158] Thus, the reflex of *tw- has merged with that of *$ti̯$- in alphabetic Greek: cf. σέβομαι 'to revere, honor' < *$ti̯eg^w$-e/o- (Skt. *tyaj*- 'to abandon, give up'), attested in both Ionic and Attic. This implies that the reduction *tw- > σ- is probably due to an early sound-change that was Proto-Ionic, perhaps even Pan-Greek, and prior to the reduction of word-internal *-tw- in front of $r̥$. The merger of *tw- and *$ti̯$- could be explained by an intermediate affricated stage *$t^s w$- that was reduced to *t^s- only in initial position. In intervocalic position, on the other hand, *-tw- (or *-$t^s w$-) may have remained stable for a longer period. In this way, the different treatment of σάρξ < *$sr̥k$- < *$t^s r̥k$- can be explained. Note, in passing, that σάρξ points to *$r̥$ > -αρ- as the regular development in Ionic-Attic.[159]

If correct, this analysis has repercussions for the etymological origins of the word for 'table'. The comparison between Ion.-Att. τράπεζα and Myc. *to-pe-za* allows us to reconstruct the first member as *$tr̥$-. Most scholars assume that *$tr̥$- is a reduced form of the numeral 'four', with a double zero grade *$k^w tu̯r̥$-.[160] In the first place, this conflicts with the commonly accepted interpretation of τρυφάλεια '(kind of) helmet', which is compared with τετράφαλος

[155] Note Schindler's formulation (ibid.): "Puisque *CarC* pour *CraC*, mis à part quelques cas qui ne sont pas clairs, est normalement dû à *CerC* ou *CorC* dans des formes apparentées, il est légitime d'expliquer σύρξ comme issu de **tworḱ-*, avec *u* au lieu de *o* au voisinage d'un labiale." Given that the traditional explanation for -αρ- referred to by Schindler will appear to be untenable in the following chapters, one wonders whether Schindler's assumption is still legitimate, especially in view of Lubotsky's arguments. Vine (1999) favors Schindler's explanation.

[156] The reflex of σάος > Ion.-Att. σῶς 'safe and sound' < **twawo*- is found in most dialects, cf. dialectal West Greek forms with σα-. A reflex of σάττω 'to stuff, coerce'

[157] An affricate stage is still preserved in Cretan, cf. Bile (1988: 142-46).

[158] The *$ki̯ā$- of *$ki̯ā$-*wetes* may have been taken from *$ki̯āmeron$ < *ki-*āmero*-.

[159] Thus, North Greek may have preserved the difference between the original onsets *tw- and *$ti̯$- when these had already merged into *t^s- in this position in South Greek. North Greek then solved the problem of vocalization posed by *$t^s w̥rk$- by a resyllabification *$t^s urk$- > συρκ-. In South Greek, on the other hand, the reduced form *$t^s r̥k$- eventually vocalized as σαρκ-. Another example of a dialectally differing anaptyctic vowel is Boeot. βανά 'woman' beside γυνή in all other dialects. Here, it is South Greek which has an anaptyctic -*u*-, but this does not contradict the distribution between σάρξ and σύρξ. First of all, the anaptyctic vowel in βανά and γυνή is due to the fact that the word was a monosyllable. Secondly, the labiovelars may have remained intact longer in South Greek, so that North Greek introduced the anaptyctic vowel into a form *$bnā$, and South Greek into *$g^w nā$. See further section 9.6.

[160] See, for instance, the list of references in *DMic*. s.v. *to-pe-za*. Thompson remains sceptical of the connection with 'four', "both from the point of view of the *realia*, and because of its phonological difficulties" (2002-03: 357). On Mühlestein's analysis of Myc. *to-mi-ka*, see section 2.3.2 above.

'with four φάλοι' (cf. *LfgrE* s.v.) and derived from a form starting with a metathesized PIE *$k^w tru$- < *$k^w tu̯r$-.[161] The following scenario could then be envisaged:

1. PIE *$k^w tur$- > *$k^w tru$- (cf. Av. *caθru*-, Lat. *quadru*-)
2. Early PGr. *$k^w tur$- is reintroduced in the precursor of 'table', and syllabifies as *$k^w twr̥$-. But *$k^w tru$- is maintained in the precursor of τρυφάλεια.
3. *$k^w etwr̥$- is introduced as the regular first member of 'four'. *$k^w twr̥$- and *$k^w tru$- are reduced to PGr. *$twr̥$- and *tru-, respectively.[162] *tru- is preserved only in τρυφάλεια, *$twr̥$- only in the precursor of 'table'.
4. Loss of -w- in *$twr̥$-, yielding *$tr̥$-*pedi̯a*.

The final change, however, conflicts with the development observed in σάρξ < PGr. *$twr̥k$-. In order to save the analysis of *$tr̥$- in *$tr̥$-*pedi̯a* as 'four-', it would have to be assumed that inherited *$twr̥$- had already developed to *$t^s r̥$- (vel sim.), reflected in σάρξ, before *$k^w twr̥$- developed to *$twr̥$- (as reflected in *$tr̥$-*pedi̯a*).[163] This "secondary" *$twr̥$- might then have joined the reduction seen in *$k^w etwr̥$- > *$k^w etr̥$-.

This scenario cannot be entirely excluded, but it seems rather complicated, to say the least.[164] It is therefore worthwhile to consider an alternative option: what if the first member of *$tr̥$-*pedi̯a* was not 'four', but *$tr̥$- 'three'?[165] There is evidence for an older form *$tr̥$- 'three' in Ved. $tr̥tī́ya$- 'third' (cf. Mayrhofer *EWAia* s.v. $tr̥tī́ya$-) and in Old Prussian *tīrtis* 'id.'. Just like the ordinal *$tr̥$-*to*- was replaced by *tri-*to*- everywhere except in Vedic and Old Prussian, the compounding element *$tr̥$- may have been preserved only in Greek *$tr̥$-*pedi̯a*. This analysis is attractive from the point of view of *realia*: geometrically, tables are stable when they have three feet, but unstable with four feet. It would also be in line with the Mycenaean attestations: *to-pe-za* was not conceived of as a compound any longer, and simply means 'table', but it is qualified as *we-pe-za* /wek(s)-pedd^{y}a/ 'six-footed' and *e-ne-wo-pe-za* /enewo-pedd^{y}a/ 'nine-footed'.[166] Both are multiples of three.

Whether the derivation of τρα- from *$tr̥$- 'three' is correct or not, the difference between Myc. *to-pe-za* and Hom. τράπεζα ensures that the pre-form of 'table' contained *$r̥$ in mid-second millennium Greek.[167] Regarding the words for 'four', we may conclude that the

[161] This etymology is not evident (cf. the doubts in Beekes 1973: 388 n. 1), because it would make the word an extremely archaic compound, whereas the second member has no IE etymology. But since the analysis of *$tr̥$- in 'table' does not really depend on it, I will assume that it is correct.

[162] The loss of *k^w- can be regular only before two following onset consonants. If the -w- was lost first, the labiovelar of *$k^w tr̥$- would be preserved.

[163] It should be taken into consideration, then, that Mycenaean also attests forms like *ma-ra-tu-wo* /marat^{h}wo-/ 'fennel', class. μάραθον. In other words, the evidence for -*tw*- of secondary origin (not affected by the sound change *tw- > *t^s-) may suggest that this group was preserved as such in Mycenaean.

[164] It is not evident, for instance, that the development to *$t^s r̥$- took place in word-initial *$twr̥$-, but not in the more complicated word-initial cluster *$k^w twr̥$-.

[165] Morpurgo Davies (1968: 803f.) suggested this possibility, but remained rather sceptical. She objected that there is no independent evidence in Greek itself for *ter- or *$tr̥$- 'three', but only "from Sanskrit and Hittite – and even this is disputed." (art.cit. 804). I fail to understand her objection that Mycenaean also has the morpheme *tri-* in *ti-ri-po* 'tripod' beside <*to*-> in 'table': *to-pe-za* could be an archaism, *tri-pod*- a more recent creation.

[166] Attestations: *to-pe-za e-re-pa-te-ja … we-pe-za* 1 (PY Ta 713.2), *to-pe-za … e-ne-wo-pe-za* (ibid. 713.1 and *passim*).

[167] There is no foundation whatsoever for the assumption (e.g. Morpurgo Davies 1968) that 'table' is a borrowing that was adapted by folk etymology to yield a meaningful compound. The point emerging from the tablets is, precisely, that the etymological compound meaning of *to-pe-za* was *not* conspicuous anymore. Morpurgo Davies is overly sceptical when she doubts that the interchange Myc. *or* ~ Hom. ρα should be explained by assuming a syllabic liquid. Her own argument is biased by the ambition to show that Mycenaean *o*-vocalism from a syllabic liquid is only regular after *w*-, a proposal which is untenable, as I have argued above. See chapter 3 for a discussion of the Arcado-Cyprian material.

Pan-Greek reduction of word-internal *-tw-* to *-t-* was conditioned by a directly following **r̥*. This is the only way to explain the Ionic-Attic form τέταρτος. It remains to explain the Epic form τέτρατος, the residual Dp. τέτρασι, and the first member τετρα-, Myc. *qe-to-ro-*.

2.6 Analogical explanation of τετρα-, *qe-to-ro*˚, and τέτρατος

The numeral first members of several possessive compounds derive from a pre-form which ended in a syllabic nasal: ἑπτα-, εἰνα- < **enwa-*, and δεκα-.[168] In Epic Greek, this "compositional -α-" has been extended analogically to 'five', 'six' and 'eight', as is shown by the following instances:

'five': πενταέτηρος 'five years old' (*Il*. 2.403 *passim*) and πεντάετες 'five years long' (*Od*. 3.115) for **penk*^{w}*e-wet-es*.
'six': ἑξάετες (*Od*. 3.115) << **(s)weks-wet-es*.
'eight': ὀκτάκνημα 'eight-spoked (wheel)' (*Il*. 5.723), ὀκτάβλωμος 'consisting of eight pieces' (Hes. *Op*. 442), ὀκταπόδην 'eight feet long' (Hes. *Op*. 425).

In Epic Greek, there are no exceptions to this spread of -α-. The post-Homeric evidence shows a similar picture: even if there are some traces of older forms like ὀκτώπους, the first members πεντα-, ἑξα- and ὀκτα- are also normal in the classical language.[169] It follows that τετρα- may have been influenced by the higher numeral first members *hepta-*, **enwa-*, and *deka-*, which arose by regular sound change.[170]

We may now explain Myc. *qe-to-ro-po-pi* as follows. Since we already find *e-ne-wo*˚ /e(n)newo-/ 'nine-', it may be assumed that Mycenaean had at least partly carried out a levelling similar to that of Epic Greek, but generalizing the *-o-* which arose in a labial environment in 'nine-' (see section 1.3.2).[171] The spread of this *-o-* from 'nine' to 'ten' is found in several dialects, including Arcadian δεκοτος, and it is possible that Mycenaean already had *deko-* 'ten-' and *dekoto-* 'tenth'.[172] Since the -o- of *deko-* and *dekoto-* was productive in the Arcadian ordinals, where it spread to πεμποτος 'fifth' (cf. Morpurgo Davies 1968: 795), it is quite possible that it had spread to the first member 'four-' already in Mycenaean.[173]

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[168] The evidence for these forms from Epic Greek is as follows: 'seven': ἑπτάπυλος 'seven-gated' (*Il*. 4.406, etc.), σάκος ἑπταβόειον 'shield with seven layers of cow-hide' (*Il*. 7.222, 245 etc.), ἑπταπόδην 'seven feet long' (*Il*. 15.729), ἑπτάετες 'lasting seven years' (*Od*. 3.305), hydronym ἑπτάπορος "with seven fords" (*Il*. 12.20 *passim*). 'nine': εἰνάνυχες 'nine nights long' (*Il*. 9.470), εἰνάετες 'nine years long' (*Il*. 18.400). 'ten': δεκάχιλοι 'ten thousand' (*Il*. 5.860, 14.148), δυωδεκάβοιον 'consisting of twelve cows' (*Il*. 23.703), δεκάδωρος 'ten palms long' (Hes. *Op*. 426), δυωδεκάμηνος 'twelve months old' (Hes. *Op*. 752).

[169] Cf. ὀκτακόσιοι (Th., Hdt.), ὀκταπλάσιον 'eightfold' (Ar.), ὀκτάμηνος 'lasting eight months' (X.), beside ὀκτώπους (old com.), ὀκτωδάκτυλος (Ar.).

[170] Note that a similar spread is found in τετράς, -άδος 'fourth day' (Hes.+), which took the suffix -άδ- from δεκάς, -άδος 'team of ten' < **dek̑m̥-t-*. In the words of Rau (2009: 13 n. 2), "The -δ- that surfaces in Gk. δεκάς, -άδος is secondary, and is due to contamination with the formally, semantically and derivationally similar άδ-stems."

[171] Ruijgh (1996: 118) draws the opposite conclusion: in his view, ἑξα- and πεντα- are analogical after τετρα-. His reason is, obviously, that he wants to explain the *o*-vocalism of Myc. *e-ne-wo-pe-za* 'nine-footed' as analogical after *qe-to-ro-*. Thompson (1996-97: 319) objects to Ruijgh's scenario that influence from 'four' on 'nine' is only plausible if the other numerals also underwent it. This objection also applies to the analysis proposed here, but see the main text for a solution.

[172] The latter form may be attested in the PN *de-ko-to* (PY), but the alternative explanation as /Dekto-/ "the accepted one" (vel sim.) cannot be excluded.

[173] The evidence for the numerals in the Aeolic dialects also deserves to be reconsidered in this light; see the discussion in section 3.4.1.

To this scenario, it may be objected that the analogy did not affect all intermediate numerals in Mycenaean, which preserves *we-pe-za* /$^{(h)}$weks-pedd^{y}a/ 'with six feet'.[174] Moreover, the analogical introduction of a vowel in τετρα- would have changed the metrical structure of the posited pre-form *$k^{w}etr̥$-. Was there a motive to replace 'four-', but not 'six-'? One possible solution would be that the Proto-Greek form of 'four-' was not *$k^{w}etwr̥$-, but *$k^{w}etru$-. This would be the expected outcome of the PIE form *$k^{w}tru$- into which an *-e-* was secondarily introduced (cf. Av. *caθru-*, Lat. *quadru-*). Thus, 'four-' was influenced by 'nine-' and 'ten-' because it ended in a vowel, and *$(h)weks$- was exempted from the spread of *-o-* because it did not have a final vowel.[175] We may assume that 'five', 'seven' and 'eight' also received this -o- in Mycenaean.

We now have to consider whether a similar explanation is possible for τέτρατος. While this form is normally viewed as the regular outcome of *$k^{w}etr̥to$-, it must not be forgotten that τέτρατος is restricted to Homer and a few occurrences in later poets, and that the only regular prose form in Ionic-Attic is τέταρτος.[176] In the previous section, several objections against an analogical explanation of τέταρτος have been advanced. In Epic Greek, the variation between τέταρτος (14x in Homer) and τέτρατος (8x) is potentially well-suited for metrical purposes. Therefore, the possibility that τέτρατος was analogically influenced by δέκατος and εἴνατος deserves consideration.[177] Special by-forms in -ατος are also found for some of the other ordinals in Epic Greek: ὀγδόατος 'eighth' beside ὄγδοος, ἑβδόματος 'seventh' beside ἕβδομος, and τρίτατος 'third' beside τρίτος. These forms are all but limited to hexameter poetry, and they were clearly created in order to make certain case forms fit the metre (forms like ὀγδόην, ἑβδόμην, τρίτην would be unfit).[178] It is unlikely, however, that a metrically unproblematic pre-form *$k^{w}etr̥to$- was extended to *$k^{w}etrato$-. If artificial Epic forms in -ατος are not found for 'fifth' and 'sixth' either, this must be ascribed to the unproblematic metrical structure of πέμπτος and ἕκτος. It seems, then, that an analogical spread of -ατος to τέτρατος within Epic Greek can only be motivated if the pre-form already had a dactylic shape.[179]

There are now two options. One could conjecture that the pre-form of τέτρατος was in fact *$k^{w}etruto$-, with the same metathesis found in the first member *$k^{w}tru$-. This is highly improbable: the ordinal form reconstructed as *$k^{w}etwr̥to$- (cf. also OCS *četvrьtъ*, Lith. *ketvir̃tas*, Lat. *quārtus*) is probably a reshaping of post-PIE date, because the Indo-Iranian evidence (Skt. *turíya-*, YAv. *tūiriia-* 'fourth', *ā-xtūirīm* 'four times') points to an older form PIE *$k^{w}tur$-$i(H)o$-. A putative *$k^{w}etruto$- would have to be of PIE date in view of the assumed

[174] In alphabetic Greek, we find ἑξα- (already adv. ἑξάετες *Od*. 'six years long') replacing the older form ἑξ-, ἑκ-, e.g. adj. ἑξέτεα (*Il*.), ἕκπους, ἑκδάκτυλος (inscr.). Note that the ordinal remains ἕκτος 'sixth' throughout classical Greek.

[175] This scenario could also explain the regular lack of *McL* scansions (see chapter 6) in the Homeric examples: |$_{P}$ κυνέην θέτο τετραφάληρον (*Il*. 5.743 and 11.41), |$_{T}$ σάκος θέτο τετραθέλυμνον (*Il*. 15.479, *Od*. 22.122), τετραφάλῳ (*Il*. 22.315), τετράφαλον |$_{P}$ κυνέην (*Il*. 12.384), τετράγυος (*Od*. 7.113 and 18.374). The only exception is the *McL* scansion in τετράκυκλος at *Il*. 24.324 (|$_{H}$ τετράκυκλον ἀπήνην 'four-wheeled wagon'). This situation can be interpreted in two ways. It is possible that the single instance of *McL* scansion in τετράκυκλος reflects an archaic scansion of *$k^{w}etr̥$-. On the other hand, it is possible that this scansion is due to an incidental application of the licence (note that τετράκυκλον would synchronically contain a cretic sequence), and that the heavy scansion of -τρ- in all other cases reflects a pre-form *$k^{w}etrV$-. The latter option is perhaps more likely, given that the only other instance of τετράκυκλος (*Od*. 9.242) has an irregular metrical lengthening of -α-.

[176] The only post-Homeric attestations of τέτρατος are: B. 4.11, Simon. 14.131.5, Alcm. 20.1.3, Pi. *Pyth*. 4.47 and *fr*. 135.2 (both Pindaric attestations have a metrically long first syllable).

[177] This was also suggested by Waanders (1992: 379f.).

[178] For τρίτατος, only B. *Epin*. 1.112 and E. *Hipp*. 135 may be mentioned in 5th c. poetry. If τερτάτοις is correctly restored for the ms. form τετράτοις in Pi. *Ol*. 8.46, it must have been taken from Lesbian poetry: see von der Mühll (1964: 50f.). But this restoration is rather shaky in my view. The forms ὀγδόατος and ἑβδόματος are restricted to Homer and Hesiod.

[179] In this connection, it may be noted that τέτρατος never undergoes *McL* scansion in Homer.

metathesis to *-ru-*, but it seems *ad hoc* to posit such a pre-form only in order to explain Hom. τέτρατος.

A second, more promising scenario would be that Hom. τέτρατος contains an old metrical lengthening. Note that in Homer, τέτρατος is restricted to the As. ntr. τέτρατον (7x) and the Ns. msc. τέτρατος (only *Il*. 23.615), whereas τέταρτος is normal in various different case forms. The metrical lengthening may have originally occurred in a syntagm like τέτρατον ἦμαρ (2x verse-initial in *Od*.), where **k^{w}etr̥ton* would scan as a tribrach, or in |$_{P}$ τὸ δὲ τέτρατον |$_{B}$ (2x *Il*., both times in hyperbaton with a verse-final noun), in a slot where many old metrical lengthenings are found. I will further elaborate this explanation in section 6.7.4.

It has to be stressed once again that Ionic-Attic τέταρτος and Arcadian τετορτος must be the regular outcomes of **k^{w}etwr̥to-* in these dialects, because they cannot be explained by analogy. As for Mycenaean, we may conclude that *qe-to-ro-po-pi* represents /k^{w}etro-pod-p^{h}i/, which may have an analogical *-o-* after *enewo-*, **deko-*, and that *to-pe-za* is the regular outcome of its pre-form **tr̥-pedi̯a*.

2.7 Conclusions regarding Mycenaean

The inescapable conclusion of the preceding sections is that the outcome of **r̥* in Mycenaean was certainly not *-ro-*, but either *-or-* or preserved *-r̥-*. Among the forms retained in section 2.3.1, the following material conclusively refutes the thesis that **r̥* yielded *-ro-* in Mycenaean:

1) PNs *a-no-me-de* /Anr̥-mēdēs/, *a-no-qo-ta* /Anr̥-k^{wh}ontās/
2) *a-no-qa-si-ja* /anr̥-k^{wh}asiā-/ ‘manslaughter’
3) *to-pe-za* /tr̥pedi̯a/ ‘table’
4) *to-qi-de* ‘spirals’, whether from **tr̥k^{w}ides* or **str̥k^{wh}ides*

On the other hand, there are no forms with a spelling <*Co-ro-*> that necessarily reflect the regular outcome of a form with **r̥*: the first member *qe-to-ro-* may be explained by analogy, *to-ro-no-wo-ko* may contain the avatar of θρόνα, and *ma-to-ro-pu-ro* may have a compositional *-o-*. For reasons to be discussed in section 7.3.4, *to-no* ‘seat, throne’ is best derived from a form with *o*-vocalism of the root.

This conclusion is further corroborated by other evidence. It is welcome that the inherited present formation *wo-ze* is the regular outcome of its pre-form (cf. Goth. *waurkjan*, Av. *vərəziia-*). The difference between *wo-do-we* /wr̥do-wen/ ‘rose-scented’ and its direct Homeric cognate ῥοδόεντ- can be understood much easier if the pre-form contained a syllabic liquid (see the discussion in section 7.2.8). If *o-pa-wo-ta* is interpreted as /op-aworta/, the *-or-* could theoretically replace *-ro-* after the full grade of the root **awer-*, but if Mycenaean retains *r̥*, this way out is barred. *To-si-ta* may be an older form than Θερσίτης, perhaps with the outcome of a PIE **d^{h}r̥sitó-* ‘strong, aggressive’ as its underlying appellative form.

There is no compelling evidence for the outcome of **l̥* in Mycenaean. When discussing the Homeric evidence for -ρο- from **r̥* in chapter 7, we will return to the question whether Mycenaean may have preserved this phoneme. For now, nothing in Mycenaean itself cogently speaks against such an assumption.

3. Reflexes of *$\mathring{r}$ in the Alphabetic Greek dialects

3.1 Introduction

This chapter discusses the outcome of *$\mathring{r}$ in the dialects of Alphabetic Greek except for Ionic-Attic. It must be stressed that the epigraphic evidence is sometimes too scanty to allow for a sharp conclusion. In many dialects, much depends on the interpretation of lexicographical glosses (Cyprian, Elis) or on the literary evidence (Lesbian). Let us again focus on the two questions mentioned in chapter 1.

First of all, we have to determine whether the *o*-colored reflex in various dialects was regular, and under which conditions. As was remarked in section 1.1.1, there is currently no consensus on this matter. However, the evidence for *a*-vocalism should not be overestimated. As discussed in section 1.2, some previous discussions of the dialectal reflexes of the syllabic liquids were hampered by a lack of insight in the developments that yielded -αρ- in all Greek dialects.[180] This issue has been clarified by e.g. García Ramón (1985) and Haug (2002), and we do not need to discuss it in detail here.

The second main issue concerns the regular vowel slot in the outcome of *$\mathring{r}$. Surprisingly few previous discussions have paid attention to this question, as they almost exclusively focused on the color of the vowel. This is due to the dogma which supposes that all Greek dialects show the same hesitation between -αρ- and -ρα- as found in Ionic-Attic, where -ρα- is somehow thought to be the normal, regular reflex. However: (1) We have already seen examples where the dialects behave differently (cf. section 2.5). (2) It appeared that the regular Mycenaean reflex of *$\mathring{r}$ was either *-or-* or preserved *-$\mathring{r}$-*: it can be definitely excluded that the regular outcome was *-ro-*. (3) In the following chapters, we will find that the regular reflex of *$\mathring{r}$ in Proto-Ionic was -αρ-, rather than -ρα-. The evidence for the vowel slot in the other dialect groups (West Greek, Aeolic, Arcado-Cyprian) will have to be reconsidered in this light. I will now first discuss the common assumption that Cretan -αρ- is due to liquid metathesis.[181]

3.2 The alleged Cretan liquid metathesis

It is normally assumed that *$\mathring{r}$ yielded -αρ-/-ρα- in West Greek, with -ρα- as the normal, regular reflex. On Crete, however, a large number of forms with -αρ- appear. Since Hirt (1901: 232-38) and Bechtel (1921-24, II: 710ff.), the standard view has been that Cretan underwent a metathesis of -ρα- to -αρ-. The examples given by Bechtel are:[182]

- δαρχμα, δαρχνα 'drachme' (Ion.-Att. δραχμή)
- καρτος 'violence' (Ion.-Att. κράτος) and related words: PNs with -καρτης, Καρταιι- (Ion.-Att. -κρατης, Κραταιι-), καρταιποδ- 'cattle' (Pi. κραταίποδ-), καρτερος (Ion.-Att.

[180] E.g. Morpurgo Davies (1968).

[181] The epigraphic evidence from Ionic-Attic hardly adds anything to the picture obtained from literary sources, and will therefore not be treated separately in this chapter. Note that Threatte (1980) has no separate treatment of the syllabic liquids. Even so, the following points deserve to be noted. One of the few cases where Attic inscriptions add to the literary evidence is φαρχσαι (inscr.) beside φράξαι (literary mss.). This case will be discussed in section 9.2. In Western Ionic (Euboea), the development of the syllabic liquids was identical to that in the rest of Ionic-Attic (see del Barrio 1991). The Euboean colonies in Italy add one interesting form to the evidence: αγαρρις (Naples) probably contains the expected zero grade root, whereas the literary form ἄγερσις 'mustering of an army' (Hdt.) introduced the full grade of the synchronic verbal root. See the discussion of Arc. παναγορσις in section 3.5 below.

[182] Bechtel does not include Cret. καρπος, which could be the regular reflex of its pre-form PGr. *$k\mathring{r}p\acute{o}$-. But it must also be noted that the word has -αρ- in all dialects where it is attested.

καρτερός, Hom. κρατερός)[183]
- σταρτος ‘band, clan’, also in proper names (Ion.-Att. στρατός ‘army’)
- πορτι ‘towards, against’ (Ion.-Att. πρός, Hom. προτί)
- Αφορδιτα (Ion.-Att. Ἀφροδίτη)

That we are dealing with a metathesis, rather than with -αρ- as the outcome of *$\mathring{r}$, is supposed to be proven by -ορ- in πορτι and Αφορδιτα, forms which are thought not to have contained *$\mathring{r}$. To these forms, we definitely have to add the compounded names in -μορτος, which are well-attested in Cretan. Bechtel did not discuss Cretan forms with -ρα-, which also exist but where the liquid metathesis apparently did not take place. As appears from his own words, he did not actually try to establish the conditions of a regular sound change: “In einigen Wörtern und Wortfamilien werden die Lautgruppen ρα, ρο zu αρ, ορ umgestellt. Wie weit dieser Vorgang rein lautlicher Natur sei, wie weit analogische Wirkungen ihn begünstigt haben, kann nicht immer entschieden werden” (l.c.).

In a more recent discussion of the supposed Cretan liquid metathesis, Bile (1988: 125), citing the same examples as Bechtel, does attempt to explain the distribution between -ρα- and -αρ-.[184] She proposes that the metathesis took place only in open syllables, and that -ρα- was preserved in closed syllables.[185] Indeed, -αρ- or -ορ- is followed by a single consonant in most of the forms cited by Bechtel, and the idea is phonetically plausible.[186] It is contradicted, however, by δαρχμα / δαρχνα, as well as the following material:[187]

- Four Cretan verbs have *a*-vocalism in tense stems where Ionic-Attic has an *e*-grade.[188] The attestations are (see Bile 1988: 124):
  PN Στραψιμενης (Pyloros, 2nd c.), cf. Class. στρέφω ‘to turn around’
  pres. αποτραχεν (Olous, 3rd c.), cf. Class. τρέχειν ‘to run’
  τραποι (Eleutherna, 6th c., = Class. τρέφοι ‘may feed’), τραπεν (*Lex Gortyn* III.49, = Class. τρέφειν), pres. τραφοντων (3rd c.)
  fut. [ε]πιτραψιω (Lyttos, = Class. -τρεψέω), cf. Class. τρέπω ‘to turn, direct’.[189]
- γραφω ‘to write’ (= Class. γράφω)
- κρονος ‘time’ (Class. χρόνος)
- τετραποδ- ‘cattle’ (*IC* IV 41, III 8-9) and other compounds with τετρα-
- τετραδ- ‘fourth day’ (Class. τετράς)
- δρομος ‘course, race track’, whence δρομευς ‘young adult’ (Class. δρόμος)

[183] Bechtel comments: “wo καρτ- entsprungen ist, lässt sich nicht erkennen”. On this question, see chapter 5.
[184] In some cases, Bile gives additional attestations from more recently discovered inscriptions, e.g. καρτει (1988, No. 12, A 3-4) and Νοθοκαρτης (1988, No. 13).
[185] Bile remarks that the adverb προθα (for Ion.-Att. πρόσθεν) is merely a simplified spelling of an original form with geminate: προθθα < προσθα. For this reason, she excludes it from the counterevidence against the distribution she proposes. Since προθθα (πρόσθεν) does not derive from a pre-form with *$\mathring{r}$, it fits in with the distribution to be proposed below: -ορ- < *$\mathring{r}$ is regular in Cretan after a labial consonant.
[186] On the other hand, the solution proposed by O’Neil (1971: 43-44) is phonetically unlikely and factually impossible. He posits a liquid metathesis in Central Cretan only in front of dental or velar stops, but not in front of labial or (original) labiovelar stops. His evidence consists of the presents τραπεν and γραφεν, but the idea is refuted by τραχεν.
[187] I collected these forms by searching Bile’s index.
[188] The phenomenon seen in τράφω etc. is often supposed to be a general West Greek trait. However, the only epigraphic form in another West Greek dialect that I have been able to trace is the aor. αποστραψαι (Delphi, *CID* 2:34, col. II, 31; 4th c. BC, for Ion. ἀποστρέψαι). This form could owe its vocalism to a present *στράφω, but note that the original locus of the *a*-vocalism may also have been the passive aorist or the middle perfect.
[189] Note that Herodotus attests both τράπε/ο- and τρέπε/ο- as present stems. The situation is hard to judge, because in a number of places the evidence of the mss. has both variants (see further Rosén 1962: 56, with literature). As long as the augmented forms of the present stem kept the *e*-vocalism, there was no danger of confusion with the thematic aorist forms.

The present-stem forms with *a*-vocalism could be explained as secondary (see below), but the forms κρονος, τετραποδ-, τετραδ-, and δρομος cannot be easily explained away. Since these four forms contain -ρα- or -ρο- in an open syllable, they contradict Bile's distribution. It will not do to merely call these counterexamples "exceptions" (Bile 1988: 125): for that, they are too numerous.

In my view, the liquid metathesis assumed since Hirt was designed merely to save the idea of a regular Proto-West-Greek development **r̥* > -ρα-, parallel to the supposed Ionic-Attic development. Instead, I propose that -αρ- and -ορ- represent the regular development of **r̥* in Cretan, where -ορ- is conditioned by a preceding labial consonant. This means that we will have to explain the origin of all Cretan forms with -ρα-.

3.2.1 Cretan -αρ- < **r̥*: evidence and counterevidence

A regular Cretan development **r̥* > -αρ- immediately explains καρτερος < **kr̥terós-* and related forms, σταρτος < **str̥tós-*, and δαρχμα, δαρχνα (if from **dr̥k^{h}mnā*). It would also explain καρπος < **kr̥pós-*, but here it must be noted that all dialects where this word is attested have the form καρπός, like Homer and Ionic-Attic. The forms with -ρα- have various different origins. As for τετρα-, the compositional form also behaves differently from the ordinal in Classical Ionic-Attic τέταρτος. In section 2.6, I have proposed that Ion.-Att. τετρα- is analogical after δεκα-, ἐννεα-, ἑπτα-, and this explanation could also be invoked for Cretan. The collective numerals in -άδ- probably derive from a form with syllabic nasal, and originated in δεκάδ-, which continues PIE **deḱm̥-t-* (although the origin of -δ- is debated).

It remains to explain how the "Doric presents" of the type τράχω came into being. In Cretan, the only directly attested present formations are τραφω, τραχω, and γραφω. Let us stress again that their reflex -ρα- presents counterevidence to the assumed liquid metathesis, and that neither Bile nor Bechtel gives an explanation for this. The *a*-vocalism attested epigraphically in Cretan could be older within West Greek, because there is also evidence for it in literary sources.[190] In Aristophanes, τράφω for τρέφω is reputed to be Megarean, and the form is also attested in Pindar and perhaps in Theocritus.[191] Corresponding to Ion. τρέχω, we find τράχον (Pi. *Pyth*. 8.32; but also τρέχων *Ol*. 10.65) and ἔτραχον (Theoc. 2.147, v.l. ἔτρεχον). Even if the aspectual status of some of the literary forms is unclear, the Cretan forms τραφω, τραχω, and γραφω are certainly genuine present formations.[192]

The Pan-Greek *a*-vocalism of γράφω is problematic for any account which derives this form from PIE **grb^h-e/o-*. It could be explained from a pre-form PGr. **grn̥p^h-e/o-*, a suggestion which will be further elaborated in section 9.2.[193] Again, the fact that γράφω is non-ablauting in all Greek dialects makes it a strong counterexample to the liquid metathesis assumed for Cretan.

The present stem τραφε/ο- cannot have been the result of influence of a coexisting thematic aorist, because in this way the characteristic distinction in root vocalism between e.g. the aorist ἔτραφον and the impf. ἔτρεφον would have been blurred.[194] Moreover, as we will

[190] For this reason, these forms are known as "Doric presents". Note, however, that almost all epigraphic evidence for this formation comes from Crete.

[191] Megar. inf. τράφεν (Ar. *Ach*. 788), ἔτραφε (Theoc. 3.16, with v.l.). From Pindar, e.g. τράφει (*Isthm*. 1.48, with v.l. τρέφει), τράφειν (*Isthm*. 8(7).44), τράφοισα (*Pyth*. 2.44), etc.

[192] See Letoublon & de Lamberterie (1980: 324-5), who draw attention to examples of aspectually uncertain forms of τρέφω in Homer, as well as to the variation between ἔτρεφε and ἔτραφε in the ms. tradition at *Il*. 23.91. Moreover, τράφε seems to be an aorist in Pi. *Nem*. 3.53, even if the same author uses the present τράφω (see the examples listed in the previous note).

[193] The *o*-vocalism of the nominal form γροφεύς is probably analogical (see section 9.2.2).

[194] Beside the attestations of the pres. τράφω in Pindar, there is one case of a thematic aorist τράφε (*Nem*. 3.53). Further, we only find the sigmatic aorist θρέψαι and the intr. aor. τραφῆναι. It seems possible to me that the aorist τράφε is a Homerism in Pindar.

see in chapter 8, the Homeric aorist ἔτραφον is an artificial creation. Therefore, the West Greek present τράφω must have replaced τρέφω by taking over the vocalism of the intransitive aorist τραφῆναι. Such a leveling of *a*-vocalism through the entire verbal paradigm is paralleled by the Cretan forms with στραψ- (which are also found in Delphi) and τραψ-.

The origin of the Cretan present τραχω is more complicated. Letoublon & de Lamberterie (1980: 316, 326) assume that a thematic aorist *$t^h\underset{\circ}{r}k^h$-*e/o*- existed earlier in Greek.[195] If one follows this idea and assumes that *$t^h\underset{\circ}{r}k^h$-*e/o*- became Cretan τραχε/ο- by influence of the present τρεχε/ο-, it is not clear how the aorist eventually came to replace the older present τρεχε/ο-. If one would assume, on the other hand, that a PGr. *$t^h\underset{\circ}{r}k^h$-*e/o*- was aspectually ambiguous between present and aorist in Proto-Greek, both the Cretan vocalization -ρα- and the Ionic-Attic form τρέχω are difficult to explain. It does not help to invoke the influence of τροχός 'wheel', because this form would also have to be subject to the assumed metathesis. Possibly, the root vocalism of Cretan τραχω was influenced by that of δραμεῖν, its regular suppletive aorist.

We may conclude that Cretan τραφω, τραχω, and γραφω do not contain a reflex of *$\underset{\circ}{r}$. Their *a*-vocalism is of a different origin: τραφω and τραχω must have replaced an older form with *e*-grade, and γραφω may derive from a pre-form *$gr\underset{\circ}{n}p^h$-*e/o*-. In this way, these forms can be reconciled with a regular development *$\underset{\circ}{r}$ > αρ in Cretan.

3.2.2 Cretan -ορ- < *$\underset{\circ}{r}$ after a labial consonant

This leaves us with three cases of -ορ- (found in πορτι, Αφορδιτα, and -μορτος) versus -ρο- (in δρομος and κρονος = χρόνος). Clearly, the two examples of -ρο- never contained *$\underset{\circ}{r}$. If a pre-form with *$\underset{\circ}{r}$ can be made plausible for the three forms with -ορ-, a distribution can be set up for the reflexes of *$\underset{\circ}{r}$: -ορ- is found after a labial consonant, while -αρ- is regular in all other positions. This distribution makes sense from a phonetic point of view.[196]

Before Cretan πορτι 'towards' can be compared with forms in other IE languages, the Greek dialectal forms of this preposition must be taken into account. A full discussion of the material will be provided in section 7.2.5. As Wyatt (1978: 119-20) remarks, the only evidence for the supposed pre-form PGr. **proti* consists of Ion.-Att. (plus Lesb.) πρός, Hom. προτί, and Cretan πορτι. The latter form can be included only if it is supposed to be due to liquid metathesis. Since Wyatt is able to show that Hom. προτί is an artficial form, he explains Ion.-Att. πρός from **poti* contamined with the *-r-* of πρό, παρά, περί (o.c. 122). He also shows that the Cretan form πορτι only occurs in Central Cretan: the rest of Crete has ποτι. This means that Central Cretan is the only West Greek dialect which does not point to **poti*, from which Wyatt (o.c. 121 n. 78) concludes that πορτι is a conflation of ποτι and περι.

Wyatt's idea that Proto-Greek only knew **poti* is an attractive reduction in itself, but in my view ultimately incorrect: for PGr. we have to reconstruct **poti* beside **$p\underset{\circ}{r}ti$*. The pre-form **$p\underset{\circ}{r}ti$* may underlie not only Cretan πορτι, but also Myc. *po-si* and especially Hom. πρός, which would explain the regular *muta cum liquida* scansion of this form in a natural way (see chapter 7). This means that Hitt. *parza* '-wards', which Kloekhorst (*EDHIL*, q.v.) has recently reconstructed as continuing PIE **$p\underset{\circ}{r}ti$*, can be directly compared with Cretan πορτι.[197]

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[195] Letoublon & de Lamberterie (1980: 316, 326) posit the earlier existence in Greek of an aorist *$t^h\underset{\circ}{r}k^h$-*e/o*- on account of the Armenian aorist *darjay* 'to (re)turn, change' < *$d^h\underset{\circ}{r}g^h$-*e/o*- (with derived present *darṙnam* < **darjnam*). Hsch. attests the gloss θραξεῖται· πορεύσεται 'will go' (a so-called "Doric future"), but this must be a secondary sigmatic formation based on the "Doric" present τράχω.

[196] Note that a similar distribution has been proposed for Mycenaean and Arcado-Cyprian (e.g. Morpurgo Davies 1968, see section 3.5 below).

[197] For the zero grade presupposed by Hittite *parza*, Kloekhorst refers to Cretan πορτι as deriving from PIE **$p\underset{\circ}{r}ti$*. Although Kloekhorst does not mention the normal explanation of πορτι (viz., liquid metathesis), the present analysis may vindicate his suggestion.

The assumption that Aphrodite contained *$\underset{\circ}{r}$ is more hypothetical. Although the name has no etymology, a pre-form with *$\underset{\circ}{r}$ is implied by its Homeric *muta cum liquida* scansion, and perhaps also by the Pamphylian forms Αφορδισιυς, Φορδισιυς (see section 3.6).

A third instance of Cretan -ορ- < *$\underset{\circ}{r}$ after a labial consonant are the personal names in -μορτος. They appear not only in Cretan, but also in Theran and Lesbian. A simplex is attested only in post-classical sources: (1) a gloss μόρτος· ἄνθρωπος. θνητός. μέλας, φαιός. οἱ δὲ μορτόν φασι (Hsch., with internally conflicting accentual evidence). (2) This gloss is confirmed by a fragment (No. 467) of Callimachus, taken from Ammonius' (5th c. AD) commentary to Aristotle's *De interpretatione* (38.16): διὸ καὶ τὸ "ἐδείμαμεν ἄστεα μορτοί" φησιν ὁ Κυρηναῖος.[198]

Is it possible to assume that both βροτός and μορτός continue PGr. *$m\underset{\circ}{r}t\acute{o}$-? This depends on the evaluation of the second member -μορτος in onomastic material, which has been collected and discussed by Masson (1963). Being unable to explain -μορτος in West Greek proper names from *-$m\underset{\circ}{r}t\acute{o}$-, Masson reconstructs a pre-form *$m\acute{o}rto$- beside *$m\underset{\circ}{r}t\acute{o}$- for Proto-Greek.[199] This would imply that Greek, like Indo-Iranian, preserved more than one inherited word for 'mortal' from this root.[200]

The PIE words for 'mortal' and 'dead' are notoriously hard to reconstruct, but Masson's identification of μορτός and Ved. *márta*- is problematic. In his view, the pair *$m\acute{o}rto$- beside *$m\underset{\circ}{r}t\acute{o}$- would be a retention from PIE times. But since root ablaut is hard to motivate in a thematic stem, one suspects that one of these forms (*$m\underset{\circ}{r}t\acute{o}$-) is secondary, and the other (*$m\acute{o}rto$-) inherited. The accentual mismatch between μορτός and Vedic *márta*- could in principle be explained as due to a secondary Greek development,[201] but it is quite possible that Ved. *márta*- derives not from *$m\acute{o}rto$-, but from *$m\acute{e}rto$-.[202]

But the main problem with Masson's analysis is the lack of unambiguous evidence for PGr. *$m\acute{o}rto$- (or *$mort\acute{o}$-). He claims that the names in -μορτος are general Aeolic and Doric-NW Greek, but all secure examples of these names are attested in Lesbian, Cretan, and Theran.[203] In the present context, it is possible to assume that μορτο- is the regular outcome of

[198] The grammarian Orion (5th c. AD) cites the fragment as ἐδείμαμεν ἀστία μορτοί. If the *lectio difficilior* ἀστία is the genuine form, it would have to come from a dialect with ε > ι before a vowel (a common dialectal change in Greek) and preserve a different accent (*ἀστέα).

[199] Masson concludes (1963: 221): "… on ne saurait plus affirmer comme jadis que μορτός est une forme exclusivement éolienne, soit chez Callimaque, soit dans l'onomastique. En effet, l'existence des formes de noms propres en dorien et au nord-ouest assure que μορτός n'est pas un simple doublet de *μ(β)ροτός, βροτός, qui comporterait lui aussi un traitement éolien à partir d'un modèle i.-e. *$m\underset{\circ}{r}t\acute{o}$-, mais avec ορ au lieu de ρο. La forme correspond plutôt à un i.-e. *$m\acute{o}rto$-, avec vocalisme *o* de la racine *mer-." Masson's judgment is followed by *DELG* (s.v. μορτός) and was already anticipated in the earlier etymological dictionaries (Boisacq and Frisk s.v. βροτός).

[200] Indo-Iranian has three forms for 'mortal': Ved. *márta*-, OAv. (hapax) *maŝa*- < PIIr. *$márta$-, OAv. *marəta*- < PIIr. *$martá$-, and Ved. *mártya*-, Av. *maŝiia*-, OP *martiya*- < PIIr. *$mártia$- (cf. *EWAia* s.vv. *MAR* and *márta*-). Furthermore, Ved. *$m\underset{\circ}{r}tá$- and Av. *mərəta*- mean 'dead', not 'mortal'. Since Indo-Iranian preserves the verbal root *mar*- 'to die', it cannot be excluded that at least some of these formations are secondary creations.

[201] That is, the accent of *$m\underset{\circ}{r}t\acute{o}$- may have influenced that of *$m\acute{o}rto$-. It would be imprudent, however, to attach any value to the barytone accentuation of μόρτος in Hesychius, because the form might stem from a dialect with recessive accent.

[202] The Greek evidence adduced by Masson for a PIE form *$m\acute{o}rto$- can be contrasted with the Uralic evidence adduced by Katz (1983) for a PIE pre-form *$m\acute{e}rto$- (see e.g. Mayrhofer's discussion in *EWAia* s.v. *márta*-). Katz argues, among other things, that Finno-Ugric borrowings point to a pre-form (early) PIIr. *$mértɔ$- (where PIIr. *$ɔ$ notes the outcome of PIE *o in closed syllables), to be equated with (later) PIIr. *$márta$-. This would imply that PIIr. *$márta$- cannot be directly compared with a putative Proto-Greek *$mórto$-.

[203] The first attestation of Αγε-μορτος in the Aeolis is in the 4th c. (but this case is only attested secondarily in Diogenes Laertius). The only "Aetolian" attestation cited by Masson (1963: 220) is found in an inscription from Egypt, and refers to an officer serving under Ptolemy Philopator (reigned 221-205 BC). The same person is mentioned by Strabo and Polybius. If this name is considered compelling evidence at all, one wonders whether

**mr̥tó-* in Cretan and Theran. A pre-form **mr̥tó-* could also explain the Callimachean simplex μορτός if that form stems from his native dialect, Cyrenaean.[204]

This means that only the names with -μορτος in Lesbian remain as a basis for Masson's reconstruction **mórto-*. Here, it must be noted that an *o*-vocalic reflex of **r̥* would need no further explanation in Lesbian. But the vowel slot is awkward: one expects -ρο-. In this context, the gloss ἔμορτεν· ἀπέθανεν (Hsch. ε 2399) deserves attention, because it shows that a reflex of the verbal root **mer-* may have existed in some Greek dialects.[205] If the name Αγεμορτος is indeed genuinely Lesbian, we may have to assume influence of the verbal root **mer-* on the vocalization to -μορτος for a pre-stage of this dialect.[206]

In sum, the onomastic evidence does not offer a sufficient reason to reconstruct an additional form **mórto-*, with the same lexical meaning as **mr̥tó-*, for Proto-Greek. As for Cretan, we have found a distribution between forms with -αρ- and -ορ- (deriving from **r̥*) and forms with -ρα- and -ρο- (not from **r̥*, or of analogical origin). The difference between -αρ- and -ορ- can be explained as conditioned by the preceding labial consonant.[207]

3.3 Other West Greek dialects

In this section, I will pay attention to Laconian and its colonies (especially Theran and Cyrenaean, 3.3.1), then consider the evidence from Literary Doric (3.3.2), and finally make some remarks on the dialect of Elis (3.3.3). I do not intend to give a complete overview of all West Greek dialects, but merely to give an idea of the precarious nature of the evidence. Among the other West Greek dialects, I have found no noteworthy details for the dialects of Megara (and colonies), for Rhodos, Karpathos and the other Doric-speaking islands in the Dodekanesos, nor for Messenia. For other regions (Achaea, Sicily, North West Greek), the details are not very interesting either, as appears from the respective dialectal grammars.[208]

3.3.1 Laconian and colonies

The dialect of Sparta itself is not very well documented in the (pre-)classical period, but its colonies have produced quite a lot of inscriptions. In Magna Graecia, Heraclea and Tarente are important colonies, while in the Eastern Mediterranean, Thera and thence Cyrene were founded from Sparta.

The evidence for Theran consists mainly of personal names. As far as names are trustworthy evidence, they provide evidence for the vocalization to -αρ- (and -ορ- after a labial consonant) that we just established for Cretan:

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enough is known about the syllabic liquids in Aetolian to accept Masson's conclusion that PGr. knew a separate form **mórto-*.

[204] It is, of course, impossible to establish the dialectal provenance of μορτός in Callimachus with certainty. It is also difficult to draw a conclusion from the gloss μορτοβάτιν· ἀνθρωποβάτιν ναῦν (Hsch.), in view of the absence of a dialect identification.

[205] According to Klingenschmitt (apud *LIV*^{2} s.v. **mer-*), this is an older middle in **-to* which was reshaped as an active form.

[206] For analogical -ορ- in Lesbian, cf. Alc. ἐμμόρμενον 'having as a share' beside Hom. ἔμμορε, εἵμαρται.

[207] On the vocalization of **l̥* in Cretan, see section 10.6. The conditioning of the distribution between *a-* and *o-*vocalism in Cretan could be challenged by the PNs Θορσυς (*IC* II, 23.37, 23.53, Polyrhenia, dated between the 3rd and 1st c. BC) and Θορυσταρτω (*IC* II, 13.7, Elyros, 2nd c. BC). But in Masson's view (1972: 292, accepted by Leukart 1994: 191), the names with Θορσυ- are an "élément … du substrat pré-dorien ou "achéen" en Crète".

[208] For North-West Greek, see Méndez Dosuna (1985); for the colonies in Magna Graecia, see the various grammars by Arena and Dubois. The Argolic evidence is potentially interesting, but I have not separately discussed it for the admittedly poor reason that the material was not accessible in a convenient way (e.g. in a dialect grammar). Note that Argolic has forms with -αρ- (such as φαρξις 'fence', see section 9.2.3), as against -ρα- in γραθμα 'letter' < **grap^{h}ma*. It would be worthwhile to check the evidence for this dialect more thoroughly.

- Θαρυπτολεμος (*IG* XII.3 787) and Θαρρυ[μαχ (*IG* XII.3 814), both from the archaic period.[209]
- Καρτι- is attested in Καρτιδαμας (*passim*) and in Καρτινικος (*IG* XII.3 419, 3rd c.), see Bechtel (1917: 256).[210]
- Σταρτο- in Σταρτοφος (*IG* XII.3 330, 2nd c.).
- Μορτο- as a first member in Μορτονασος (*IG* XII.3 Supp. 697, early 5th c.). Masson (1963: 220) takes this as the outcome of PGr. **morto-*, but in view of reasons given above, it seems more likely that PGr. had only **mr̥to-*.

Since Θαρρυ- looks like the form of the simple adjective, it may theoretically be the levelled outcome **t^{h}arsu-* of ablauting **t^{h}érs-u-*, **t^{h}r̥s-éw-*, rather than the direct outcome of **t^{h}r̥su-*. The form is therefore not really probative. But the forms with Καρτι-, Σταρτο-, and Μορτο- are not found in most other Greek dialects. The fact that these forms are concentrated in Cretan and Theran, and especially the existence of a conditioned reflex with *o*-vocalism, could suggest a common development of these dialects. But again, it must be stressed that we are dealing with names: their bearers could originally be from a different dialect. In the present case, influence of Cretan on Theran would be geographically possible.

The inscriptions from Cyrene, which was founded by Theran settlers, have recently been edited by Dobias-Lalou (2000). She discusses the outcome of the syllabic liquids on pages 34-35. Not too much can be deduced from the evidence for appellatives. The noun καρπος 'harvest, yield' (frequent from the 5th c. onwards, Dobias-Lalou 2000: 195) has the same form in all other dialects, so that a Koine form cannot be entirely excluded. A genuine dialectal form may be καρφος 'chaff', in view of its special meaning in Cyrenaean (Dobias-Lalou 2000: 195-6). However, the reconstruction of **r̥* in this word is not quite certain (see section 9.4). The form γροφευς 'secretary' (*SEG* 9.13, 16) is peculiar to the Peloponnesus and Crete, but it probably does not derive from a pre-form with **r̥* (see section 9.2.2). The verbal root is γραφ- in Cyrenaean, like in all other Greek dialects. The title στραταγος and the denominative verb στραταγεω have the same form as elsewhere in West Greek, with the exception of Theran and Cretan.

Many of the personal names attested in Cyrenaean may be due to the influence of Koine or Epic Greek.[211] This does not apply, however, to the first member Καρτι- (Dobias-Lalou 2000: 34) in Καρτισθενης (frequent from the 4th BC – 2nd CE; earlier on, Bechtel 1917: 256 could only ascribe it to the Imperial period), Καρταγορας (*SEG* 9.45, 48, 5th c. BC, and *SECir*. 244, 4th c. BC), and Καρτιμαχος (three times in two lists of temple servants, around the beginning of the CE).[212]

With the exception of Theran, names with Καρτι- are not found in other Greek dialects, not even in Cretan.[213] They therefore seem to contain information about the regular Theran and Cyrenaean development of **r̥*, and they outweigh στραταγος, because that form

[209] These forms show that Theran underwent a development -ρσ- > -ρρ-. The form Θαρσι-κρατης in another Theran inscription is probably a Koine form. Generally speaking, forms with Θαρσι- may replace older forms with *Θερσι-, as in Hom. Θερσίλοχος.

[210] As a second member, -καρτ- is perhaps found in Λακ[α]ρτως (*IG* XII.3 1324).

[211] Κρατης (2x, 3rd c. BC and later), -κρατης, (frequent in all periods), Θρασυ- (frequent from the middle of the 4th c. BC, Dobias-Lalou p. 35), as a simplex Θρασων and Θαρσων (both 3rd c. BC and later), Στρατο- (*SEG* 20.735, Dobias-Lalou p. 14) and -στρατος, Ἀρπαλέα (4th-3rd c., *CIG* 5155 and 3rd c., *SEG* 9.92).

[212] -αρ- is also found in the festival name Καρνεια, as attested in the PNs Καρνηιαδας (4th-3rd c.), Καρνηαδας (4th c.), and Καρνηδας (highly frequent from the 4th c. onwards); for attestations see Dobias-Lalou (2000: 49). The name belongs to the Laconian heritage of Cyrenaean, but it is unclear whether its pre-form contained a syllabic liquid.

[213] In other dialects, names with Κρατι- are attested sporadically: Κρατιππιδας (*IG* V.1 1385.22, Thuria, 2nd c. BC), Κρατι-δημος (Erythrae, No. 57, 5th-4th c. and No. 60, early 3rd c. BC, cited from McCabe, *Erythrai inscriptions, text and list*, see PHI).

could be due to Koine influence.[214] Even if evidence gained from personal names must be used with caution, it is likely that the names in Καρτι- constitute an archaism, as opposed to Καρται-, Κραται- with Epic influence.[215] Since Cyrene is a colony of Thera, it is probable that the vocalization *$r̥$ > -αρ- took place before the colonization of Cyrene. Cyrenaean provides no further counterevidence to this assumption.

3.3.2 The literary Doric evidence

How to evaluate the outcome -αρ- (with a conditioned reflex -ορ-) in Cretan and Theran with regard to the vocalization in other West Greek dialects? Unfortunately, it is difficult even to reconstruct scraps of the situation in most West Greek dialects. The main question is whether there is any evidence at all for the outcome -ρα- in the West Greek dialects.

For Laconian, the closest relative to Theran, the epigraphic material is sparse, but the literary evidence may perhaps offer some clues about the dialectal outcome. In Alcman (worked in Sparta), Epicharmus (worked in Syracuse, colony of Corinth), Sophron (Syracuse, 5th c.) and some other literary sources, we find the comparative κάρρων 'better', from an earlier *$k̑r̥tiH̯ōn$.[216] In Cretan, this comparative has been restored as καρτον-.[217] Apparently, the zero grade of the positive καρτερος has been introduced into the comparative both in Cretan and in the dialect(s) underlying κάρρων. But from which dialect was κάρρων taken?

It is quite possible that κάρρων was not the regular outcome in all Doric vernaculars. Beside κάρρων < *$k̑r̥tiH̯ōn$, the Syracusan mimographer Sophron used the middle perfect forms ἐμβραμένα· εἰμαρμένα (fr. 119, acc. to *EM* 334.10), ἔμβραται· εἵμαρται, and the aorist ἔπραδες 'farted' (fr. 144 Kaibel, and only there; Attic comedy has ἔπαρδον). This could suggest that Syracusan has a regular reflex *$r̥$ > -ρα-, and that κάρρων belonged to a general literary Doric Koine, into which it penetrated from one specific dialect. This dialect may have been Laconian, given that the oldest literary attestation of κάρρων is in Alcman. A Laconian context is further suggested by two other sources for κάρρονες (*carm. pop*. 870.3, Plut. *Pyrrh*. 26.24), see Hinge (2006: 38).

If this is correct, Laconian would agree with its colony Theran (and with Cretan) in having the vocalization -αρ-, and differ in this respect from at least Syracusan (Corinthian).[218] The occurrence of κάρρων in the two Syracusan poets Epicharmus and Sophron is not decisive for the development in that dialect. In the gloss ἐμβραμένα, -ρα- may well be the genuine Syracusan (and perhaps even Corinthian) reflex.[219] Let me repeat once again that this is quite uncertain in view of the limited evidence.[220]

3.3.3 Elis

Apart from Syracusan, there is slight evidence for *$r̥$ > -ρα- in one other West Greek dialect: that of Elis. Most of the evidence in the recent dialectal grammar by Minon (2007) cannot be used to determine the reflexes of *$r̥$. For instance, it is impossible to determine whether

[214] That -αρ- was regular in Theran was already suggested by Bechtel (1921-24, II: 534 and 556).

[215] As I will propose in section 5.2.10, the first member Καρτι- continues a Caland variant of καρτερός < *$k̑r̥th_1$-*ró*- and can be reconstructed as PGr. *$k̑r̥ti$- < PIE *$k̑r̥th_1$-*i*-. A first member Κραται- is attested in Epic Greek and in Ionic inscriptions, e.g. Κραταιμένης (Ionic, plus an early example [6th c.] from an Achaean colony in Magna Graecia), Κραταιβιος (Delos). As expected, Cretan has Καρταιδαμας (Bile 1988: 183 n. 133; cf. Theran Καρτιδαμας). The form with -αι- is due to a specifically Epic metrical lengthening, see section 5.2.10.

[216] For further attestations of κάρρων, see *LSJ* s.v. and Forssman (1980: 194 n. 77).

[217] See section 5.2.1.

[218] The reflex -αρ- was probably also regular in Argolic, given forms like φαρξις (on which see section 9.2.3).

[219] I did not check the evidence from non-Attic vase inscriptions in Wachter (2001).

[220] Interestingly, another gloss from Tarente is ἀλανέως· ὁλοσχερῶς. Ταραντῖνοι ('entirely, completely', Hsch.). This is probably an old West Greek form, in view of the cognate αϝλανεος 'completely, all together' attested in Elis. Since Tarente was founded from Sparta, we are perhaps dealing with diverging treatments *$r̥$ > αρ and *$l̥$ > λα in Proto-Laconian.

θαρρεν (Minon 20.1) derives from *t^h*ers*- or from *t^h*r̥s*-, because -αρ- may derive from *-ερ- in Elis. As in other dialects, the verb γράφω and its derivatives are non-ablauting and may contain the reflex of a syllabic nasal (section 9.2.2). Likewise, the value of most Elean glosses in Hsch. (discussion in Minon 2007: 549-60) is unclear.[221] But there is one good pair of candidates to show the regular dialectal reflex. The gloss βρατάναν· τορύνην. Ἠλεῖοι ('stirring ladle', Hsch.) must be an instrument noun in -άνη derived from a root *_wrat_-.[222] In view of the meaning 'stirring spoon', a derivation from the root *_uert_- 'to turn' immediately suggests itself: a derived instrument noun would have a meaning 'turner, stirrer'. The same root is attested in another Elean gloss: βρατάνει· ῥαΐζει ἀπὸ νόσου. Ἠλεῖοι ('recovers from illness', Hsch.), if we suppose that the meaning developed from "turns better" (Minon 2007: 554). This present formation in -άνω presupposes the existence of a thematic aorist *_wrate/o_- (cf. βλαστάνω : βλαστεῖν, ἁμαρτάνω : ἁμαρτεῖν). It is possible that the transitive _s_-aorist *_wert-s_- presupposed by Hom. ἀπόερσε 'drove off course' coexisted with an intransitive thematic aorist *_wr̥t-e/o_- in Proto-Greek.[223] If so, the latter form developed into *_wrate/o_- in Elean, and the substantive βρατάνα was also built on this root allomorph.

If these two glosses are to be considered reliable evidence, *_r̥_ may have yielded -ρα- in Elis, and the disagreement with the Cretan treatment, where we find _o_-coloring after a labial consonant and a different vowel slot, would be remarkable. But since the only evidence comes from these two glosses, this conclusion rests on rather shaky foundations.[224] It must also be taken into account that the word for 'drachme' is attested several times (Minon 2007: 355) as δαρχμα and once as δαρχνας, forms which could point to a pre-form *_dr̥k^h^mnā_-.[225] Moreover, καρπος (attested as κ]αρποφορο[and [κ]αρπομ[ετρον) might theoretically be the genuine dialectal reflex of PGr. *_kr̥pó_-. Note, however, that the word for 'drachme' could theoretically be an inter-dialectal loan, and that καρπος has the same form in every dialect where the word is attested, and also in Epic Greek. Under these conditions, it would not be wise to base any firm conclusions on the evidence at our disposal.[226]

3.3.4 Conclusion for West Greek

The only West Greek dialect for which we have clear evidence is Cretan, where we normally find *_r̥_ > -αρ-, but -ορ- after a labial consonant. There is very slight evidence for a regular outcome -ρα- in Elis and in Syracuse, and for -αρ- in Theran and Cyrenaean onomastic material. If the evidence for -ρα- in the former two dialects is taken seriously, the divergence with Cretan would show that Proto-West Greek, and even Proto-Doric, preserved *_r̥_. The vocalization would then have taken place during the Dorian migrations in the early Dark Ages. But as we have repeatedly stressed, this conclusion is based on meagre evidence.

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[221] Thus, στερχανά· περίδειπνον. Ἠλεῖοι ('funeral meal') has been emendated to *ταρχανά in order to connect it with ταρχύω 'to bury'. However, the latter is itself a loan, so the form cannot be used in any case.

[222] Also attested as ῥατάναν· τορύναν (Hsch.), without dialectal identification, but apparently non-Ionic-Attic.

[223] In Ionic-Attic, this root is attested only residually in Homeric ἔρρω 'to be banished' < *_wert-i̯e/o_- (attested in many dialects, and in Elean as ϝαρρω) and Hom. ἀπόερσε 'drove off course' (of the waves) < *-_wert-s_- (cf. Forssman 1980).

[224] Moreover, the scenario to be proposed for Homeric ἔδρακον in chapter 8 warns us that no far-reaching conclusions can be based on a single thematic aorist form.

[225] All the relevant inscriptions are dated to slightly before or after 500 BC, so it is impossible to tell which of both forms is older.

[226] One epigraphic form from Elis is highly relevant for the outcome of *_l̥_: αϝλανεος 'completely, all together' (Minon 4.4 and 8.3). As I will argue in section 10.6, this form shows that *_l̥_ yielded -λα- in Elean, even in front of a nasal. Since the outcome of *_l̥_ may have been -λο- after a labial consonant in Cretan, it seems that Proto-West-Greek still preserved *_l̥_.

3.4 The Aeolic dialects

The determination of the reflexes of the syllabic liquids in the Aeolic dialects is complicated in several ways. The problems have been clearly formulated by Ruijgh (1961). First, the most abundant sources of examples are the Lesbian poets Sappho and Alcaeus, but the status of this evidence is not always clear, because a number of forms may be hyper-Aeolic or of epic origin.[227] Second, the Lesbian epigraphic material has obviously undergone huge Koine influence at the time when inscriptions start to appear in larger quantities. Most Thessalian evidence is also late and may suffer from the same problem.[228] Third, much of the evidence consists of personal names, where the influence of Epic Greek is a factor to be reckoned with.

In addition, there is no comprehensive grammar of the Thessalian dialects yet (the one by García Ramón and Helly being still in preparation), nor of Boeotian (Vottéro, likewise, is still in preparation).[229] Blümel's grammar of the Aeolic dialects (1982) has no separate treatment of forms with -ρο- or -ρα-. Still, the combined evidence of our sources does allow us to draw a definite conclusion: the regular reflex was -ρο- in all Aeolic dialects. I will review the epigraphic evidence first, and then turn to the extant fragments of Sappho and Alcaeus. The discussion of Homeric words with -ρο- will be postponed to chapter 7: there appear to be serious reasons to doubt that they are of Lesbian or Aeolic origin.

3.4.1 The numerals in the Aeolic dialects

Let us start with the interchanges ρα/αρ and ρο/ορ in the numerals. For the attestations of numeral forms in the Aeolic dialects, see the overview in Blümel (1982: 271-75). He judges that these reflect "…verschiedene Varianten teils der Vertretung idg. silbischer Sonanten, teils bestimmter Kompositionstypen; die Einzelheiten der Abgrenzung zwischen phonologischen und morphologischen Ursachen sind noch nicht übereinstimmend geklärt" (1982: 52-53). In section 2.6, I have discussed the idea that the numerals in the Aeolic dialects may have undergone analogical processes also attested in other dialects. Thus, Boeotian πετρατος and πετρα- are not necessarily due to Attic or West Greek influence (the commonly accepted explanation, e.g. Waanders 1992: 379), but may replace *πετροτος and *πετρο- or even *πετρυ-. The same analogy was operative in Ionic-Attic τετρα-, which must have been influenced by δεκα-. Similarly, Arcadian πεμποτος 'fifth' must be explained by the influence of δεκοτος. Note that Boeotian inscriptions also have δεκατος and ενατος, in contrast with δεκοτος or ενοτος as found in Lesbian and Thessalian.

These explanations can be extended to Thessalian πετρο-ετηριδα and πετροτος. The analogical ordinal form δεκοτος is also found in Thessalian; again, it may have been influenced by the color of the final vowel in 'nine' or even 'eight' (cf. the shortened form οκτο in Boeot. and Lesb.). The Thessalian form εξομεινον 'period of six months' (*IG* IX 2, 506.4) is of special importance, because it offers another clear instance of the spread of the "compositional vowel", cf. Ionic-Attic πεντα-, ἑξα- after ἑπτα-, …, δεκα-.[230] It is not entirely clear, then, that Thess. πετρο- is the regular outcome of *$k^{w}et̥r$-*C*-.

[227] "Les textes de la lyrique lesbienne ont subi des altérations plus ou moins graves, surtout dans les citations de la tradition indirecte, mais aussi dans les papyrus, ce qui a provoqué des formes de la koiné ou des "hyperéolismes"; par surcroît, Sapho et Alcée eux-mêmes adoptent quelquefois des éléments épiques." (Ruijgh 1961: 194)

[228] "les inscriptions antérieures à 400 sont rares, surtout en lesbien; les inscriptions postérieures subissent de plus en plus l'influence de la koinè attique (ou d'une koinè grecque occidentale); en béotien et en thessalien, les éléments occidentaux sont présents même dès le début." (Ruijgh, l.c.)

[229] Vottéro (1998, 2001) has announced the publication of a book on the phonetics and phonology of Boeotian, but to my knowledge, this has not yet appeared.

[230] Thess. πετρα-γουνος (for Class. τετράγωνος 'rectangle') (Larisa, late 3rd c.) may be due to Koine influence.

3.4.2 Epigraphic evidence (Boeotian, Thessalian, Lesbian)

I depart from the forms given in the dialect grammars (e.g. Bechtel 1921-24, I: 242-3). Most discussions of the outcome of **r̥* in the Aeolic dialects give just two forms for Boeotian: names in -στροτος (extremely frequent) and those beginning with Βροχ- (Βροχυλλος *IG* VII, 1908, Thespiae, 450-400 BC).[231] It is important that the word for 'army, campaign' does not only appear in names, but also in the denominative verb εσστροτευαθη (*IG* VII, 3174 and *passim*).[232] Boeotian also has instances of *a*-vocalism such as πετρα- and πετρατος, but as we have just seen, these forms may be analogical. Thus, although Boeotian does not offer much information, στροτος definitely speaks in favor of a regular development **r̥* > ρο. There are no data for **l̥*.[233]

Neither Blümel (1982) nor Hodot (1990) has a separate discussion of the reflexes of the syllabic liquids in Lesbian. Hodot (1990: 56) remarks that the Lesbian title στροταγος is in the process of being replaced by στραταγος, a hybrid form with dialectal (-αγος) and Koine (στρατ-) elements. The real Koine form στρατηγός, with Ionic -η-, never occurs in Lesbian inscriptions. Other formations of the same stem have already introduced στρατο- much earlier in Lesbian, e.g. στρατεια (Hodot, NAS 01, 4th c.). Thus, the title στροταγος suggests that στροτος was the genuine dialectal form corresponding to Ion.-Att. στρατός. A second important form is αμβροτην 'to break the law' (*IG* XII 2.1, 5), which confirms the genuine dialectal status of ἄμβροτε in literary Lesbian (on which see below). An inspection of Hodot's indices shows that there is no further evidence: γραφ- (αντιγραφευς, γραφην etc.) is well-attested as in all other dialects, but need not have contained **r̥*. The attestation of σαρξ (MAT 03.11 and 05.16, 21, end of 3rd c.) is late, and it could be an Ionic word. In conclusion, both στροταγος and αμβροτην are good evidence for the claim that **r̥* > ρο in Lesbian.

In Thessalian, the adjective for 'short' (PGr. **mrek^h-u-*, **mr̥k^h-ew-*) is attested as a personal name Βροχυς (*IG* IX(2), 460.13, Krannon, Pelasgiotis, 2nd c.) and above all in the female name Μροχῡ (*SEG* 24.406, Perrhaibia, 500-450 BC). The name Βορχιδας (*SEG* 26, 672.32, Larisa, Pelasgiotis, early 2nd c.) is unclear, and perhaps due to a later metathesis.[234] As we have seen, Βροχυ- is also found as an onomastic element in Boeotian. A regular Thessalian outcome -ρο- is often thought to be supported by πετροετηριδ- (*RPh*. 1911, 123.26, Larisa, 1st c.). Since this form has an unexpected spelling <η> of the outcome of **ē*, and since the inscription has a number of Koine features, scholars occasionally used to doubt the evidential value of πετρο-. But meanwhile, the form πετρο- has been confirmed by πετροετειριδα (*SEG* 17.288 *passim*, Larisa, 1st c. BC or later) and by the ordinal πετροτος (*SEG* 43.311, Skotoussa, Pelasgiotis, early 2nd c.).

As we have seen in section 2.6, Myc. *qe-to-ro-* and Class. τετρα- may be replacements of the older form **k^{w}etru-* after the compositional form of 'ten-'. Since the same could be assumed for Thessalian πετρο-, this form does not provide secure evidence for **r̥* > -ρο-. Note that the *-o-* is also found in δεκοτος 'tenth', attested in Larisa and Skotoussa (*SEG* 27.202, *passim*), and in ενοτος 'ninth' (*SEG* 43.311, Skotoussa). It is less likely, however, that this *-o-* would have spread to πετροτος 'fourth' if the older form was *πετορτος: Ionic-Attic preserves τέταρτος, Arcadian has τετορτος, and the Homeric form τέτρατος may have an inner-Epic

[231] E.g. García Ramón (1975), Parker (2008). In the overview of Boeotian characteristics in van der Velde (1929), the attestations of the forms in the various different localities are shown. A third form often mentioned in this context is ερoτις (plus names in Ερoτο-, corresponding to Ionic-Attic Ἐρατο-), but it must be left aside because it cannot derive from a pre-form **r̥*. The alleged PN Θρ]οσιουστροτος is based on a false reading and therefore cannot be used anymore (see Masson 1972: 293).

[232] This is the 3p. pf. mid. of a verb στροτευομαι, with the athematic ending -αθη < *-αται, which has the secondary -θ- and monophtongization of αι that are characteristic for Boeotian.

[233] But it is perhaps relevant that Πλάταια is a Boeotian-speaking town in the first millennium.

[234] A retention of the regular zero grade development to -ορ- from **mr̥k^h-* (with β- for μ- from the full grade, cf. the preservation of μρ- in Μροχῡ) seems unlikely to me in view of the late date.

explanation (see section 6.7.4). Therefore, πετροτος strongly suggests that the vowel regularly developed after the liquid in Thessalian, too. But again, influence of the compounding form πετρο- cannot be entirely excluded.

Another piece of evidence has been adduced by García Ramón (1999: 11-13): he argued that Θροσια, an epiclesis of Artemis at Atrax and Larisa in the Hellenistic period, is derived from *θρόσις < *d^h*r̥-ti-* 'support'.[235] In his opinion, Θροσια refers to Artemis in her function as a supporter and protector of youngsters in a rite of initiation. He remarks that an alternative derivation from the root *d^h*ers-* of θρασύς has been proposed (see e.g. *LSJ*), but objects that this adjective is continued in Thessalian as $^{+}$θερσυς (with full grade root) on account of a different epiclesis, Αθανα Θερσυς.[236] But no matter whether the underlying etymon is *d^h*r̥-ti-* or *d^h*r̥s-*, Θροσια may be taken as an example for the vocalization of **r̥*. On the other hand, the form is to be handled with some caution, because we are dealing with a name.

García-Ramón has argued on several occasions that *o*-vocalism is the genuine Thessalian reflex not only in contact with a labial sound, but also generally. If Θροσια is mentioned correctly in this connection, then "lässt sich der *o*-Vokalismus bei der Vertretung von **r̥* als nicht durch die phonetische Umgebung bedingt erkennen." (2007c: 106). He also refers to the (as yet unpublished) Thessalian form ορσεν 'male', which contains no initial digamma and derives from the zero grade also reflected in Hom. ἄρσην. Moreover, contrary to what is often stated, the **r̥* in πετροτος did not stand in a labial environment, in view of the early reduction of **twr̥* to **tr̥* (section 2.5).

While the *o*-coloring of the Thessalian reflex is secure, the regular vowel slot is less clear than in Boeotian or Lesbian. The direct evidence for -ρο- is limited to the epiclesis Θροσια. Names like Μροχῶ, Βροχυς may also be due to the ablauting full grade PGr. *$mrek^h$-, and πετροτος may have theoretically been influenced by πετρο- in compounds, which itself may have taken its *o*-vocalism from δεκο-. In ορσεν, -ορ- may be a restoration of -ρο- after the full grade ἔρσην, or even be due to a special development of **r̥* in word-initial position (see section 9.1.7 on ἄρσην). We may conclude that the Thessalian reflex was probably -ρο-, like in Lesbian and Boeotian, but the evidence does not entirely exclude -ορ-.

3.4.3 The relation between Lesbian poetry and Ionic Epic

The evidence from the fragments of Sappho and Alceaus has to be used with caution for more than one reason. As remarked above, they may not only contain Ionic words with *a*-vocalism; they may also have suffered from hyper-Aeolicisms due to the later interference of editors or copyists. A dominant opinion, especially after the work of Lobel, has been that Sappho composed her poems not in a literary dialect, but in the Lesbian vernacular (cf. the discussion in Bowie 1981: 60ff.). In order to maintain this thesis (dating from the 1920's), Lobel had to reject a number of Sapphic fragments as ungenuine, and to assume a rather large number of emendations in the other fragments. As Bowie remarks, some fragments that were declared non-Sapphic by Lobel had the same metre as others that he did consider genuine. Thus, Lobel's criteria for emendating forms or rejecting entire poems lack any real basis. Since the monographs by Hooker (1977) and Bowie (1981), two things have become much clearer:

[235] Cf. also García-Ramón & Helly (2007: 305-306).

[236] In my view, this objection is not cogent. First of all, the *u*-stem adjectives preserved root ablaut in Proto-Greek (see the discussion in section 4.1.1). Moreover, as García Ramón himself remarks, Θερσυς is a substantivized feminine 'the bold one', "Her Boldness" of the archaic type ἰθῡ́ς (f.) 'course' beside ἰθύς (adj.) 'straight' (see de Lamberterie 1990: 887f.). This substantivized form may have been derived from the full grade root at an early date, and coexisted with the adjective which later generalized the zero grade reflex θροσ-.

(1) Sappho and Alcaeus used a literary dialect which had a tradition of itself (Aeolic lyric). Both poets may therefore owe a substantial part of their vocabulary and formulae to this Lesbian tradition.[237]
(2) There is substantial Ionic influence on the language of both Sappho and Alcaeus. This influence was, to a large degree, due to Epic Greek. Furthermore, it is possible that vernacular Lesbian vocabulary used by Sappho and Alcaeus has been influenced by that of the neighboring Eastern Ionic vernaculars (Bowie 1981).

Generally, the influence of Ionic on the language of the Lesbian poets must have been substantial. In practice, it is often difficult to decide whether a given Ionic form is due to epic influence or to borrowing from the Ionic vernacular, but this is irrelevant for present purposes.[238] Both poets attest a fair number of epic lexical items and grammatical characteristics, especially in poems with epic subject matter, but also in the more lyrical poems.

A number of convincing cases of Ionic or Epic influence are the following. The long vowel *s*-aorist subjunctive (e.g. φαρξώμεθα, Alc. 6.7) is typical for Ionic-Attic. It is highly unlikely that ἀδελφέα (Sapph. Alc. 364) < **ha-g^{w}elp^{h}-eh-* is the genuine Lesbian form, because Thessalian has the equivalent form κατιγνειτος for 'brother' (Epic κασίγνητος), and because of the dental reflex of the labiovelar (Bowie 1981: 89-90). The form Πέραμος (Sapph. 44.16), apparently a cross between Lesbian Πέρραμος and the metrical structure of Epic Πρίαμος, is probably due to epic influence (Bowie 1981: 58, referring to M. L. West).[239] In a summary of his treatment, Bowie (1981: 137) further mentions the forms περιτέλλεται, πίλναται, γαῖα (native Lesbian γᾶ), ῥῆα, ἀμφί + dat., ποτέονται, and ἐστυφέλιξε (guttural flexion of the aorist). This list could easily be extended.[240]

Like φαρξώμεθα, a number of forms attested with ρα/αρ from **r̥* in Sappho and Alcaeus may stem from Ionic. For this reason, I disagree with scholars like O'Neil (1971) and Wyatt (1971) that ρα/αρ is the regular reflex in Lesbian under certain conditions, as it is in Ionic.[241]

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[237] According to Bowie (1981: 177), the lexicon of Sappho and Alcaeus "shares the characteristics and components of the poetic dictions of the other early Greek poets, both epic and lyric". Bowie summarizes his views on the difference between Greek prose and poetry as follows: "a general view given by the Greek dialects is that there did exist this body of words which were felt more appropriate to poetry. The origins of this poetic Koine are presumably to be sought back in the Mycenaean period at least, and it no doubt survived migrations and the splitting up of dialect groups through the conservative nature of poetic language, and also the combined forces of metre, tradition, and convenience. This basic community of diction was no doubt then reinforced after the Dark Age, when interstate relations blossomed again, and poets travelled from one place to another. In all of this, epic poetry certainly played an important role, but it should not be granted a role of total dominance" (1981: 178).

[238] Bowie is reluctant to explain words that occur both in Lesbian poetry and in Homer as epicisms in Lesbian. In each particular case, the fact that a word is shared by the Lesbian poets and the epic language may mean two things. Either the word is inherited from an earlier, common Greek poetic language, or one of the poetic languages borrowed the word from the other.

[239] As candidates for borrowing from spoken Ionic into the Lesbian vernacular, where it is unnecessary to assume epic influence, Bowie (1981: 136) mentions ἴερος, τοιαύτα, κάρτερος, the 3p. ind. aor. ending -σαν, the pf. ptc. ἐοίκοτες (in Aeolic, one would expect -οντες), and ἤπερ (enclitic -περ otherwise absent from Lesbian).

[240] For instance, the productive Epic suffix -αλέος (cf. section 4.2.2) is found in ὀτραλέως (Sapph. 44.11), and Alcaeus is fond of ἀργαλέος 'painful'.

[241] My main objection to O'Neil's argumentation is that most of his explanations for forms with *o*-vocalism are *ad hoc*. For instance, we read that "Στρότος opposed to στρατός by itself no more proves that *r̥* gives aeolic ρο than κρέτος opposed to κράτος proves that it gives ρε. It is only if a majority of forms represented in attic-ionic by ρα/αρ from *r̥* are in ρο/ορ that we may conclude that this represents the normal aeolic reflex." (1971: 24). The first remark is pointless, since it is well known that κρέτος contains the older full grade, which was replaced in Ionic κράτος under the influence of adjectival forms (chapter 5). The second point contains a methodological flaw: it is not uncommon that only one or two strong examples for a given sound change can be given, and that

3.4.4 Evidence for *o*-vocalism in literary Lesbian

The following forms from Sappho and Alcaeus, in alphabetical order, can be adduced as potential evidence for -ρο- as a regular reflex (-ορ- analogical):[242]

ἄμβροτε (Sapph. 5.5)
ἀμβροσίας (Sapph. 141)
Ἀφροδίτα (Sapph. 1.1 *passim*)
βρόδων (Sapph. 55), βρόδοισι (Sapph. 2.6), βροδοπάχεες (Sapph. 53; 58.19), βροδοδάκτυλος (Sapph. 96.8).
βρόχε' (Sapph. 31.7).[243]
δρό[μωμεν (conj. in Alc. 6.8; note Sapph. ὐπαδεδρόμηκεν 31.10)
δρόπ[ω]σιν (Alc. 119.15)
ἐμμορμένον (Alc. 39.7)[244]
ποικιλόθρον' (Sapph. 1.1)
τρόπην (Alc. 70.9), ὀνέτροπε (Alc. 72.8), πεδέτροπεν (Alc. 75.11)
στρότον (Sapph. 16.1, Alc. 382.2).[245]

The following forms with -ρο- are found not only in literary Lesbian, but also in Epic Greek: ἄμβροτε (~ Epic augmented impf. 3s. ἤμβροτε), ἀμβροσίας (= Epic ἀμβρόσιος), Ἀφροδίτα (= Epic Ἀφροδίτη), βροδοδάκτυλος (= Epic ῥοδοδάκτυλος), ποικιλόθρονος (~ Epic χρυσόθρονος).[246]

On the other hand, βρόχυς, ἐμμορμένον, στρότον, and the thematic aorists δρομε/ο-, δροπε/ο-, and τροπε/ο- cannot be due to Epic influence. This shows that the reflex -ρο- belonged to the Lesbian poetic tradition. Moreover, the following forms with -ρο- are backed up by epigraphic evidence from Lesbian or other Aeolic dialects: ἄμβροτε (αμβροτην *IG* XII 2.1, 5), βρόχυς (Thess. Μροχō, Boeot. Βροχυλλος, etc.), and στρότος (Lesb. στροταγος, Boeot. εστροτευαθη, names in -στροτος). As has already been noted, στρότος (beside Homeric and class. στρατός, Cret. σταρτος) shows that the *o*-vocalism was regular also in a non-labial environment.

In order to judge the evidence for the regular place of the epenthetic vowel, let us now discuss the attested forms in more detail. Like Ionic βραχύς, Lesbian βρόχεα and Thess. βροχυς (*IG* IX 460, 13) may have leveled the old full grade slot (cf. Lat. *brevis*, section 4.4.3). There are three examples of thematic aorists with *o*-vocalism in Lesbian poetry. Of these, the

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all other examples can be shown to be due to analogy, or to a different secondary origin. This means that one or two ascertained instances of Aeolic *o*-vocalism (such as στρότος) may weigh much heavier than the combined evidence of a dozen of forms with α-vocalism: the latter cases *may* be due to Ionic origin.

[242] I leave aside the following forms: (1) Since Lesbian also attests presents in -αίρω, ὄνοιρος 'dream' (Sapph. 63.1) is probably not from **onr̥-i̯o-*, but rather from **onōr-i̯o-* (cf. Arm. *anurǰ* 'id.'). (2) The original vocalism of ὄρπετον 'beast, creature' (Sapph. 130.2) is unclear: see the monographic treatment of this form by Vine (1998). (3) μόλθακος 'soft' (Sapph. 46.1, Alc. 338.8) has no good etymology, see section 10.1. (4) In spite of its similar meaning and the gloss σπολεῖσα· σταλεῖσα (Hsch.), Lesb. κασπολέω is probably not related to Ion. στέλλω 'to equip, send', because στέλλω derives from PIE **stel-*. (5) φρένα …. βόρηται (Sapph. 96.17) is now generally derived from compounds in -βορος (especially Hom. θυμοβόρος), from the root of βιβρώσκω 'to devour'. (6) γροππατα (Balbilla) is probably a hyper-Aeolism in view of the universal occurrence of γραφ- in inscriptions. (7)].τροπτε σίδαρ[(Alc. 179.12) may contain the Aeolic form corresponding to Epic ἀστράπτω 'to flash (of lightning)', but both the form and the reconstruction of this etymon are uncertain. The only potential reflex of **l̥* (ἀόλλεες Alc. 348.3) may be either an epicism or an instance of **l̥* > -ολ- in front of a nasal. But the case is complicated and admits of more than one solution: see section 10.5.2.

[243] The form]βραχη[in Alc. 300.9 (cited by O'Neil 1971: 24, but of unclear interpretation) need not belong here: it may be from a completely different lexeme, e.g. that of Hom. βραχεῖν 'to resound'.

[244] Probably also in Sappho (*SLG* S 261A).

[245] Perhaps also in]νστροτ[(Alc. 300.1 *PL*).

[246] Note also ἀόλλεες (= Epic ἀολλέες).

best attested is τρόπην (prefixed forms ὀνέτροπε, πεδέτροπεν); δρόπ̣[ω]σιν and the conjecture δρό[μωμεν also clearly speak in favor of *o*-vocalism. The future of τρόπην is attested as ὀντρέψει, and the pres. inf. as ἐπιτρέπην. Thus, ὀνέτροπε (etc.) have the regular reflex of the zero grade root, as opposed to the full grade attested in the present stem τρεπ-. However, the vowel slot could be analogical.

The corresponding Attic form εἰμαρμένος shows that ἐμμόρμενον is an old formation. It cannot be excluded, however, that ἐμμόρμενον was built on the older active perfect ἔμμορε (Hom.), as in the Epic replacement of middle perfect forms for older active perfect forms (cf. τετυγμένος beside older τετευχώς < τετυχϝώς, Myc. *te-tu-ku-wo-a*$_2$). For this reason, ἐμμόρμενον does not furnish compelling evidence for a regular development to -ορ- (either generally, or in front of a nasal).

Having eliminated these cases, the remaining evidence shows that the regular Lesbian outcome of **C̥rT-* was *CroT-*. The clearest instances are ἄμβροτε (epigraphic αμβροτην), στρότος (epigraphic στροταγος), and the thematic aorist forms (ὀνέτροπε, πεδέτροπεν). Unlike in Ionic-Attic, Arcadian, or Mycenaean, the epenthetic vowel regularly appears *after* the liquid in ἄμβροτε, αμβροτην, and στρότος.[247] This is a clear characteristic of Aeolic, as opposed to Mycenaean and Arcadian, where *-ro-* was not the regular reflex.

3.4.5 Evidence for *a*-vocalism in literary Lesbian

The following list contains all potential evidence for an *a*-colored reflex of **r̥* and **l̥* in literary Lesbian:

βραδίνοις ‘supple’ (Sapph. 44A(b).7), βραδίναν (Sapph. 102.2), βραδίνῳ (Sapph. 115)
ἔαρος ‘spring’ (Alc. 296b.3), contracted ἦρος (Sapph. 136, Alc. 367).
καρδίαν ‘heart’ (Sapph. 31.6, Alc. 207.9)
κάρπος ‘harvest’ (Alc. 119.10)
κάρτερον ‘strong’ (Alc. 119.19; probably also Alc. 302 (col. 2).19)
ἔμαρψε ‘seized’ (Sapph. 58.21), μαρψαι[(Alc. 61.14)
νέκταρ ‘nectar’ (Sapph. 2.15 and 96.27)
ὄναρ ‘dream’ (Sapph. 134)
ὄνηαρ ‘benefit’ (*SLG*, S286(2).10)
πάρθενον ‘maiden’ (Sapph. 56 *passim*, Alc. 42.8)
τάρβην ‘be scared’ (Alc. 206), τάρβημι (Alc. 302.12)
τράγον ‘he-goat’ (Alc. 167.5)

A number of these forms must be left out of the discussion: ἔμαρψε and πάρθενον do not occur with *o*-vocalism in any Greek dialect, and have no convincing etymology; for τράγος, a pre-form with **r̥* is uncertain in view of the strange ablaut with the present τρώγω (for all these forms, see section 9.4). Given what has been said above about the relations between Epic Greek and Lesbian poetry, there is no problem in assuming that the Epic (or general poetic) word ταρβέω was also utilized in Lesbian poetry. This form may owe its *a*-vocalism to the adjectives ταρβαλέος and ἀταρβής (cf. section 4.2.1). Furthermore, κάρτερος is certainly a borrowing from Ionic, either from the vernacular or from Epic Greek; see the arguments in Bowie (1981: 99-100).[248] It is also conceivable that κάρπος is of Epic or Ionic origin: we have already noted that this word occurs in this shape in all dialects where it is attested.

Examples for -αρ as the word-final treatment of **r̥* are ὄναρ, νέκταρ, ὄνηαρ, and ἔαρος. Given the change **ā* > η, ὄνηαρ must be a borrowing from Ionic.[249] The three other

[247] The vowel slot of thematic aorists like ὀνέτροπε may, of course, be analogical.
[248] Bowie’s analysis is misguided to some extent, however, by O’Neil’s (1971) poor treatment of the material.
[249] On Lesb. η corresponding to Ionic ει in prevocalic position, see Slings (1979, p. 251 n. 36 on ὄνηαρ).

forms also occur in Homer, and especially ὄναρ and νέκταρ are liable to be epicisms. The Gs. ἔαρος is commonly thought to have been built on the Ns. ἔαρ (Hom.+) < PIE **ues-r̥*. The two attestations of contracted ἦρος may be of Ionic origin, and uncontracted ἔαρος may be an epicism. Thus, there is no convincing evidence for the Lesbian vernacular development of **r̥* in word-final position.[250]

The two remaining forms require a more elaborate discussion:

(1) Both Lesbian poets use καρδία as a word for 'heart'. There is one possible, but rather uncertain attestation κ]ǫρδίαν (Alc. 130A.4, initial κ- suggested by Diehl).[251] On account of the secure case στρότος beside Ionic στρατός, it seems excluded that καρδία contains the regular reflex of **r̥* in Lesbian. Since καρδία was certainly the synchronic vernacular form of the neighboring Ionic dialects, it seems best to assume that this form was borrowed. If κ]ǫρδίαν is indeed the correct reading, it could be hyper-Aeolic for Ion. καρδία.

(2) βράδινος occurs three times in Sappho, and its βρ- certainly represents earlier **wr-* (see the discussion in Bowie 1981: 80-4).[252] The word has two main applications: (1) soft or supple body parts of women, e.g. feet, hands, cheeks, also Aphrodite herself; (2) shoots, branches, a whip that are 'supple, tapeable'. An etymological connection with Ved. *vrad-* could therefore be envisaged, but the suffixation in -ινος would remain without a clear parallel.[253] There are two options to explain -ρα- in this clearly poetic word. First, it is conceivable that βράδινος stems from the Ionic Epic tradition. Secondly, since βράδινος has no secure etymology, one might argue that a pre-form with **r̥* is not ascertained, in which case the word could be genuine Lesbian or belong to the Aeolic tradition.

3.4.6 Evidence for Aeolic *o*-vocalism from lexicographical sources

In general, I agree with a number of previous authors that much of the evidence from lexicographical sources and grammatical treatises cannot be relied upon.[254] In many cases, there is no dialect indication: for instance, μορνάμενος· μαχόμενος (Hsch., cf. μάρναμαι 'to fight') need not be Aeolic, but could also stem from Arcadian or Cyprian. In other cases, the sources of the Ancient grammarians cannot be determined. For instance, the middle perfect forms τέτορθαι, μέμορθαι and ἔφθορθαι (quoted as "homeric" by O'Neil 1971: 26) are only cited as Aeolic in (pseudo-)Herodian. It is hard to prove that such forms ever existed in any Greek dialect. The adverb θροσέως and the noun πτόρμος (for πταρμός 'sneeze') are only attested in the "Compendium περὶ διαλέκτων" attributed to Johannes Grammaticus.

Having said that, one gloss clearly supports the Aeolic development of *o*-vocalism that we established on the basis of literary and epigraphic evidence: πορνάμεν· πωλεῖν ('to sell',

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[250] Ruijgh (1961) proposed that the Lesbian (and Achaean) outcome of **r̥* in this position was -ορ, as in the (in his view Achaean) words ἦτορ 'heart' and ἄορ 'sword'. He claims that ἦτορ is found in Alcaeus, but I have not been able to trace the source. The only remaining evidence for the Lesbian development would be the Sapphic form ὄνοιρος (fr. 63.1), but like Arm. *anurǰ* 'dream', this form could also be derived from **onōr-i̯o-* (with Osthoff's Law). The relation between the different attested formations (Hom. ὄναρ and ὄνειρος, Lesb. ὄνοιρος) remains obscure, much like that between τέκμαρ, τέκμωρ, and τεκμήριον.

[251] The Cyprian form is perhaps κόρζα (ascribed to Paphos by Hsch., see section 3.5.1). Even if the -ζ- looks like a Lesbian development, the vocalization to -ορ- would be at odds with the otherwise clear evidence for -ρο- as the Lesbian reflex.

[252] In a number of cases (e.g. βροδοπάχεες Sapph. 53, and βρόδων 55.2), β- has been added by modern editors. In all three instances of βράδινος, however, the mss. or papyri have the initial β- (*quasi* digamma). Bowie criticizes Hooker's view (1977: 28) that the β- was a device to indicate that a short syllable was lengthened due to prevocalic initial ῥ-. In fact, only in half of the cases in Sappho does the βρ- close a final syllable that is short by nature (thus in ὄρπακι βραδίνῳ Sapph. 115; in Alcaeus, both cases of βρ- generate a heavy syllable). Himself, Bowie thinks that words spelled with βρ- are poetic archaisms of Lesbian: they preserve a reflex of **w-* insofar as this was metrically useful, while in the vernacular, **wr-* had already developed to *r-* by the time of Sappho.

[253] See the discussion of ῥόδον 'rose' in section 7.2.8.

[254] See most recently Parker (2008).

Hsch.), also πορνάμεναι· κεντούμεναι, πωλούμεναι (Hsch.). The form, with its *o*-vocalism in combination with the infinitive ending -μεν, could only stem from Thessalian. The nasal present matches the formation in Ionic πέρνημι 'to sell' (which has a secondary ε after the aorist περάσαι). Thus, πορνάμεν can only be derived from a pre-form **pr̥nā-*, *-na-*.[255] The vowel slot -ορ- is comparable to that in μάρναμαι, but not necessarily related to the following nasal, because it could be analogical after the aorist περάσαι.

3.4.7 Conclusion for the Aeolic dialects

Both στρότος and αμβροτην provide clear evidence for the development of the anaptyctic vowel *-o-* after the liquid in the Aeolic dialects. This development is shared by Lesbian with Boeotian. In both dialects, στρότος seems to prove that neighboring labial sounds had no influence on the development. Although the Thessalian evidence is slightly ambiguous, the attested forms are compatible with the development established for Boeotian and Lesbian, and θροσια and πετροτος render a Proto-Aeolic development to -ρο- likely.

The most recent discussion of the question is by Parker (2008: 446-47). Parker lists six "certain forms" that contain *o*-vocalism in Lesbian: βρόχεα, ἄμβροτε[256], ἀμβροσίας, ἐμμορμένον, βρόδον and compounds, and στρότον (beside inscr. στροταγοι). Parker excludes τρόπην, with the argument that it "is likely to be from τροπέω". Even if this is unlikely already for the infinitive form, this does not explain the indicative forms ὀνέτροπε, πεδέτροπεν, which cannot be anything but thematic aorists. Further, Parker fails to mention δρόπ[ω]σιν.

Parker starts by observing that five of these six cases have a labial environment, except for στρότον, which "is good evidence for a regular development of **r̥* > ρο/ορ" in Lesbian. For the other dialects that are traditionally considered as Aeolic, Parker is very sceptical. He agrees that Boeotian εσστροτευαθη and names in -στροτος seem to be "good evidence for a regular change **r̥* > ρο", but he does not seem to consider the proper names in Βροχ- (frequent in both Boeotian and Thessalian) to be reliable evidence. This is part of a rhetorical strategy designed to create the impression of uncertainty surrounding the reflexes of **r̥*. Parker reaches the following conclusion:

"In sum, the change of **r̥* > ρο/ορ is not compelling, since **r̥* is a rather stable sound in Greek (there are clear traces of its survival in the scansion of Homer), and the same (or at least a similar) change occurs in Arkadian, Cyprian and Mycenaean. As Cowgill notes: "At most one can say that the contrast of ορ and αρ is not very important for grouping Greek dialects." To put the matter differently, **r̥* > ρο/ρα is a comparatively late change in various Greek dialects. Further, there seem to be no cases of **r̥* > ρο/ορ feeding any later sound change shared by Thessalian, Boiotian and Lesbian."

I agree with Parker that the elimination of **r̥* may indeed have been post-Mycenaean in many dialects, including Ionic-Attic. But this does not imply that the change is "not very important for grouping Greek dialects", as he states. The vocalization found in Lesbian and Boeotian (and perhaps Thessalian) is not identical to that in Arcadian and Mycenaean, because the place of the epenthetic vowel is different in the latter dialects.[257] In fact, there is no other dialect, beside Boeotian and Lesbian, where we know for certain that the reflex of **r̥* was -ρο-.[258] Furthermore, it is highly uncommon in other IE languages for the anaptyctic

[255] The -α- in the gloss may have been long or short: not too much value should be attached to the acute accent.
[256] Parker does not mention αμβροτην in epigraphic Lesbian.
[257] Arcadian probably has -ορ-, Mycenaean excludes -ρο-, Cyprian is ambiguous. See below.
[258] Parker speaks of a change **r̥* > ρο/ορ in Lesbian, but only of **r̥* > ρο in Boeotian. In fact, as we have just seen, the evidence does allow us to determine the regular place of the anaptyctic vowel: the Lesbian development was **r̥* > -ρο-, and independent of the neighboring consonants. The same conclusion can be drawn for Boeotian on the basis of στροτος and derivations.

vowel to develop after the liquid. The only clear example is Celtic (e.g. OIr. *cride* 'heart' < **krd-i̯o-*). This is, then, a strong indication that we are dealing with a single isogloss affecting Boeotian, Lesbian, and Thessalian. Adding to this that Thessalian, Boeotian and Lesbian are geographically close, the only logical conclusion is that the change *$r̥$ > ρο is a common innovation of the ancestor of these three dialects, which we may call Proto-Aeolic.[259] It is difficult, however, to determine more exactly when this Proto-Aeolic vocalization to -ρο- took place. I would speculate that it was earlier than 1200 BC, because this is the only way to explain why the Aeolic dialects did not develop *a*-coloring, as West Greek and Ionic-Attic did.

3.5 Arcado-Cyprian

The first scholar to explicitly state that *o*-vocalism is regular in Arcado-Cyprian was Fraenkel (1911: 250-51). He adduced the forms παναγορσις, εφθορκως from Arcadian, and "cypr. πλότει (…) das sich dem Sinne nach mit sonstigem πλάτει deckt". This thesis was quickly taken up by the handbooks, and it remained the standard view until Morpurgo Davies (1968) proposed that the instances of *o*-coloring were conditioned by a preceding *w*-: "both in Arcadian and Cyprian the reliable instances of *aR/Ra* considerably outweigh those of *oR/Ro*. This amounts to saying that the data definitely favour the suggestion that *aR/Ra* and not *oR/Ro* is the regular treatment of $R̥$ in these dialects" (1968: 808). Since then, scholars have occasionally doubted that *o*-vocalism was the only regular outcome in either Arcadian or Cyprian. However, mere numbers cannot decide the issue, and Morpurgo's thesis cannot be upheld because much of the supposed evidence for *a*-vocalism in these dialects has been adduced for incorrect reasons. In my view, then, scholars like García Ramón (1985) and Haug (2002) are correct in insisting that *o*-vocalism is the only regular outcome in Mycenaean and Arcado-Cyprian.

3.5.1 Cyprian: evidence for *o*-vocalism

The evidence below has been collected from the discussion by Morpurgo Davies (1968), and analyzed on the basis of the edition and commentary by Masson (1983 = *ICS*[2]). Unfortunately, the most recent edition and grammar by Egetmeyer (2010) was unavailable to me.

There are five more or less reliable forms with *o*-vocalism in Cyprian, three of which are attested in glosses ascribed to the Paphians by Hesychius (εὐτρόσσεσθαι, κόρζα, and στροπά), and two in the syllabary (*ka-te-wo-ro-ko-ne*, *to-ro-su-ta-mo-se*). Two other forms that have been adduced (*po-lo-te-i* and the gloss θόρναξ) have no bearing on the discussion.

ka-te-wo-ro-ko-ne /kat-ewergon/[260] 'they beleaguered' (*ICS*[2] 217) is traditionally interpreted as a zero grade root aorist from the root of ἐέργω 'to shut in'. Morpurgo Davies objects that "we have no independent evidence for a strong aorist from this verb", and refers to a suggestion by Schwyzer that *kat-ewergon* could be a pluperfect of the type ἄνωγον, a form which is found in the same inscription (*a-no-ko-ne ICS*[2] 217, 2). However, as a

[259] This is also the conclusion reached by García Ramón (1975: 63): (if *$r̥$ was still intact in Mycenaean,) "la conclusion s'impose d'elle-même: le proto-thessalien a développé *$r̥$ > ορ, ρο à une époqie où les Béotiens ne s'étaient pas encore séparés de la Thessalie, mais postérieure en tout cas à *ca*. 1200." Note, however, that the regular vowel slot was not a relevant issue for García Ramón. For a discussion of other phonological and morphological arguments in favor of assuming Proto-Aeolic, see García Ramón (1975: 60-68). This is not the place to discuss Parker's criticism of these arguments, but the development of *$r̥$ in the three Aeolic dialects furnishes at least one common isogloss between them, which shows that Parker is wrong.

[260] On the basis of the syllabary, other possible interpretations include /kat-ēworgon/ (if from an augmented root **ewerg*-) or /kat-ewrogon/. This has no bearing, however, on the question whether *o*-vocalism or *a*-vocalism is regular in Cyprian.

pluperfect with the meaning of an imperfect, ἄνωγον is clearly an exceptional case; the interpretation as a thematic aorist is therefore to be preferred.[261]

A PN *to-ro-su-ta-mo-se*, interpreted as /t^{h}rosu-dāmos/, is cited by Egetmeyer (2010, No. 245).[262] The form must be used with some caution, because a personal name Θορσυς is also found in Cretan (Polyrrhenia, *IC* II, 27), that is, in a dialect where one expects an *a*-colored reflex. Still, the fact that Arcadian also attests θορσυ- in the PN Θορσυλοχος (see below) suggests that we are dealing with a genuine reflex of **r̥* in Cyprian.

The gloss εὐτρόσσεσθαι· ἐπιστρέφεσθαι. Πάφιοι (Hsch.), 'to turn around or towards', is mostly thought to derive from a *yod*-present **tr̥k^{w}-i̯e/o-*. Although the correspondence εὐ- / ἐπι- is not quite clear, the root of εὐτρόσσεσθαι is probably that of τρέπω, which is semantically close to στρέφω. Morpurgo Davies (1968: 800) casually remarks that "in the absence of any other evidence a denominative formation on an *-o-* grade substantive cannot be excluded", but this seems highly unlikely: in all other Greek dialects, denominatives from *o*-stem nouns are of the type φορέω.[263] Unless one is prepared to consider syncope of **trok^{w}e̯io-* to **trok^{w}i̯o-* in Cyprian, followed by a new palatalization yielding -τροσσ- (as in the gloss κόρζα), it seems unlikely that εὐτρόσσεσθαι contains an *o*-grade root. The most plausible reconstruction of -τρόσσεσθαι, then, is **-tr̥k^{w}-i̯e/o-*.

The gloss κόρζα· καρδία. Πάφιοι (Hsch.) is disqualified by Morpurgo Davies (1968: 801, 812) with the words "but this is a gloss attested only in Hesychius". If the other available evidence spoke against *o*-vocalism, this would certainly be a legitimate way of argumentation. But since there is no compelling evidence for *a*-vocalism in Cyprian, it seems best to take the gloss seriously, especially given the desyllabification of *-i-* and the subsequent development of **-di̯-* to -ζ-.

στροπά· ἀστραπή. Πάφιοι (Hsch., Ael. Herod.). Beside this, the gloss στορπάν· τὴν ἀστραπήν (Hsch., Ael. Herod., without dialect indication) may well be Arcadian, in view of epigraphically attested Arc. Διος Στορπαο (gen.sg., *IG* V 2, 64, 5th c.). The word is of unclear etymology: Beekes (1987) convincingly argues against the older interpretation as **h$_2$str-h$_3$k^{w}-* 'star-eye', which is not evident semantically and which explains neither the forms without prothetic vowel, nor the lacking reflex of **h$_3$*. Still, since the forms with *o*-vocalism appear precisely in Arcadian and Cyprian, the former presence of a syllabic liquid in this word cannot be excluded. One would have to reconstruct a form **str̥pā*, of unknown origin, with a variant **astr̥pā* continued in the Classical form ἀστραπή and in the Epic denominative verb ἀστράπτω. But in view of the lack of a good etymology, no real conclusions can be based on this form (cf. also Haug 2002: 60).

The gloss θόρναξ· ὑποπόδιον (Hsch.) used to receive the addition Κύπριοι (e.g. in Frisk), but Latte does not print it anymore. If the pre-form contained **r̥* at all (see chapter 7 for reasons why this was probably not the case), it is to be ranged among the cases of *o*-vocalism in glosses of unknown origin.

Finally, the form *po-lo-te-i* (*ICS*^{2} 318 VII, 2) was interpreted by Meister, in his *editio princeps*, as the Ds. of a neuter $^{++}$πλότος which he supposed to be the dialectal equivalent of

[261] Tichy (1983: 287 n. 165) accepts the analysis of *ka-te-wo-ro-ko-ne* as a zero grade formation, but interprets it as an imperfect. Together with ἐέργω (in her view, **wérgō* without initial laryngeal) and Av. *vərəziiąn* (subj.) 'to fence in', she derives it from an ablauting athematic root present. But given the lack of further evidence for an athematic present from this root within Greek, this seems less likely to me than the traditional analysis as an aorist. A zero grade thematic aorist beside a full grade thematic present (as in λείπω : λιπεῖν) is a productive scheme in early Greek; it is quite conceivable that this thematic aorist is older than the *s*-aorist (attested only once in Homer, ἔρξαν *Od*. 14.411).

[262] I quote this form from Egetmeyer 2010 on the authority of a paper presented by J. Rau during the 2012 Copenhagen Fachtagung.

[263] In Mycenaean, we do find a verbal form *to-ro-qe-jo-me-no* /trok^{w}e̯iomeno-/ 'making tours of inspection' (*Docs*.^{2} p. 268), which may be either a denominative to **trok^{w}o-*, or perhaps rather an inherited iterative.

Ionic-Attic πλάτος 'breadth'. For the Cyprian form, he posited the meaning 'tablet, writing surface'. With *i te-ka-to-i po-lo-te-i*, the ostrakon on which the text has been written would then refer to itself as the 'tenth page' of an archive. A consultation of Masson's edition and especially his 1966 article show, however, that no definite value can be attached to Meister's interpretation.[264] Instead of Meister's reading *po-lo-te-i*, Masson prefers to read *pe-lo-te-i*. Moreover, the interpretation as 'tablet' and the comparison with Attic πλάτος, which is not attested with this meaning, are completely in the air. Therefore, the form can be left out of further consideration.[265]

3.5.2 Cyprian: evidence for *a*-vocalism

Several forms are listed by Morpurgo Davies (1968: 799-801) as evidence for *a*-vocalism, but none of them is compelling. For reasons given in section 1.2, we may leave aside all forms where **r̥* was word-final (e.g. *a-u-ta-ra* /autar/) or due to some other Pan-Greek development. Forms for which there is no apparent reason to assume a syllabic liquid must also be left aside, such as the gloss μάρπτω (included by Morpurgo Davies 1968: 801; see section 9.4.2). The gloss ταρβεῖ is ascribed to Cyprian by the γλῶσσαι κατὰ πόλεις (cf. Ruijgh 1957: 163), but this does not exclude that it entered Cyprian from Early Greek Epic, the prime locus of attestation of the root ταρβ-.[266] The same goes for personal names attested in other non-Ionic-Attic dialects, such as those in -κράτης (which are only attested very late in Cyprian, as remarked by Morpurgo Davies 1968: 800).

There are two Cyprian forms where a pre-form with syllabic nasal could be assumed, and which therefore do not prove a vocalization **r̥* > *-ra-*. As I will argue in section 9.1.4, the imperative *ka-ra-si-ti* /grast^{h}i/ 'eat!' may be the regular outcome of **grn̥s-d^{h}i*. The reading *ta-ta-ra-ka-ma-ta* as /ta dragmata/ 'bundles' (*ICS*^{2} 318 A III, 2) was established by Masson (1966), but in the *ICS*^{2} he follows Meister's original transcription as *ta-<ka>-ta-ra-ka-ma-ta*.[267] However this may be, the root of δράσσομαι is non-ablauting, and the form could contain the outcome of a vocalized nasal (see section 9.2.1). To repeat our conclusion: there is no compelling evidence for an *a*-colored reflex of **r̥* in Cyprian.

3.5.3 Arcadian: evidence for *o*-vocalism

The epigraphic evidence unambiguously proves that the regular Arcadian reflex had an *o*-colored reflex (cf. Haug 2002: 60). The forms below are discussed in alphabetical order.

Arc. βροχυ[(Dubois 1988: 43 with n. 212). Morpurgo Davies doubts the Arcadian origin of the form. Dubois could not retrace the stone in the museum of Dimitsana, but he remarks (ibid., n. 212, cf. Haug 2002: 60) that "il est peu probable qu'il y ait eu dans ce musée beaucoup de pierres errantes éoliennes." The place of the vowel in βροχυ can be analogical after the full grade, like that of Class. βραχύς (see section 4.4.3).

According to Morpurgo Davies (1968), following Chantraine and Wackernagel, the Arc. form εφθορκως (*IG* V 2, 6.10-11 = *Del.*^{3} 656) may have been built on the active perfect

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[264] "On a gardé ici sans modification la translittération de Meister (…) la lecture de nombreux signes et la présence de beaucoup de diviseurs apparaissent très incertaines, ainsi même que le sens de la lecture" (Masson, *ICS*^{1} ad loc., p. 317-18). The text was left unchanged in the 1983 second edition of *ICS*. In his article, Masson comments: "L'interprétation des deux derniers mots est fort incertaine. Meister voulut reconnaître ἰ(ν) δεκάτῳ πλότει "sur la dixième tablette", avec (…) une forme *πλότος correspondant à l'ionien-attique πλάτος "largeur, surface", qui aurait ici le sens matériel non attesté de "Tonplatte, Tonscherbe"; tout l'argumentation concernant ce dernier terme est peu plausible; d'autant plus que nous ne croyons guère au *po* initial." (1966: 263-4).

[265] It is not mentioned by *DELG* or Frisk s.v. πλατύς.

[266] As I proposed in section 4.2.2, the Epic form may stem from Ionic, where the *a*-vocalism may have spread from an adjectival form with -αρ- (cf. ταρβαλέος, ἀταρβής).

[267] Strangely enough, Masson does not mention his earlier interpretation as /dragmata/ in the second edition of his corpus. Note Masson's comments (1966, *ICS*^{2}) about the limited usability of this inscription.

(δι)-έφθορα. But as Haug (2002: 60) remarks, the classical κ-perfect was normally derived from a middle perfect, as in Attic ἔφθαρκα derived from the middle ἔφθαρμαι. And in Ionic-Attic, one never finds intrusion of the *o*-vowel from the active into the middle perfect. Therefore, I agree with Haug and with Dubois (1988: 44) that εφθορκως is best taken to point to an Arcadian middle perfect *εφθορμαι, with *o*-coloring of the regular outcome.

Θορσυλοχου (Dubois 1988: II, 171) is attested on a proxeny decree from Orchomenos, 3rd c. Morpurgo Davies (1968: 794) remarks that the name refers to a person from Achaea and removes the form from the evidence. Haug (2002: 60) does not exclude this, but prefers to see in Θορσυ- the regular development of a zero grade. Dubois (ad loc.) follows Masson (1972) in seeing in this form an element of the pre-Doric substrate in Achaea. Note, in this context, the Cyprian form *to-ro-su-ta-mo-se* (see above) and the Cretan PNs Θορυσταρτος and Θορσυς (beside Masson 1972, cf. also Leukart 1994: 191). It is hard, then, to base any conclusions on this name.

Arc. παναγορσι (*IG* V 2, 3.26 = *Del.*[3] 654) lit. "gathering of all", month name παναγορσιον (ibid. 3.3), τριπαναγορσιος (ibid. 3.7), Hsch. ἄγορρις· ἀγορά, ἄθροισις 'gathering'. The zero grade is also attested in αγαρρις 'meeting' (*IG* XIV, 659, lines 12 and 16) in a Western Ionic colony. A comparison between Arcadian and Western Ionic shows that the original form of this word was **agr̥-ti-*.[268] As Dubois remarks, Eastern Ionic ἄγερσις (attested in Herodotus in the meaning 'mustering of an army', and epigraphically in Miletus) must have the restored root of ἀγείρω, while Arcadian παναγορσις and Western Ionic αγαρρις show the etymologically expected zero grade formation. One might compare **agr̥-ti-* with **agr̥-to-*, which is perhaps attested in Mycenaean *a-ma-ko-to me-no* /hamagortō mēnnos/ (or /hamagr̥tō/) < PGr. **sm̥-* + **-agr̥-to-*. According to Taillardat (1984), this means 'in the month of the assembly').

The form αγαρρις was discarded as "doubtful evidence" by Morpurgo Davies (1968: 794), for the reason that it occurs in a "late inscription, in which the only other dialect formations are φρητρία and its derivatives". In her view, it is "quite possible" that αγαρρις arose by vowel assimilation from ἄγερρις, but this is clearly an *ad hoc* assumption.[269] The fact that both αγαρρις and φρητρια may denote institutions peculiar to this colony rather suggests that the *form* αγαρρις preserves older morphology. Moreover, as Dubois (1995: 86) remarks, αγαρρις shows the expected result of -ρσ- in Western Ionic and cannot therefore be a Koine form. Criticism of Morpurgo Davies' argument is also found in Haug (2002: 60): as he remarks, the **ti*-stem παναγορσις can hardly have had an *o*-grade.

On Arc. Στορπαο, epithet of Zeus, see the discussion of the Cyprian gloss στροπά. It would prove a regular outcome -ορ- if the pre-form contained **r̥*, but this remains uncertain.

Arc. τετορτος (Dubois 1988: 42-3). The form is attested twice as a Gs. fem. τετορταυ and probably once in a broken attestation as a Ns. τετ]ορτα. As a PN, Τεταρτος is attested only once. I do not accept the reasoning followed by Morpurgo Davies (1968: 795), according to which the single -τ- (from **-tu̯-*) in τετορτος can only be explained from an earlier form *τέτροτος or *τέτρατος.[270] As I have explained in section 2.5, the distribution of forms with -τ- rather suggests that the cluster **-tu̯-* was reduced in front of **r̥* before the vocalization of

[268] Of course, the vowel slot of αγαρρις could theoretically be analogical after the full grade of the verbal root. For the vocalization of **-r̥s-*, see section 9.1.

[269] See van Beek (2011) for a general criticism of the idea of "vowel assimilations" in Greek, and also the doubts ventilated by Dubois (1988: 44 with n. 219) concerning Morpurgo Davies' idea.

[270] "… otherwise it would be impossible to justify the presence of a single τ instead of the geminated -ττ- expected as a treatment of the cluster *-tu̯-*. -ορ- is then due to a metathesis of -ρο-" (Morpurgo Davies 1968: 795).

the syllabic liquid.[271] Like Attic τέταρτος, Arcadian τετορτος cannot be explained by analogy, because the cardinal form is τεσσερες.[272]

3.5.4 Arcadian: evidence for *a*-vocalism

According to Haug (2002: 59-61), the counterevidence to a regular vocalization *$r̥$ > -ορ- in Arcadian merely consists of the forms δαρχμα, γραφω and στραταγος. There are two possible ways to explain these forms: either they are non-dialectal words, or they have -αρ- or -ρα- for some other reason.

As was already remarked e.g. by Ruijgh (*apud* Morpurgo Davies 1968: 813), στραταγος could well be a borrowing from Doric. He compares the military term Att. λοχαγός, where the long -ᾱ- excludes a native Ionic-Attic word, and which is generally accepted to be due to borrowing from Doric.

The root of γράφω has *a*-vocalism in all Greek dialects, except in the agent noun γροφεύς 'scribe' attested in many dialects, but mainly on the Peloponnesos (see section 9.2.2 for a discussion of the details). Arcadian has γραφ̣ε̣α (*IG* V 2, 343.31-2), συγγραφ̣ο̣ν (*IG* V 2, 6.53), and γ]ραφης (*IG* V 2, 8.4), whereas γροφεύς is only known from Koine texts.[273] The *a*-vocalism of γράφω could be the reflex of a vocalized nasal (section 9.2.2).

It is hard to utilize δαρχμα as evidence: as a word designating a monetary unit, it may have easily been borrowed. Indeed, the same form is found in the neighboring West Greek dialect of Elis, as well as on Crete. Moreover, the Boeotian dialect of Thespiae also offers instances of δαρχμα (Roesch, *IThesp*. 38 and 39), which cannot have the genuine reflex of *$r̥$ in Aeolic, as we have seen above.[274]

It remains to discuss αρσενα 'male' (*Lex sacra* from Tegea, 4th c., Dubois I, 80; II, 34ff.). This form cannot be used as evidence, because the genuine Arcadian form must be reflected in τορρεντερον (with crasis), found in a well-known inscription from Mantinea (Dubois II, 94ff. and 105, 5th c.). Since the latter form has the assimilated result of -ρσ- > -ρρ- as well as an additional suffix -τερο- which is unattested for this word in Ionic, τορρεντερον is clearly the genuine dialectal form. Consequently, αρσενα must be a literary or Koine form.[275] As for τορρεντερον, it remains unknown whether this form resulted from το αρρεντερον or from το ορρεντερον. Neither αρσενα nor τορρεντερον can therefore be used as evidence.

3.5.5 Conclusions for Arcado-Cyprian and Achaean

As Haug (2002) has convincingly shown, Morpurgo Davies was mistaken in assuming that the vocalization *$r̥$ > -αρ-, -ρα- is regular in Arcadian. While βροχυ[does indeed contain a

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[271] As explained in section 1.3.1, I reject Bader's opinion (1969, followed by Dubois 1988: 42-3) that all four vocalizations αρ, ρα, ορ, and ρο were possible outcomes of the syllabic liquids in any Greek dialect. Dubois' opinion that both Τεταρτος and τετορταυ are possible vocalizations in Arcadian violates the principle of *Ausnahmslosigkeit der Lautgesetze*.

[272] Note, in this connection, that τετόρταιος (Theoc. 30.2) is inadmissible as evidence for a Lesbian form ++τέτορτος: this form may be analogical after the Doric cardinal form τέτορες.

[273] According to Minon (2007: 301-2), the Elean alphabet was taken from the Laconians. This would explain why γροφεύς is found in that dialect. Is a similar explanation possible for the occurrence of γροφεύς in Arcadian?

[274] Haug (2002: 61) proposes to assume influence of the present stem of δράσσομαι < *$dr̥g^h$- on δαρχμα in Arcadian and Aeolic, but this does not explain the deviating vowel slot in comparison with Class. δραχμή. One might therefore envisage to assume that δραχμή underwent the influence of the present stem, and that δαρχμα, δαρχνα contain the regular outcome of PGr. *$d̥rk^hmnā$. See section 9.2.1.

[275] Morpurgo Davies (1968: 796) bluntly stated that "the different origin accounts for the different treatment of the cluster *-rs-*", without further argumentation. In his extensive treatment of the material, however, Dubois (1988: 80-83) has found no indication for a geographical distinction within Arcadian between Tegea and Mantinea. He therefore argues for a chronological distinction: until the late 5th c., the form with geminate -ρρ- is found; after that (from the 4th c. onwards) it develops into a form with compensatory lengthening.

labial environment, the forms παναγορσι and τετορτος clearly show that the *o*-coloring was regular in this dialect. The *o*-vowel of εφθορκως offers further support for this conclusion. The situation in Cyprian is a bit less clear, but here too, the gloss κόρζα (with non-labial environment) and the verb *ka-te-wo-ro-ko-ne* point to regular *o*-coloring. The gloss εὐτρόσσεσθαι and the PN with *to-ro-su-* support this conclusion.

As for the regular vowel slot, Arcadian τετορτος can only point to a vocalization -ορ-. Let me stress once again that for the numeral 'four', analogical influence of the cardinal on the ordinal can be excluded (see section 2.5). The outcome -ορ- is also found in παναγορσι and Στορπαο, but it must be noted that Στορπαο has no clear etymology, and that παναγορσι may have undergone influence of a full grade form. Likewise, in βροχυ[, -ρο- can be due to paradigmatic levelling, as in Class. βραχύς. In view of the nature of the Cyprian syllabary, we have to rely on glosses in order to determine the regular vowel slot in Cyprian. Unfortunately, the evidence is inconclusive: κόρζα points to -ορ-, but εὐτρόσσεσθαι to -ρο-.

Even if the evidence is much more meagre, the situation in Arcado-Cyprian is similar to that in Mycenaean. There is no clear evidence for an *a*-colored outcome, and there is some evidence for *o*-vocalism.[276] In view of these similarities, one could be tempted to reconstruct a Proto-Achaean vocalization **r̥* > *-or-* (the Arcadian reflex was clearly -ορ-), but we have to be careful. While a vocalization to *-ro-* can be excluded for Mycenaean, this dialect may have preserved **r̥*. Moreover, there is no way to exclude the outcome *-ro-* for Cyprian on the basis of our evidence. It is unclear, then, whether Mycenaean and Cyprian had the outcome *-or-* in the first place. If Linear B did indeed preserve **r̥*, the Arcadian reflex -ορ- may have come into being in the Sub-Mycenaean period, before speakers of West Greek dialects established themselves on the rest of the Peloponnesus. The Cyprian reflex (whether *-or-* or *-ro-*) may then be due to an independent development. Note that a development to *-or-* is phonetically more natural than a development to *-ro-*, so that an independent vocalization in Arcadian and Cyprian is hard to exclude.

3.6 Pamphylian

It is mostly assumed that Pamphylian, like Cretan, underwent a liquid metathesis. This view has been codified in Brixhe (1976: 61-3), who adduces five items as evidence:

Pamph. PN Αφορδισιυς, Φορδισιυς ~ Hom. Ἀφροδίτη, Cret. Αφορδιτα.

Pamph. Πρειιας, Πρειϝυς, Πρεεως ~ Ion. Πέργη.

Pamph. περτ- ~ Ion.-Att. πρός, Hom. προτί, Cret. πορτι

Pamph. PN Πορσοπα, "qui sans doute est une forme partiellement extra-dialectale pour *Προσόπα" (1976: 61).

Pamph. Στλεγιυς, Εστλεγιυς (supposed to derive from a pre-form **sleg-* with consonant epenthesis) ~ Non-Pamph. Σέλγη.[277]

In Brixhe's view, these five forms show that the liquid metathesis does not only concern doublets that are due to the vocalization of **r̥* or **l̥*. But upon closer consideration, this claim appears to be ill-founded. The toponym Πέργη ~ Pamph. Πρειια < *Πρεγα and Στλεγιυς 'inhabitant of Σέλγη' may suggest that the (Greek and non-Greek) languages of Asia Minor vocalized a syllabic liquid of Anatolian origin in two different ways. This point is nicely illustrated by the self-designation of the Lycians. The Lycian form *trm̃mili-* probably represents /tr̥mili-/. Here, Ionic has Τερμίλαι (Hdt. 1.173, 7.92, also attested epigraphically in Pisidia), but Pamphylian attests Τρεμιλας. The same distribution is found in Πρειια ~ Ion. Πέργη and Στλεγιυς ~ Ion. Σέλγη. This shows that the foreign names **sl̥gā-*, **pr̥gā*, and **tr̥mil-* appear in Ionic with the reflex -ερ-, -ελ-, but in Pamphylian with -ρε-, -λε-. That is, these names were borrowed into both Ionic and Pamphylian after the vocalization of inherited

[276] The regular outcome of **l̥* is unclear in all three dialects.

[277] Brixhe further mentions the forms κεκραμενος, Τρεκουδας, Θρεκουδας, and Στρατοκλιτους (o.c. 62).

PGr. *$\underset{\circ}{l}$ and *$\underset{\circ}{r}$ in these dialects. Apparently, -ε- was perceptionally closest to the anaptyctic schwa in [əl], [ər] (Ionic) or [lə], [rə] (Pamphylian).[278]

Disregarding these ethnonyms and toponyms, then, we are left with περτ-, Αφορδισιυς, and Πορσοπα. As we will see in chapter 7, the latter two forms may well derive from a pre-form with syllabic liquid (assuming that Πορσοπα is the equivalent of an Ionic *Προσώπης 'Face'). It is by no means certain that Pamph. περτ- arose by liquid metathesis from PGr. **preti*, as is often believed. Wyatt (1978) suggests that it may be a cross between περί and ποτί, and Bechtel's proposal (1921-24, II: 820) that this is the reflex of **porti* < *$\underset{\circ}{p}$*rti* in proclitic position also deserves attention. In my view, then, there is no compelling reason to assume liquid metathesis for Pamphylian.

Apart from the forms treated, Brixhe's index contains no other possible evidence for the outcome of *$\underset{\circ}{r}$ or *$\underset{\circ}{l}$. All three forms with the supposed metathesis can be derived, in theory, from a pre-form with syllabic liquid. Taken at face value, Αφορδισιυς and Πορσοπα suggest a development *$\underset{\circ}{r}$ > ορ at least after labial consonants. However, the material is far too scanty to prove anything, and the difference between περτ- and Πορσοπα remains awkward.

3.7 Conclusions

In chapter 2, it appeared that either *-or-* or preserved -$\underset{\circ}{r}$- is the regular reflex of *$\underset{\circ}{r}$ in Mycenaean. In addition to this, a scrutiny of the Alphabetic Greek dialects has shown that:

(1) Arcadian has general *o*-coloring and develops the vowel in front of the liquid, on the evidence of τετορτος; this is further supported by the forms in -αγορσις.
(2) In Cyprian, much depends on the interpretation of the verbal form *ka-te-wo-ro-ko-ne* and the personal name *to-ro-su-ta-mo-se*. Regular *o*-vocalism is further supported by the gloss κόρζα. However, the regular vowel slot in Cyprian remains uncertain.
(3) The Aeolic dialects have regular *o*-coloring and develop the vowel after the liquid. This appears most clearly from Lesbian and Boeotian. The Thessalian evidence is slightly weaker, but the form πετροτος probably points in the same direction. Generally, the evidence from numeral forms is difficult to use, because analogies clearly played a large role.
(4) Cretan did not undergo a liquid metathesis, but developed the vowel in front of the liquid. The post-labial reflex is -ορ-, and elsewhere -αρ- is regular. The situation in Theran (and in its colony Cyrene) could be similar, but the evidence is slight.
(5) The situation in most other West Greek dialects seems to be similar to that in Ionic, but the precise details might be different. In Elis (βρατάναν, βρατάνει) and Syracuse (middle pf. ἔμβραται, ἐμβραμένα, ἔπραδες) there is slight evidence for -ρα-, but it is hard to based any conclusions on these forms. The Doric dialects of Magna Graecia show evidence for -αρ- in the ordinal form τεταρτος. The situation in a number of West Greek dialects could benefit from further investigation. It seems unlikely that *$\underset{\circ}{r}$ had already vocalized in Proto-West Greek: the conditioned development in Cretan is different from that found in Ionic-Attic.[279]
(6) The situation in Pamphylian is unclear, but there is no compelling evidence for liquid metathesis.

[278] This may also explain the reflex -ρε- in the PNs Τρεκουδας, Θρεκουδας, which are the Pamphylian reflexes of a borrowed Lyc. *trqqñt-* 'Storm God' (cf. Hitt. *tarḫunt-*).
[279] In chapters 6 and 7, I will argue that Epic Greek had a special reflex *$\underset{\circ}{r}$ > -ρα-, but -ρο- after a labial consonant. The conditioning of this vocalization is the same as in Cretan, but the outcome is different. I therefore see no reason to assume a special relation between these two developments.

4. Reflexes of *$\mathring{r}$ and *$\mathring{l}$ in Caland formations

When determining which one of the reflexes -ρα- and -αρ- is regular and which one is analogical, it is of the utmost importance to critically examine the analogical processes that have been proposed. In chapter 2, we have seen that the models proposed for καρπός and τέταρτος are difficult to accept. Departing from the assumption that -αρ- is the regular reflex of *$\mathring{r}$ in Ionic-Attic (or rather in Proto-Ionic), a considerable number of forms with -ρα- require an explanation. Since a large number of them belong to the derivational system which bears the name of Caland, I will start my treatment of the Ionic-Attic evidence with these formations. I will start with an overview of the Greek Caland system, its ablaut mechanisms, and the various possibilities of derivation.

4.1 The root ablaut of Caland formations in Greek and PIE

A model specimen of the Caland system in Greek would consist of a primary adjective (mostly in -ύ- or -ρό-), its forms of comparison in -ίων, -ιστος, a neuter abstract in -ος together with compounded adjectives in -ής, an adverb in -α, and sometimes a compounding first member in -ι-.[280] In addition, several verbal formations are intimately linked with these nominal forms, notably the stative verbs in -έω and the factitives in -ύνω. The only Greek root which attests all these formations is that of κρατύς, κράτος; it will be extensively discussed in chapter 5.

Most Greek Caland roots generalized one root vowel throughout the entire system of derivations. A good example is the root *t^hak^h-, attested in the adjective ταχύς 'quick, swift', comparative θάσσων, superlative τάχιστος, the neuter abstract τάχος, and the adverb τάχα. All these formations are attested in Homer. Unattested are *s*-stem adjectives and the compounding first member in -ι-. The strong stem *$t^hāk^h$- is probably preserved in the Eretrian PN Τήχιππος "with swift horses", and only there.[281] In pre-Homeric Greek, however, the strong stem *$t^hāk^h$- must also have been present in the comparative and superlative, as well as the neuter abstract. This suggests that some of the formations were re-created on the basis of the positive ταχύς, and perhaps also the adverb τάχα.

Another example is the PIE verbal root *$pleth_2$- (Ved. *práthate* 'spreads', intransitive), from which the following Greek forms were derived: πλατύς 'wide', πλάτος 'flat open surface', compounds in -πλατής, and πλαταμών 'flat stone or rock'. Except for πλατύς, one would expect an *e*-grade in all attested formations, but apparently the entire system has been reshaped on the basis of the *u*-stem adjective. Note that πλαταμών (with root-final -α- < *h_2) has a direct cognate in Ved. *prathimán-* 'extension': even this inherited formation, which stands isolated within Greek, replaced the root *-*e*- by -α-.

These examples warn us that many forms with -ρα-, -λα- or -αρ-, -αλ- do not continue a pre-form with *$\mathring{r}$ or *$\mathring{l}$. In order to judge the provenance of Caland forms and their pertinence as evidence for *$\mathring{r}$ or *$\mathring{l}$, it is important that we obtain a clear picture of the expected root vocalism or ablaut paradigms of the Caland formations in PIE and Proto-Greek. This is the objective of the present section.

[280] I leave most of the secondary Caland suffixes out of consideration at this point; some of them will be commented on later in this chapter.

[281] This interpretation is appealing in view of Hom. ταχέ' ἵππω 'swift horses', ταχέες δ' ἱππῆες, etc. For this reason, the etymology proposed for ταχύς by de Lamberterie (1990: 584ff.) seems less attractive to me, but this does not matter for the present argument.

4.1.1. *u*-stem adjectives

The Greek reflexes of PIE *u*-stem adjectives preserve traces of an original proterodynamic (PD) ablaut paradigm: strong stem **CéC-u-*, weak stem **CC-éu-*. Although both Greek and Indo-Iranian generalized the zero grade of the root in most *u*-stem adjectives and preserved only the suffixal ablaut, the reconstruction of a regular PD paradigm for the proto-language is widely accepted (cf. Meissner 2006: 35, Clackson 2007: 112, Beekes 2011: 221).[282] Evidence for the presence of an *e*-grade root in the PIE paradigm has been preserved in various different daughter languages:

- Lat. *brevis* 'short' < **mreǵ^{h}wi-* << **mréǵ^{h}-u-*
- Lat. *gravis* 'heavy, important' < **g^{w}reh$_2$-wi-* << **g^{w}réh$_2$-u-* (Greek βαρύς and Ved. *gurú-*, Av. *gouru-* point to **g^{w}rH-u-*)[283]
- Arm. *mełk* 'soft' < **meldwi-* << PIE **méld-u-* (Lat. *mollis* is ambiguous between zero grade and full grade; zero grade in Ved. *mṛdú-* 'soft, weak', etc.)
- Hitt. *tēpu-* 'little, few' < **d^{h}éb^{h}-u-*
- Hitt. *daššu-* 'well-nourished, heavy, strong, etc.' < **déns-u-* (**dn̥s-u-* can be excluded, cf. Kloekhorst, *EDHIL* q.v.).

Greek also provides evidence for the presence of an original *e*-grade within the paradigm. The difference between δασύς and δαυλός can only be explained if we depart from an ablauting *u*-stem adjective **déns-u-*, **dn̥s-éw-* (section 9.1). Willi (2002) convincingly compared εὐθύς 'straight at' (also Hom. ἰθύς 'id.' < **eit^{h}u-* < PGr. **i̯eut^{h}u-* by dissimilation) with Lith. *judùs* 'belligerent'.[284] He explains the full grade of εὐθύς (also presupposed by ἰθύς) by assuming that it replaced the regular outcome **ὐθύς < **(H)iud^{h}-u-* on euphonic grounds. It is much easier, however, to depart from an ablauting paradigm PIE **(H)ieud^{h}-u-*, **(H)iud^{h}-eu-*.[285] Since the verbal root **(H)ieud^{h}-* is unattested in Greek, it is unlikely that the full grade was secondarily introduced.[286]

In one instance, all IE languages agree in having a full grade root: **sueh$_2$d-u-* 'agreeable, sweet, savory', continued in Gr. ἡδύς, Ved. *svādú-*, Lat. *suāvis*, OE *swōt*, etc.[287] In this case, there was a clear motive for generalizing the full grade: after the loss of laryngeals, the outcome of the zero grade **suh$_2$d-* was **sūd-* in most languages, which yielded an anomalous kind of ablaut. As de Lamberterie (1990: 38) points out, influence of verbal forms on the adjective must always be reckoned with. For instance, Lith. *platùs* 'extended' beside *iš-plečiù* 'I stretch out' follows the model of e.g. *badùs* 'sharp' : *bedù* 'I sting'. In other words, Lith. *platùs* does not allow us to reconstruct an *o*-grade root allomorph in the PIE paradigm. Similarly, one may think that ἡδύς was influenced by the verb ἥδομαι 'to be pleased, enjoy oneself'. But this explanation is not very likely for most cognates of ἡδύς, because a corresponding primary verb is absent in many cases. This makes **sueh$_2$d-u-* another probable piece of evidence for root ablaut in the *u*-stem adjectives.

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[282] A different view is taken by de Lamberterie (1990, e.g. 953), who argues that the full grade root of certain *u*-stem adjectives was introduced from a coexisting verbal root with full grade forms. Meier-Brügger (2010: 354) does not take a stance on the original paradigm, and Fortson (2010) does not comment on it at all.

[283] On Lat. *gravis*, see Fischer (1982).

[284] The intermediary stage **eit^{h}u-* is attested in the derivative ειθυ[νη]ν 'fine' (Chios, 5th c.), Willi (2002: 129).

[285] Willi compares εὐρύς 'broad', which would have replaced **ὐρύς by the same euphonic principle. But εὐρύς is a notoriously problematic form, and this assumption is unnecessary for εὐθύς because a preservation of the root ablaut immediately solves the problem.

[286] As argued by Willi, the adjective **(H)ieud^{h}-u-* was formed to the root **(H)ieud^{h}-* 'to go straight at', reflected in Ved. *yudh-* 'to fight', Lat. *iubeō* 'to order' (OLat. *ioubēre* 'to sanction'), Lith. *jùsti* 'to get moving', *judéti* 'to be agile, stir (intr.)'. The correctness of this identification is proven by Homeric phraseology: ἰθύς μάχεσθαι.

[287] The reconstruction and morphological analysis of Hom. ὠκύς, Ved. *āśú-* 'swift' are not ascertained.

In general, the isolated instances of an *e*-grade root in a *u*-stem adjective (such as Lat. *brevis*) are too numerous to doubt the reconstruction of a proterodynamic paradigm for PIE. Although such an ablauting paradigm has not been preserved intact in any IE language, there are compelling reasons to assume that the *u*-stem adjectives retained their original PD ablaut in prehistoric Greek. The case of δασύς has just been mentioned. In this chapter, I will argue that traces of such ablaut are to be recognized in Greek adjectives like βραχύς, because this is the only way to explain the aberrant vocalization of ταρφύς 'frequent'. Taking βραχύς as an example, I depart from the following PGr. paradigm:

m.	Ns. **mrék^{h}u-s*	n.	NAs. **mrék^{h}u*
	Gs. **mr̥k^{h}éw-os*		
	Np. **mr̥k^{h}éw-es*		Np. **mr̥k^{h}éw-a*

The distribution between strong and weak stems in the masculine and neuter gender recalls that of msc. Ns. πολύς, As. πολύν, ntr. NAs. πολύ (beside two different oblique stems) and msc. Ns. μέγας, As. μέγαν, ntr. NAs. μέγα (beside μεγαλ-). All the plural forms (e.g. Np. **mr̥k^{h}éw-es*) had the weak stem of the oblique singular in Proto-Greek (and perhaps already in PIE).

The Greek feminine may also contain unexpected traces of *e*-grade root vocalism. Most scholars reconstruct a separate feminine formation for the proto-language.[288] However, there are several indications that the motional forms were first created in the separate daughter languages. First, Greek and Indo-Iranian form their motional feminine in different ways. Greek normally added the ablauting suffix N. **-i̯a*, G. **-i̯ās* to the oblique stem of the non-feminine gender (with the suffix allomorph **-ew-*). Indo-Iranian, on the other hand, builds the feminine on the synchronic stem of the NAs. msc. and ntr. (e.g. Ved. *urúḥ* → *urvī́-*, or earlier PIIr. **prHú-* > → **prHu-iH-*, cf. Ved. *purú-*, fem. *pūrvī́-* with a reflex of the laryngeal). Moreover, *u*-stem adjectives of two endings are attested in Germanic (Goth. *handus … þaursus* 'dry hand', *Luke* 6.6) and Baltic (Old Lith. *platus žeme*, vs. Modern Lith. *platì žẽmė* 'wide earth'), that is, in the oldest attested phases of both branches.[289] Homeric Greek also has motionless feminine forms like θῆλυς 'female' and πολύς 'much' that have been plausibly analyzed as retained archaisms (cf. the material in Chantraine 1942: 252-4).[290]

The oldest situation of the feminine in Greek is hard to reconstruct with certainty, but the following scenario seems plausible to me. The preservation of an anomalous accentuation in Homeric θάλεια 'abundant', λίγεια 'sonorous', and λάχεια 'hairy, wooded', adjectives of which no corresponding masculine forms remain, shows that the fem. singular originally had root accent.[291] The accentual type of Classical βαρεῖα may be due to a paradigmatic levelling

[288] Meier-Brügger (2010: 354, cf. also Sihler 1995: 350) discusses two possibilities for the formation of the feminine. On the combined basis of Greek and Indo-Iranian, one could assume that the original ablaut was **-éu-ih$_2$* : **-u-iéh_2-*. Both branches would have generalized one ablaut form of the suffix. On the other hand, one could assume that the Vedic situation is older if one accepts that a trace of it is preserved in the Greek toponym Πλάταια, Πλαταιαί, if this is reconstructed as **pl̥th$_2$-u̯-i̯(e)h$_2$-*. This second option is preferred by de Lamberterie (1990: 243-6). In my view, the assumed reconstruction of Πλάταια with a zero grade suffix is problematic, because I would expect such a form to vocalize in Greek as **pl̥th$_2$u-i̯(e)h$_2$- > *platu(i̯)a*, **platu(i̯)ā-*.

[289] These examples were taken from de Lamberterie (1990: 886).

[290] A different analysis of the feminines θῆλυς and πολύς is given by de Lamberterie (l.c.).

[291] Of the three forms mentioned, only λίγεια appears in post-Homeric poetry (but not in prose); the by-form λιγυρός is not normal in prose either. It seems plausible that these forms escaped accentual levelling because they had ceased to be current in the Ionic-Attic vernacular. A different analysis is given by de Lamberterie (1990: 645). He departs from an older stage *θαλειά (with accent on the ending, like Ved. Ns.f. *svādvī́*), and assumes that *θαλεῖα, *λαχεῖα, *λιγεῖα were replaced by the barytone forms after PNs with retracted accent. Although Θάλεια is attested as the name of a Muse, and Λίγεια as the name of a Siren, the assumed influence of

induced by the masculine oblique stem. In the feminine plural, traces of an older accentuation are preserved in Hom. ταρφειαί and θαμειαί, both 'frequent'. Since these adjectives have lost their singular forms, their accentuation must reflect a more original situation.[292]

Taking θάλεια as an example, the masculine paradigm *d^{h}élh$_1$-u-, *d^{h}lh$_1$-éu- > PGr. *t^{h}élu-, *t^{h}aléw- would have been levelled to *t^{h}álu-, *t^{h}aléw-, and then to *t^{h}alú-, *t^{h}aléw- with columnization of the accent.[293] The feminine can be mechanically reconstructed as *t^{h}álew-i̯a, *t^{h}alew-i̯ā́s, but its accentual peculiarities can only be explained if the Ns. *t^{h}álew-i̯a was based on the masculine strong stem *t^{h}álu- (or its earlier form *t^{h}élu-). This could imply that the original form of the feminine paradigm was Ns. *t^{h}álu-i̯a, Gs. *t^{h}alew-i̯ā́s, and that it was created by adding the motional endings directly to the masculine *stem*-forms.[294] This paradigm was then levelled out to *t^{h}álew-i̯a, *t^{h}alew-i̯ā́s, the situation presupposed by Homeric accentual relic forms like θάλεια and θαμειαί.

In conclusion, I posit the following paradigm before the levelings which took place due to the vocalization of *r̥:

m.	Ns. *mrék^{h}us	n.	NAs. *mrék^{h}u	f.	Ns. *mrék^{h}ewi̯a
	Gs. *mr̥k^{h}éwos				Gs. *mr̥k^{h}ewi̯ā́s
	Np. *mr̥k^{h}éwes		Np. *mr̥k^{h}éwa		Np. *mr̥k^{h}ewi̯ái

4.1.2. Adjectives in *-ró-*

The *ró*-adjective (for the Homeric material, see Risch 1974: 68f.) presents no problems: as a thematic formation, it had no ablaut. The root was originally in the zero grade, as in μακρός 'tall, long' < *mh$_2$ḱ-ró- beside μήκιστος 'longest', ἐρυθρός 'red' < *h$_1$rud^{h}-ró- beside ἐρεύθω 'to redden, make red'. This fact may have helped the generalization of the zero grade root allomorph in the *u*-stem adjectives.

It may occur that one language has an adjective in *-ró-* when another language shows a formation in *-u-*: e.g. Hitt. *tēpu-* 'small, little' ~ Ved. *dabhrá-* 'id.', Hitt. *dašš̆u-* 'strong' ~ Ved. *dasrá-*, Av. *daŋra-* 'artful, skilled'. In some cases, both formations are attested in the same language, as in ἐλαφρός 'nimble', OHG. *lungar* 'fast, cheerful' ~ ἐλαχύς 'small', Ved. *raghú-* 'fast'. The original distribution between these formations is unknown; it has been suggested that there was a tendency to avoid *-u-* when the root also contained this phoneme. This would explain cases like ἐρυθρός, λυγρός, ὑγρός, but is not without exceptions: εὐθύς

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personal names on the Homeric text seems problematic to me, because the accentual opposition between proper names and appellatives remained productive.

[292] Again, Hom. and Class. βαρεῖαι may have taken over the accentuation of the masculine forms. Note that θήλειαι 'female' generalized the root accent of the singular forms θῆλυς, θήλεια. Since θήλεια was created on the basis of θῆλυς, it could show that the base form of the root-accented feminine singular was the root-accented strong stem of the masculine. But this example has its own problems, because θῆλυς may in origin have been a substantive, like its counterpart ἄρσην 'male'.

[293] For the reconstruction of this root, see Hackstein (2002: 221).

[294] It is remarkable that the suffix *-i̯ā́s* apparently attracted the accent from the suffix *-éw-*. Since this suffix was originally unaccented in the feminine forms, one could also assume that it was introduced from the masculine in all case forms. If so, the oldest fem. paradigm may have been Ns. *t^{h}ér̥p^{h}-u-i̯a, Gs. *t^{h}r̥p^{h}-u-i̯ā́s. This situation could be indirectly reflected in ἄγυια 'road', Gs. ἀγυιῆς, Np. ἀγυιαί, and ὄργυια 'fathom', Gs. ὀργυιῆς, Np. ὀργυιαί. As de Lamberterie (1990: 724-5) has shown, the latter is a remnant of an old syntagm PGr. *órgui̯a k^{h}éh$_2$r̥ 'outstretched hand', which contained the feminine of the *u*-stem adjective. The geminated *-i̯i̯- underlying the normal form ὄργυια (Hom.+; Att. inscr. οργυα, G. οργυας is due to a later development *ui̯i̯a > ūa) must then be due to secondary influence of another formation, perhaps the motional feminine of the perfect ptc. in -υῖα. In other words, the relic forms ἄγυια, ὄργυια were levelled out in a different way from the feminine of *u*-stem adjectives, presumably because they could not be influenced by masculine forms with *-éw-*. It may be thought, finally, that the "epenthetic vowel" of the As. ὀρόγυιαν (Pi. *Pyth*. 4.228, cf. πόδες ἐπτορόγυιοι Sapph. fr. 110a, ἑκατοντορόγυιον Ar. *Av*. 1131) is a remnant of a more original paradigm Ns. msc. *orég-u-s, Gs. *org-éw-os*.

'straight at' and Lith. *judùs* 'belligerent' derive from PIE **(H)ieud^h-u-*, and *-ró-* also occurs in roots which did not contain *-u-*, such as μακρός < **mh$_2$ḱ-ró-* 'tall'.

4.1.3. Primary comparatives and superlatives

According to the *communis opinio*, primary comparatives had a full grade root in PIE (with ablaut in the suffix), but the primary superlative had a zero grade root. This doctrine is found in Meier-Brügger (1992a: 84, less explicitly 2010: 357-58), Rix (1992: 168), Chantraine (1961: 109-10), and had been canonicized already in Schwyzer's *Griechische Grammatik*:

"Die Wurzel hatte ursprünglich bei den Komparativen mit -ίων Starkstufe, bei den Superlativen auf -ιστος Schwachstufe, z.B. κρατύς, κρέσσων (wie κρέτος) κράτιστος (…). Doch zeigen die Superlative schon früh auch Starkstufe und Anfangsakzent: φέριστος (…); umgekehrt wurden die Komparative früh dem Superlativ bzw. Positiv angeglichen, z.B. dor. κάρρων kret. κάρτων statt κρέσσων nach κάρτιστος; μάσσων wie μακρός trotz μήκιστος μῆκος (…)" (Schwyzer 1939: 538).

In Schwyzer's view, the difference between κρέσσων and κράτιστος proves an original difference in root ablaut between the PIE comparative and superlative. At the same time, he assumes that in many cases, the superlative acquired the *e*-grade root of the comparative at an early date.[295] In fact, this reconstruction of the PIE situation is based mainly on κρέσσων : κράτιστος, which is the only example of its kind in Greek. Furthermore, there is no convincing evidence for the assumed pattern in Vedic, where both the comparative and the superlative regularly have an *e*-grade root.[296] Beside κρέσσων : κράτιστος, Greek has one other example of an ablaut difference between comparative and superlative: μήκιστος 'longest' beside μακρός, μάσσων.[297] It is possible that μάσσων was influenced by the vocalism of the positive μακρός, and that it replaces an older **māḵi̯ōn* or its outcome. Following Brugmann, Seiler (1950: 75-6) assumed that μήκιστος was influenced by the *s*-stem substantive μῆκος. Since this is hardly conceivable, μήκιστος also proves that the root of the superlative originally had full grade.[298] The same applies to κερδίων, κέρδιστος, where the positive has been replaced by κερδαλέος, and πλείων, πλεῖστος < **pléh$_1$-ios-*, **pléh$_1$-istHo-* beside πολύς. These full grades were preserved because the positive did not have a zero grade when the levelling of root allomorphs took place. On the other hand, the zero grade root

[295] In Ruijgh's view (1992: 91 n. 50) the supposed leveling of ablaut grades started in cases like comp. **h$_2$er-ios-* : superl. **h$_2$r-is-tHo-* > PGr. **ar̥ios-*, **aristo-*.

[296] A review of these issues and the history of early research is found in Seiler (1950: 21-2), but he does not reach any significant conclusion. The idea that the PIE superlative had a zero grade root is based on Osthoff (*Morph. Unt.* 6: 70ff.), who pointed at the oxytone accentuation of a few Vedic superlatives (*kaniṣṭhá-* 'youngest', *daviṣṭhám* 'far away', etc.). In Classical Sanskrit, such forms are lost or replaced by root-accented forms. However, the final accent of these superlatives is not necessarily connected with their root vocalism: even if the suffix was accented (PIE *-tHó-*), the root may have had a full grade, because the superlative pre-form **CeC-is-tHo-* (or **-mHo-*) may have been derived from the weak stem of the comparative. The latter must be reconstructed as **CeC-is-* (cf. Goth. *mais* 'more' < **meh$_2$-is-*).

[297] The Attic pairing of a comparative ὀλείζων beside a superlative ὀλίγιστος looks old, but given that Homer has ὀλίζων, Attic ὀλείζων must rather be analyzed as secondary influenced by its counterpart μείζων, which itself replaces older μέζων.

[298] Seiler's assumption is both problematic and unnecessary. The problem is that a replacement of *μάκιστος by μήκιστος would not only distantiate the superlative from comparative μάσσων and positive μακρός, but also entail a change in metrical structure. A replacement of **māḵi̯ōn* by **maḵi̯ōn* must be preferred, because it did not lead to a change in metrical structure, and because influence of the vocalism of the positive on that of the comparative is well-paralleled. It is possible, of course, that the existence of μῆκος helped to preserve the superlative μήκιστος against the pressure of μακρός, μάσσων.

vocalism of forms like βάθιστος, τάχιστος must have been influenced by that of the positive.[299]

Now turning to the primary comparative, its PIE pre-form used to be reconstructed with an accented, non-ablauting *e*-grade root ("Niemand bestreitet dies", Seiler 1950: 21). In the last few decades, however, this has been contested by Beekes (e.g. 2011: 198), who reconstructs the oldest paradigm as hysterodynamic **CéC-iōs, C(e)C-iés-m, *C(e)C-is-ós*. Indeed, an *e*-grade suffix in the accusative could be invoked to explain Lithuanian comparatives of the type *gerèsnis* 'better' (*gẽras* 'good'); moreover, Lat. *māiestās* 'power' is supposed to derive from earlier **mag-i̯es-tāt-* "the fact of being bigger".[300] But this does not yet prove that the *root* ablaut had been retained in Proto-Indo-European. At any rate, for the purpose of Greek we may depart from a late PIE paradigm **CéC-iōs, -ios-m, -is-os*, with a non-ablauting root and HD ablaut in the suffix.

In conclusion, the pre-forms underlying the Greek primary comparative and superlative can be reconstructed as comp. **CéC-i̯os-*, superl. **CéC-is-tHo-*, as was proposed already by Meillet and Brugmann.[301] This situation is preserved in Vedic and Avestan (e.g. Ved. *ugrá-* 'strong' : *ójīyas-*, *ójiṣṭha-*; *yúvan-* 'young' : *yáviṣṭha-*), and also reflected in a number of Germanic paradigms (the preserved reflexes of Verner's Law in e.g. Goth. *juggs* 'young' ~ comp. *juhiza* < PGm **i̯ungá-* beside **i̯únh-is-*).

A final remark on a few cases of apparent *Schwebeablaut* between the positive and the forms of comparison. While πλείων, πλεῖστος < **pléh₁-ios-*, **pléh₁-is-tHo-* require the same full grade **pleh₁-* as the verb (Lat. *-plēre*, Ved. pf. *paprau*, and Hom. πλήθω unless this is from a zero grade), the positive shows a full grade **pelh₁-* / **polh₁-* in Gr. πολύ and Goth. *filu* 'much'. A second case is Lat. *gravis* which, since Fischer (1982), is mostly taken to reflect a Ns. **g^{w}reh₂-u-s* > PIt. *graus*, which was subsequently remade into an *i*-stem *gravis*. This full grade is also found in the related word for 'pressing stone', Ved. *grā́van-* < **g^{w}réH-uon-*, but a different vowel slot is found in the comp. Ved. *gárīyas-* < **g^{w}érH-ios-*. The existence of cases like **g^{w}reh₂-u-* / **g^{w}erh₂-is-* might suggest that *u*-stem adjectives could have a different full grade slot as compared with cognate formations. But since the ablaut of *u*-stem adjectives and forms of comparison in Greek can be explained without invoking Schwebeablaut, I leave this theoretical possibility aside.

4.1.4. Compounding first members

According to Caland's original formulation of his Law, forms in *-i-* were obligatory substitutes for adjectival formations in *-ró-* whenever these occurred as the first member of a compound. Well-known examples from Avestan are *dərəzra-* 'firm' beside *dərəzi-raθa-* 'having a firm chariot', *xruui-dru-* 'having a bloody weapon' beside *xrūra-* 'bloody'. In principle, these forms in *-i-* take the zero grade of the root. Only a few examples have been preserved in Greek, and they are clearly residual forms. The productive way to form the first member of a possessive compound, already in Homeric Greek, is to use the stem of the adjective itself: cf. cases like κρατερόφρων, βαρύκτυπος. The most important examples of first members in *-i-* are the following (see Risch 1974: 219 for a few more uncertain items):

[299] As we will see in chapter 5, the Homeric use of κάρτιστος instead of the vernacular form κράτιστος can only be understood if its pre-form was **kretisto-*. This form was avoided for metrical reasons, and remained avoided after the replacement with *krat-*. If the pre-form would have been **kr̥tisto-*, this problem would not have existed.

[300] But it seems hard to exclude inner-Baltic explanations for the Lith. comparative with *-es-* (note that Slavic has *-ьs-*, continuing a zero grade **-is-*, and the Old Prussian forms go back on **-is-* too, cf. Stang 1966: 267-8). Rix (1976: 167) reconstructs a PD paradigm, but this does not explain the forms which reflect a zero grade suffix **-is-*: see Beekes (1985: 12-13).

[301] See Seiler (loc. cit.) for refs.

- ἀργικέραυνος (-αργής ‘bright’)
- δαΐφρων ‘clever’ (δήνεα ‘wiles’, ἀδηνής, πολυδήνης)
- θερσιεπής ‘speaking boldly’ (names in -θέρσης)
- καλλιγύναικα (περι-καλλής ‘beautiful’)
- Κρατι-, Καρτι- κρατερός ‘impetuous’, dialectal -κρετής
- κυδιάνειρα κυδρός ‘glorious’ (cf. -κυδής)
- λαθικηδής adv. λάθρη ‘secretly’
- πυκιμήδης (ἐχε-πευκής ‘having a sharp point’)

See also ἐρυσίπελας “red skin” (Hp.+), name of the skin disease *erysipelas*, and ἐρυσίβη ‘rust, red blight’ beside ἐρυθρός ‘red’.

In Homer, a direct relation with an adjective in *-*ró*- is found only in κυδιάνειρα : κυδρός ‘glorious’; relics of the historical situation may perhaps be seen in ἀργικέραυνος : ἀργός ‘bright’ (if this indeed dissimilated from **argró*-, a much-debated issue), λαθικηδής : λάθρη ‘secretly’, and δαΐφρων < **dn̥s-i*- beside Ved. *dasrá*- ‘capable, skilled’ < **dn̥s-ró*-. Risch therefore argued that the derivational association of *-i*- with other suffixes than *-ró*- (e.g. neuters in *-s*-) was a Greek innovation, due to the frequent association of such forms within the “Caland system”. In various unpublished works, Nussbaum took one further step and argued that *-*ró*- : *-*i*- need not be reconstructed for PIE either. Against this idea, it can be held that the isolated forms ἐρυσίπελας and ἐρυσίβη probably preserve a reflex of *h_1rud^h-*i*-, parallel to the inherited *ro*-adjective reflected in ἐρυθρός. In this context, the compounds with κραται- (also Κραται-, alternating with Κρατι-, Καρτι-) deserve attention. In chapter 5, I will argue that both κραται- and the names in Κρατι-, Καρτι- continue an inherited zero grade *$k\acute{r}th_1$-*i*-. At the same time, I propose that κρατερός ~ καρτερός is the regular outcome of PIE *$k\r{r}th_1$-*ró*-. This is, then, a new piece of evidence in favor of an old-fashioned “Lex Caland” that was operative in the Proto-language.

Whatever the PIE situation may have been, a number of Greek examples point at a derivational relation between first members in *-i*- and *s*-stem adjectives. The full grade first member of θερσιεπής was probably formed beside names and compounds in -θερσής (cf. Θερσίλοχος), πυκιμήδης stands beside adjectives in -πευκής, and καλλιγύναικα beside περι-καλλής. If we assume that Caland’s original Law is correct, it is possible that a case like ἀργικέραυνος : -αργής, where the *ró*-adjective had been lost, triggered the new pattern.

4.1.5. Adverbs in -α

The adverbs in -α are listed in Risch (1974: 363), and have been discussed by Ruijgh (1980). In Ruijgh’s analysis, they contain a zero grade root when inherited, or adopt the vocalism of the corresponding adjective (as in ὦκα). Only younger formations may have the full grade of a corresponding verbal root, such as Myc. *e-ne-ka* (Hom. εἵνεκα with metr. lengthening and secondary aspiration) beside the root of aor. ἐνεγκεῖν ‘to carry’, and compounds in -ηνεκής.

Among the material gathered by Risch, the following evidence is found for adverbs in -α that stand beside related adjectival formations:

- λίγα ‘loudly, with a shrill voice’ : λιγύς ‘sonorous’
- τάχα ‘quickly’ : ταχύς ‘fast’, θάσσων, τάχιστος
- πύκα ‘densely; frequently’ : πυκ(ι)νός ‘dense’ (cf. πυκι-, -πευκής)
- μάλα ‘very’ : μᾶλλον ‘more’, μάλιστα ‘most’
- ἦκα ‘softly, lightly’ : ἧσσων ‘worse’, ἥκιστος ‘least’, adv. ἥκιστα

It is clear that μάλα may have influenced the vocalism of μᾶλλον and μάλιστα, which could replace an older *e*-grade form in view of the comparison with Lat. *melior*.[302] But it is difficult to find more evidence for such influence among the other examples. In ταχύς, θάσσων, τάχιστος beside τάχα, it seems most likely that the influence came from the adjective, and it also seems that λίγα was formed after λιγύς. An important form, to which I will return in chapter 5, is κάρτα 'heavily, very' (beside κρατύς, κρείσσων, κράτιστος, but not attested in Homer).

4.1.6. *s*-stems nouns and adjectives

There are no clear traces of ablaut in the neuter *s*-stems in Greek. As is well known, Schindler (1975) assumed an original proterodynamic paradigm for the proto-language, with strong stem **CéC-s*, weak stem **CC-és-*. An *o*-vowel was then introduced into the suffix of the NAs., as well as in the Gs. ending. Still in the (late) proto-language, the accented full grade root would have been generalized in many individual *s*-stem neuters. This would yield the normal Indo-European type Ns. **CéC-os*, Gs. **CéC-es-os*. According to Stüber (2002: 19-20 and 201), Schindler's reconstruction could also explain the Vedic infinitives of the type *tujáse* if these continue an old *s*-stem dative **tug-és-ei* "for throwing".[303] Stüber (op. cit. 19) concludes that "für die Grundsprache ein intakter Wurzelablaut angenommen werden muss". She also argues that the NAs. form of the suffix was already **-os* everywhere in PIE (op. cit. 20-21). The last statement is controversial, in view of the reconstruct **ḱreu-h_2-s-* which most scholars suppose to underlie Ved. *kravíṣ-* 'raw flesh' and Gr. κρέας '(piece of) meat'.[304]

Important observations on the ablaut of the *s*-stems in Greek have been made by Meissner (2006). It has sometimes been argued that the side by side of *s*-stem variants like πάθος and πένθος 'suffering' can be explained by an older, PIE situation with root ablaut (refs. *apud* Meissner 2006: 72). However, Meissner convincingly shows (2006: 65ff.) how post-Homeric βάθος replaces Homeric βένθος, and how πάθος could appear at the side of the more archaic form πένθος only at a later stage. This formal analysis is corroborated by a semantic analysis of πάθος and βάθος, as opposed to πένθος and βένθος: the former two are recent deverbal (παθεῖν) and deadjectival (βαθύς) formations, respectively, whereas the latter two function as plain substantives. Thus, Greek πένθος and βένθος may simply reflect a Proto-Greek paradigm with non-ablauting root.

It must be emphasized that neuter *s*-stems could be synchronically created beside intransitive verbal roots. For instance, instead of deriving Goth. *hatis* 'hate', W. *cawdd* 'rage, grief' together with Gr. κῆδος from an inherited ablauting neuter **kéh$_2$d-os*, **kh$_2$d-és-*, κῆδος may have been created within Greek beside the verb κήδομαι 'to mourn, care for'. This would also explain the semantic divergence between Greek κῆδος and the *s*-stem forms in the other branches. Stüber (2002: 199-200) discusses this case together with two other examples: Indo-Iranian **várH-as-* beside **úrH-as-*, and the word for 'mouth' (Hitt. *aiš*, Gs. *iššaš*, Ved. Is. *āsáḥ*, Lat. *ōs*, OIr. *á*). But: "Damit ist allerdings die Zahl derjenigen neutralen *s*-Stämme, für die Wurzelablaut gesichert ist, auch schon erschöpft." The side-by-side of **várH-as-* and **úrH-as-* may well have an inner-Indo-Iranian explanation, and the reconstruction of the word

[302] This would answer the objection by de Vaan (*EDL* s.v. *melior*) that "the PIE etymology is weak, since Gr. μάλα shows no trace of an *e*-grade". His other objections, viz., that "the root is not attested in other derivatives", and that "Words for 'good' can have many origins, and are frequently renewed" are of course pertinent (though only for Latin, of course). It remains to indicate a plausible root for μάλα. In my view, **melh$_1$-* 'to crush, grind' is a good candidate; for further argumentation, see chapter 5.

[303] Himself, Schindler expressed his doubts about this interpretation of the Vedic infinitives, because they are not necessarily old neuter forms. See Stüber (l.c.).

[304] But it has been recently contested by Nikolaev (2010: 124-49), who discusses the entire evidence for Greek stems in -ας and arrives at the conclusion that **-s-* was originally used to derive singulatives from collectives. In this case, the older form would be a collective **ḱreu-h_2* 'blood, bloody stuff, raw meat'.

for ‘mouth’ is beset with difficulties (see Kloekhorst, *EDHIL* s.v. *aiš*). Even if the latter word preserves traces of original ablaut, it is quite conceivable that PIE eliminated all traces of root ablaut in the *s*-stem neuters, at least after Anatolian had branched off.[305]

In PIE, possessive *s*-stem compounds could be regularly derived from *s*-stem neuters. Well-known examples such as εὐ-μενής, δυσ-μενής ~ μένος, beside Ved. *su-mánas-*, *dur-mánas-* ~ *mánas* show that this procedure was inherited. Another example from Greek is πολυ-πενθής beside πένθος ‘suffering’ (both Hom.). The evidence suggests that the *s*-stem compound had a non-ablauting *e*-grade root, just like the simplex. But there are also compounds with a zero grade root, e.g. αἰνοπαθής ‘who has suffered terrible things’ (Hom.). As Tucker (1990) and Meissner (2006) have shown, the derivation of *s*-stem compounds from intransitive verbs was highly productive in Greek.[306] In such derivations, the second member of the *s*-stem compound naturally took the vocalism of the synchronic verbal stem: thus, αἰνοπαθής was derived from the aor. παθεῖν ‘to suffer, experience’. This is also the origin of forms with zero grade vocalism in the simplex: πάθος ‘experience’ came to be viewed as the regular neuter abstract formation beside παθεῖν ‘to experience’ and compounds like αἰνοπαθής. There is no reason, then, to assume root ablaut in the second member of *s*-stem compounds. In general, the derivational relation between *s*-stem neuters and adjectives has been overestimated in the evaluation of these Greek formations: a large number of *s*-stem adjectives derives from an intransitive verb.

4.2 Analogical restoration and replacement

Having reviewed the expected ablaut grades of the various Caland formations, we may now embark on a more detailed discussion of those forms that are of interest in the framework of the syllabic liquids. The main issue to be resolved in the remaining part of this chapter concerns the outcome of **r̥* in the *u*-stem adjectives (sections 4.3 to 4.5). But first, I will illustrate how the *a*-vocalism of the root spread through the entire Caland system (section 4.2.1), discuss examples of the general tendency in Homer to avoid and replace *u*-stem adjectives (section 4.2.2), and discuss the origin of denominative verbs of the types θαρσύνω and θαρσέω (section 4.2.3).

4.2.1 The spread of *a*-vocalism across Caland formations

As we have seen, not every form with -αρ- or -ρα- can be used as evidence for the outcome of **r̥*, because many of them contain a generalized *a*-vowel. The question to be answered in this section is from which form the *a*-vocalism started to proliferate in Ionic-Attic. Two important examples are κρέτος (Alc.), which was replaced by κράτος (Hom.+), and θέρσος (Alc. fr. 206.2), which was replaced by θάρσος (Hom.+) in the same way. The same replacement occurred in other derivations of these roots, such as the *s*-stem compounds and the stative verbs that derived from them (Tucker 1990: 54):

names in -κρέτης (Aeol., Arc.-Cypr.)	→ Ionic -κράτης, appellatives in -κρατής
names in -θέρσης (Hom.)	→ appellatives in -θαρσής (Hom.+)
κρέτησαι (Sapph. 20.5, Alc. 351)	→ κρατέω (Hom.+), ἐκράτησα (Class.)
θέρσεισ’ (Theoc. 28.3)	→ θαρσέω, θάρσησα (Hom.+).

[305] Beside the *s*-stem νέφος ‘cloud’ (OCS *nebo*, Hitt. *nēpiš*, Ved. *nábhas-*), forms like Ved. *ámbhas* ‘water’, Arm. *amb* ‘cloud’ have been interpreted as the outcome of a zero grade root **nb^h-* with a re-introduced nasal. However, since an ablauting root existed in PIE (cf. Ved. *abhrá-* ‘(thunder-)cloud’, Av. *aβra-* ‘rain-cloud’ < **nb^h-ró-*, Lat. *imber* ‘rain (shower)’ < **nb^h-ri-*), it is hard to prove that the root ablaut was originally found specifically in the *s*-stem paradigm.

[306] In fact, the derivation of *s*-stem compounds from intransitive verbal roots may have been regular already in PIE, cf. Rau (2009: 146-60).

Meissner (2006: 71) comments on this replacement as follows: "… of all words with full grade, only πένθος really remains in use while κρέτος, θέρσος, and βένθος seem to have disappeared from common Attic-Ionic usage at a very early stage, being replaced by the zero grade forms. The first consequence of this secondary emergence of the zero grade forms is that these cannot be considered reflexes of an old paradigmatic ablaut variation in the root. The motivation for this replacement is not hard to find. κρέτος, θέρσος, and βένθος are all abstract nouns and correspond to the *u*-stem adjectives κρατύς, θρασύς, and βαθύς that have generalized (in the positive) the zero grade. These adjectives can be conceived as the more 'basic' form and it is easy to accept Risch's suggestion[307] that the full grade was eliminated in favour of the zero grade under the pressure of the adjectives. In fact, what we see happening here is only the final stage of this regularization for in a number of cases this change was already complete at the time of our earliest attestations (cf. among others παχύς : πάχος, ταχύς : τάχος). Moreover, the trend is [almost] universally towards the vocalism of the adjective."

It is generally agreed that the root vocalism of *s*-stem neuters must have been influenced by that of *u*-stem adjectives. Not only may the adjectives be considered as more basic than adjectival abstract nouns, it also seems difficult to indicate another source of the *a*-vocalism in most cases.[308] Meissner observes that πένθος could be preserved in Homer (and even later) because it was not accompanied by an adjective. It was eventually replaced by πάθος, but first after Homer, and only under the influence of the aorist stem παθε/ο-. From this fact, he concludes: "The old suggestion that πάθος owes its existence to an ablauting paradigm *πένθος, gen. *πᾰθέσος is hardly tenable." (2006: 72). Another crucial example is κερδαλέος 'wily', κερδίων, κέρδιστος, where the *u*-stem adjective was eliminated so early from Proto-Ionic that it could not influence the root vocalism of the other forms anymore. The (presumably older) *u*-stem adjective is only preserved in the gloss κορδύς (Hsch.), of non-Ionic origin.

Which forms were the first to be conquered by the zero grade of the *u*-stem adjective? In my view, other adjectival forms must have been the first victims. A pair like βαθύς : βάθιστος is illustrative. While the pre-form *βένθιστος of the superlative has apparently been replaced already in Homer, the neuter βένθος was preserved. This may be due to its occurrence in formulaic material (e.g. |B βένθεσι λίμνης, see Meissner 2006: 65-6). The neuter βάθος is first encountered after Homer. Not only the primary forms of comparison, but also a number of adjectives in -αλέος must have acquired the vocalism of the *u*-stem adjective early on: see section 4.2.2 below on θαρσαλέος, ἁρπαλέος, and similar forms.

The replacement in *s*-stems neuters like κράτος may have been preceded by the same replacement in the *s*-stem adjective (-κρατής). Such compounds may have been influenced by the *u*-stem adjective on the model of existing pairs like βαρύς : οἰνο-βαρής and ὠκύς : ποδ-ώκης. The *s*-stem simplex was replaced only as a second step. Indeed, *s*-stem compounds are attested in all four cases where an *s*-stem simplex is also affected by the replacement:[309]

πλατύς	-πλατής	πλάτος
κρατύς	-κρατής	κράτος
(θαρσαλέος)	-θαρσής	θάρσος
(ταρβαλέος)	-ταρβής	τάρβος

[307] In fact, Risch did not conclude, as Meissner formulates it, "that the full grade was eliminated in favour of the zero grade under the pressure of the adjectives". He merely gives a list (1974: 78-9) of generalized ablaut grades in Caland forms, irrespective of whether the old full grade or zero grade has been generalized.

[308] The adverb in -α may have played a role in μάλα : μᾶλλον : μάλιστα, but the case is isolated because we only have adverbial forms here (see section 4.1.5).

[309] On the possibility that θαρσαλέος replaced *θαρσύς, and on its opposite ταρβαλέος (for *ταρβύς), see later in this section. The form θρασύς 'bold' no longer belonged to the paradigm of θαρσ- 'to persevere, be confident or courageous', and therefore cannot be the source of the *a*-vocalism in forms like θαρσέω. See section 4.5.

A fifth case of *a*-replacement is thought to be θάμβος, -θαμβής (Tucker 1990, Barton 1993), but it is not certain that this root ever had forms with *e*-vocalism.[310]

The inclusion of ταρβ- in this list requires some comments. The forms τάρβος 'fear, fright', ἀταρβής 'fearless', and ταρβέω 'to fear' are best derived from the PIE verbal root **terg^{w}*-: epic Skt. *tarjati* 'to threaten' (active morphology, hence causative semantics), Lat. *torvus* 'grim', and perhaps Hitt. *tarkuu̯ant-* 'looking angrily'.[311] Beekes (*EDG* s.v. ταρβέω) objects to the etymology that "it is difficult to explain the element ταρβ- from the proposed IE forms, as a zero grade would give *τραβ-." But as Tucker remarks (1990: 42-3), τάρβος may be a remodeling of *τέρβος, and the vocalism of the derivatives is identical to that of the *s*-stem.[312] But why was the *a*-vocalism introduced? Following Meissner's hypothesis that the original locus for the spread of *a*-vocalism was the *u*-stem adjective, it may be deduced that beside ἀταρβής 'fearless' there was a positive **terg^{w}-u-*, **tr̥g^{w}-ew-* that had already been eliminated before our earliest Greek texts. The outcome of such a paradigm would have been a form *ταρβύς with generalized *a*-vocalism. In fact, an adjective ταρβαλέος is attested in the Homeric hymn to Hermes (*h. Herm.* 165) and in Sophocles (*Tr.* 957). It is quite possible that this form is secondary after θαρσαλέος, its opposite. Whether ταρβαλέος was an entirely novel creation or not is difficult to say; it seems more likely that it replaced an older form *ταρβύς, because that form would be the most straightforward source of the *a*-vocalism in τάρβος, ἀταρβής.[313]

The *s*-stem forms in the above scheme cannot be used as evidence for the regular development of the syllabic liquids. The same goes for the stative verbs, which were regularly derived from *s*-stem adjectives (Tucker 1990, esp. pp. 57-63). Before treating the evidence for the *u*-stem adjectives, let us first discuss two categories of thematic stems by which they were replaced: adjectives in -ερός and in -αλέος. Once we will have established the derivational

[310] Tucker (1990: 42-3) proposes to derive θαμβέω, θαμβῆσαι 'to be struck with amazement' from an *s*-stem noun or adjective. She does so on the basis of the root vocalism of θαμβ-, which cannot represent the development of a syllabic nasal (assumed for the aor. ptc. ταφών 'astonished'), but in her view must be analogical for *θεμβ-. A problem with θαμβέω, θαμβῆσαι is that its etymology is uncertain. Szemerényi (1954) argued that the entire group of θαμβέω, ταφών, τέθηπα 'to be stupefied' should be compared with PGm. **dumba-* (Goth. *dumbs* 'mute'). Later discussions (Barton 1993, Hackstein 2002: 237-8) have tried to explain the difference between θαμβ- (with internal nasal) and θηπ- (with long vowel), but they are based on the assumption that Szemerényi's etymology is correct. This is improbable, because it requires that Greek -μβ- derives from PIE **-mb^{h}-*. This is hardly possible in view of ὀμφαλός 'navel, centre, hub' < PIE **h$_3$nb^{h}-l-ó-*. The inclusion of τέθηπα would further require the operation of "Reverse Grassmann's Law", which is a highly doubtful concept. Beekes (*EDG* s.v.) convincingly argues that θαμβ-, ταφ- and θηπ- can be understood in the framework of Pre-Greek: interchanges between stops and prenasalization are common characteristics of substrate words. For these reasons, I would not base any theory about the derivational history of statives in -έω on θαμβέω, θαμβῆσαι.

[311] Hitt. *tarkuu̯ant-* may alternatively be derived from **drḱ-uent-*, cf. Hom. ὑπόδρα. The comparison of Middle Welsh *tarfu* 'to disturb, trouble, scare' with ταρβ- is not without problems either (cf. Matasović, *EDPC* q.v.).

[312] According to Stüber (2002: 47-8), it is possible that "ταρβέω auf einen Essiv zu dieser Wurzel zurückgeht, und der Aorist τάρβησεν entsprechend auf einen Fientiv, oder dass zumindest eine dieser Bildungen ererbt ist, die andere dazu neu gebildet. Andererseits ist auch nicht auszuschliessen, dass τάρβος primär ist, und dass das Verbum vom Hinterglied ˚ταρβής abgeleitet ist (so LIV^{2} 632, Anm. 1). Für die erste Lösung spricht allerdings der Wurzelablaut aller dieser Formen, da Nullstufe für Fientiv und Essiv regulär ist, nicht hingegen für *s*-Stämme." In other words, if we assume (with the *LIV*^{2}) only a primary *s*-stem neuter, we cannot account for the generalized zero grade reflex -αρ-. On the other hand, as appears from Tucker's discussion (1990), there is hardly any evidence for inherited -ησ- formations in Greek. Even if the suffix may have been inherited (cf. Hitt. *-ēšš-*), most stative verbs in -ησ- have been formed beside *s*-stem compounds, following a process that became productive within Greek. Neither the discussion in the *LIV*^{2} nor Stüber reckons with the possibility, suggested by Tucker, that τάρβος replaces an older form *τέρβος, just like κράτος for κρέτος, after an older positive adjective.

[313] It would perhaps be possible to argue that ταρβέω 'to fear' replaced older *τερβέω, with the *a*-vocalism of its opposite θαρσέω 'to persevere, be courageous'. On ταρβαλέος, cf. *DELG* (s.v. ταρβέω): "la forme pourrait être ancienne".

prehistory of these forms, we will be in a better position to judge their pertinence for the vocalization of *$r̥$.

4.2.2 The avoidance and replacement of *u*-stem adjectives in Homer

The *u*-stem adjectives are improductive in general in Alphabetic Greek, and even seem to be a recessive category in Homeric Greek. For instance, the inherited form βραχύς 'short' is unattested in Homer, who uses e.g. σμικρός and ὀλίγος instead. In place of an expected *u*-stem adjective, we often find adjectives in -ερός in forms with a light root syllable, and adjectives in -αλέος in forms with with a heavy root syllable. Most of the replacements by -ερό- and -αλέος are found only in Epic Greek or as incidental epicisms in Classical poetry, and did not take place in the Ionic-Attic vernacular. This suggests that the main motivation behind the concrete replacements was metrical. Another reason for the decline of the *u*-stem adjectives may have been their merger, in a number of case forms, with the *s*-stem neuters after the loss of intervocalic digamma. This could explain why only a relatively small number of them were preserved in spoken Classical Greek.[314]

Starting with the adjectives in -ερό-, the most frequent token is καρτερός, κρατερός 'vehement, steadfast, etc.' beside the relic form κρατύς. Somewhat less frequent are γλυκύς 'sweet, pleasant' and its by-form γλυκερός.[315] It is not difficult to deduce the original distribution of the latter pair from the Epic Greek evidence. Of the positive γλυκύς, only forms of the strong stem are found in Homer: Ns. msc. γλυκύς, As. γλυκύν, and NAs. ntr. γλυκύ.[316] In Classical prose there is no trace of γλυκερός; the only current form is γλυκύς. Since the poetic variant γλυκερός is only found in dactylic and anapestic metres, its origin must be sought within Epic Greek. There, the creation of γλυκερός was favored by metrical considerations. The feminine forms of γλυκύς, and also the oblique forms of the masculine and neuter, are not attested in Homer. This is clearly related to the avoidance of *muta cum liquida* scansion (see section 6.5), which would have to be applied in order to fit γλυκεῖα into the hexameter. The feminine forms were therefore supplied from a newly created stem γλυκερός, which was analogical after the inherited pair κρατερός : κρατύς.[317] The productive artificial form γλυκερός could then also be used in forms of the masculine and neuter.

As will become clear in section 5.3.2, it is unnecessary to assume two different Caland suffixes -ρό- and -ερό-, because the latter may have originated in the outcome of *$k\acute{r̥}th_1$-*ró*- and subsequently been reinterpreted as an independent suffix. The regular outcome of *$k\acute{r̥}th_1$-*ró*- is καρτερός, whereas κρατερός must have introduced an analogical zero grade. The point of departure for the subsequent extension of adjectives in -ερός in Homer must have been precisely the pair κρατερός : κρατύς. Beside γλυκύς : γλυκερός, it also induced the creation of θαλερός 'abundant' beside the relic *u*-stem form θάλεια. In other words, θαλερός was probably an inner-Epic analogical creation and cannot be directly equated with Arm. *dalar* 'green, fresh'.[318] On the other hand, τραφερός 'thick, solid' was not created beside the adjective ταρφύς (which has a different vowel slot), but is better derived from *s*-stem

[314] In the Classical Attic vernacular, only the following 14 *u*-stem adjectives remain current: βαθύς, βαρύς, βραδύς, βραχύς, δασύς, δριμύς, εὐρύς, εὐθύς, θρασύς, παχύς, πλατύς, πραΰς, ταχύς, τραχύς.

[315] As de Lamberterie (1990: 470) shows, it is doubtful that there was a semantic difference between γλυκύς and γλυκερός.

[316] A comparative γλυκίων is also found (5x Hom.), but it must be a recent creation (note the zero grade root together with the unexpected Sievers reflex). The outcome of the expected form *$gleuk̟ioh$- would be metrically awkward in Homer, because it could only be used in verse-initial position in view of the various caesuras and bridges.

[317] See chapter 5 for the etymology and reconstruction of κρατερός.

[318] The often-assumed direct correspondence between θαλερός and Arm. *dalar* is rightly criticized by Clackson (1994: 118-20), the main objection being that *dalar* cannot be derived from a form with *-*ero*-.

compounds in -τρεφής (see below). Finally, it seems possible that μαλερός 'vehement' (Hom.+) was created as an adjective corresponding to the adverb μάλα, μᾶλλον, μάλιστα.[319]

Let us now consider the replacement of *u*-stem adjectives by forms in -αλέος. It is generally accepted that adjectives in -αλέος could be synchronically created beside *s*-stem substantives.[320] In Homer, we find examples like κέρδος 'ruse, profit' beside κερδαλέος 'wily', κάρφος 'drought' beside καρφαλέος 'dry'. Although the ultimate derivational origin and the precise reconstruction of -αλέος remain obscure, it may be suspected that the oldest instances of the suffix are κερδαλέος and θαρσαλέος, because only these forms are normal in Classical prose.[321] Synchronically, a number of Homeric adjectives in -αλέος have taken the place of *u*-stem adjectives that would be expected on various grounds.[322] For instance, a reflexes *καρδύς is lacking in Early Greek Epic, but the gloss κορδύς (Hsch.), clearly of non-Ionic origin, suggests that this formation existed in an earlier phase of Greek.[323]

As with -ερό-, the reason for the proliferation of -αλέος in Epic Greek must have been its metrical convenience. Consider the case of θαρσαλέος 'confident' (16x Hom., also found in Classical Greek). In Homer, it appears beside the *u*-stem adjective θρασύς 'bold', but there are several reasons to suspect that an older form *θαρσύς once existed.[324] Like γλυκερός, the form θαρσαλέος comes in extremely handy in the composition of Epic verse, because it consists of a dactylic sequence followed by a (potentially) heavy syllable. Since Epic poets frequently resorted to transformations of phraseological material, it was convenient if a certain adjective could be maintained in the same slot when it had to modify a noun with a different gender. This property is shared by all thematic formations, including the adjectives in -αλέος. The preserved suffixal ablaut of the *u*-stem adjectives, on the other hand, could be highly inconvenient: the masculine (neuter) and feminine have a different metrical structure in every single case form. To be sure, some Homeric *u*-stem adjectives with a heavy root syllable are very numerous as tokens, e.g. ὀξύς 'sharp' (144x) and ὠκύς 'fast' (122x). However, their distribution has some remarkable features, and they may be considered

[319] Since it is difficult to derive μαλερός from a PIE pre-form (**mlh$_1$-ró-* would yield ***mlēró-*, and a suffix *-eró-* cannot be assumed for the proto-language), a different scenario may be considered: perhaps, the pre-form **kŕ̥ta* of the adverb κάρτα served as a model. A simple analogy with **kŕ̥ta* : **kr̥teró-* may have led to the creation of **maleró-* beside *mála*. Note that μάλα and κάρτα both mean 'very, heavily'. See section 5.2.8.

[320] E.g. Tucker: "their vocalism or phonological shape suggests that they were created on the basis of *s*-stem nouns" (1990: 55-6). Rau observes that this process "generally results from the derivational association of morphologically unrelated formations" (2009: 128 n. 9). A number of adjecitves in -αλέος have not been built on *s*-stems, but acquired the suffix by association with semantically close forms with -αλέος, such as ἀϋσταλέος, ἀζαλέος (both 'dry', after καρφαλέος), μυδαλέος ('moist', the opposite of the former). Further, ὀπταλέος and λεπταλέος are clearly secondarily derived from *to*-stems, like ἀϋσταλέος.

[321] Another old form could be σμερδαλέος 'terrible, sharp' (of auditive and visual impressions). I would tentatively suggest to derive this from the root **(h$_2$)merd-* 'to bite, sting' (Lat. *mordeō*), especially given the fact that this root seems to have been used to denote sharp, biting odours (Lat. *merda* 'shit', Lith. *smirdė́ti* 'to stink'). If Greek ἀμέρδω 'to deprive of eyesight' is related, the same root was also used for sharp visual impressions. In σμερδαλέος, however, the retention of word-initial **sm-* remains problematic.

[322] It is possible that the forms in -αλέος could also once be *derived* from *u*-stem adjectives. But given the absence of a clear etymology for this suffix, this must remain mere speculation.

[323] All forms of the Caland system κέρδος 'ruse, profit', νηκερδής, κερδαλέος 'artful', κερδίων 'better, more useful', κέρδιστος are attested in Homer (κέρδιστος only at *Il*. 6.153). The preservation of the *e*-grade throughout the Caland system must be related to the absence of an inherited *u*-stem adjective. That such a form once existed is suggested by the gloss κορδύς· πανοῦργος 'criminal' (Hsch.), as first argued by R. Schmitt, and followed by de Lamberterie (1990: 867ff.). Given its *o*-reflex, the form may belong to an Aeolic or Arcado-Cyprian dialect. The corresponding Ionic form did not exist anymore when κερδαλέος was created, or otherwise its *a*-vocalism would have spread to the other Caland forms. It seems, then, that κερδαλέος is one of the oldest instances of the suffix, and that it was created beside a form with *e*-vocalism itself: either the *s*-stem neuter, or the compounds in -κερδής.

[324] See section 4.5.

preserved archaisms in view of their frequent occurrence in formulaic cola.[325] This motivates why θαρσαλέος ousted *θαρσύς, which as we will see is the expected form of the inherited *u*-stem adjective.

On the model of θαρσαλέος beside θάρσος and related Caland forms, other adjectives in -αλέος could be created and enter the competition with existing *u*-stem adjectives, or supply a new adjective beside Caland forms which had no old positive. We have already encountered ταρβαλέος 'fearful' (only post-Hom.), which stands beside the Tucker-stative ταρβέω and the *s*-stems τάρβος and -ταρβής (all Hom.+). Since the etymology predicts an *e*-grade in these formations (PIE *$terg^{w}$-), their *a*-vocalism must have been imported. A *u*-stem adjective would be the obvious candidate, and ταρβαλέος may have replaced such an adjective.[326]

As a second example, it is commonly accepted that ἀρπαλέος 'with pleasure, eager' (3x Hom.) derives from **walpaleo-* by liquid dissimilation, and contains the root PGr. **welp-* (ἔλπομαι 'to hope, expect, look forward to').[327] Since this word does not show the expected zero grade reflex -λα- < **l̥*, and since the general *a*-vocalism of the root has to be explained, we may assume that ἀρπαλέος replaces an earlier *u*-stem adjective **walpu-*, from **welp-u-*, **wl̥p-ew-*. This explains how the root **walp-* could come into being in the positive. Subsequently, **walp-* could also spread to the superlative ἄλπιστος (attested in A., Pi.).[328]

A final and more complicated example is ἀργαλέος 'grievous, painful'. Beside the comparative ἄλγιον (adv.) and the superlative ἄλγιστος 'most grievous', two different positives are found in Homer: ἀλεγεινός 'grievous, causing distress' (Hom., further only 1x Hes., 1x Pi.) and ἀργαλέος 'painful' < **alg-aléo-* (Hom.+, very frequent). The zero grade is further found in ἄλγος 'suffering' (mostly plur. ἄλγεα), θυμαλγής 'causing pain to the heart', and the stative verb ἀλγέω (Hom. only aor. ἄλγησε) 'to suffer pains'.[329] Except in ἀλεγεινός and the compound δυσηλεγής 'bringing sharp grief', the zero grade ἀλγ- has been generalized everywhere.[330]

The expected full grade of the root was further preserved, in Homeric Greek, in the *s*-stem compound ἀπ-ηλεγέως 'ruthlessly' < "without taking care". It is also attested in the verbs ἀλεγύνω 'to take care of, attend (a meal)', and in ἀλέγω, -ίζω 'to care, worry about'.[331] This is a clear instance of a semantic differenciation promoted by a formal difference. The connection between this system of forms and ἀλέγω is occasionally doubted (e.g. by *EDG* and *DELG* s.v. ἄλγος),[332] but in my view it is proven by the existence of ἀλεγεινός 'grievous',

[325] Since the first syllable of ὀξύς and ὠκύς is hardly ever placed in the biceps, these two forms are mostly found after the bucolic diaeresis. Moreover, the feminine of ὀξύς (and, to a somewhat lesser degree, ὠκύς) is heavily underrepresented. This can be connected to their formulaic behavior: for ὀξύς, cf. the cola ὀξὺν Ἄρηα, ὀξὺν ἄκοντα, ξίφος ὀξύ, φάσγανον ὀξύ, ὀξέϊ δουρί, ὀξέϊ χαλκῷ, all of which belong to traditional war epic.

[326] The adverb ὀτραλέως 'quickly' (post-Hom. also adj. in -αλέος) may have been formed beside ὀτρύνω 'to spur on' after the semantically close model of θαρσαλέος : θαρσύνω. Note that ὀτρύνω has no convincing etymology (criticism of the traditional comparison with Skt. *tvarate* and OHG *dweran* in Beekes, *EDG* s.v. ὀτραλέως).

[327] The forms and their etymology are discussed in section 10.2.

[328] Another thematic form of the positive is the hapax ἔπαλπνος (Pi.), which may be analogical after σμερδνός beside σμερδαλέος.

[329] From Aeschylus onwards, we find a new denom. verb ἀλγύνω 'to cause suffering', formed beside ἄλγος.

[330] Perhaps τανηλεγέος θανάτοιο 'death bringing long grief(?)' also belongs here, but the meaning is not entirely clear and some previous scholars have read τ' ἀνηλεγέος θανάτοιο.

[331] Mostly with negation: 'to neglect', cf. also (οὐκ) ἀλεγίζω 'id.'.

[332] Chantraine (*DELG* s.v. ἄλγος) prudently formulates: "il faut alors admettre que la notion de 'tenir compte, se soucier de' a pu aboutir à celle de souffrir par un développement imprévu (euphémisme?)". But in fact, there are good parallels for this semantic development, such as G. *Sorge*, Du. *zorg*, meaning both 'care' and 'worry', beside MoE. *sorrow* (cf. Beekes *EDG* s.v. ἄλγος). Against Seiler's (1950: 85) comparison of ἄλγος with Lat. *algeō*, *algidus* 'cold, freezing', Chantraine remarks that a semantic development 'cold' > 'pain' is much less likely than that to 'fright'. The derivation of ἀλέγω 'to care about' from λέγω 'to gather, count' with copulative ἀ-, which would be the consequence of separating ἀλέγω from ἄλγος, has recently been defended again by de

which constitutes a semantic bridge between the formal variants ἀλεγ- (otherwise only 'care about') and ἀλγ- (otherwise only 'suffer').[333] In Attic, ἀλεγεινός was replaced by ἀλγεινός (mostly poetic, but also in Th., X., Pl.) by a simple levelling of the root allomorph.

If the original root ablaut was ἀλεγ- / ἀλγ-, it is necessary to ask on what basis expected full grade forms like *ἀλέγιστος were eliminated. Since we also find ὀλίγιστος 'least' in Homer, the metrical structure of the root is not a sufficient reason. From a semantic point of view, the grades of comparison ἄλγιον, ἄλγιστος can be paired with the *s*-stem neuter ἄλγος and the Homeric compound θυμαλγής. It is unlikely that the zero grade originated in the *s*-stem forms or in the grades of comparison (cf. section 4.1 above).[334] Indeed, ἀργαλέος has the zero grade, but if this form was derived from an *s*-stem form, the question remains whence the *s*-stem forms obtained their zero grade root.

The absence of an inherited *u*-stem adjective of this root is not a coincidence. In Homer we only find the secondary positives ἀλεγεινός < ***aleges-nó-*** and ἀργαλέος < ***alg-aléo-***. Both mean 'grievous, painful', but only the latter was productive in Classical poetry. Since compounds in -ής do not only pair with *s*-stem simplexes, but also with *u*-stem adjectives, it is attractive to think that a *u*-stem adjective existed as a positive beside the primary grades of comparison and the Caland forms in -ηλεγής.[335] With root ablaut, the original paradigm would have been Ns. ****alégus***, Gs. ****algéwos***. After it regularized its weak stem, the ensuing ****algús*** was replaced by the metrically convenient form in -αλέος. The existence of an earlier non-ablauting ****algús*** could also be supported by the compound θυμαλγής, which may have been created on its basis.

Further remains of the synchronically missing *u*-stem adjective may be found in the neuter plural ἄλγεα 'pains, grievous experiences', which may originally be the substantivization of a collective "worrying things". For such a substantivization, we may compare Meissner's analysis of Dp. τάρφεσι 'in the thicket' and Np. βράχεα 'shallows' as substantivizations of *u*-stem adjectives (Meissner 2006: 108-12, see section 4.3 below on τάρφεσι). Indeed, the most frequent forms of ἄλγος in Homer are the NAp. ἄλγεα (68x) and Dp. ἄλγεσι (11x). Moreover, all formulae with ἄλγος contain one of these forms; the NAs. ἄλγος has no formulaic attestations at all, and occurs a mere 13x. Since ἄλγεα and ἄλγεσι would also be the regular *u*-stem forms, I suggest that the singular ἄλγος was backformed on the model of κῆδος : κήδεα, posterior to the loss of intervocalic digamma. The formula |$_{B}$ κῆδος ἰκάνει (3x *Il*., beside only one other instance of the Ns. κῆδος in the *Od*.) may have formed the basis for |$_{B}$ ἄλγος ἰκάνει (1x *Il*. 1x *Od*., beside 10x non-formulaic ἄλγος), especially given the existence of verse-final κήδε' ἔθηκεν, κήδεα τεῦχεν, κήδεα λυγρά (beside ἄλγε' ἔθηκεν, etc.).[336]

In conclusion, the generalization of the root shape ἀλγ- for expected *ἀλεγ- in the grades of comparison ἄλγιον, ἄλγιστος and the *s*-stem adjective θυμαλγής strongly suggests

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Lamberterie (see *DELG*, Supp. s.v. ἀλέγω). It seems doubtful to me, however, that there ever was a *verbal* prefix ἀ- < ****sm̥-*** in the prehistory of Greek. For this reason, the derivation of both ἀλέγω and ἄλγος from a root ****h$_2$leg-*** seems preferable.

[333] Cf. *DELG* s.v. ἄλγος: "cette étymologie … rend compte de la forme ἀλεγεινός".

[334] Since there are otherwise no clear traces of root ablaut in primary Greek *s*-stem nouns, I reject the assumption of a paradigm ****h$_2$leg-(o)s***, ****h$_2$lg-es-(o)s***, in the spirit of Schindler (1975), of which ἄλγος would continue the old weak stem.

[335] A concise discussion of the relation between ποδώκης and ὠκύς is given by Meissner (2006: 182-86). It is quite possible that ποδώκης is an artificial nominative beside the Gs. ποδώκεος for older *ποδ' ὠκέος. He concludes that the "denominal (or more precisely non-deverbative) Greek compounds in -ης are (…) not derived from adjectives in -υς. They are entirely dependent, semantically and morphologically, on neuter nouns in -ος." (o.c. 186). But in the present case, we may be dealing with original *deverbative* adjectives (cf. ἀλέγω).

[336] It is interesting that the root ἀλγ- occurs only once in the extant works and fragments of Pindar (in the form ἄλγος), whereas it is highly frequent in the tragedians. If the latter group of authors is Homerizing in this case, the absence of ἀλγ- form Pindar may suggest that the neuter *s*-stem ἄλγος is an artificial creation of Epic Greek.

that a positive of the adjective with the root ἀλγ- once existed. The root shape of this positive could influence that of the other Caland forms. The source of ἀλγ- must have been the *u*-stem formation **algu-*, **algew-* 'painful' whence **alg-aléo-* could be created. The *u*-stem was later reanalyzed as an *s*-stem neuter ἄλγεα, with collective meaning 'pains, sufferings', after which a new singular ἄλγος was created. This analysis of ἄλγεα as a secondary *s*-stem is supported by Meissner's analysis of τάρφεσι and βράχεα. It allows us to explain why ἄλγος has a zero grade root, and why its singular is rare.[337]

Although the exact morphological origin of the adjectives in -αλέος is unknown, at least some of the forms θαρσαλέος, ταρβαλέος, ἁρπαλέος, and ἀργαλέος may have replaced now-lost *u*-stem formations in the way just described.[338] Most formations in -αλέος may be comparatively recent creations of Epic Greek, but κερδαλέος and θαρσαλέος also occur in prose. A final remark about the derivation of -αλέος. The compounded *s*-stem adjectives played a central role in Homeric derivational morphology. As Tucker (1990) has convincingly shown, the Homeric stative verbs in -έω were more often derived from *s*-stem compounds than from *s*-stem neuters. For this reason, one may wonder whether adjectives in -αλέος could be derived from the compounded counterparts of *u*-stem adjectives, the *s*-stem adjectives. This would work well for the compounds in -κερδής, -ταρβής and -θαρσής (all attested in Homer beside a formation in -αλέος). Moreover, an *s*-stem ἀελπής is attested in the *Od*. beside the intransitive verb ἔλπομαι, ἔολπα, whereas an *s*-stem neuter of this root is unattested. This would explain the creation of **welpaléo-*, subsequently replaced by **walpaléo-* after **walpu-*. Finally, the compounding second member -πευκής could explain the full grade root of the adjectives πευκάλιμος, πευκεδανός (see Risch 1974: 105 and 106), and a second member *-λευγής could explain λευγαλέος beside other forms with zero grade root (e.g. λυγρός 'miserable').

In all these cases, the full grade roots were not influenced by a positive with zero grade root, because the metrical utility of the forms depended on their heavy root syllable. The only problematic case for this proposal is ἀργαλέος beside -αλγής, where the compound originally had -ηλεγής and is preserved as such in Homer. Thus, although adjectives in -αλέος are productive beside *s*-stem neuters already in Homer (cf. κάρφος beside καρφαλέος), it is possible that they were productive only beside compounded *s*-stem adjectives at an earlier stage.

4.2.3 Derivational history of the factitives in -ύνω

Homer has a remarkable asymmetry between κρατέω 'to be impetuous, have κράτος' (with the vocalism of κράτος, -κρατής) and καρτύνω 'to provide with κράτος'. The Ionic vernacular does not have the same asymmetry, because it simply uses κρατύνω as a factitive verb. In Homeric καρτύνω, -αρ- is obviously metrically convenient, but this would not have been a sufficient motivation to create the form, as the following argument shows.

The aorist (ἐ)κράτησα 'obtained power, was victorious' is entirely absent from Homer. Since it was frequent in later poetry (e.g. in Pindar), and since the other members of the small group of stative verbs are frequent in the aorist, (ἐ)κράτησα must have been avoided for metrical reasons. A replacement with unaugmented $^{++}$κάρτησα could have been metrically useful, but this was apparently not a viable option. In order to see why, we have to inquire into the possible models for an analogical creation of $^{++}$κάρτησα. If κρατέω was derived from the *s*-stem neuter κράτος, one would expect to encounter $^{++}$ἐκάρτησα in Homer, because

[337] If the only forms to be preserved of the *u*-stem adjective were substantivized neuter plurals, it can be assumed that the substantivization took place before the levelling of root ablaut in the adjective.

[338] The two formations are commonly assumed to have remained in competition in θρασύς : θαρσαλέος. But this is doubtful, because their lexical meaning was different already in Homer, and because θαρσαλέος probably ousted an earlier *θαρσύς (see further section 4.5).

κάρτος does exist as an artificial by-form of κράτος. On the other hand, the absence of ++κάρτησα would make excellent sense if this stative verb was derived not from the *s*-stem abstract κάρτος, but from the *s*-stem adjectives in -κρατής, as proposed by Tucker (1990). Since there are no compounds in -καρτής, the form ++κάρτησα could not be created.[339]

We will encounter many other cases where metrical convenience was not a sufficient reason for replacing -ρα- with -αρ-. For this reason, it can be excluded that καρτύνω was created by a simple reshuffling of the vernacular form κρατύνω.[340] In my view, we need a real analogical model to explain the alternation, or else the concrete Homeric distributions are left unexplained. So: what was the derivational base form of καρτύνω?

In her 1981 article, Tucker has summarized her views on the spread of the Greek factitive verbs in -όω, -ύνω, and -αίνω.[341] Among the verbs in -ύνω, there are three types, distinguished according to their base form: (1) factitives based on *u*-stem adjectives (βαρύς 'heavy' → Hom. βαρύνω 'to weigh down on'), (2) factitives based on *s*-stem nouns (μῆκος 'length, extension' → Att. μηκύνω 'to lengthen'), and (3) factitives based on *o*-stem adjectives (λεπτός 'thin, delicate' → Att. λεπτύνω 'to make thin'). As the chronology of the attestations shows, the -ύνω factitives originated beside *u*-stem adjectives (apart from βαρύνω, e.g. Hom. βαθύνω, ἰθύνω). By comparing deadjectival verbs in -ύω, which were also derived from *u*-stem adjectives but do not have factitive meaning (cf. ἰθύω 'to go straight' as opposed to ἰθύνω 'to direct'), Tucker concludes "that it is the nasal morph which confers the factitive value" (1981: 23). Types (2) and (3) are generally considered to be later derivational patterns.

In the published version of her dissertation, Tucker (1990) argues that the pairing of factitives in -ύνω and *s*-stem neuters, which becomes productive in Attic, may have started already in Homer. She remarks (p. 47) that there are "two -ύνω verbs for which the only clear connection is with *s*-stem nominal forms": ἐντύνω beside τὰ ἔντεα, and ἀλεγύνω beside ἀλεγεινός, δυσ-ηλεγής. In this connection, she points at θαρσύνω and καρτύνω as further possible examples of derivations from *s*-stems. The Homeric adjectives θρασύς and κρατύς have a different vowel slot in comparison with θαρσύνω and καρτύνω, while the correct vowel slot is found in the corresponding *s*-stem neuters θάρσος and κάρτος. If it is possible to derive θαρσύνω and καρτύνω from the *s*-stem neuters, the distribution of -ρα- and -αρ- over the attested forms would make sense.[342]

Although this is definitely an improvement over the view that the interchange between -ρα- and -αρ- is metrically conditioned, there are severe problems with Tucker's suggestion. First of all, the evidence for a pairing between verbs in -ύνω and *s*-stem neuters already in Homer is hardly probative. On a synchronic level, ἐντύνω beside τὰ ἔντεα cannot be reanalyzed as a derivational relation, because τὰ ἔντεα had specialized to a concrete meaning 'gear, tools, weapons', whereas ἐντύνω means 'to prepare'.[343] Further, ἀλεγύνω 'to prepare a meal' cannot count as evidence either, because ἀλεγεινός, δυσ-ηλεγής have a markedly different meaning 'painful, grievous'. Instead, ἀλεγύνω may be a cross between ἀλέγω 'take care of, worry about' and ἐντύνω, ἀρτύνω 'to prepare (a meal)' (cf. Chantraine's judgment "après ἐντύνω", *DELG* s.v. ἀλέγω).

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[339] To make things even worse, a form like κραταιός was not avoided, nor reshaped to ++καρταιός, but simply tolerated together with its aberrant scansion. An explanation for these distributions is given in chapter 6.

[340] This view is extremely widespread, see e.g. Strunk's casual remark regarding καρτύνω that "inlautendes -αρ- < *-*r̥*- vor Konsonant (…) auch sonst gelegentlich statt oder neben -ρα- vorkommt." (1975: 286).

[341] The classical study of Greek denominatives is Fraenkel (1906).

[342] For καρτύνω, the same suggestion was made already by Strunk (1975: 296): "Vermutlich ist κάρτος sogar die wirkliche morphologische Basis für die epische Verbalableitung."

[343] The root of ἔντεα has no convincing etymology: pace *DELG* (s.v. ἔντος), the connection with ἀνύω 'to accomplish' *snh_2-*u*- can no longer be maintained because that root ended in a laryngeal.

Tucker tries to point out a pivotal form, that is, a verb in -ύνω beside an *s*-stem *and* a *u*-stem adjective. The only example in Homer is τὸ εὖρος 'breadth' beside εὐρύς, εὐρύνω. Her idea is, apparently, that a pairing εὖρος → εὐρύνω may have secondarily replaced the derivational scheme εὐρύς → εὐρύνω. But again, there are serious objections. First, εὖρος occurs only once (*Od*. 11.312) in Homer, whereas εὐρύς is frequent. Second, it is questionable whether the scheme εὐρύς → εὐρύνω could fall into disuse as long as the *u*-stem adjective existed.

I agree with Tucker that καρτύνω cannot be directly derived from κρατύς (because the latter has a different vowel slot) and that its base form must have been κάρτος. Given the semantic proximity of θάρσος and κάρτος, the pair θαρσύνω : θάρσος would provide an excellent model for the derivation of καρτύνω. But what about the origin of θαρσύνω : θάρσος itself? *A priori*, one expects a secondary association of *s*-stem nouns and -ύνω verbs to have started in one or two cases where the *u*-stem adjective had been lost or replaced by a different form. Subsequently, a derivational relation between an *s*-stem abstract noun 'X-ness' beside a factitive in -ύνω 'to provide with X-ness' could be easily established. The root θαρσ- would make an excellent starting point for this reanalysis, because there are several independent indications that θαρσαλέος ousted an older form *θαρσύς (below, section 4.5). Furthermore, the connection between θάρσος and θαρσύνω 'to encourage, reassure' is synchronically perspicuous in Homer, and θαρσύνω is semantically close to καρτύνω.

In sum: the later, Classical derivational pattern κάλλος → καλλύνω has not yet acquired full productivity in Homeric Greek, but it is already present in an embryonic stage, due to the pair θάρσος : θαρσύνω and the absence of an adjective *θαρσύς. The derivational relations that applied in (pre-)Homeric Greek are shown in the following scheme:

		(*ró*-adjective)		
factitive in -ύνω	←	*u*-stem adjective	→	primary grades of comparison
		↕		
stative in -έω, -ησε	←	*s*-stem adjective	→	adjective in -αλέος
		↕		
		s-stem neuter		

4.3 Reflexes of **r̥* and **l̥* in the *u*-stem adjectives

The following *u*-stem adjectives with a root /CLaC-/ are attested in Homeric Greek and Classical Ionic-Attic: βραδύς 'slow', βραχύς 'short', θρασύς 'bold', κρατύς 'impetuous', πλατύς 1. 'broad' 2. 'salty'.[344] In Homer, βραχύς is absent, and none of the other adjectives is frequent; as we have seen, this is due to their metrical inconvenience. An adjective βλαδύς 'weak' is frequently cited, but it is attested only as a gloss βλαδεῖς (Hsch.) beside a few other glosses with βλαδ-. In the handbooks, a number of these forms are adduced as evidence for the regular development of the syllabic liquids. Examples are Lejeune (1972: 196, citing βλαδαρός ~ ἀμαλδύνω and θρασύς), Rix (1992: 65, citing πλατύς), Sihler (1995: 94-5, citing θρασύς, βλαδύς, and πλατύς).[345]

It is often assumed that the root of these *u*-stem adjectives had no ablaut. But as we have seen in section 4.1, the *u*-stem adjectives did have root ablaut in PIE. I assume that this

[344] κρατύς occurs only in combination with Ἀργεϊφόντης, epithet of Hermes. Its meaning cannot be determined with certainty; my 'impetuous' is based on considerations which will be further elaborated in section 5.1.3.

[345] Lejeune cites "θαρσύς, θρασύς" as a doublet, but the first form does not exist. *DELG* (s.v. θάρσος) remarks that a form θαρσύς "a dû exister comme l'indiquent divers composés et le verbe dénominatif en -ύνω." As we will see below, this is probably closer to the truth, but the form should be asterisked in any case: *θαρσύς. Sihler not only cites θαρσύς (which he adopted from Lejeune?), but also "Lesb. θορσέως", which does not exist at all. The latter form is correctly cited by Lejeune as θροσέως, which is attested only in Joh. Gramm. 2.11, where it is cited as "Aeolic".

ablaut remained intact until Proto-Ionic. This allows us to explain the vowel slot of βραχύς and κρατύς by comparing cognate forms with a full grade root, such as Lat. *brevis* and Lesb. κρέτος. The outcome -ρα- in βραχύς and κρατύς is due to the analogical introduction of the full grade slot of the strong stem (**mrek^{h}u-*) into the vocalized zero grade of the weak stem (**mark^{h}ew- >> *mrak^{h}ew-*).[346] For the same reason, πλατύς is not a cogent example for the regular vowel slot, because -λα- could be analogical after the full grade *πλετ- (see section 4.1). For βραδύς, there is no clear evidence for the full grade slot.[347] Therefore, βραδύς, βραχύς, κρατύς, πλατύς can be left out of the compelling evidence for the regular reflex of the syllabic liquid.[348]

However, θρασύς (beside θέρσος) and βλαδεῖς (beside μέλδομαι) seem to be strong examples of the regular vocalization of the liquid. They seem to point to -ρα- as the regular reflex of **r̥* and -λα- as that of **l̥*. However, as we will see in section 4.5, θρασύς is an extremely problematic form in several respects. A complete discussion of the evidence for **l̥* will be postponed to chapter 10.

It is remarkable that one other *u*-stem adjective with an original syllabic liquid is ignored by the historical grammars: ταρφύς 'numerous'. Beside it stands the rare adjective τραφερός 'solid, thick' (Hom.+). The parallellism of these two forms calls to mind the doublet κρατερός ~ καρτερός. In my view, a correct understanding of the origin of ταρφύς and τραφερός is crucial for establishing the regular development of **r̥*. There are two questions:

(1) why do we find -αρ- in ταρφύς, as against -ρα- or -λα- in *all* other *u*-stem forms?[349]

(2) how did the difference between ταρφύς and τραφερός arise?

4.3.1 **r̥* > αρ is regular in ταρφέες

The Homeric adjective ταρφύς 'numerous, thick' modifies nouns for 'snowflakes' (e.g. ταρφειαὶ νιφάδες *Il*. 19.357),[350] 'arrows' (e.g. ταρφέας ἰοὺς *Il*. 15.472),[351] and appears as an adverb ταρφέα (< ntr. NAp.) in the meaning 'repeatedly, time and again', e.g. ταρφέα τε στρέφεται στίχας ἀνδρῶν πειρητίζων, "(the boar) turned round again and again, putting the ranks of men to the test" (*Il*. 12.47).[352] As I have argued in section 2.1, the comparison of Mycenaean *ta-pa-e-o-te* with ταρφύς is too uncertain to be used in this discussion.

De Lamberterie (1990: 676ff.) has adduced strong arguments for deriving ταρφέες from the intransitive verb τρέφομαι, pf. -τέτροφε 'to form a layer, become thick, coagulate'.

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[346] In *u*-stem adjectives of the structure **CLeC-u-* and **CeLC-u-*, the generalization of *a*-vocalism at the expense of the *e*-grade of the strong stem may also have been favored by the prior generalization of *a*-vocalism in roots containing an internal nasal, **-h$_2$-*, or an older cluster **CRHu-*. This yielded formations with Proto-Greek **CaCu-*, as in the following nine adjectives: βαρύς 'heavy', παχύς 'dense', ταχύς 'quick', τανυ- 'thin', δασύς 'dense', θάλεια 'copious', θαμύς 'dense', βαθύς 'deep', λάχεια 'wooded'.

[347] For the Homeric superlative βάρδιστος, which can be explained in more than one way, see section 4.4.4.

[348] For the same reason, the gloss κορδύς (Hsch.) beside κερδίων, κέρδιστος can play no role at this stage of the discussion: κορδύς may replace the regular outcome *κροδ-, in an Aeolic dialect, of the oblique stem after an older strong stem *κερδύς. However, κορδύς could also contain the regular reflex of a zero grade in Arcadian (on which see section 3.5).

[349] An exception must be made for the gloss κορδύς (Hsch.), see above.

[350] The full comparison in *Il*. 19.357-60 is: ὡς δ' ὅτε ταρφειαὶ νιφάδες Διὸς ἐκποτέονται ψυχραὶ ὑπὸ ῥιπῆς αἰθρηγενέος Βορέαο, ὣς τότε ταρφειαὶ κόρυθες λαμπρὸν γανόωσαι νηῶν ἐκφορέοντο καὶ ἀσπίδες ὀμφαλόεσσαι. Cf. also *Il*. 12.156-8: νιφάδες δ' ὡς πῖπτον ἔραζε, ἅς τ' ἄνεμος ζαὴς νέφεα σκιόεντα δονήσας ταρφειὰς κατέχευεν ἐπὶ χθονὶ πουλυβοτείρῃ.

[351] Also in οὐκ ἄν τοι χραίσμῃσι βιὸς καὶ ταρφέες ἰοί (*Il*. 11.387), and τοὺς δ' ἤδη ἐδάμασσε βιὸς καὶ ταρφέες ἰοί (*Od*. 22.246). De Lamberterie (1990: 665-666) remarks that this use is intimately related with the previous, the image being that of a 'rain of arrows'. Therefore, ταρφειαὶ νιφάδες 'thick snow' may well be the older syntagm.

[352] Further occurrences of the adverb in Homer: τὰ δὲ δράγματα ταρφέα πίπτει (*Il*. 11.69), οἷσιν [with their bows] ἔπειτα ταρφέα βάλλοντες Τρώων ῥήγνυντο φάλαγγας (*Il*. 13.718: the unexpressed object of βάλλοντες 'shooting' are arrows), ὃ δ' ἐγγύθεν ὀξὺ λεληκὼς ταρφέ' ἐπαΐσσει (*Il*. 22.141-2: cf. the boar in 12.47), ὀρχείσθην δὴ ἔπειτα ποτὶ χθονὶ πουλυβοτείρῃ ταρφέ' ἀμειβομένω (*Od*. 8.378-9, about the feet of dancers).

Numerous traces of this older meaning are preserved in derivatives of τρέφω. The phrase τρόφι κῦμα is convincingly interpreted by de Lamberterie as 'crest of a wave' (i.e. the foamy layer which agglomerates on top). Comparing ταρφειαὶ νιφάδες with the Lith. verb *drìbti* 'to fall in heaps, stick (of snow)' (1990: 681), he argues that the application of the root *d^hreb^h- to falling snow may be inherited phraseology. The development of meaning from 'thick' to 'frequent' is common. For instance, English 'thick' may also be used as an adjective or adverb denoting a frequent occurrence, as in *thick and fast*, or *thick and threefold*, and in Dutch, *dikwijls* means 'frequently, often'.

A striking fact about the distribution of the forms is that ταρφύς only appears in the plural in Homer. What is more, before the end of the classical period, the singular form ταρφύς is attested only in Aeschylus (*Sept*. 535, and possibly in *Pers*. 926).[353] The adverb ταρφέως (only in B. 13.53) may be secondary for the original ntr. NAp. form ταρφέα (Hom.+). Apart from these cases, the singular is only found as the quotation form of the adjective in Grammarians. Like Homer, Hellenistic Epic only uses the plural form. The fact that the singular stem of ταρφύς is not attested in Homer suggests that it is an analogical creation in Aeschylus, and that Homer used ταρφέες only as a *plurale tantum*.

Most dictionaries (e.g. *LSJ*) cite another form with the root shape ταρφ-: the neuter *s*-stem τάρφος. However, as Meissner has demonstrated (2006: 110-11), a form τάρφος is only found in Grammarians, and the literary attestations of "τάρφος" are again exclusively in the plural. In Homer, we find twice the Dp. (βαθείης τάρφεσιν ὕλης, *Il*. 5.555, transformed to βαθέης ἐν τάρφεσιν ὕλης in *Il*. 15.606), and in Apollonius Rhodius once the Np. (μνιόεντα βυθοῖο τάρφεα, 4.1238). It is therefore possible to assume that these forms are substantivizations of the *u*-stem adjective, with a corresponding accent retraction.[354] This hypothesis is confirmed, as Meissner remarks, by the parallel case of τὰ βράχεα, attested from Th. and Hdt. onwards in the lexicalized meaning 'shoal, sandbank'. The lack of contraction of -εα in this form in Classical Attic proves that this must be an old *u*-stem form, with subsequent retraction of the accent.[355] Moreover, the expression ἐν τάρφεσιν ὕλης 'in the thick (= dense parts) of the forest' (Hom.) has a neat phraseological parallel in ἐν βράχεσι λίμνης 'in the shallows (= shallow parts) of the lagoon', as attested in Hdt. 4.179.

It may be concluded that the singular τάρφος is a ghost form, and that the root shape ταρφ- is originally *only* attested in the plural forms of the *u*-stem adjective. We are now in a better position to judge the origin of -αρ- in ταρφέες.[356] Since the root τρεφ- (PIE *d^hreb^h-) had a full grade II, the outcome ταρφ- cannot be explained by analogy: it must be the regular outcome of Proto-Greek *$t^hr̥p^héwes$. The strong stem forms could not analogically influence the regular outcome of *$r̥$ in *$t^hr̥p^héwes$ because they were no longer present. We may conclude that ταρφέες provides compelling evidence for a regular development *$r̥$ > αρ in Ionic-Attic.

4.3.2 Derivation of Hom. τραφερός

Before the end of the classical period, the adjective τραφερός is attested only in the formula ἐπὶ τραφερήν τε καὶ ὑγρήν (*Il*. 14.308, *Od*. 20.98, *h*. *Dem*. 43) "both over the solid land and the waters of the sea" (Wyatt), literally 'on the solid and the liquid'. After that, τραφερός first

[353] The two Aeschylean passages are discussed by de Lamberterie (1990: 671). In *Pers*. 926, ταρφύς τις is a plausible conjecture for γὰρ φύστις, because φύστις would be a *vox nihili*.

[354] In Homer, following the loss of intervocalic digamma, the *u*-stem adjectives already generalized the *s*-stem Dp. ending -εσι by a proportional analogy with the identical Np. in -εα.

[355] From an older *s*-stem form, one would expect Att. $^{++}$βράχη (Meissner 2006: 108-109).

[356] In section 1.4, a number of previous attempts to explain the reflex ταρφ- were discussed, such as secondary ablaut (Kuryłowicz), or metrically-induced metathesis (Güntert). All such proposals merely show the embarassment of earlier scholars in regard of the reflex -αρ-.

reappears in Hellenistic poetry.[357] Still later, Oppian is especially fond of the word in his *Halieutica*. Scholia and lexica explain τραφερή by remarking that θρέψαι is another word for πῆξαι, which may mean "*make solid* or *stiff*, esp. of liquids: *freeze*, … *curdle*, …" (*LSJ* mg. III).[358] The juxtaposition of ὑγρός and τραφερός as thematic opposites is paralleled by the following Homeric comparison (*Il*. 5.902-4, Paeëon healing Ares):[359]

ὡς δ' ὅτ' ὀπὸς γάλα λευκὸν ἐπειγόμενος συνέπηξεν,
ὑγρὸν ἐόν, μάλα δ' ὦκα περιτρέφεται κυκόωντι,
ὣς ἄρα καρπαλίμως ἰήσατο θοῦρον Ἄρηα.

"Even as the juice of the fig speedily makes to grow thick the white milk that is liquid, but is quickly curdled as a man stirs it, even so swiftly healed he furious Ares."

This secures the etymological connection between τρέφομαι, τραφερός and ταρφύς. We now have to explain why -ρα- is found in τραφερός, as against -αρ- in ταρφύς. Obviously, τραφερός may owe its existence to the much more frequent form κρατερός, which was also used in the meaning 'solid, hard' (see chapter 5 for its reconstruction and its relation to the doublet καρτερός). But was there a model for the creation of τραφερός?

At first sight, the most logical option would be a proportional analogy with the *u*-stem adjective: κρατύς : κρατερός = ταρφύς : X. A similar analogy led to the creation of θαλερός (beside *θαλύς) and γλυκερός (beside γλυκύς), see section 4.2.1. However, the *u*-stem adjective derived from τρεφ- is ταρφύς, not $^{++}$τραφύς. Departing from a paradigm PGr. msc. Ns. *$t^hrép^hu$-*s*, Gs. *$t^hr̥p^h$-*éw-os*, one could try to explain the deviant vocalism of τραφερός by assuming that the form was created beside a now-lost strong stem *τραφύ- that replaced the strong stem *$t^hrép^hu$-. It would have to be supposed, then, that the strong stem *τραφύ- was subsequently eliminated together with the other singular forms, and that only the reflex of the weak stem of the *u*-stem adjective remained alive in the plural ταρφέες, ταρφειαί, ταρφέα.

In reality, such a scenario is highly unlikely. A paradigm *$t^hrép^hu$-, *$t^hr̥p^héw$- which developed by regular sound change to *$t^hrép^hu$-, *$t^harp^héw$- would hardly be remodelled to *$t^hrap^hú$-, *$t^harp^héw$-. An analogical change is expected either to normalize the paradigm to other existing ablaut patterns (i.e. *$t^hrép^hu$-, *$t^hrap^héw$- after e.g. *$plétu$-, *$platéw$-, later leveled to *$t^hrap^hú$-, *$t^hrap^héw$-) or to eliminate the ablauting strong stem immediately (i.e. $t^harp^hú$-, *$t^harp^héw$-). In the first case we cannot explain ταρφέες, and in the second it is impossible to account for τραφερός. It is therefore better to explain ταρφέες by departing from a defective plural paradigm.

Fortunately, there is an alternative pivotal form for the creation of τραφερός: *s*-stem compounds in -τρεφής. As a bonus, the semantics of this model are preferable. First, -κρατής is still a productive formation, whereas κρατύς is a relic form. Secondly, the meaning 'to coagulate, become thick or solid' required by τραφερός is attested for compounds in -τρεφής (e.g. ἀπαλοτρεφής *Il*. 21.363 'well-fed', of swine with a thick layer of fat). The remains of the *u*-stem adjective ταρφέες have no trace of this meaning, probably because the semantic development 'thick' > 'frequent, in large numbers' took place before the vocalization of *$r̥$. An early semantic change in ταρφύς would also explain why the singular form was eliminated. It could be objected to this derivation of τραφερός that the Homeric form is -κρατής, not -κρετής. However, the proportional analogy (κρατερός : -κρετής :: X : -τρεφής) may have operated before the *a*-vocalism spread from κρατερός or κρατύς to the other formations based on the root *$kret$-. Thus, the assumed analogy is chronologically in order.

[357] ὑγρή τε τραφερή τε (A. R. 2.545/6), ὑγρῆς τε τραφερῆς τε (A. R. 4.281), further in Arat. 1.1027, Theoc. 21.18 and 44, in the last passage in the meaning 'well-fed, thick, fat'.

[358] *LSJ* (s.v. τραφερός) remarks that τραφερός is from τρέφω in the meaning 'to make thick'. The connection with τρέφομαι 'to curdle' is further substantiated by glosses like τραφερόν· πηκτόν. τρόφιμον. λευκόν. ξηρόν. πεπηγμένον (Hsch. τ 1284).

[359] And note the oxymoron βλάστε μὲν ἐξ ἁλὸς ὑγρᾶς νᾶσος "from the liquid sea an island sprung" (Pi. *Ol*. 7.69).

In conclusion, the plural forms of ταρφύς are a precious vestige of the regular development of *$r̥$ in Proto-Ionic. The different root shape of τραφερός is best explained by a proportional analogy with compounds in -τρεφής, which took place within Epic Greek.

4.4 The *u*-stem adjectives of the structure **CLaC-u-*

Unlike ταρφέες, other adjectives of the structure *CLaC-u- do occur in the singular. The "deviating" vocalization -αρ- in ταρφύς can only be explained, as far as I can see, by assuming that the vocalization -ρα- in the "normal" forms κρατύς, βραχύς, βραδύς is due to the analogical remodeling of an originally ablauting paradigm:

(stage I)		(stage IIa)		(stage IIb)		(stage III)
Proto-Greek		Proto-Ionic (late 2nd mill.)				Homer
*krét-u-s	=	*krétus	=	*krétus	>>	*kratús*
*kr̥t-éw-os	>	*kartéwos	>>	*kratéwos	>	++*kratéos*

Of course, the elimination of the full grade in favor of the vocalized zero grade is part of a general tendency to generalize the weak stem in *u*-stem adjectives. As we have seen, the *a*-vocalism subsequently conquered most other Caland forms: its most prominent victim was the *e*-grade root in the forms of comparison. The following table contains a schematic overview of the Ionic forms to be discussed in the following sections and in the next chapter:[360]

PIE root	***u*-stem adjective**	**forms with the same vowel slot**	**forms with a different vowel slot**
*d^hers-	θρασύς	θρασυ- in cpds.	θαρσαλέος, θάρσος, cpds. -θέρσης (names) / -θαρσής, θαρσέω, θαρσύνω
*pleth$_2$-	πλατύς	τὸ πλάτος, cpds. in -πλατής, πλαταμών (all post-Hom.)	None
g^wred- (g^werd-)	βραδύς	hapax βραδίων (Hes.), otherwise βραδύτερος, -τατος (class.)	βάρδιστος
*mreǵ^h-	βραχύς (Pi.+)	[hapax βράσσων] βράχιστος (Pi.+)	None
*meld-	βλαδεῖς (Hsch.)	βλαδαρός, βλαδάν, etc. (only Hsch.)	ἀμαλδύνω
*d^hreb^h-	ταρφύς	[τάρφος]	τραφερός, -τρεφής
*ḱreth$_1$-	κρατύς	κρατερός, κράτος, -κρατής, κράτησε (post-Hom.), κρέσσων, κράτιστος	καρτερός, κάρτιστος, κάρτος, καρτύνω (Hom.+), κάρτα (class.)

Table 4.1: reflexes of u-stem adjectives with a root CLaC- in Ionic-Attic

[360] Unless it is attested in Homer, the first attestation of each form is indicated.

4.4.1 πλατύς

The adjective πλατύς 'broad, extended; flat' is cited as a prime example of the development of the syllabic liquids in almost every manual.[361] It is quite well-attested from Homer onwards, and also attested in Lesbian poetry (πλάτυ, Alc. fr. 74). Homer does not attest the feminine, obviously for metrical reasons, and uses εὐρεῖα instead. The forms of comparison were secondarily recreated as πλατύτερος, -τατος.[362] Other forms attested in Greek are πλαταμών 'flat stone or rock' (*h. Hom.* +), πλάτος 'breadth, width; plane surface' (*Cypr*. fr. 1.2, Simon., Hdt.+), and adjectives in -πλατής (X., Th., Arist.). Outer-Greek cognates of the *s*-stem neuter are found in Ved. *práthas*-, Av. *fraθah*- 'breadth', OIr. *leth* (n. *s*-stem) 'side'. It is further attractive to compare πλαταμών, with the same replacement of the root vowel, to Ved. *prathimán*- 'extension'. We will see that -λα- may have been the regular outcome of *$l̥$ (chapter 10). However, since the evidence does not entirely exclude that -αλ- was the regular reflex, -λα- in πλατύς may theoretically be explained in the same way as κρατύς and βραχύς.

4.4.2 κρατύς

The adjective κρατύς is only attested in the formula |$_{H}$ κρατὺς Ἀργεϊφόντης (4x Hom., 5x *h. Herm*.). An explanation of the reflex -ρα- has been given above. It deserves attention that κρατερός cannot be used as evidence for the development of *$r̥$ either: the Classical Ionic-Attic form καρτερός must contain the regular reflex, and κρατερός may be due to the influence of κρατύς. A more extensive discussion of the root κρατ- ~ καρτ- will be provided in chapter 5; for the reflex -ρα- in Homeric κραταιός, κραται-, see section 6.7.3.

4.4.3 βραχύς

Βραχύς is unattested in Homer (on the hapax comparative βράσσων *Il*. 10.226, which may belong to βραδύς, see immediately below).[363] The adjective is first attested in Sappho (adv. βρόχε' fr. 31.7) and, in its Ionic form, in Pindar. After that, it remains the common word for 'short' (of time). Some remains of the superlative βράχιστος are attested (Pi. *Isth*. 6.59, S. *Ant*. 1327 and *OC* 1115, Ar. *Lys*. 715), but the forms of comparison have generally been replaced by βραχύτερος, -τατος in classical prose (Hdt.+). On the question whether βραχίων '(upper) arm' is related, see section 6.8.4.

In view of Latin *brevis* 'short', the PIE root was *$mreǵ^{h}$-. Compare, further, Ved. *múhur* 'instantly', Av. *mərəzu-jīti*- 'short-lived', OHG *murg(i)* 'short', Goth. *ga-maurgjan* 'to shorten' (denom. verb), all with a reflex of the zero grade. The ensuing paradigm PGr. *$mrek^{h}$-*u*-, *$mr̥k^{h}$-*ew*- generalized the weak stem *$mrok^{h}$- (Aeolic) and *$mark^{h}$- >> *$mrak^{h}$- (Ionic). The initial μρ- was preserved dialectally until a rather late date, as evidenced among other forms by Thess. Μροχῶ (*SEG* 24: 406.1, ca. 460-450 BC).[364]

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[361] It is quite possible that πλατύς 'brackish' is a different adjective, both synchronically and historically: see de Lamberterie (1990: 452-63). Proponents of an identification of the two believe that πλατύς 'broad', as an epithet of the Hellespont, was misunderstood to mean 'salty', an important argument being that Herodotus also calls the Hellespont ἁλμυρός 'salty'. Cf. Frisk s.v. πλατύς 2. and Mayrhofer *EWAia* s.v. *paṭu*- (both embracing this view), *DELG* s.v. 2 πλατύς (doubting it). Against this, Lamberterie remarks that πλατύς only denotes brackish, not salty water.

[362] A comparative πλατίον 'broader' may be attested in Epich. fr. 101 Kaibel, but this form is probably secondary for the expected $^{++}$πλάσσον << *πλέσσον, which was metrically awkward. Cf. section 4.2 on γλυκίων.

[363] It seems that (σ)μικρός 'short', ὀλίγος 'small', and μίνυνθα 'for a short time' (cf. μινύθω 'to become less') are used instead of βραχύς in Epic Greek. This may have a metrical cause (see section 4.2.2); note, further, that the superlative βράχιστος could not be used at all in the dactylic hexameter.

[364] On the preservation of -μρ-, see chapter 7.

4.4.4 βραδύς

While βραδύς is rare in Homer, it is a normal word in the classical language, both in Attic prose and in poetry (trag., com.).[365] Primary forms of comparison are only marginally attested. The comparative βράδιον (Hes. *Op*. 528) can be analogical after the positive, because in an inherited form one would expect to find -ζ- < *-*dḭ*- after a light root syllable. As Seiler (1950: 43 and 56f.) remarks, an inherited *βράζων may underlie the hapax βράσσων (*Il*. 10.226), if this acquired its -σσ- from the opposite θάσσων 'faster'.[366] The superlative is attested only twice as βάρδιστος (*Il*. 23.310, 530). Apart from these forms, the grades of comparison have been generalized as βραδύτερος, βραδύτατος. The neuter *s*-stem βράδος (hapax at X. *Eq*. 11.12) is certainly a nonce formation.[367]

Βραδύς may refer either to physical slowness (in running or racing) or to lack of mental alertness. It has clear cognates in Baltic: Lith. *gurdùs* 'weak, slow, uncommunicative', Latv. *guŗ̃ds* 'tired, weary', both from *g^{w}*r̥d-u*-.[368] However, the reconstructed root is peculiar, because it violates the constraint that a single PIE root may not contain two *mediae*. Nevertheless, it can hardly be doubted that the form is inherited, given the perfect formal and semantic match between Greek and Baltic.[369] As far as I have been able to discern, no other word denoting physical slowness can be reconstructed for PIE.[370] This makes it quite possible that *g^{w}*r̥d-u*- was the PIE adjective for 'slow'.

In view of its isolation in derivational terms, one could be tempted to take βραδύς as an example for the regular vocalization of *r̥. On the other hand, a full grade of the root may have been around in the Proto-Ionic adjectival paradigm. This full grade may also have remained alive in the grades of comparison. It is difficult, however, to establish the original full grade slot. The fact that Homer has the superlative βάρδιστος could be taken to imply that the root was *g^{w}*erd*-, if this form replaced earlier *βέρδιστος. However, alternative scenarios cannot be excluded out of hand.

First, it has to be noted that βάρδιστος could also be an Epic creation. Chantraine (1942: 24) already remarked that *βράδιστος "ne pouvait entrer à aucune place du vers homérique".[371] While metrical utility alone was not a legitimate reason to substitute αρ for ρα, we could perhaps assume that βάρδιστος is analogical for *βράδιστος after the example of Hom. κάρτιστος beside κρατύς. Note that both adjectives are used as technical terms in the context of horse-racing: κάρτος denotes the stamina or endurance of horses in *Od*. 3.370 (they are ἐλαφρότατοι θείειν καὶ κάρτος ἄριστοι),[372] and the horses of Antilochos are called

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[365] Only 3 attestations in Homer: βραδύς (*Od*. 8.329 and 330), βραδέες … ἵπποι (*Il*. 8.104).

[366] The text at *Il*. 10.226 runs: βράσσων τε νόος λεπτὴ δέ τε μῆτις. Normally, βράσσων is taken to be a comparative of βραχύς 'short', but semantically βραδύς would fit much better (cf. Nordheider, *LfgrE* s.v. βράσσων).

[367] In μήτε τῷ ἄγαν ταχεῖ μήτε τῷ ἄγαν βραδεῖ (X. *Eq*. 11.12), one would expect that βραδυτής 'slowness' (Fr. *lenteur*) was used to denote the fact of being slow. It is probably a nonce formation based on τάχος (cf. de Lamberterie 1989), and can therefore be left aside for purposes of reconstruction.

[368] Perhaps, Slavic *gъrdъ > Ru. *górdyj* 'proud, haughty' is related to the Baltic forms (the *o*-stem may replace an earlier *u*-stem). A thematic noun would be presupposed by Lat. *gurdus* 'blockhead', but its appurtenance is not ascertained (cf. de Lamberterie 1990: 594-5).

[369] One may compare the situation with that of PIE **b*, for which there is hardly any evidence and where the reduction of certain specific clusters may perhaps explain **b* in initial position, as proposed by Lubotsky in two recent lectures. Although we do not know what actually happened in the prehistory of *g^{w}*red*-, I would not exclude a similar reduction of an initial cluster in this case.

[370] Words for 'slow' are frequently derived from a meaning 'quiet, peaceful'. Within Greek, cf. ἠρέμα 'quietly, slowly', ἥσυχος 'id.'. In Homer, ἦκα, ἥκιστος (no etymology) also denotes quietness in general rather than low speed in particular.

[371] Cf. also Chantraine & Goube (*ad Il*. 23.530). No comments on this issue are found in Seiler (1950: 56f.), nor in Frisk or *DELG* (s.v. βραδύς), Kirk et al. or Ameis-Hentze (*ad loc*.), Nordheider (*LfgrE* q.v.).

[372] See also the formula κρατερὸν μένος, applied to mules with stamina (*Il*. 17.742). For further connections of the root κρατ- with horse-riding, see the next chapter.

βάρδιστοι θείειν (*Il*. 23.310) by his father Nestor. Moreover, if βράσσων does indeed replace *βράζων, then the original form of the comparative (with an *e*-grade root) must have been *$*g^{w}red$-$i̯os$-.

Finally, the form βραδυτής must be taken into consideration. It occurs in Homer (*Il*. 19.411) and remains alive in the classical language. The accented suffix -τής only occurs in four Greek -της abstracts (Pike 2011: 148). Since the *s*-stem abstract τάχος may denote both speed and swiftness, whereas the -της abstract βραδυτής is the regular way to express 'slowness' (cf. de Lamberterie 1989), it is likely that βραδυτής is older than ταχυτής 'swiftness', which has the same accentuation. But this does not imply that βραδυτής is the regular outcome of a PGr. *$*g^{w}r̥du$-$tāt$-: it is possible that the form was secondarily derived from (or influenced by) the positive βραδύς.

In summary, neither βραδύς nor βάρδιστος provides unambiguous evidence for the regular vocalization of *$*r̥$, because the original full grade slot of the root is unclear. Given that the Homeric superlative βάρδιστοι could be an analogical or even artificial creation, it cannot be excluded that original full grade was *$*g^{w}red$-.[373] In that case, the original adjectival paradigm may have been PIE Ns. *$*g^{w}réd$-u-s, Gs. *$*g^{w}r̥d$-$éu$-s, which yielded βραδύς, -έος after the series of levelings discussed above.[374]

4.4.5 *βλαδύς and ἀμαλδύνω

Before discussing the attestations of *βλαδύς, let me first comment on a peculiarity shared by this adjective and θρασύς. In these two adjectives, it seems that the reflex of the weak stem was generalized without influence of the vowel slot of the full grade form (PGr. *$*t^{h}ers$-, *$*meld$-). In other words, the analogical development from stage IIa to IIb in the above scheme (section 4.4) seems not to have taken place. If so, θρασύς and *βλαδύς would seem to be the regular outcomes of non-ablauting adjectives *$*t^{h}r̥s$-$ú$- and *$*mḷd$-$ú$-. There is no reason, however, to assume a difference in ablaut behavior between the various adjectives of the structure *$*CLC$-u-.[375]

There is another reason to doubt that θρασύς and *βλαδύς are the regular outcome of the original *u*-stem paradigms: the factitive verbs ἀμαλδύνω 'to erode, weaken' and θαρσύνω 'to encourage'. As we have seen in section 4.2.3, Homeric verbs in -ύνω are productively derived from *u*-stem adjectives. Therefore, ἀμαλδύνω and θαρσύνω seem to imply the earlier existence of *(ἀ)μαλδύς and *θαρσύς. In both cases, two different reflexes of one and the same ablauting paradigm would have been preserved: PGr. *$*méldu$-, *$*mḷdéw$- would have split into *μαλδύς ~ βλαδύς, and *$*t^{h}érsu$-, *$*t^{h}r̥séw$- into *θαρσύς ~ θρασύς. Such a scenario is questionable (see section 4.3.2 on the paradigm of ταρφύς).

Returning to *βλαδύς, let us discuss the attested forms. An adjective *βλαδύς is only found in the gloss βλαδεῖς (Hsch.).[376] Further traces of a zero grade root βλαδ- are found, but again only in glosses (Hsch., β 54-59):

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[373] Theocritus has not only the Homeric superlative βάρδιστος, but also the comparative βαρδύτερος, which is certainly an artificial creation, too.

[374] A second possibility would be that there was *Schwebeablaut* between the positive and the grades of comparison (cf. cases like PIE *$*pelh_1$-u beside *$*pleh_1$-is-), but such an assumption is ultimately hard to prove, and unnecessary.

[375] It would presuppose that the full grade strong stem was eliminated at an early date. The case of ταρφέες (which has plural forms only) is different. It is true that we only have the plural of *βλαδύς, in the gloss βλαδεῖς. However, this may be due to coincidence; other glosses with βλαδ- are attested in the singular.

[376] De Lamberterie (1990: 356-8) convincingly argues that the restitution of βλαδύς for transmitted βραδύς in the text of Hp. *Aër*. 20 is unnecessary. For the possibility that βλαστεῖν 'to sprout', βλαστόν 'sprout' are related, see section 10.4.2.

βλαδά· ἄωρα, μωρά. AS ὠμά (‘untimely, sluggish’)
βλάδαν· νωθρῶς (‘slothful’)
βλαδαρά· ἄωρα, μωρά, ὠμά
βλαδαρόν· ἐκλελυμένον, χαῦνον (‘flaccid, porous’)
βλαδόν· ἀδύνατον (‘powerless, weak’)
βλαδεῖς· ἀδύνατοι ἐξ ἀδυνάτων.[377]

The denominative verb ἀμαλδύνω is attested from Homer onwards, but in various different meanings. The philological evidence for this verb has been extensively discussed by de Lamberterie. After an examination of his arguments, I reached the following conclusions:

(1) In Homer, ἀμαλδύνω occurs in the *Iliad*, three times in a similar context. On each occasion, the Achaean wall is ‘reduced to dust, corroded’ (by erosion of wind and water). The meaning ‘to make invisible’, found in post-Homeric poetry, is ultimately based on reinterpretations of the Homeric meaning. In the Hippocratic Corpus, ἀμαλδύνω means ‘to weaken’ (vel sim.); sometimes, ἀμαλδύνω is even used as an equivalent of ἀμβλύνω ‘to make blunt’ (cf. de Lamberterie 1990: 364-8).

(2) The ἀ- of ἀμαλδύνω may be secondary after ἀμαθύνω ‘reduce to sand’ (Hom.+), which may itself owe its factitive suffix -υν- to ἀμαλδύνω (de Lamberterie 1990: 363).[378] It is noteworthy that the ἀ- of the gloss ἀμέλδειν· τήκειν. στερίσκειν ‘to melt; deprive of’ (Hsch.) beside μέλδομαι ‘to become soft by boiling or heating, be cooked’ (*Il.* 21.363, Nic.), which is derived from the same root as ἀμαλδύνω, was also secondarily added.[379]

(3) As de Lamberterie shows (1990: 372-3), the PIE root was **meld-* rather than **mled-* in view of Gr. μέλδομαι ‘to be cooked’, PGm. **(s)meltan-* ‘to melt’, Arm. *mełk* ‘soft’ < **meldwi-*.[380] The Armenian word may also show that the root did not have an initial laryngeal. The full grade of Ved. *ví mradā* (RV, hapax), *ū́rṇa-mradas-* ‘soft like wool’ must then be an innovation of Indo-Aryan.[381]

(4) It follows that ἀμαλδύνω points to the earlier existence of an adjectival stem *(ἀ)μαλδύ- ‘reduced to dust’ (de Lamberterie 1990: 364).

A semantic problem must now be taken into account. All cognate forms of the adjective PIE **mḷd-ú-* carry the meaning ‘weak, soft, tender’, but ἀμαλδύνω means ‘to corrode’. At first sight, then, the meaning of ἀμαλδύνω seems to match that of Vedic *mard-*

[377] The alphabetical order of these glosses (βλαδεῖς after βλαδόν) seems to confirm that βλαδεῖς is from a *u*-stem adjective *βλαδύς. In the literature, βλαδαρός is sometimes cited as attested in Galen (e.g. Rau 2009: 153), but the form is actually a conjecture for attested βλαβεραί (de Lamberterie 1990: 356). De Lamberterie also includes the gloss βλάζειν· μωραίνειν ‘to act foolishly’, but its appurtenance to *βλαδύς seems uncertain to me.

[378] I would add to this that other adjectives like ἀμαλός ‘weak’ (*Il.*+, no etymology), ἁπαλός ‘soft, tender’ (Hom.+), ἀμαυρός ‘dark, unseen, invisible’ may have played a part in the reshaping of an earlier *μαλδύνω.

[379] The second glossation στερίσκειν could suggest that the verbal root of ἀμέρδω ‘to deprive (of eyesight)’ was involved in the reshaping of μέλδομαι. But this is not certain, because the glossator may have been confused by the similarity between ἀμέρδω and ἀμέλδω.

[380] Differently, Hamp (1988: 89), according to whom Arm. *mełk* is a “revocalization” of **małk*. Mayrhofer (*EWAia* s.v. *MRAD*) reconstructs PIE **(h$_2$)mled-* for ‘to become weak, dissolve’, beside **merd(H)-* “zerdrücken, zerreiben”. For the semantic distinction, he compares Lat. *mordeō* ‘to bite’. I would rather reconstruct the second root as **h$_2$merd-* in view of Gr. ἀμέρδω ‘to deprive (of eyesight)’, originally of sharp or biting sensual impressions; see *LIV*^{2} s.v.

[381] Within early Vedic, *MRAD* ‘to soften’ can be semantically distinguished from *MARD* ‘to crush’, even if both roots were confused early on (Mayrhofer *EWAia* s.v. *MRAD*). It does not seem wise to base a conclusion regarding the original full-grade slot on the Indo-Aryan evidence, because this branch lost not only the difference between *l* and *r*, but also the word-initial preconsonantal laryngeals. As a result, the full grade slot could become a useful means to distinguish between two roots that had merged as a result of regular sound change. In this case, the roots **meld-* ‘to become weak’ (~ Lat. *mollis*) and **h$_2$merd-* ‘to crush, bite’ (~ Lat. *mordeō*) could only be kept separate by the creation of a novel full grade. Therefore, *mrad-* may be a recent reshaping of Indo-Aryan date, motivated by the merger of **r* and **l* and the loss of the word-initial laryngeals.

'to crush', which is synchronically distinct from *mrad-* 'soft'. De Lamberterie (l.c.) answers this problem by assuming that the meaning 'to reduce to dust' displayed by the Homeric factitive is old, claiming that this meaning "reflète directement le sens fondamental de la racine **mel(H₂)-* 'broyer, moudre' (…)". This means, however, that he has to ascribe the meaning 'weak, soft, tender', attested in all branches that have the *u*-stem adjective, to a secondary development from 'crushed, pulverized'. But it does not seem very likely to me that this semantic development took place independently in at least three branches.

It is possible that the roots **meld-* and **melh₁-* were identical in a pre-stage of PIE. In PIE itself, however, the semantics of **meld-* 'to be weak or soft' were already different from those of **melh₁-* 'to crush'.[382] Therefore, I depart from the assumption that the precursor *(ἀ)μαλδύς had the meaning 'weak, soft', like all its cognates. This meaning developed within Greek to 'flaccid, porous', as attested in the gloss βλαδαρόν· ἐκλελυμένον, χαῦνον.[383] From a *u*-stem adjective with this meaning, the factitive verb (ἀ)μαλδύνω could be formed in the meaning 'to make porous', i.e. 'to corrode', attested in Homer with the Achaean wall as its object. This shows how both ἀμαλδύνω and the glosses with βλαδ- can be derived from a PIE root **meld-* meaning 'to become weak'.

It remains to explain the difference in vocalization between *(ἀ)μαλδύ- and *βλαδύς. A proterodynamic adjective **méld-u-*, **mḷd-éu-* 'soft, weak, mollified' can be reconstructed for the proto-language.[384] It cannot be assumed, however, that both *μαλδ- and *βλαδ- were ever present in the same *u*-stem paradigm, at least not within the same dialect. After the vocalization **l̥* > λα, one expects that this paradigm was remodeled either to (1) **méldus*, Gs. **maldéwos* >> **maldús*, Gs. **maldéwos*, or directly to (2) **mladús*, Gs. **mladéwos*. If we depart from scenario (2), we could explain *βλαδύς, but not ἀμαλδύνω. Moreover, other *u*-stem adjectives like βραδύς, βραχύς and κρατύς underwent scenario (1). If (1) applies, ἀμαλδύνω receives a straightforward explanation, but this would leave *βλαδύς unexplained.

I can see two possible ways out of this dilemma. First, it is possible that the glosses with βλαδ- are not from Ionic, but from a different dialect. Although the glosses are Ionic-Attic on a default interpretation, there is nothing to conclusively prove their Ionic origin. Since most of the post-Homeric occurrences of ἀμαλδύνω are found in the Hippocratic Corpus, it is possible that the forms with βλαδ- are also from this collection of works, of which a considerable number are now lost. The lexical meanings attested in the glosses, such as 'flabby' and 'porous', would be compatible with medical terminology. In that case, it may be wondered whether βλαδαρός and other forms could be of Doric origin: after all, Hippocrates and his pupils lived and worked on the island of Kos. This speculation may receive some support from the adjetive πλαδαρός. One of its meanings is 'flaccid', the meaning attested for the gloss βλαδαρός, and πλαδαρός is also attested in the Hippocratic corpus (and nowhere else before the end of the Classical period). It is possible, therefore, that πλαδαρός replaced the older form βλαδαρός in Ionic-Attic, perhaps influenced by the verb πλάσσω 'to knead (a weak mass)'. In this case, βλαδαρός could perhaps be a Doric form of the same adjective, and πλαδαρός could contain an indirect trace of the regular outcome of the non-ablauting zero grade root **mḷd-* in Ionic. If this is correct, a non-Ionic origin of the gloss βλαδεῖς cannot be excluded either.

Secondly, it is not certain that the root shape βλαδ- arose in the *u*-stem adjective. In the adverbs in -α (see section 4.1.5, and cf. the regular outcome in κάρτα), where the zero grade is expected from an etymological point of view, an outcome βλαδ- < **mḷd-* would have been protected against the analogical influence of full grade forms. A form βλαδά is indeed

[382] Cf. the translations of the root meanings in the *LIV²*, **meld-* 'weich werden' versus **melh₂-* 'zerreiben, mahlen'. I would rather reconstruct the latter as **melh₁-* in view of e.g. Myc. *me-re-ti-ri-ja* 'female grinders'.
[383] Note that G. *weich* may mean both 'weak, soft' and 'flaccid'.
[384] See above on Lat. *mollis* 'soft, gentle' < **meldw-i-*.

attested among the glosses from Hsch. Although the precise scenario by which the other adjectival glosses came into being must remain unclear, it cannot be excluded that some of them were backformed to this adverb.[385]

In conclusion, *(ἀ)μαλδύς, presupposed by the factitive verb ἀμαλδύνω 'to corrode', is the expected continuant of the inherited *u*-stem adjective **meld-u-*, **mḷd-ew-* 'weak, flaccid' in Ionic-Attic. The ἀ- of ἀμαλδύνω may have been secondarily introduced from a different lexeme, and the outcome -αλ- is due to paradigmatic leveling. The glosses with βλαδ- are not easy to explain, but I have made two suggestions: the form βλαδεῖς could be non-Ionic-Attic, or it may be secondary beside other formations were βλαδ- would be expected, such as the adverb βλαδά or the thematic adjective βλαδαρός. Neither of these suggestions is entirely satisfactory, but it must be stressed that *βλαδύς would not be the expected outcome of **meld-u-*, **mḷd-ew-* in any case.

4.5 θρασύς and θαρσύνω

The adjective θρασύς 'bold' is attested from Homer onwards, in poetry and prose alike. Since the full grade of the root is θερσ-, θρασύς < **d*^{h}*r̥s-ú-* seems to be a strong counterexample against the claim that **r̥* > -αρ- is the regular Ionic-Attic development. We have seen in the previous section, however, that θρασύς behaves differently from *u*-stem adjectives with a similar root structure: the zero grade reflex does not show the influence of the original full grade root θερσ-. Given the leveling that led to κρατύς, βραχύς, and βραδύς, one would expect an ablauting **d*^{h}*érs-u-*, **d*^{h}*r̥s-éu-* to end up as $^{++}$θαρσύς. Although some historical grammars cite such a form[386], it is unattested as an appellative; there are only a few personal names with θαρσυ-, but not in Ionic-Attic.

Let us now consider the derivational system of this root in its entirety, first in Homeric, then in Classical Greek. The semantics of the attested formations play a key role, because they may help us to establish the historical and synchronic derivational relationships.

4.5.1 The roots θρασ- and θαρσ- in Homeric Greek

The following table contains the attestations of the two root shapes θρασ- and θαρσ- in Homeric Greek.

[385] βλάδαν· νωθρῶς 'slothful' (adv.) may perhaps have acquired its -ν from the following word; βλαδαρά, βλαδαρός may perhaps have added -ρό- to the adverb βλαδά (cf. λιπαρός 'fat' beside λίπα in Homer, Risch 1974: 363), or may have undergone influence of semantically close adjectives in the meaning 'flaccid, sluggish', especially πλαδαρός (only in medical literature). Finally, βλαδόν· ἀδύνατον could be corrected to βλαδύν (as suggested by both Frisk and *DELG*, but rejected by de Lamberterie). If so, all forms can be reduced to a *u*-stem adjective and an adverb in -α. But it must be admitted that the evidence is very shaky and can be analyzed in various ways. De Lamberterie (1990: 362) also points at the gloss ἀβλαδέως· ἡδέως 'in a pleasant way, agreeably' (Hsch.). The meaning 'pleasant' could be derived from 'soft', in which case the addition of ἀ- would have to be secondary (cf. on ἀμαλδύνω). Both for semantic and formal reasons, this seems preferable over assuming a privative *s*-stem compound **n̥-mḷd-es-*: a zero grade root **-mḷd-* would be unexpected as the second member of a compound.

[386] Lejeune (1972), Sihler (1995); Chantraine's reference (*DELG* s.v. θάρσος) to a "θαρσύς (attesté en composition)" may give rise to confusion.

θρασ-	**Θερσ-, θαρσ-**
θρασύς[387]	
θρασυκάρδιος, θρασυμέμνονα, PN Θρασυμήδης (10x), Θρασύμηλον (1x).	PNs Θερσίλοχος, Θερσίτης
	θαρσύνω ‘to instill courage’
	θάρσυνος ‘confident’ (2x)[388]
	θαρσαλέος ‘tenacious, persevering, audacious, etc.’
	πολυθαρσής (3x) PNs Ἀλιθέρσης, Πολυθερσεΐδης (*Od.*).
θράσος ‘courage’ (only *Il.* 14.416)	θάρσος ‘courage, perseverance’ (12x)
	θαρσέω ‘to hold on, keep the courage’ (24x: 2s. pres. ipv. θάρσει 16x, aor. θαρσησ-)

Table 4.2: θρασ- vs. θερσ-, θαρσ- in Homer

From this table, it becomes apparent that there are no true doublets in Homeric Greek. The only exception is the neuter θάρσος, beside which the hapax θράσος may be analyzed as a nonce formation on the model of κράτος ~ κάρτος.[389] All instances of θαρσ- can be explained as analogical zero grades, or they secondarily introduced -α- into a pre-form with *θερσ-. The full grade root of θέρσος, attested in Alcaeus, has been replaced by θάρσος in Ionic-Attic. Similarly, πολυθαρσής replaces -θερσής, which is preserved in Homer only in the personal names Ἀλιθέρσης and Πολυθερσεΐδης. Leaving θράσος aside, then, it is remarkable that the root allomorph θρασ- is limited in Homer to the *u*-stem adjective θρασύς and the compounds with first member θρασυ- (including personal names).[390] This distribution calls for an explanation.

In his extensive treatment of the semantics of the root θερσ-, de Lamberterie (1990: 854) draws attention to the use of θαρσαλέος, not θρασύς, as the adjectival counterpart of the Caland formations θάρσος ‘confidence, courage’, πολυθαρσής ‘very courageous’, θαρσέω ‘to

[387] Forms of comparison of θρασύς are not attested in Homer (or in Early Greek Epic generally). Their absence could be explained if we assume that they were formed with the suffixes -τερο- and -τατο- already at an early date: the forms θρασύτερος and θρασύτατος contained a tribrachic sequence. But it is also possible that they are later creations of the Classical vernacular. The hapax comparative θράσιον (Alcm. fr. 87) must be a secondary formation: it has the wrong Sievers alternant, and an inherited primary comparative would have had the original full grade slot of the root **d^{h}ers-*.

[388] θάρσυνος ‘confident’ is a quasi-hapax in all of Greek (it occurs only twice in Homer). Its derivational morphology is unclear; suggestions are listed in Risch (1974: 150-51), with further literature. Since θάρσυνος agrees in meaning with the other θαρσ- forms, it was perhaps created as a metrical by-form for πίσυνος ‘confident’ (Hom.+), which is the only comparable formation and has the same meaning.

[389] As we will see in chapter 5, only the alternation κράτος ~ κάρτος has a real linguistic basis in Epic Greek. In derivations from the root καρτ- ~ κρατ-, the regular zero grade outcome καρτ- spread from κρατερός ~ καρτερός to other forms where it is not expected on etymological grounds, like κάρτος and κάρτιστος. The root shape θρασ-, on the other hand, is limited to θρασυ- in Homer. De Lamberterie (1990: 852) calls θράσος “un pur doublet du terme usuel θάρσος.” In the sense that there is no semantic difference between θράσος and the normal form θάρσος in Homer, I agree with this claim. But I disagree with the assumption that -αρ- and -ρα- may appear interchangeably as outcomes of a zero grade (“θαρσ- et θρασ- (…) n’étaient à l’origine que des doublets”, 1990: 849), because this supposition does not explain the distribution of the two root shapes in Homer.

[390] In compounds and personal names, the allomorphy between Θερσι- and Θρασυ- clearly has a metrical background in Homer (Θερσι- in front of a short root syllable, or with elision in front of a vowel, Θρασυ- in front of a heavy root syllable starting with a consonant). This distribution seems older than the vocalization of **ṛ*, because Θερσι- was probably created on the basis of -θερσής. This shows, on the one hand, that **ṛ* could not be metrically lengthened, and on the other hand that Θρασυ- replaced an older Θρασι- or **t^{h}ṛsi-*, as one expects in any case.

be confident', and θαρσύνω 'to encourage, reassure'. This is suggested by the following items of Homeric phraseology:

(1) θαρσαλέον νύ οἱ ἦτορ ἐνὶ φρεσίν (*Il*. 19.169)

(2) θάρσυνον δέ οἱ ἦτορ ἐνὶ φρεσίν (*Il*. 16.242)

(3) θαρσύνονθ' ἑτάρους καὶ ἐποτρύνοντα μάχεσθαι (*Il*. 13.767, 17.117 and 683).

The comparison between (1) and (2) suggests that θαρσύνειν ἦτορ is equivalent to θαρσαλέον ποιεῖν ἦτορ. In addition, the juxtaposition of θαρσύνω 'to instill courage' and ἐποτρύνω 'to incite' in (3) brings to mind the pair ὀτραλέως 'lively' : ὀτρύνω 'to incite', which was probably an analogical creation beside θαρσαλέως : θαρσύνω.

De Lamberterie's observation is corroborated by a closer consideration of the two Homeric forms and their semantics. While there are some differences in the use of θαρσαλέος and θρασύς, it is usually claimed that there was no tangible semantic or lexical distinction in Homer.[391] But if this were correct, the absence of a derivational relation between θρασύς and θαρσύνω would be hard to understand. In my view, θρασύς only means 'bold; reckless' in Homer, and was carefully distinguished from θαρσαλέος 'persevering; audacious; confident', θάρσος 'perseverance; confidence, courage', and the corresponding denominative verbs.[392] The phraseological difference between θρασύς and the group of θαρσαλέος, θάρσος, θαρσύνω, θαρσέω goes even further: while the latter forms are frequently opposed to words for fear (δέος, δείδω) or restraint (αἰδώς), θρασύς is never used in the same way.[393]

The lexical isolation of θρασύς in Homer, which has not been duly noted before, is of considerable importance. It shows that the phonological difference between θρασ- and θαρσ- was accompanied by a semantic difference, and that θαρσ- and θρασ- are synchronically two distinct roots in Homeric Greek. The derivational relation between θαρσαλέος and θάρσος, and especially the absence of such a relation between θρασύς and θάρσος, strongly suggests that the *a*-vocalism in θάρσος and related forms was not introduced from θρασύς, but from a different form.

4.5.2 The roots θρασ- and θαρσ- in Classical Greek

The attested formations and the distribution of the allomorphs θρασ- and θαρσ- in Classical Greek (Ionic and Attic) are listed in the following table. It is necessary to distinguish Ionic from Attic, and poetic forms from prose forms.[394]

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[391] Classical Attic distinguishes θαρσαλέος 'self-assured' and θάρσος 'courage, (self-)confidence' from θρασύς 'reckless' and θράσος 'arrogance'. This semantic specialization is generally thought to be of post-Homeric date (cf. de Lamberterie 1990: 849), and supposed to have developed by the lexicalization of a pragmatic difference between a pejorative acception 'reckless' and a laudatory meaning 'courageous'.

[392] Cf. *DELG*, s.v. θάρσος: "L'adj. θρασύς se trouve chez Hom. au sens de «brave», comme épithète d'Hector et d'autres héros, de πόλεμος «le combat courageux», enfin comme épithète de χεῖρες «des mains intrépides» (…). Toutefois dans le grec postérieur l'emploi de θρασύς s'est trouvé réservé au sens de «audacieux (en mauvaise part), téméraire, arrogant» (attique) (…). Cette spécialisation est secondaire comme le prouvent les faits homériques et les composés anciens avec θρασύς au premier membre (…)." In my view, the translations proposed by Chantraine are untenable: instead of "combat courageux", I would prefer to translate πόλεμον θρασύν as 'violent war', θρασειάων ἀπὸ χειρῶν as 'from their dauntless hands', and as 'reckless' (G. *dreist*) when Hektor or his charioteers are qualified as θρασύς. To be sure, θαρσαλέος also retains traces of this older meaning (cf. de Lamberterie 1990: 853-4), but the important point is that θρασύς never means 'confident, courageous'. I hope to bolster this lexical claim in the near future by discussing all Homeric attestations of θρασύς and θαρσαλέος in a separate publication.

[393] For the opposition with δέος, δείδω, etc. see e.g. *Il*. 17.117-8, 24.171, *Od*. 4.825, 6.140, 9.376-7, 17.449, 18.330-1 and 390-1, 19.91. For Thucydides, Huart has reached the same conclusion concerning θάρσος and θαρσέω: "toujours θαρσεῖν est en rapport direct avec l'action", and "la confiance s'oppose ainsi à l'appréhension et cette opposition, assez souvent implicite, est parfois clairement formulée" (1968: 426).

[394] As de Lamberterie (1990: 849) remarks, "[Il convient] de mener l'étude sémantique en distinguant les époques et les genres littéraires".

θρασ- 'reckless'	**θαρσ- 'courage'**
θρασύς 'bold, reckless, audacious' (poetry and prose)	
first member θρασυ- (poetry, Pi.+), also frequent in PNs	θερσι-επής 'with audacious words' (B.), PN Θέρσανδρος (Pi., Hdt.+)[395]
forms of comparison θρασύτερος and θρασύτατος (Hdt., Th., X., etc., never in poetry)	
θρασύνω 'to embolden' (Attic, Hp.)	θαρσύνω 'to encourage' (general in Ionic prose, Attic poetry, and Th.), θαρρύνω (X.)
	θαρραλέος 'self-assured, assertive, confident' (Attic; θαρσ- in Th., Hp. and poetry)
Only κυνο-θρασής 'impudent as a dog' (A.)	εὐ-θαρσής 'courageous' (A.)
θράσος 'audacity, impudence' (Attic, e.g. Ar., X., Pl., but never in Ionic)	θάρσος (Pi., trag., Hdt., Thuc., Pl.), Att. θάρρος (X., Pl.)
	θαρσέω (Att. θαρρέω) especially frequent in impv. θάρρει 'hold on!'

Table 4.3: θρασ- vs. θαρσ- in Classical Greek prose and poetry

In Classical Greek, the root allomorph θρασ- is found not only in θρασύς and the first member θρασυ-, but also in the grades of comparison θρασύτερος, θρασύτατος, in the denominative verb θρασύνω, and in the abstract θράσος. It is remarkable that Classical prose, unlike Homeric Greek, has the morphological doublets θρασύνω ~ θαρσύνω (Attic θαρρύνω) and θράσος ~ θάρσος (Attic θάρρος).[396] As we will see in the next chapter, the situation for κρατ- ~ καρτ- is exactly the reverse: Epic Greek has the doublets κρατερός ~ καρτερός and κράτος ~ κάρτος, whereas Classical prose has no such doublets at all. This purely formal point already suggests that the alternation θρασ- ~ θαρσ- in spoken Classical Greek reflects a linguistically real phenomenon.

In comparing the Classical alternation θράσος ~ θάρσος with the Homeric one in κράτος ~ κάρτος, we have to be careful. Whereas the Homeric alternation is utilized for metrical purposes, the roots θρασ- and θαρσ- (θαρρ-) are semantically distinct in Classical Attic. As is well-known,[397] Attic prose generally makes a distinction between θράσος 'audacity, boldness, recklessness' and θάρσος 'courage, (self-)confidence', and also between θρασύνω 'to embolden' and θαρσύνω 'to encourage, give confidence'.[398] This distinction is

[395] Names in Θρασυ- are common in inscriptions, and compete with names in Θερσι- (for an overview, be it an outdated one, see Bechtel 1917: 207 and 211-213). For the idea that their distribution is metrically conditined, see above. In the extant Odes of Pindar, we find 14 compounds with θρασυ- (including 7x a proper name), as against 7 attestations of the adjective θρασύς.

[396] From now on, I will cite only forms with -ρσ-, and refrain from citing the Attic forms with their proper dialectal outcome -ρρ-.

[397] A clear overview of the semantics of θρασύς and related forms can be found in de Lamberterie (1990: 849-59). See also Huart (1968: 426-431), with special focus on Thucydides; a more summary discussion is found in Meissner (2006: 70-71).

[398] This semantic distinction has generally been interpreted as a difference between pejorative (θράσος) and laudatory (θάρσος) values. Cf. Huart (1968: 428): "On admet généralement que θάρσος et θράσος s'emploient assez indifféremment en poésie, tandis que, dans la prose, θάρσος est utilisé de préférence en bonne part, et θράσος en mauvaise part." As Meissner (l.c.) formulates it, "The negative connotation becomes more frequent in Attic, and as early as in tragedy the meaning 'arrogant', 'audacious' prevails (…). Thus, θράσος follows θρασύς

also broadly respected in Classical poetry, even if there are some instances where θρασ- is used instead of expected θαρσ-, perhaps for metrical reasons.[399] Clearly, θράσος and θρασύνω were productively created on the basis of θρασύς 'daring, reckless'. The innovative character of Att. θράσος is corroborated by its absence from Ionic.

For θρασύς, the Homeric meaning 'bold, daring' continues to be the normal one in early Classical poetry, also in poetic compounds with θρασυ- (see de Lamberterie 1990: 851). But in Classical prose, 'audacious' becomes the predominant meaning. Huart (1968: 430) observes that θρασύς, like θράσος, does not yet exclusively have a pejorative meaning in Thucydides.[400] But again, this does not imply that Thucydides made no distinction between θρασύς and θαρσαλέος (as Huart claims): in my view, the difference between θρασύς 'bold; reckless' and θαρσαλέος 'confident, self-assured' had already been lexicalized in Thucydides, and even in the Ionic vernacular of Homer's day (see above).[401]

Both Ionic and Attic retain the Homeric verb θαρσύνω, but we also find θρασύνω, based on the adjective θρασύς (or perhaps on θράσος). It is noteworthy that this allomorphy does not extend to the -έω verb, which only appears in the form θαρσέω 'to be confident or reassured'. In Attic, 'to be(come) bold or audacious' was expressed not by *θρασέω, but by the middle θρασύνομαι. This shows, from a different angle, that the only old denominative verbs are θαρσύνω and θαρσέω, and that θρασύνω was a more recent creation, as one already expects on the basis of the lexical differences. This has the important consequence that Homeric θαρσύνω is <u>not</u> a metrical replacement of a vernacular form *θρασύνω 'to encourage'. We may conclude with some confidence, then, that θαρσύνω was not derived from θρασύς.

This analysis of the Ionic-Attic material leads to the following overview. The root θαρσ- had a productive meaning 'to be confident, have courage' and is found, from Homer onwards, in θαρσαλέος, -θαρσής, θάρσος, θαρσέω, and θαρσύνω. The root θρασ- had a distinct meaning 'bold, reckless' in Homer, where it occurs only in θρασύς and compounds with θρασυ-. In Classical Greek, it develops the meaning 'audacious' and appears, beside θρασύς and θρασυ-, in the comp. -τερος, superl. -τατος, the factitive verb θρασύνω 'to embolden' and the abstract θράσος.[402] On the basis of the preceding two sections, it can be concluded that the Homeric situation is old:

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not only in form but in meaning as well." De Lamberterie (1990: 856-7) argues that the pejorative connotation may have developed, in particular, in the frequent combination of θρασύς with words that are 'impudent, impertinent'. However, Huart (1968) has shown convincingly that this specific distinction between pejorative and laudatory uses does not hold in Thucydides. On the other hand, he goes too far when he concludes that Thucydides made no distinction at all between the two forms. In my view, Thucydides observes a difference between θράσος 'boldness, audacity' (frequently with the connotation of surplus, 'recklessness'), whereas θάρσος means 'confidence, assurance' (either justified or unjustified, see Huart 1968: 427).

[399] De Lamberterie (o.c. 856) mentions A. *Supp*. 772, where πρὶν ὅρμῳ ναῦν θρασυνθῆναι means 'before the ship has reached a safe haven', and where "on attendrait plûtot une forme en θαρσ-".

[400] About θρασύς, Huart (1968: 430) remarks: "… chez les prosateurs postérieurs à Thucydide, le mot est généralement de valeur péjorative: Thucydide, lui, reste fidèle à l'usage ancien – celui de la poésie – où le terme est pris en bonne, ou en mauvaise part." Herodotus (7.49) also attests the meaning 'bold' without any negative connotations.

[401] As for θαρσαλέος, see de Lamberterie (1990: 855): "elle désigne toujours l'assurance, la confiance en soi, par opposition à la crainte". That θαρσαλέος is semantically distinct from θρασύς is explicitly remarked by Plato, *Leg*. 649c (see *DELG* s.v. θάρσος), although θαρραλέος does not mean 'self-confident' there, but is rendered with ἀναίσχυντος 'audacious'.

[402] As we have already remarked, poets like Pindar and Aeschylus show some tendency to use forms with αρ and ρα interchangeably.

Meaning:	**'bold, reckless'**	**>**	**'courageous, self-assured'**
adjective	θρασύς		θαρσαλέος
compounds	θρασυ-, θερσι-		
s-stem			θάρσος, -θαρσής
stative and factitive			θαρσέω, θαρσύνω

Table 4.4: The synchronic paradigms of θρασ- and θαρσ- in Homer

4.5.3 Reconstruction

Let us now review the reasons for assuming an older *θαρσύς. First of all, as was already proposed by Chantraine (*DELG*, s.v. θάρσος), the factitive verb θαρσύνω seems to presuppose that the *u*-stem adjective had this form.[403] This argument has met with objections. Both Tucker (1990) and Strunk (1975) argued that Hom. θαρσύνω may also have been derived from θάρσος. However, we have seen (section 4.2.3) that the basis for such a derivation, as early as Homer, is very small. The main question is: how did the patterning of factitives in -ύνω beside *s*-stem neuter abstracts originate? Homeric καρτύνω cannot have been derived from the *u*-stem adjective, because a form $^{++}$καρτύς did not exist. The derivation of καρτύνω on the basis of Epic κάρτος, however, presupposes the existence of a model. In the absence of alternatives, it is attractive to think that the pair θαρσύνω : θάρσος was all-important in the emergence of the new derivational pattern. The pivotal role of θαρσύνω is also illustrated by the pair ὀτραλέως 'quickly' : ὀτρύνω 'to incite', which is clearly based on θαρσαλέος : θαρσύνω. For these reasons, it seems that θαρσύνω presupposes an earlier *θαρσύς, which was lost after Homer.

Secondly, we have seen that the expected outcome of an ablauting adjective *d^{h}*érs-u-*, *d^{h}*r̥s-éu-* would indeed be *θαρσύς. If we assume that this form was supplanted and ousted by θαρσαλέος, all pieces suddenly fall into place. Derivational schemes like θαρσαλέος → θαρσύνω and θάρσος → θαρσύνω could emerge only after *θαρσύς had fallen in disuse. Although the origin of -αλέος is unclear, θαρσαλέος may have been one of the first instances of such an adjective. In contrast with the *e*-vocalism of κερδαλέος (beside κέρδος) and σμερδαλέος, the *a*-vocalism of θαρσαλέος must have been influenced by *θαρσύς. This is the only way to explain the spread of *a*-vocalism through the derivational system. It would be problematic to assume that θρασύς influenced the vocalism of *θέρσος and derivationally related forms prior to the rise of a semantic difference, because one expects such analogical influence to reduce the number of different root shapes, not to increase them.[404] The derivational isolation of θρασύς in Homer only adds to our suspicion.

If this is correct, why is the *u*-stem adjective attested only as θρασύς, and how did this form come into being? It seems that its deviant root shape can only be explained as the regular outcome of a pre-form *t^{h}*r̥sú-*. On the other hand, it can be excluded that both θρασύς and *θαρσύς resulted from the same original *u*-stem paradigm (see section 4.4.5). The root shape θρασ- was old and frequent in personal names and appellative compounds with θρασυ-

[403] "Le verbe dénominatif confirmerait l'existence de *θαρσύς et se présente sous deux formes: θαρσύνω (att. θαρρ-) «encourager, donner confiance», etc. (Hom., ion.-att., etc.) et θρασύνω «encourager», qui se dit généralement d'une audace imprudente ou impudente (Aesch. *Ag*. 222, Th. 1.142), surtout employé au passif et au moyen, le plus souvent au mauvaise part, cf. Ar. *Gren*. 846, etc." (*DELG* s.v. θάρσος). Although I agree with Chantraine concerning *θαρσύς, I disagree that *θαρσύς and θρασύς were simply doublets: "… la forme [θρασύς] pouvant être analogique de θαρσύς (attesté en composition) qui présente le traitement -αρ- de *r̥, θέρσος, etc. (…)", where Chantraine refers to Lejeune (1972) for explanation of the double reflex of *r̥ by liquid metathesis.

[404] The discrepancy between the vowel slots of θάρσος and θρασύς, in connection with the spread of the *a*-vocalism, was first taken seriously by Tucker (1990).

(θρασυμήδης, θρασυμέμνων, etc.; frequent from Homer onwards, cf. de Lamberterie 1990: 851).[405] Unlike in the *u*-stem paradigm, the reflex of *t^h*r̥su-* in these forms could not be influenced by the full grade *t^h*ersu-*. It may therefore be wondered whether θρασυ- < *t^h*r̥su-* originated in these compounds. Note that the compounds retain an older meaning of the root *d^h*ers-*, 'to persevere, be intrepid', as opposed to θαρσ- 'courage, confidence'.[406] This still does not explain, however, why we find the reflex θρασυ- rather than θαρσυ-. This could theoretically be mended by assuming that the change *r̥ > -ρα- was conditioned by the following -σ-, a possibility which I will further discuss in section 9.1.

But even if compounds and personal names with θρασυ- were highly frequent, it seems somewhat *ad hoc* to assume that θρασύς was backformed from them. Moreover, as we will see in chapter 9, θρασύς is the only relatively strong piece of evidence in favor of a conditioned change *r̥ > -ρα- in front of -σ-. In view of the problematic status of θρασύς, it may be worthwhile to consider whether this form may have arisen within Epic Greek. This option will be further explored in chapter 6, where I propose that -ρα- was the regular outcome of "Epic *r̥", i.e. *r̥ which was retained in Epic Greek after the vernacular vocalization to -αρ-. The formula θρασειάων ἀπὸ χειρῶν will play a crucial role in the argument, because it may contain the direct reflex of a pre-form *t^h*r̥sewi̯āōn*.

Some of the above considerations may appear far-fetched, but they arise from an attempt to take the the distribution of θαρσ- and θρασ- over the attested forms at face value. Excepting proper names and a few Classical poets, the difference between θρασ- and θαρσ- was never a matter of free allomorphy, neither in Homer nor in Classical prose. To summarize the preceding argument: the derivation of θρασύς as the regular outcome of a (non-ablauting) adjectival stem *t^h*r̥sú-* is problematic for several reasons. The expected Proto-Ionic reflex of the adjective *t^h*ersu-*, *t^h*r̥sew-* is *θαρσύς 'bold, intrepid, assertive', whence θαρσύνω was derived. This form was ousted, in Homer but probably also in the Ionic vernacular, by θαρσαλέος. The vernacular root θαρσ- then developed the meaning 'courageous, confident', but the older root meaning was preserved in poetry in θαρσαλέος, the compounds in θρασυ-, and θρασύς. It remains to explain the origin of θρασύς; the possibility that it originated in Epic Greek will be further explored in section 6.7.8.

4.6 Conclusions

Departing from a discussion of the expected ablaut grades in PIE and Proto-Greek Caland formations, we have seen that many forms with -αρ- (-αλ-) and -ρα- (-λα-) cannot be used as evidence for the regular reflex of *r̥ or *l̥. This holds for the following categories:

(1) *s*-stem neuters like πλάτος, θάρσος, κράτος, which originally had a full grade root and introduced the zero grade of the adjective;
(2) *s*-stem adjectives like -πλατής, -θαρσής, -κρατής and the stative verbs in -έω that were derivationally connected to them;
(3) the *u*-stem adjectives πλατύς, κρατύς, βραχύς, βραδύς, which generalized the full grade slot from the strong stem.

Furthermore, the regular outcome of the *u*-stem paradigm *meld-u-, *ml̥d-eu- is contained in the factitive verb ἀμαλδύνω, rather than in the gloss βλαδεῖς. Again, the underlying adjectival

[405] Names in Θρασυ- are also common in inscriptions (see the overview in Bechtel 1917: 211-213). In the extant Odes of Pindar, there are 14 compounds with θρασυ- (including 7x a proper name), as against a mere 7 instances of θρασύς. The grades of comparison θρασύτερος, -τατος are attested first in Classical Greek and need not be old.

[406] An overview of these compounds, including their semantics, is given by de Lamberterie (1990: 851). In my view, Chantraine is mistaken when he posits an original meaning 'confidence': "Le sens originel du radical «avoir confiance» a tendu en attique à être coloré différemment dans les formes en θαρ- ou en θρα-, les premières étant prises en bonne part, les secondes en mauvaise part" (*DELG* s.v. θάρσος).

stem *(ἀ)μαλδυ- owes its vowel slot to a leveling of the older root ablaut. It is possible, but not certain, that βλαδ- is the Ionic outcome of *$m\underset{\circ}{l}d$-.

Only one *u*-stem adjective shows the regular reflex of *$\underset{\circ}{r}$: the *plurale tantum* ταρφέες < PGr. *$t^h\underset{\circ}{r}p^h$-*éw-es*, where the strong stem was eliminated at an early date together with the entire singular. We have seen that τραφερός can be analyzed as an analogical formation based on κρατερός. In the next chapter, we will see that the regular reflex *$\underset{\circ}{r}$ > -αρ- is also found in καρτερός and κάρτα.

Chantraine's idea to posit an earlier adjective *θαρσύς may explain various peculiarities: the replacement of θερσ- with θαρσ- (rather than $^{++}$θρασ-) in various derivatives, the central role of θαρσαλέος within the derivational system, and the limitation of the root allomorph θρασ- to θρασύς. It is therefore attractive to assume that θαρσαλέος, whatever its origin, replaced older *θαρσύς, the expected outcome of the inherited adjectival paradigm.

Most adjectives in -αλέος were derived not from *s*-stem neuter abstracts, but from compounded *s*-stem adjectives. A number of adjectives in -αλέος may have replaced earlier *u*-stem adjectives for metrical reasons. For this reason, apparent zero grade forms like θαρσαλέος, ταρβαλέος need not contain the direct outcome of a pre-form with *$\underset{\circ}{r}$: the *u*-stem adjective which they replaced may have levelled its vocalism at an earlier stage. The derivation of factitives in -ύνω from *s*-stem abstracts probably started in the pair θαρσύνω : θάρσος after the older form *θαρσύς had been replaced by θαρσαλέος.

5. κράτος, κρατερός and related forms in Epic and Classical Greek

Among the evidence for the regular outcome of *$r̥$ in Ionic-Attic, the root of κρατερός, κρατύς, κράτος and related forms is of vital importance. Since the correct judgment of this body of forms requires rather lengthy philological digressions at several points, I have separated the treatment of this root κρατ- from that of the Caland forms discussed in the previous chapter.

5.1 Derivational history, semantics, etymology

The analysis of κρατερός and related forms is complicated by two issues. First, the mechanisms underlying the root allomorphy κρατ- ~ καρτ- in Epic and Classical Greek have not yet been explained in a convincing way.[407] Secondly, it is extremely difficult to disentangle the various meanings of the Greek formations, and to determine which meanings are original. This applies especially to κρατερός and its variant καρτερός in Homer. These difficulties in reconstructing the original meaning of κρατερός have overshadowed all previous attempts to provide the root with an etymology.

5.1.1 Derivational history

Let us start with the first problem. Obviously, the root allomorphy κρατ- ~ καρτ- may have come into being in one pair of forms and subsequently acquired a certain productivity, but such a starting point has not been indicated up till now. This can be ascribed to the fact that κρατ- was dogmatically considered to be the regular outcome of *$k̥rt$-, as a consequence of which the root allomorph καρτ- had to be left unexplained.

In forms like κράτος, for instance, the original full grade κρετ- was replaced by a secondarily introduced zero grade κρατ-.

In chapter 1, we have seen that the Epic pair καρτερός ~ κρατερός is troublesome for all explanations of the alternation αρ ~ ρα which depart from a regular development *$r̥$ > PIon. -ρα-. Apart from καρτερός ~ κρατερός, the alternation is also attested in κράτος ~ κάρτος, κράτιστος ~ κάρτιστος, and κρατύνω ~ καρτύνω.[408] Since κρατ- ~ καρτ- is restricted to just these four pairs, it was clearly not possible to randomly create a form in καρτ- on the basis of an existing form in κρατ-.[409] Departing from καρτερός ~ κρατερός as the oldest pair, I will now show how and why the allomorphy κρατ- ~ καρτ- was extended to the other three formations, making use of one important anchor-point. The evidence of three different dialectal groups shows that the Proto-Greek root was *$kret$-, with a full grade II. This proves that κρατ- is an analogical zero grade, and that its allomorph καρτ- is the regular outcome of the zero grade PGr. *$k̥rt$-.

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[407] As we have seen in section 1.4.2, Lejeune's invocation (1972: 196) of the "mobilité générale" of liquids within a syllable amounts to a resignation to the problem. Strunk merely remarks that "inlautendes -αρ- < *-$r̥$- vor Konsonant (…) auch sonst gelegentlich statt oder neben -ρα- vorkommt." (1975: 286). In his extensive discussion of κρατύς and related words, de Lamberterie (1990) treats κρατ- and καρτ- as freely interchangeable metrical variants. The only attempt to explain the allomorphy that is known to me is Ruijgh (1980), on which see section 5.2.8 below.

[408] The value of καρταίποδ- (Pi.) beside the compounds in κραταιι- (Hom.+) is not evident: see below.

[409] Beside the compounds in -κρατής, forms in $^{++}$-καρτής are unattested. Beside the Homeric adjective κραταιός, there is no $^{++}$καρταιός. The latter fact is of special importance, because $^{++}$καρταιός would have provided a welcome means to avoid the obligatory use of *muta cum liquida* scansion in κραταιός.

My evaluation of κράτος, κρατερός, and related forms will be bolstered by a closer consideration of synchronic derivational relations. Once we take the lexical meanings of base form and derivative into account, it often appears to be possible to corroborate the assumption of artificially created forms in Homer. We will see, for instance, that the epic form κάρτος is only used as an adjectival abstract, and that it never has the meaning 'power, control' of the normal Ionic vernacular form κράτος. This strengthens the idea that κάρτος is an inner-epic derivative of the doublet καρτερός ~ κρατερός. As far as lexical semantics are concerned, the single most problematic word is καρτερός ~ κρατερός. Given that this item served as the basis of almost the entire system of derivations, it is of the utmost importance to determine its lexical meanings. I will use the remainder of this introductory section to review the problems with previous etymologies, and to explore the problematic semantics of καρτερός ~ κρατερός.[410]

5.1.2 The competing etymologies

There is no generally accepted etymology for κρατερός and derivatives. Since the early days of Indo-European studies, the Greek group has been compared to two different formations.[411] On the one hand, the Epic adjective κρατύς has been equated with Goth. *hardus* 'hard' and its Germamic cognates, the root of which must be reconstructed as PIE **kert-* (full grade I). On the other hand, κρατύς and the abstract κράτος have been compared to an isolated Indo-Iranian hysterodynamic masculine noun: Ved. *krátu-*, Av. *xratu-*, to be reconstructed as PIE **krét-u-* (with full grade II).[412]

The connection with Goth. *hardus* has most recently been advocated by de Lamberterie (1990). On the basis of an extensive discussion of the Greek attestations and their semantics, he argues that the primary meaning of κρατερός and κρατύς can be reconstructed as 'hard, firm, solid'.[413] Furthermore, he proposes (1990: 349) to derive the Greek and Germanic forms from the verbal root **kert-* 'to cut'.[414] The semantic development would lead from 'cutting' to 'sharp' and then, independently in Greek and Germanic, to 'hard'.[415] A serious problem with this reconstruction is the different full grade slot of the root **kert-*.[416]

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[410] The lexical semantics of the other formations will be commented on in the following sections.

[411] As far as the Greek evidence is concerned, previous treatments include Trümpy (1950: 202ff.), Frisk (s.v. κράτος), Benveniste (1969), Strunk (1975), Breuil (1989), de Lamberterie (1990: 323-353). For an overview of the older literature, see Strunk (1975: 265f.). Numerous discussions of the evidence have been obscured by careless citation of forms and/or by casual glossations of the individual lexemes. A salient example is Meier-Brügger in his *Indogermanische Sprachwissenschaft* (2010: 357): "Positiv κρατύς (so u.a. Homer; in der Prosa meist statt dessen κρατερός) 'stark' mit Komparativ ion. κρέσσων (…) und Superlativ κράτιστος". The analysis to be provided below will show that almost every single one of these statements is erroneous.

[412] I see no reason to reconstruct an acrostatic substantive on the basis of the Indo-Iranian noun, which is hysterodynamic. The meaning of the Indo-Iranian word has been much discussed; the best rendering seems to be 'will-power, resolution, resolve' (G. *Entschlossenheit*). The connection is accepted in the *LfgrE* (s.v. κρατύς): "Erbwort, verwandt mit Ved. *krátu-* 'Kraft' (…)", referring to Mayrhofer (*EWAia*) and Risch (1974), and also (though with some hesitation) by Frisk (s.v. κράτος). The last-mentioned author explains κράτος in the sense 'political power, authority' by referring to Old English *cræft*, which means both 'physical power, force' and 'craft, insight, dexterity'.

[413] De Lamberterie concludes that "les emplois de κρατερός concordent avec ceux de κρατύνω: l'un comme l'autre amènent à restituer pour κρατύς, par reconstruction interne, le sens de "dur, ferme, solide"." (1990: 336).

[414] Found as a verbal root in Hitt. *kartae-^{zi}* 'to cut off', Ved. *kart-* 'to cut (off), split, break' (pres. *kṛ́ntáti*, them. aor. *kṛ́tá-*, both RV+), Lith. *kiřsti* 'to hew, hit, cut' (pres. 1s. *kertù*), and PSlav. **čersti* 'to carve, slash' (ORu. *čьrsti*).

[415] De Lamberterie convincingly derives Lith. *kartùs* 'bitter' from the same root, from earlier 'sharp, biting' (comparing Lith. *kiřstas* 'sharp', of persons). The Germanic and Baltic forms agree in *o*-vocalism, which de Lamberterie (1990: 349) takes from an action noun of the φόρος-type, attested in Lith. *karřtas*, OCS *kratъ* 'once, time' < **kórt-o-* (*'cutting'). As for the development of meaning from 'sharp' to 'hard', "il suffit de rappeler que κραταιός et κρατερός s'appliquent volontiers à des matériaux tranchants, pierre et métal notamment" (l.c.).

[416] This problem is not discussed by de Lamberterie.

Moreover, as I will argue below, I do not consider it very probable that 'hard, solid, firm' is the basic meaning of the Greek group.

The second etymology, a comparison of the adjective κρατύς with Ved. *krátu-*, has been advocated by Strunk (1975). In the framework of internal derivation, this proposal is nowadays mostly accepted without any hesitation.[417] It is to be noted, however, that κρατύς is attested only in the Epic formula κρατὺς Ἀργεϊφόντης, the meaning of which cannot be determined with certainty. Therefore, the casual translation of κρατύς as 'strong' which one often comes across is misleading. Strunk claims that the proto-meaning of PIE **krétu-* was 'magical power', but even if we suppose that this was the meaning of Indo-Iranian **krátu-*, it is unlikely that any magic was involved in the Greek concept of κράτος.[418]

There is also a morphological problem: the side-by-side of an adjective (κρατύς) and an isolated substantive (Ved. *krátu-*) requires an explanation. Strunk envisages two possible ways. On the one hand, he considers the possibility that the Indo-Iranian noun was originally an adjective. He deems this unlikely, because *krátu-* is inflected according to the hysterodynamic type, whereas κρατύς is a proterodynamic *u*-stem adjective and part of an extensive Caland system. Strunk therefore suggests that κρατύς may have originally been an abstract noun. Assuming that the formula κρατὺς Ἀργεϊφόντης is comparable to cases like βίη Ἡρακληείη "the Herakleid force" (for 'Herakles') and that it had the meaning "the Argos-killing power", he suggests that κρατύς could be reinterpreted as an adjective in such instances. But since we do not really know the underlying synchronic meaning of κρατὺς Ἀργεϊφόντης, this is mere speculation.

The problematic relation between κρατύς and *krátu-* is now often explained within the framework of internal derivation, under the assumption that Ved. *krátu-* reflects an acrostatically inflected substantive **krót-u-*, **krét-u-*. Nussbaum, for instance, refers to κρατύς as an "item (…) that is demonstrably an internal derivative of an acrostatic substantive" (1998: 154 n. 189). But κρατύς beside Ved. *krátu-* is one of the rare examples for the supposed derivation of a proterodynamic adjective from an acrostatic substantive. Moreover, the semantic connection between these two items is not apparent. Finally, the problem remains that the entire Caland system of κρατερός, the most extensive of its kind in Greek, would have to be based on one single form, the proterodynamic adjective **krét-u-*, **kr̥t-éu-*. It is therefore better to suspend judgment on this point.

A final proposal to be mentioned is Benveniste (1969), who based his etymological analysis on the synchronic semantics of the various lexemes in Homer. Since he was unable to reconcile the different meanings of κρατερός ~ καρτερός under one overarching concept, he concluded that this adjective is a conflation of two etyma, the one meaning 'hard' and related to Goth. *hardus*, the other meaning 'superiority, prevalence' and related to Ved. *krátu-*.[419] According to Benveniste, the semantic difference between these groups is preserved faithfully in most Greek formations. Thus, a form like κράτος allegedly means only 'superiority,

[417] For example Nussbaum (1998: 147) and Widmer (2004: 123ff.).

[418] The same problem applies to Benveniste's proposal (1969): see below. There are no appreciable magical connotations (herbs, spells, rituals, or the like) of κράτος. It is true that κράτος is often granted by a god in Homer, but that does not make it a magical force.

[419] Benveniste summarizes his chapter about κράτος as follows (1969: II, 71): "*Krátos* ne signifie ni «force physique» (*iskhús*, *sthénos*) ni «force d'âme» (*alkḗ*), mais «supériorité, prévalence», soit au combat, soit à l'assemblée. Ce sens, constant pour *krátos*, est confirmée par une partie des emplois du dérivé *kraterós* qui signifie alors «sans égal», notamment au combat. Mais, dans d'autres emplois, *kraterós* se rapproche, pour le sens, de *krataiós* «dur, cruel», *kratús* «dur». L'étymologie rend compte de cette situation singulière: *krátos* est à rapprocher de l'i.-ir. *kratu-* qui désigne la «vertu (magique) du guerrier»; *kratús* se rattache à un groupe tout différent, celui de got. *hardus* qui signifie exclusivement «dur»."

prevalence', and κραταιός would only mean 'hard, cruel'. The two sets of meanings are supposed to coexist only in κρατερός.[420]

A number of objections can be made to Benveniste's analysis. First of all, the Caland morphology of the Greek words suggests that we are dealing with just one etymon. Secondly, the supposed separation between the two groups breaks down on a purely synchronic basis: several of Benveniste's central claims appear to be incorrect or incomplete.[421] In the third place, it is hard to see why the original semantic difference would be preserved *only* in καρτερός ~ κρατερός, and not in any of the other formations. Finally, the assumption that two different etyma independently made an adjective in -ερός is difficult to account for. In fact, the origin of the adjectival suffix -ερός (rather than the expected Caland form -ρός) has to my knowledge never been explained.

5.1.3 The semantics of καρτερός ~ κρατερός in Epic Greek

All three etymological proposals just discussed have their own formal or semantic problems. In my view, these problems are due to the difficulty to derive the various different uses of κρατερός in Homer from one basic meaning. There is also widespread disagreement on the meaning of other Homeric formations, such as κράτος and καρτύνω. Thus, κράτος is translated as 'strength, force' by some scholars, but as 'superiority, prevalence' by others; again others stress the fact that κράτος seems to mean 'hardness' in one Homeric passage.[422]

The meanings of κράτος, καρτύνω and other controversial forms will be discussed in section 5.2, together with their derivational history. In this introductory section, we will tackle a recurring problem: the meanings of κρατερός ~ καρτερός in Homer. I propose to distinguish two basic sets:

1. κρατερός 'fierce, impetuous, vehement, violent' (e.g. of warriors, arrows, winds)
2. κρατερός 'steadfast; enduring, firm, solid' (e.g. of warriors, chains, oaths, shields).

The following examples may serve to illustrate these meanings.[423]

The meaning 'fierce, impetuous' is most frequently attested as a qualification of warriors. At first sight, it seems that 'strong' would do just as well, and this is indeed how κρατερός is often translated. In a large number of instances, however, κρατερός specifically qualifies a fierce warrior or a violent mythical being. I have to limit myself here to a brief discussion of the two most telling instances. In the first instance, the Trojan prince Helenos refers to Diomedes, who is at the summit of his *aristeia* at this point, as

> ἄγριον αἰχμητὴν κρατερὸν μήστωρα φόβοιο,
> ὃν δὴ ἐγὼ κάρτιστον Ἀχαιῶν φημι γενέσθαι.
> οὐδ' Ἀχιλῆά ποθ' ὧδέ γ' ἐδείδιμεν ὄρχαμον ἀνδρῶν,

[420] "Dans les emplois de *kraterós* coexistent, sans se confondre, les deux notions que les autres termes en *krat-* permettent de distinguer: d'une part, la notion abstraite de «prévalence, dominion», de l'autre, la qualité physique de «dur»." (1969: II, 81).

[421] For instance, κράτος ~ κάρτος does not only mean 'power, superiority' (as claimed by Benveniste 1969, II: 77), but it may also mean 'fierceness, violence' or 'endurance' (see section 5.2.5). Furthermore, κράτος ~ κάρτος qualifies not only human warriors (o.c. 78), but also animals (*Od*. 3.370, denoting the endurance of horses) and iron (*Od*. 9.393).

[422] 'strength, force': traditionally accepted, see e.g. *LSJ* (s.v. κράτος: "*strength, might*, in Hom. esp. of *bodily strength*") and *LfgrE* (s.v. κράτος: "*überlegene Kraft* (…) beruht im wesentlichen auf *Körperkraft, Stärke*"); 'superiority, prevalence': e.g. Benveniste (1969); κράτος 'hardness' is stressed by Trümpy (1950) and de Lamberterie (1990). Breuil (1989) goes even further than Benveniste when he assumes that 'prévalent' is the basic meaning not only of κράτος, but even of κρατερός. It is difficult to take Breuil's semantic claims seriously, for instance when he speaks of the "dents prévalents" of a lion (1989: 34), or when he translates κρατερὴ ὑσμίνη as "lutte prévalente" (o.c. 35).

[423] Whenever this is appropriate, I will also adduce examples that illustrate the meaning of other formations, such as κράτος or ἐπικρατέως.

ὅν πέρ φασι θεᾶς ἐξέμμεναι· ἀλλ’ ὅδε λίην
μαίνεται, οὐδέ τίς οἱ δύναται μένος ἰσοφαρίζειν (*Il*. 6.97-101).[424]

"… [that] savage spearman, a fierce causer of rout who, I say, is definitely the mightiest of the Achaeans. Not even Achilles did we ever fear in such a way, that leader of men, who, they say, is born of a goddess; no, this man rages beyond all measure, and no one can vie with him in might."

Diomedes is called κάρτιστος Ἀχαιῶν, even in comparison with Achilles, because of the routs which he causes at this very moment. In the *Iliad*, only Hektor (once) and Diomedes (twice) are called κρατερὸν μήστωρα φόβοιο "impetuous causer of rout".[425] These routs are ascribed, here as elsewhere, to a μένος 'drive' which is so vehement (λίην μαίνεται) that no one is able to vie with Diomedes in this respect, and that he cannot be contained anymore by mere human effort. If Achilles is repeatedly[426] called κρατερός, this is not only because he is strong, but primarily because of his unrestrained and fierce attacking spirit. When, during his own *aristeia*, he fights the river god Skamandros, the latter calls his brother Simoeis for help:

ἵνα παύσομεν ἄγριον ἄνδρα
ὃς δὴ νῦν κρατέει, μέμονεν δ’ ὅ γε ἶσα θεοῖσι (*Il*. 21.314-5)

"so that we may stop the wild man who is now rampant, and who in his rage is equal to the gods".

The violent deeds of Achilles are characterized in exactly the same terms as the berserk battle rage of Diomedes (note ἄγριον ἄνδρα ~ ἄγριον αἰχμητὴν, μαίνεται / μένος ~ μέμονεν): he is rampant and knows of no restraint. Only the extreme elemental forces of nature can contain his fierce might which is described with the verb κρατέει (cf. σθένος ἀνέρος … σχῶμεν, 21.308-9).[427] The same sense is also conveyed by the adverb ἐπικρατέως 'impetuously', e.g. when Achilles instructs Patroklos (*Il*. 16.80-2) to make a dashing sortie so that the Trojans will be driven away from the ships and the Achaeans may regain momentum.[428]

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[424] For the μένος of κρατερὸς Διομήδης, cf. among other places *Il*. 5.135-143 (θυμῷ μεμαὼς Τρώεσσι μάχεσθαι …, μιν … ἔλεν μένος ὥς τε λέοντα, … ὣς μεμαὼς Τρώεσσι μίγη κρατερὸς Διομήδης) and also *Il*. 5.239-256 where Diomedes comments on his abilities to withstand the approach of Pandaros and Aeneas, who are themselves called κρατερώ.

[425] Similarly, Phobos (personified 'Router') is called ἅμα κρατερὸς καὶ ἀταρβής, "both κρατερός and fearless" (*Il*. 13.299). To be sure, the unextended formula μήστωρα (-ε) φόβοιο also qualifies the couple Aeneas and Pandaros (5.272), their mythical team of horses which Diomedes has captured (8.108), and Patroklos (23.16); it alternates with μήστωρας (-ες) ἀϋτῆς (4x *Il*.).

[426] Achilles' being καρτερός is related to his descendance from Thetis on a number of occasions in the *Iliad*. The traditional nature of the epithet is corroborated by e.g. Pi. *Nem*. 7.27, where Aias is called κράτιστος in battle second only to Achilles. This can be compared with *Il*. 2.768, where Aias is called μέγ' ἄριστος of the Achaeans as long as Achilles, who is πολὺ φέρτατος, maintains his μῆνις. In the episode telling his encounter with Agenor, Achilles receives the qualification κρατερός three times: λύσσα … κρατερή (*Il*. 21.542-3), ὑπὸ κρατεροῦ Ἀχιλῆος (21.553), λίην γὰρ κρατερὸς περὶ πάντων ἔστ' ἀνθρώπων (21.566).

[427] Some hundred lines earlier, Skamandros has directly addressed Achilles: ὦ Ἀχιλεῦ, περὶ μὲν κρατέεις, περὶ δ' αἴσυλα ῥέζεις ἀνδρῶν (*Il*. 21.214). When applied to a champion during his *aristeia*, the sense of κρατέω is 'to be rampant', cf. also *Il*. 5.175 (Diomedes) and *Il*. 16.124 (Patroklos). Earlier in book 21, Achilles remarks about his Trojan opponent Lycaon that he did not expect him to appear in battle anymore, because he had taken him captive earlier on and sold him overseas to Lemnos. In Achilles' words, the sea was apparently not able to "contain" Lycaon (οὐδέ μιν ἔσχε, 21.58), and he adds: "Let us see whether the grain-growing earth will hold him back, which even holds down the fierce [warrior]" (ἥ τε κατὰ κρατερόν περ ἐρύκει, 21.63). Again, only the elemental forces of water and earth are considered capable of restraining an impetuous warrior.

[428] ἀλλὰ καὶ ὧς Πάτροκλε νεῶν ἄπο λοιγὸν ἀμύνων ἔμπεσ' ἐπικρατέως, μὴ δὴ πυρὸς αἰθομένοιο νῆας ἐνιπρήσωσι, "… but even so, Patroklos, you must ward off doom by attacking them impetuously, so that they will not set the burning fire onto the ships" (*Il*. 16.80-2). The sort of dash intended here by Achilles is frequently described in purely physical terms, e.g. ἐν δ' ἔπεσ' ὑσμίνῃ ὑπεραέϊ ἶσος ἀέλλῃ, ἥ τε καθαλλομένη ἰοειδέα πόντον ὀρίνει. "He fell onto the turmoil of battle like a mighty gust of wind, which comes down and stirs the dark-

The examples adduced here can be easily multiplied.[429] They show that κρατερός and related words are consistently applied to warriors that are impetuous, as a general characteristic, or rampant at one specific moment. Moreover, κρατερός is not only applied to human warriors, but also, more generally, to fierce or violent mythical beings. Polyphemus, whose κράτος is said to be greatest among the Cyclopes (*Od*. 1.70), is characterized by his unrestrained use of violence and ferocity when he (or his βίη) is called κρατερός.[430] Note that in Hesiod, κρατερός qualifies the Giants (*Th*. 50), the Erinyes (*Th*. 185), Cerberus (*Th*. 312), the Chimaera (*Th*. 320, cf. 322), the Hundred-Arms (*Th*. 670), and the feet of Typhoeus (*Th*. 824). For all these creatures, the translation 'fierce, violent' is more pertinent than 'strong'.

Not only fierce warriors are called κρατερός. In Homer, the compound καρτερόθυμος 'with impetuous spirit' qualifies Diomedes, Achilles, and Herakles, but in Hesiod (*Th*. 378) it appears as an epithet of the three winds, 'blowing turbulently'. The frequent syntagm κρατερὸν μένος qualifies not only the violent battle spirit that Poseidon puts into the Aiantes (*Il*. 13.60), but also the destructive elemental force of the fire that consumes a corpse (πυρὸς κρατερὸν μένος αἰθομένοιο, *Od*. 11.220). Arrows, spears, and thrown stones receive the epithet κρατερός on various occasions, e.g. κρατερὸν βέλος 'dashing missile' (*Il*. 5.104, the arrow shot by Pandaros at Diomedes), βολάων τε κρατεράων (*Th*. 683, stones thrown by the Hundred-Arms and Titans). In these instances, κρατερός denotes the momentum and destructive impact of the missiles.[431] It is probable, in my view, that this use of κρατερός originated in its application to heavenly missiles, notably the thunderbolt, the weapon by means of which Zeus ensures his supremacy (κράτος).[432]

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colored sea" (*Il*. 11.297-8). Another natural phenomenon is referred to in εἰ δὴ κυάνεον Τρώων νέφος ἀμφιβέβηκε νηυσὶν ἐπικρατέως "if indeed the dark cloud of the Trojans mightily surrounds the ships" (*Il*. 16.67). In all cases, ἐπικρατέως qualifies a verb of motion in the context of war action.

[429] In my view, the following passages are the most telling. (1) In *Il*. 17.206-13, Zeus takes pity on Hektor and decides to grant him μέγα κράτος. As a consequence, a violent battle spirit (personified as Ares) enters Hektor, and his limbs are filled with extreme physical force, ἀλκῆς καὶ σθένεος. (2) Very close to this is *Il*. 13.59-61, when the two Aiantes are filled with a vehement battle rage by Poseidon (πλῆσεν μένεος κρατεροῖο, 13.60). The effect is that they get "light hands and feet". In short character speeches (*Il*. 13.73-80), both warriors express this in almost identical terms: they are full of eagerness to fight (their θυμός or μένος is aroused) and their limbs are eager (μαιμώωσι). These two passages show us that κράτος, like μένος, is a combination of physical might and mental prowess. (3) *Il*. 13.481-6, the difference between the old but still brave warrior Idomeneus and the young and impetuous Aeneas is described in terms of κράτος. Aeneas is καρτερός at killing warriors, he rushes swiftly, and has ἥβης ἄνθος, which is called the "greatest κράτος". Normally, ἥβης ἄνθος is translated as 'flower of youth', but in my view ἄνθος is better rendered here as 'excess, surplus'. As for Idomeneus, on the other hand, lines 512-15 tell us that "the joints of his feet were no longer firm in a charge (ὁρμηθέντι), that he might rush forth (ἐπαΐξαι) after his own cast or avoid an enemy's. Therefore he would still ward off the pitiless day of doom in close combat, but in flight his feet no longer carried him swiftly away from battle." This passage clearly shows that κράτος is not merely muscular strength, but an impetuous force characteristic of young warriors, which allows them to make rushes, react quickly, evade approaching missiles, or to dash away when in dire straits. (4) A final illustrative episode is Agenor's encounter with Achilles (*Il*. 21.538-70), who is possessed by a λύσσα … κρατερή 'vehement rage' (21.542-3) and is called κρατεροῦ Ἀχιλῆος (21.553). Achilles is also called "by far the fiercest human warrior" (λίην γὰρ κρατερὸς περὶ πάντων ἔστ' ἀνθρώπων, 21.566). The wording is strongly reminiscent of the comparison between Diomedes and Achilles in *Il*. 6.96-101.

[430] On four occasions: *Od*. 9.407 and 446 of Polyphemus, 9.476 and 12.210 of his βίη. Cf. also O'Sullivan (1990: 14-15).

[431] Nordheider (*LfgrE* s.v. κρατερός) recognizes this use when he speaks of "… Sachen … die *kraftvoll*, *wuchtig* sind und *kraftvoll* zupacken, schlagen, treffen". More similar examples can be found in Pindar and the tragedians, e.g. καρτερώτατον βέλος 'most dashing missile' (Pi. *Ol*. 1.112), χερμάδας κραταιβόλους 'stones hurled (or: hitting) with impetus' (E. *Ba*. 1096), ἐκ χερὸς μεθέντα καρτερὸν λίθον 'launching a dashing stone from his hand' (E. fr. 1044 Nauck). Note Pindar's use of the factitive verb καρτύνειν (*Ol*. 13.95) in the meaning 'to hurl', i.e. to give the missiles a dashing momentum which creates a ῥόμβον 'whirl'.

[432] The κράτος which Zeus possesses and wields (οὗ τε κράτος ἐστὶ μέγιστον, *Od*. 5.4) is repeatedly referred to in connection with the destructive physical powers of lightning (e.g. *Il*. 2.118, 9.25, where his power to destroy the "crowns of many cities" is mentioned), and he is called κάρτιστος in comparison with the other gods (*Il*.

In another set of attestations, κρατερός ‘vehement, violent’ qualifies turbulent motions or emotions. Highly frequent in formulae is κρατερὴ ὑσμίνη, where the epithet probably refers to the ardour or fervor of battle.[433] The same meaning may be recognized in κρατερὸς τρόμος ‘vehement trembling’ (*Il*. 6.137), κρατερὴ λύσσα ‘vehement rage’ (*Il*. 9.239, 21.543, both of Achilles), κρατερὸν δέος ‘extreme fear’ (*Od*. 14.88), κρατερὸν μένος ‘impetuous spirit’ (*passim*) and perhaps also in κρατερ’ ἄλγεα ‘vehement pains’ (*Il*. 2.721, *Od*. 5.12 and *passim*).[434]

When κρατερός appears in a description of the physical qualities of a warrior or his body parts, it could be taken to mean ‘strong’ or ‘strength’. In most of these cases, however, κρατερός merely underlines the extreme nature of the force or violence that it qualifies,[435] e.g. κάρτεϊ χειρῶν ‘vigor of the arms’ (*Il*. 8.226 and 11.9), κρατερῆφι βίηφι(ν) ‘with unrestrained violence’ (*Il*. 21.501, *Od*. 9.476, 12.210). In post-Homeric poetry, we find e.g. κρατερὸν σθένος (B. *Dith*. 4.40, of the victims of Theseus), κρατερᾷ … ἰσχύϊ (B. *Epin*. 5.21, of Zeus’ eagle), χειρῶν ὕπο κρατερᾶν ‘under her violent hands’ (Pi. *Pyth*. 11.18, of the hands of Klytaimnestra).

In the second group of attestations, κρατερός ~ καρτερός means ‘steadfast, enduring; firm, solid’. Examples of ‘solid, hard’ are not yet numerous in Homeric Greek, but this meaning is ascertained in κρατερὴ ἀσπίς ‘solid, impenetrable shield’ (*Il*. 3.349 = 17.45) and κραταιγύαλος ‘with solid breastplates’ (*Il*. 19.361).[436] Although after Homer, this material meaning is productive to a certain extent, it must be stressed that other supposed Homeric instances are ambiguous at best.[437] Thus, ῥαιστῆρα κρατερήν (*Il*. 18.477) is not necessarily a ‘hard hammer’, but rather the ‘fierce hammer’ of the smith Hephaestus, given that ῥαιστήρ is an agent noun to ῥαίω ‘to smash to pieces’. Similarly, in σιδήρου … κράτος (*Od*. 9.393) and σίδηρος ὅ περ κρατερώτατός ἐστιν (*Th*. 864), it is not certain that the hardness of iron is intended, rather than its fierce or violent properties in action. Finally, κρατερῶνυξ (*Il*. 16.724 *passim*, cf. also κραταίπους, καρταίπους), a traditional epithet of horses and mules, is normally translated as ‘with hard hoofs’ (*LSJ*: ‘strong-hoofed, solid-hoofed’, cf. also Delebecque 1951: 148-50). However, a translation like ‘with fierce hoofs’ (referring to the violent kick of a horse’s leg) seems at least as appropriate and cannot be excluded.[438]

8.17). His victory over the Titans, which yielded him lasting dominion (κράτος), was ensured by his possession of the thunderbolt. Homer does not qualify the lightning bolt as κρατερός, but the post-Homeric evidence strongly suggests that this is an old collocation. See e.g. δείσας μὴ τέξῃ κρατερώτερον ἄλλο κεραυνοῦ (Hes. fr. 343), καρτερόβρεντα Κρονίδα (Pi. fr. 155.1), κεραυνοῦ τε κρέσσον ἄλλο βέλος διώξει (Pi. *Isthm*. 8.34), παγκρατὴς κεραυνός (Pi. fr. 70b.15), ὃς δὴ κεραυνοῦ κρείσσον’ εὑρήσει φλόγα βροντῆς θ’ ὑπερβάλλοντα καρτερὸν κτύπον ([A.] *PV* 922-23), ἀστραπᾶν κράτη νέμων (S. *OT* 201).

[433] Attested in |T κατὰ (διὰ) κρατερὰς ὑσμίνας (7x *Il*., 3x *Th*.), |T κατὰ κρατερὴν ὑσμίνην (10x *Il*.), (|T ἐνὶ) κρατερῇ ὑσμίνῃ (11x *Il*., 1x *Od*.), |H κρατερὴ ὑσμίνη (1x *Il*.), |T ἀπὸ κρατερῆς ὑσμίνης (2x *Il*.), φυλόπιδος κρατερῆς |P (2x *Il*.).

[434] A number of attributive uses of κρατερός can be rendered, as an alternative to ‘vehement’, with ‘lasting’: καρτερὸν ἕλκος ‘lasting wound’, κρατερὸν πένθος and κρατερ’ ἄλγεα ‘lasting pain(s)’; see below. For the meaning of the adverb κρατερῶς ‘heavily, vehemently’, cf. μάλα γὰρ κρατερῶς ἐμάχοντο (*Il*. 12.152), Διὶ δὲ κρατερῶς ἐνεμέσσα (*Il*. 13.16), μάλα γὰρ κρατερῶς ἀγόρευσε or ἀπέειπεν (*Il*. 8.29, 9.431 and 694). It is possible that Homer uses κρατερῶς instead of the older adverb κάρτα, which is preserved in Classical Ionic and in the tragedians.

[435] Cf. Trümpy (1950: 162): “Neben den Substantiven μένος, δεσμός und ἀνάγκη bedeutet κρατερός zweifellos ‘gewalttätig’. Ebenso sicher aber drückt das Adjektiv neben anderen Wörtern einfach eine Intensitätssteigerung aus und ist mit ‘gewaltig’ oder ‘wuchtig’ zu übersetzen.”

[436] As we will see, κραται- functions as a Caland allomorph beside κρατερο- (see section 5.2.10).

[437] After Homer: χῶρον ἀνὰ κρατερόν “place with solid ground” (*h. Herm*. 354), over which Hermes leads the cows he has stolen (so that they will leave no footprints), κραταίλεως ‘consisting of solid rock’ (A., E., containing λᾶας ‘stone’ as its second member), κραταίρινος ‘with a hard shield’, of a turtle (oracle in Hdt. 1.47), καρτερὸν τεῖχος ‘solid defense wall’ (Class. prose).

[438] Cf. Nordheider, *LfgrE* s.v. κραταίπους: “kann auf Trittsicherheit, Ausdauer oder *harte Hufe* gehen”.

The meanings ‘firm, tenacious, durable’ can be recognized in the following cases: κρατερῷ ἐνὶ δεσμῷ ‘in a firm/lasting bond’ (*Il*. 5.386),[439] χερσὶ πίεζε νωλεμέως κρατερῇσι “he tenaciously checked [his mouth] with his firm hands” (*Od*. 4.287-8, Odysseus seals the mouth of Antiklos as they lie in ambush in the Trojan horse), κρατερὴ δ’ ἔχεν ἶς Ὀδυσῆος (*Il*. 23.719-20, Odysseus puts a check on Menelaos during their wrestling match), and καρτερὸν ὅρκον ‘lasting oath’.[440] Furthermore, κρατερός ‘tenacious, stern’ is a fixed epithet of Hades (e.g. *Il*. 13.415, *Od*. 11.277, *h. Cer*. 404 and 430): as a πυλαρτής, he keeps the gates of the underworld sealed. In all these cases, we are dealing with a force that continues to be applied.

The verse-end κραταίπεδον οὖδας (*Od*. 23.46) is normally translated as ‘ground with hard soil’ (πέδον ‘ground’), but it has to be reinterpreted. In my view, the noun πέδη ‘shackle, hobble’ underlies the second member, so that κραταίπεδον means ‘which has firm shackles’. This syntagm is to be compared with κρατερῷ ἐνὶ δεσμῷ ‘(confined) in a firm bond’ (*Il*. 5.386). We have already encountered Hades as the ‘firm gatekeeper’ of the Netherworld; furthermore, Achilles refers to the Earth as putting a check even on men who are κρατερός (ἥ τε κατὰ κρατερόν περ ἐρύκει, *Il*. 21.63); and Moira shackles warriors when they are killed (verse-end Μοῖρα πέδησε, *passim*). This interpretation neatly fits the context of κραταίπεδον οὖδας. In the episode in question, the suitors have just been killed by Odysseus: “they are lying all around him, the one over the other, occupying the κραταίπεδον οὖδας”. It would make excellent sense if the poet referred here to the earth as a fetter that will contain the suitors forever: in this way, a lasting order could finally be restored in Ithaka.

Finally, in the following examples κρατερός refers to the stamina or resilience of warriors, and means ‘enduring, steadfast’: ἑστάμεναι κρατερῶς “to stand one’s ground firmly” (*Il*. 11.410, 13.56, 15.666), ἀλλ’ ἔχεο κρατερῶς, ὄτρυνε δὲ λαὸν ἅπαντα “but hold on firmly, and encourage all your men” (*Il*. 16.501 and 17.559), ἀμφίβασιν κρατερὴν ‘stout defense’ (*Il*. 5.623), φάλαγγες καρτεραί ‘enduring phalaxes’ (*Il*. 5.591-2, 13.126-7), κρατερὰς … φάλαγγας (*Il*. 13.90), and |ρ κρατεραὶ στίχες ἀσπιστάων ‘the enduring ranks of shieldbearing [hosts]’ (*Il*. 4.90 and 201).[441] This meaning is shared by Homeric Greek and the Classical language.

5.1.4 Reconstruction of the semantic developments

Given its wide range of synchronic meanings, it is no wonder that two radically different competing etymologies could be proposed for καρτερός ~ κρατερός. But how did one single lexical item acquire this broad range of meanings? Classical scholars have traditionally departed from a basic meaning ‘strong’, as canonicized, for instance, in *LSJ* (s.v. κρατερός): “*strong, stout, mighty*, in Hom. mostly of bodily strength (…)”.[442] There are severe problems

[439] Cf. also καρτερὰ δεσμά (*h. Merc*. 409), κρατεραῖς ἐν γυιοπέδαις ([A.] *PV* 168). It is possible that κρατερή has a similar meaning beside ἀνάγκη ‘coercion, constraint’ (κρατερῆς ὑπ’ ἀνάγκης Hes. *Th*.; *Cypr*., Parm.).

[440] This is variously translated as ‘strong oath’, ‘binding oath’, or the like. However, given that the most important characteristic of a good oath is that it lasts, the translation ‘firm, lasting oath’ seems more to the point. The original referent of ὅρκος is unknown.

[441] The meaning ‘enduring, steadfast’ is reflected in *LSJ*’s translation *stout* (as in the archaizing English expressions *stout resistance* and *stout supporter*). Benveniste and de Lamberterie have argued that the last three phrases denoted *impenetrable* phalanxes, in the sense that they were ‘hard, massive, solid’, but I agree with Strunk (1975: 270-75) that κρατερὰς … φάλαγγας refers to the firm spirit of the warriors that form a phalanx: “Das homerische ἐκαρτύναντο φάλαγγας meint ein festigen der Schlachtreihen auch oder gerade unter Wiederherstellung des Abwehr- und Angriffsgeistes oder -willens. Dieser Kampfgeist heisst ἀλκή (…). Bezeichnenderweise wird in einer an Agamemnon gerichteten Schmahrede des Diomedes die ἀλκή als “das grösste κράτος” bezeichnet. Die von Benveniste geleugnete semantische Brücke zwischen κράτος und καρτύνεσθαι is damit zumindest in der homerischen Sprache (…) greifbar: mit ἀλκή, “kämpferischer Gesinnung”, haben beide Wörter zu Tun.” (Strunk 1975: 273-74).

[442] The lemma runs, in slightly condensed form: “κρατερός, epic variant of καρτερός, 1. *strong, stout, mighty*, in Homer mostly of bodily strength; with collational notion of *stern, harsh*, of Hades; 2. of things, conditions, etc.

with this view. First of all, there are hardly any cases where καρτερός ~ κρατερός clearly means 'strong': as a generic warrior epithet, κρατερός is best rendered as 'fierce, impetuous, violent'. The latter meaning is also presupposed by formations κρατέω 'to be rampant' and ἐπικρατέως 'impetuously'. The translation 'strong' is at best a common denominator: it serves to cover up the difficulty to reconcile the meanings 'fierce, violent' (when κρατερός qualifies warriors or monsters) and 'solid, firm' (when it qualifies shields, bonds, or oaths). Viewed from this perspective, we may understand why Benveniste proposed that two distinct etyma merged in κρατερός. But as we have seen, this idea cannot be upheld for morphological reasons.[443]

In his extensive semantic discussion, de Lamberterie (1990) takes an entirely different approach. In his view, 'hard, solid' was the basic meaning of κρατύς before this form went out of use. This is suggested, first of all, by the post-Homeric factitive verb κρατύνω which means 'to harden, solidify, confirm'.[444] Secondly, de Lamberterie claims that the original meaning of κρατερός is 'hard, firm, solid', and that this adjective is a replacement of κρατύς. Thirdly, he shows that κραταιός is semantically equivalent to κρατερός, and analyzes it as a reshaping of the old feminine of κρατύς (1990: 337-43). This allows him to derive all meanings of κρατερός ~ κρατύς directly from the root meaning of PIE **kert-* 'to cut': 'sharp' would have developed to 'severe' and 'violent' on the one hand, and to 'hard, solid' on the other. This rethinking of the semantic problem is quite appealing, but as we have remarked above, the proposed etymological derivation from **kert-* 'to cut' remains problematic in view of the wrong vowel slot.

Departing from the semantic framework set out in the previous section, we have to ask how the meanings 'enduring, steadfast' and 'firm, solid' is related to 'fierce, impetuous'. The Homeric material allows us to retrace the intermediate steps. The traditional syntagm κρατερὸν μένος can be translated as 'fierce energy' when it refers to the destructive ardor of fire that consumes a corpse (πυρὸς κρατερὸν μένος αἰθομένοιο, *Od*. 11.220). Fire is a prototypical example of a fervent energy that cannot be stopped once it has been released. But κρατερὸν μένος may also qualify an arduous stamina, as in the following passage. Menelaos and Meriones carry the corpse of Patroklos towards the ships and are protected from the assault of the Trojans by the Aiantes. They are compared to a pair of mules that draw heavy wooden logs from the mountains:

οἳ δ' ὥς θ' ἡμίονοι κρατερὸν μένος ἀμφιβαλόντες
ἕλκωσ' ἐξ ὄρεος κατὰ παιπαλόεσσαν ἀταρπὸν
ἢ δοκὸν ἠὲ δόρυ μέγα νήϊον· ἐν δέ τε θυμὸς
τείρεθ' ὁμοῦ καμάτῳ τε καὶ ἱδρῷ σπευδόντεσσιν·
ὣς οἵ γ' ἐμμεμαῶτε νέκυν φέρον. (*Il*. 17.742-6)

"Like mules that have dressed in enduring spirit drag forth from a mountain down a rugged path a beam or a large piece of shiptimber; and as they struggle, their spirit inside is distressed by toil and sweat alike: in a similar way the two struggled to bear away the corpse."

In this passage, we are no longer dealing with the fierce energy of a warrior, but with the untiring pull of draught animals. In the same way, both fierce attackers and stout defenders can be qualified as κρατερός. Common to both uses is the arduous nature of the energy and its unrestrained operation. Examples of the meaning 'enduring' also occur with

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mighty, *fierce*, *hard*; 3. of passions *strong*, *vehement*; of acts and words, *harsh*, *rough*. II. Adv. *strongly*, *stoutly*, dashed *roughly*, refused *sternly*." The interpretation of κρατερός as ἰσχυρός 'strong' is also reflected in the Ancient lexicographical tradition.

[443] I will not further discuss Trümpy (1950: 202-6), who assumes a basic meaning 'hard' for κρατερός and κράτος, and Breuil (1989), who gravely oversimplifies the Homeric situation by forcefully translating κρατερός as 'prévalent'.

[444] De Lamberterie (1990: 328-331) stresses that κρατύνω belongs to the technical terminology of medicine, metallurgy and warfare, which may preserve archaic meanings.

κράτος ~ κάρτος and other formations. Athena tells Nestor to provide his guest Telemachos with horses that are ἐλαφρότατοι θείειν καὶ κάρτος ἄριστοι (*Od*. 3.370), 'swiftest in running and best in stamina'.[445] In τείρεσθαι Τρῶας, μέγα δὲ κράτος εἶναι Ἀχαιῶν (*Il*. 6.387), the exhaustion of the Trojans is opposed to the untiring energy of the Achaeans. A beautiful testimony for κραταιός in the meaning 'enduring, tough' is *Od*. 18.383 (see section 5.2.10).

From 'enduring, steadfast' as a qualification of warriors or animals, it not difficult to arrive at 'firm, tenacious', qualification of an applied corporeal force, and at 'durable, lasting', qualifying bonds or oaths. The latter meaning may have developed to 'solid, hard' (e.g. in the sense of an impenetrable shield). A parallel semantic development is found in Latin *dūrus* 'hard, solid, durable' from PIE **duh$_2$-ró-* 'distant; lasting long' (Ved. *dūrá-* 'far', Gr. δηρόν 'lasting long', Arm. *erkar* 'long'); the denominative verb *dūrāre* preserves the older meanings 'to last; endure'.

On the basis of the above scenario, I conclude that the original meaning of the root κρετ- was 'impetuous, fierce, vehement'. This appears to be in agreement with the careful treatment of κρατερός ~ καρτερός in the *LfgrE* by Nordheider, who posits *stark, kraftvoll* as the core meaning, but repeatedly uses translations like *unwiderstehlich, unbändig, unnachgiebig, unüberwindlich, unkonziliant, undurchdringlich, überschiessend, hemmungslos*.[446] The apparent urge to render κρατερός ~ καρτερός with a privative German equivalent reflects an essential aspect of its original lexical meaning.[447] The same basic meaning also allows us to understand certain specific uses of κράτος, κρατέω and ἐπικρατέως.[448]

Concerning the two etymologies that are traditionally proposed for the group of κρατερός, it now appears that the shared semantics with Goth. *hardus* 'hard' may have arisen by a series of secondary developments within Greek. Since the comparison with this Germanic word-group was already unlikely for formal reasons, it can be left aside. The comparison with Ved. *krátu-* and Av. *xratu-* 'determination, resolve' seems semantically conceivable, but it requires that Indo-Iranian underwent the same development from 'impetuous, vehement' to 'enduring, steadfast' as καρτερός, which is not trivial. It is also unlikely that the complete Caland system of Greek κρατερός was derived from a reinterpreted adjective κρατύς. I therefore find this etymology implausible, too.

5.2 The allomorphy of κρατ- and καρτ- in Homer and Classical Greek

5.2.1 The non-Ionic-Attic reflexes

Let us first review the evidence for an original root shape κρετ- (full grade II), which is well-attested in Aeolic and Arcado-Cyprian. In Lesbian poetry, Alcaeus attests the forms κρέτος, ἐπικρέτει, and κρέτησαι. The full grade is also preserved in onomastic material: Cypr. *ti-mo-ke-re-te-se* /Tīmokretēs/ (Masson, *ICS*^{2} 361, 5th-4th c. BC), Arc. Δαικρετης (Dubois 1988, I: 111f.), Lesb. Δαμικρετης (Hodot 1974: 116). Last but not least, the comparative Hom. κρείσσων, Ion. κρέσσων, Att. κρείττων preserves the original full grade within Ionic-Attic.

[445] Thus also de Lamberterie (1990: 346): "qualité physique de force et d'endurance".

[446] *LfgrE*, q.v. (slightly modified): "*stark, kraftvoll*, von Kriegern (gelegentlich Göttern, Tieren), Kräften, Sachen: *überlegen, überwältigend, unwiderstehlich, unbändig*, oder defensiv *unnachgiebig, unbeugsam, hart, fest*, gelegentlich mit Konnotation 'überschiessend, hemmungslos': *zu stark*, oder *mächtig*."

[447] English and French have less problems than German in expressing these concepts in a positive way, cf. 'impetuous, turbulent, boisterous, riotous', or 'impétueux, fougueux, furieux, ardent'. I do not claim that *LSJ*'s translation 'strong, stout, mighty' is always incorrect, but the relation between κρατερός, κράτος and other related forms becomes much clearer if we depart from 'impetuous, vehement'.

[448] The meaning of καρτερός is much more restricted in Classical Attic: only 'steadfast, enduring, solid'. The broad range of meanings of Homeric κρατερός ~ καρτερός could be explained if this pair is a conflation of καρτερός and κρατύς (cf. section 5.2.9).

The alleged evidence for a full grade I κερτ- merely consists of Lesbian personal names like Ικερτης, but apart from their late attestations, they probably have nothing to do with -κρετης (see Hodot 1974 and section 5.2.8 below). We may therefore safely depart from κρετ- in our analysis of the root allomorphy.

In Proto-Greek, the paradigm of the adjective and its forms of comparison was **kr̥teró-*, **krét-i̯os-*, **krét-isto-*.[449] The positive is reflected in Central Cretan as καρτερος, the meaning of which is 'having authority' (over property, *Lex Gortyn*, *passim*) or 'firm, trustworthy' (as a witness, *IC* IV 63.4, Gortyn, late 6th or early 5th c.). A comparative κάρρων is attested in literary Doric (e.g. Alcm. fr. 105, Epich. fr. 165, Sophr. fr. 59).[450] In its pre-form **kr̥t-i̯os-*, the zero grade was introduced from the positive. The form is found as καρτων 'more trustworthy' (as a witness) in Central Cretan (*Lex Gortyn*).[451] This dialect generalized the vocalized zero grade καρτ- in all other forms, cf. καρταιποδα 'cattle', καρτος 'violence' (*Lex Gortyn*), names in -καρτης, and the stative verb καρτέω (Lyttos).[452] Apparently, at least some West Greek dialects generalized the zero grade root of PGr. **kr̥teró-* throughout the derivational system.[453]

Another dialectal reflex of PGr. **kr̥teró-* is κορτερά· κρατερά, ἰσχυρά (Hsch.).[454] This form is judged by *LSJ* to be "prob. Aeolic", but since the regular vocalization of **r̥* in the Aeolic dialects was -ρο- (see section 3.4), it seems more probable that κορτερά was taken from Arcadian or perhaps Cyprian. The regular Aeolic (or Lesbian) outcome of **kr̥teró-* is unattested.[455] Thus, reflexes of the adjective **kr̥teró-* are found in three different dialect groups: Ionic-Attic, West Greek, and probably Arcado-Cyprian. This suggests that **kr̥teró-* is an old, Proto-Greek adjective.

The semantics of the Cretan forms are interesting for the reconstruction of the Proto-Greek meanings. The meanings 'firm' or 'having control' are found for καρτερος (and the latter also underlies the comparative καρτων), whereas the abstract καρτος means 'violence'. This means that the Cretan root has same semantic dichotomy found in Ionic-Attic κράτος, which means either 'power, control' or 'violence, might' (both in Homer and in Class. prose). Influence of Ionic-Attic on Cretan is unlikely: the Cretan forms have a different vowel slot, and their concrete meaning is slightly different. It seems, then, that the semantic split between 'violence, might' and 'power, control' can be reconstructed for Proto-Greek. This could be explained if the meaning of the inherited positive **kr̥teró-* developed from 'impetuous, violent' to 'enduring' and then to 'lasting, firm' already in Proto-Greek, and in this way became detached from other forms with the root **kret-*. The slot of the adjective

[449] For the reconstruction of the root and suffix ablaut of the comparative and superlative, see section 4.1.3.
[450] For further attestations, see *LSJ* s.v. κάρρων and Forssman (1980: 194 n. 77).
[451] It is commonly accepted that -τ- was analogically restored in Cretan after the stem of the positive καρτερος and the neuter καρτος (Bile 1988: 181, following *DELG* s.v. κράτος; Forssman 1980: 194-5 n. 83, following Lejeune 1972: 111). However, -ον- is not a comparative suffix, and the normal development of **-ti̯-* after a consonant in Cretan is -σ- (e.g. πανσα = Ion. πᾶσα). Moreover, if Forssman's derivation (1980) of ἔρρω 'to be banished, go away' from **wert-i̯ō* (PIE root **uert-* 'to turn') is correct, the outcomes of **-rti̯-* and and **-rs-* must have been different already in proto-Doric. We therefore have to assume that the regular outcome **karrōn* of **kr̥t-i̯on-* was remade into **kart-i̯on-* in early Cretan on the basis of the positive καρτερος, and that this form subsequently developed into the attested form καρτον-. In other words, its -τ- represents the outcome of restored **-ti̯-* after a consonant (thus already Seiler 1950: 54). For the notation of intervocalic **-ti̯-* in Cretan, cf. the overview in Bile (1988: 145-6). In Gortyn, it is regularly spelled -ττ- in the 5th c. BC, as against -θθ- in the 4th c. and later.
[452] Attested in *SEG* 35.991 (Lyttos, early 5th c.): pres. καρτει (line 3), aor. κα[ρτησ]αι (line 4-5).
[453] On the West Greek development of **r̥*, see section 3.3.
[454] This gloss corroborates the meaning found in Classical prose, where both καρτερός and ἰσχυρός 'strong' are used to qualify walls and fortresses.
[455] The forms κάρτερον (Alc. fr. 302 col. 2.19), καρτε[(Alc. fr. 119.19) may either be epicisms or borrowings from the Ionic vernacular (see section 3.4.5). In both instances, the meaning of the context is unclear.

corresponding to the neuter abstract **krétos* 'violence, might' was then filled up by the *u*-stem adjective **krétu-*, **kr̥téw-*, of which we only find traces in Ionic-Attic, but which may also have existed in other dialects.[456]

5.2.2 Synchronic description of the forms attested in Classical prose

Before analyzing the allomorphy κρατ- ~ καρτ- in Epic Greek, let us first consider the situation in Classical prose, because it appears that a clear distribution between the two allomorphs can be indicated there. The following table shows the forms with κρατ- and καρτ- attested in Classical Ionic-Attic. Forms that are exclusively attested in poetry are indicated as such; naturally, forms attested in 5th century hexameter poetry are not mentioned separately, because they are of Epic Greek origin. Unless otherwise indicated, all forms attested in Classical Attic prose are also found in Ionic prose (i.e. in Herodotus or in the Hippocratic Corpus).

Forms with κρατ-	**Forms with καρτ-**
κρατερός (poetic only)	καρτερός
κραταιός (poetic only)	
κραται- (poetic only)[457]	καρται- (poetic only)[458]
Κρατι- (in PNs only)	Καρτι- (in PNs only)[459]
κράτος	κάρτος (poetic only)[460]
-κρατής	
κρατέω	
κρατύνω	καρτύνω (poetic only)[461]
κρέσσων, κρείττων (-σσ-)	
κράτιστος	κάρτιστος (poetic only)[462]
	κάρτα

Table 5.1: κρατ- versus καρτ- in Classical Ionic-Attic.

[456] Further argumentation for this semantic development in pre-Homeric Ionic will be provided below.

[457] The occurrence of Κραται- in epigraphically attested onomastic material may be due to Epic influence.

[458] καρταί-ποδ- is only attested once in Pindar (*Ol.* 13.81) in the meaning 'bull', and in Cretan in the meaning 'cattle'.

[459] Meissner (1998: 244-5) thinks that the names in Καρτι- and Κρατι- are secondary creations on the model of names in Καλλι-, but this seems unlikely (see below). Note that names with a first member κρατερο- are not found except in Thessaly (Bechtel 1917: 260-1).

[460] Outside of Epic Greek, κάρτος is attested only in Simon. fr. 15.1.2 and B. *Epin*. 5.114, which are clearly epicisms. In Hdt. 8.2, κάρτος is only a v.l. (codd. AB) for κράτος (as found in all other mss.). Trümpy (1950: 202, referring to Bechtel 1921-24, III: 86 and Smyth 1894: 132) claimed that κάρτος is the Ionic form, as against Attic κράτος. In fact, neither Smyth nor Bechtel explicitly states this; both merely remark that the variation in the adjective καρτερός ~ κρατερός is also occasionally encountered in names in -καρτης. Bechtel mentions only three personal names, but in the first two his reading differs from that given by other editors: Μνεσικαρτες (Styra, where *IG* XII(9) 56, 283 reads Μνεσικαρίες); Καρτιες (ibid. 393), and Ευθυκαρτιδης … ho Ναξσιος (Delos, *SGDI* 5419), which also occurs on a stone found on Naxos (*IG* XII Supp. 192.28). The names in -καρτης on an inscription from Miletus (McCabe, No. 142) belong to new citizens that emigrated from Crete. The patronymic genitive Πολυκαρτεος is encountered once in a 5th c. inscription from Lycia (*TAM* II, 1184), but it is unknown whence the bearer of this name came. In view of the abundant evidence for names in -κρατης, no conclusions can be based on the single Naxian name Ευθυκαρτιδης. It is always possible that the few non-Cretan instances of -καρτης were influenced by names with a first member Καρτι- (beside Κρατι-). We may safely conclude that κράτος was the only Ionic form of the abstract.

[461] The only instance of καρτύνω in Classical poetry is Pi. *Ol*. 13.95, which may either be an epicism, or be due to a generalization of the licence to substitute αρ for ρα: cf. the use of θράσος and θάρσος as variants in Pindar, and the compound καρταίποδ- beside the Epic first member κραται-.

[462] Only in Simon. *Epigr*. 7.344.1.

Once we eliminate the forms restricted to poetry, the single most striking fact about the forms attested in Classical prose is that there are no real doublets. After Early Greek Epic, καρτερός is the only regular prose form; κρατερός is only found occasionally in poetry.[463] Similarly, κάρτος, καρται-, καρτύνω, and κάρτιστος are each attested only once or twice in Classical poetry, and cannot be ascribed to the Ionic-Attic vernacular. The relic form κρατύς occurs only in one single Epic formula. This leaves us with καρτερός as the only adjective derived from this root attested in Classical prose. Thus, the Classical prose forms present the following picture:

1. adj. καρτερός ‘steadfast; firm’
2. comp. κρείττων ‘better, stronger’
3. superl. κράτιστος ‘most powerful, supreme’
4. adv. κάρτα ‘very, heavily; surely’
5. abstract κράτος ‘power, control’ (plus compounds in -κρατής)
   → denom. verb κρατέω ‘to rule’
6. factitive verb κρατύνω ‘to harden, make solid’

This collection of forms is far from being a unity. The adjective καρτερός ‘persevering, steadfast, firm’ is no longer part of the same paradigm as κρείττων ‘better, stronger’, κράτιστος ‘most powerful, supreme’.[464] This appears from its lexical meaning, as well as from the existence of a newly formed comparative καρτερώτερος, superlative καρτερώτατος, and derivatives καρτερία ‘perseverance’, καρτερέω ‘to persevere’.[465] There is no synchronic relationship between καρτερός and the abstract κράτος ‘power, control’. The adverb and particle κάρτα ‘very, surely, certainly’ is derivationally isolated.[466]

As forms containing an aberrant vowel slot, καρτερός and κάρτα must be the regular reflexes of their respective pre-forms with zero grade root. Since the allomorph κρατ- cannot be the regular outcome of **kr̥t-*, its presence in each of the forms where it occurs has to be explained. Many of these forms are based on an older form with κρετ- into which the *a*-vocalism of the adjective was secondarily introduced: κράτος, ἐγκρατής ‘in control’[467] and ἀκρατής ‘powerless’, and the derived stative verb κρατέω ‘to rule, be in control’ (cf. Lesb. ἐπικρέτει and κρέτησαι). As appears from the respective meanings, these forms are

[463] Cf. *LSJ* (s.v. κρατερός): “Epic form of καρτερός”. All in all, κρατερός is rare after Homer, and most attestations are found in dactylic poetry (e.g. Sol., Thgn., Archil.). It is attested in Pi. (3x), B. (5x), Cor. (1x), and among the tragedians only in A. (2x, both times in lyrical parts). In Hdt., κρατερός only occurs twice, both times in oracles (1.67 and 8.77); Xenophon (*Mem*. 3.2.2, cf. also *Symp*. 4.6) gives a quotation of Homer, from which he subsequently cites. In Hp. *Art*. 2.10, κρατερὰς τὰς χεῖρας ἔχειν is epic phraseology. The only attestation in Classical Attic prose seems to be Pl. *Tim*. 75b, which speaks of a σαρκώδη … καὶ νευρώδη κρατεράν τε κεφαλήν, a “head … fleshy and sinewy and hard”. Here, it should be borne in mind that classical καρτερός does not occur in the meaning ‘hard’, so that this may again be an epicism. The same goes for the compound κρατεραύχην (Pl. *Phdr*. 253e).

[464] It is usually thought that the Classical Attic grades of comparison κρείττων, κράτιστος synchronically belong to the positive ἀγαθός ‘good’, in the somewhat more specific sense ‘strong’. See e.g. Bornemann-Risch (1978: 55): “… ἄριστος (…) heisst oft ‘tüchtigster’, βελτ- bezeichnet besonders den ‘sittlich besseren’, κρειτ-/κρατ- (vgl. κράτος) eigentlich den ‘stärkeren’.” See also Kühner-Gerth I[1], 565. In my view, it may even be doubted whether κρείττων and κράτιστος belong to one and the same adjectival paradigm in Classical prose.

[465] The special meaning ‘impetuous, fierce, violent’ of Epic κρατερός is not attested for καρτερός in Classical prose. In the tragedians, for instance, καρτερός does occur in the meaning ‘violent’; see *LSJ* (s.v. καρτερός) for the various different post-Homeric meanings in poetry.

[466] As an adverb, κάρτα means ‘very, extremely’, but it is mostly attested as an asseverative particle meaning ‘surely, certainly’.

[467] A relic meaning of ἐγκρατής is ‘tenacious’ (of the hand), i.e. “having κράτος = endurance inside”. The normal words for ‘able, powerful’ in Classical Greek are δυνατός and the participles κρατῶν, ἰσχύων.

derivationally associated in Classical Greek. Their semantic distance from καρτερός and κάρτα explains why κρατ- could not be introduced in these forms.

The case of κρατύνω is somewhat more complicated. In the tragedians, this verb has an intransitive meaning 'to rule, gain control' (+ gen.), but its older usage (normal in prose) is factitive: 'to harden' (e.g. bones, metal), 'to strengthen, fortify' (a place, position, or dominion). It is therefore difficult to synchronically derive κρατύνω from κράτος, because that abstract does not mean 'hardness, solidity' in Classical Greek. For this reason, de Lamberterie (1990: 328-30) argued that κρατύνω was derived from κρατύς when this was still a current form in Proto-Ionic. He concludes that at least one of the meanings of this adjective was 'hard, solid'.[468]

In conclusion, the root appears in the Classical language in two productive and mutually unconnected lexemes καρτερός 'persevering' and κράτος 'power, control'. Following productive schemes, new adjectives (e.g. ἐγκρατής), gradation forms (καρτερώτερος and καρτερώτατος), abstracts (καρτερία), and denominative verbs (κρατέω, κρατύνω, but καρτερέω) were based on these two forms. The clear semantic distinction between these two lexemes explains why the root shapes καρτ- and κρατ- are never mixed up in Classical prose. Finally, several relic forms have no synchronic connection to other forms of the same root: κάρτα, the primary forms of comparison κρείσσων, κράτιστος, and κρατύνω in the meaning 'to harden, strengthen'.

5.2.3 Synchronic description of the forms attested in Homeric Greek

The following table shows the forms with κρατ- and καρτ- attested in Homeric Greek. As has been noted in the previous section, a number of the specifically Epic forms occur occasionally in other poetic genres.

Forms with κρατ-	**Forms with καρτ-**
κρατύς[469]	
κρατερός	καρτερός
κρατερό-φρων, κρατερ-ῶνυξ	καρτερό-θυμος
κραταιός	
κραται- in compounds[470]	
κράτος	κάρτος[471]
ἐπικρατέως[472]	
(ἐπι-)κρατέω[473]	
	καρτύνω
κρείσσων	
	κάρτιστος

Table 5.2: κρατ- versus καρτ- in Homeric Greek.

The most striking thing about the Homeric attestations is that there are only two doublets: κρατερός ~ καρτερός and κράτος ~ κάρτος. Thus, the scope of the allomorphy κρατ- ~ καρτ- is limited: epic poets could not just replace any κρατ- by καρτ- (or the other way around) for metrical convenience. In the following pages, I will show that a regular linguistic model

[468] But κρατύνω 'to rule' must be derived from κράτος, cf. de Lamberterie (1990: 328 n. 4 with literature).
[469] Only in κρατὺς Ἀργεϊφόντης, a formula referring to Hermes.
[470] In Homer only κραταίπεδος and κραταιγύαλος 'with solid breastplates'; also κραταί-ποδ- in a Homeric *Vita*.
[471] After Early Greek Epic only in Tyrt. fr. 4.9 and twice in Classical poetry (see the previous section). In Hellenistic poetry, κάρτος is used a few times by Call. and Theoc.
[472] Only as an adverb in the meaning 'impetuously', but the adjective is also presupposed by ἐπικρατέω.
[473] Present stem only; the aorist κρατῆσαι may have been avoided for metrical reasons. See section 5.2.5.

(proportional analogy) was at work in every instance where epic poets formed a metrical variant with κρατ- or καρτ-.

A second remarkable fact is that κραταιός and the forms with κραται- are completely isolated. At a first glance, they seem to contain -ρα- as the reflex of a syllabic liquid, and thereby to contradict the conclusion reached on the basis of καρτερός and κάρτα in Classical prose. But we have to take into account the fact that κραται- and κραταιός are limited to Epic Greek and later poetry, and that their use in the hexameter entails the use of the *muta cum liquida* licence, which is normally avoided in Homer.[474] The reconstruction and derivational prehistory of κραται- and κραταιός will be discussed in sections 5.2.10-11; the origin of the reflex -ρα- in these and other epic forms will be examined in chapter 6. Let us now turn our attention, then, to the Epic doublets κρατερός ~ καρτερός and κράτος ~ κάρτος. Departing from the fact that καρτερός and κράτος are the regular prose forms, their origin can now be explained within Epic Greek.

5.2.4 καρτερός and κρατερός in Homer

From a morphological point of view, two adjectives are attested in Homer: κρατύς and κρατερός (with variant καρτερός). But when we take the semantics into consideration, it is unclear whether they were synchronic metrical variants of the type γλυκύς : γλυκερός. Being attested only as a relic in the formula κρατὺς Ἀργεϊφόντης, epithet of Hermes, the meaning of κρατύς cannot be determined with certainty.[475] On a synchronic level, then, Homeric Greek only has a pair κρατερός ~ καρτερός, with an extremely broad semantic scope.

How to explain the root allomorphs in this pair? Attempts to establish a semantic difference between καρτερός and κρατερός within Epic Greek turn out to be illusory. Both variants are used to qualify the same noun, as in φάλαγγες καρτεραί (*Il*. 5.591-2, 13.126-7) which is mirrored by κρατερὰς … φάλαγγας (*Il*. 13.90, cf. also κρατεραὶ στίχες, 2x *Il*.).[476] Furthermore, the first members of κρατερό-φρων and καρτερό-θυμος are clearly metrical variants. Thus, κρατερός and καρτερός function as plain metrical variants in Epic Greek. The Homeric numbers and distributions are as follows:

κρατερός (162 times)[477]: normal in all case forms
καρτερός (28 times): mainly -ός, -όν (mostly after $|_B$), rarely -οί, -αί, -ά.

The form καρτερός is awkward in the epic hexameter, because it cannot be used in a large number of case forms.[478] On the other hand, κρατερός is almost six times as frequent as καρτερός, and it occurs in a large number of formulae: $|_H$ κρατερὸς Διομήδης (or a metrically equivalent PN), $|_P$ κρατερὸν μήστωρα φόβοιο (3x), $|_P$ κρατερὸν μένος $|_B$ (6x), $|_H$ κρατερῆφι βίηφι(ν) (3x), $|_T$ ἐνὶ κρατερῇ ὑσμίνῃ (11x), $|_T$ κατὰ κρατερὴν ὑσμίνην (8x), etc. The larger relative frequency of κρατερός is obviously due to the anapestic structure of most of its case forms.[479] Given that κρατερός is metrically so convenient and καρτερός so inconvenient, the

[474] See chapter 6, and for the structural avoidance of *muta cum liquida* scansions, section 6.5.
[475] Strunk (1975: 269-70) argues that κρατύς must originally have referred, in this formula, to a characteristic trait of Hermes such as cleverness, quick wits, or dexterity. Other scholars have argued for 'hard' or 'strong' as the meaning of κρατύς in this particular formula.
[476] Furthermore, κρατερὴ ὑσμίνη 'fierce battle' is mirrored in Classical prose by καρτερὴ μάχη 'id.'; Achilles and Diomedes are both qualified as καρτερός and κρατερός.
[477] Including the adverb κρατερῶς and the comparative κρατερώτερος.
[478] The Dp. and Gp. of all genders and most case forms of the feminine contain a cretic sequence.
[479] This anapestic structure ensures that the forms can be used in any foot of the verse, without any noteworthy restrictions on the preceding or following word. The distribution of the 162 forms of κρατερός throughout the hexameter is as follows: 4th foot (after $|_H$) 94x, 3rd foot (after $|_P$) 28x, 2nd foot (before $|_P$) 26x, 5th foot 12x, 1st foot 2x. In these figures, each occurrence of a formula has been counted separately.

first question to be asked is: why does καρτερός exist at all? The only conceivable answer is that καρτερός was the older form, and that κρατερός arose within Epic Greek in order to supply for the impracticable case forms of καρτερός.

Thus, the Epic evidence neatly confirms the conclusion reached on the basis of the Classical prose forms: καρτερός is the outcome of Proto-Ionic **kr̥teró-*. It remains to indicate the model for creating κρατερός. It is possible that the different root shape was taken over from κρατύς before that form, moribund in the *Iliad* already, lost its currency. As will be shown in section 8.4.1, this κρατερός may have replaced a **kr̥teró-* that had been retained longer in Epic Greek. Subsequently, κρατερός may have been preferred over κρατύς for the reasons given in section 4.2.[480]

5.2.5 The *s*-stem forms and derivations in Homer

In view of the Lesbian form κρέτος, the oldest form of the neuter abstract in Ionic-Attic was clearly κράτος, with introduction of the root vowel of κρατύς. As we have seen, this is also the only form attested in prose. But why and how was κάρτος created? Let us start from the assumption that no semantic difference existed between κάρτος and κράτος, just as with κρατερός and καρτερός. The following table contains the numerical distribution between both Homeric variants in all attested case forms. For comparison, I have added the figures for σθένος 'force', which is semantically close to κράτος ~ κάρτος (and metrically equivalent to κράτος).[481]

NAs.	κράτος (28x, of which 26x before $\|_B$)	κάρτος (6x, no fixed position)	σθένος (21x, of which 16x before $\|_B$)
Gs.	None	None	σθένεος (5x)
Ds.	κράτεϊ (2x)	κάρτεϊ (7x)	σθένεϊ (15x, only *Il.*)
Recurring formulae	$\|_T$ μέγα κράτος $\|_B$ (6x)	None	$\|_T$ μέγα σθένος $\|_B$ (5x)

Table 5.3: forms of κράτος, κάρτος and σθένος in Homeric Greek

Forms of κράτος ~ κάρτος are only found in the NAs. and the Ds.[482] In the NAs., κράτος is by far the most frequent form, but in the Ds., κάρτεϊ (5x *Il.*, 2x *Od.*) is more frequent than κράτεϊ. This distribution can be explained as follows. With its sequence of three shorts, κράτεϊ is awkward in the epic hexameter because it could be used only when followed by two consonants (as in ὅ τε κράτεϊ προβεβήκῃ, *Il.* 16.54) or when followed by a vowel-initial and metrically long syllable (with elision or epic correption).[483] Based on the already-existing allomorphy in the adjective καρτερός ~ κρατερός, the variant κάρτεϊ was introduced as a supplement to the ill-practicable form κράτεϊ. Subsequently, a new nominative-accusative

[480] On the complicated relation between κρατερός and κρατύς, see further section 5.2.9.

[481] There is a syntactic difference between κράτος and σθένος, which seems to imply a lexical difference. While σθένος is often accompanied by ὦρσεν 'evoked', ὄρνυται 'arises', κράτος always takes a verb like δῶκεν, ἐγγυάλιξεν 'gave'. Furthermore, σθένος denotes a powerful, but still inherently human characteristic, whereas κράτος has a tendency to be more extreme, and of heavenly or super-human origin. Another difference is that $\|_T$ (μέγα) σθένος, followed by the genitive of a PN, occurs in formulae as a honorific title, just like $\|_P$ ἰερὸν μένος (+ PN in genitive). There is no such construction with κράτος.

[482] Hesiod does attest the genitive κράτεος (*Th.* 647, West's reading κάρτευς is doubtful). There is no support either for West's emendation of κάρτος … ἔργων (*Th.* 710, all codd.) to κάρτευς … ἔργον.

[483] An irregular scansion is tolerated in οὔ τι κράτεΐ γε (*Il.* 7.142), and a similar licence is found for the Ds. of σθένος in the first hemistich κάρτεΐ τε σθένεΐ τε $\|_T$ (2x). Even so, the possibility to create an unproblematic metrical alternative κάρτεϊ was obviously welcome. It does not seem likely to me that we are dealing with remnants of an old dative (**-ei*) or even instrumental (**-ē*) ending. The parallel form σθένεϊ is frequent in the formula $\|_H$ σθένεϊ βλεμεαίν- (6x *Il.*; βλεμεαίνω is only attested in this formula), and is also used without metrical irregularity in σθένεϊ $\|_P$ μεγάλῳ (2x *Il.*), κάρτεϊ καὶ σθένεϊ σφετέρῳ (*Il.* 17.322), and δίκῃσί τε καὶ σθένεϊ ᾧ (< **swōi*, *Il.* 16.542).

κάρτος was created beside the dative κάρτεϊ. There is no need, then, to assume inner-paradigmatic root ablaut in order to explain the side-by-side of κάρτος and κράτος in Epic Greek.

This scenario is corroborated by a semantic analysis of the abstracts κάρτος and κράτος.[484] In Homer, κράτος has two primary meanings:[485] 1. 'power, dominion', of a military leader or ruler,[486] 2. 'fierceness, brute force, power to endure', in concrete violent confrontations.[487] The second meaning is more frequent; the momentum in question is typically granted to warriors by Zeus or another divinity (formula μέγα κράτος ἐγγυαλίξω and inflected forms).

In the sense 'fierceness', both κράτος and κάρτος serve as adjectival abstracts to κρατερός ~ καρτερός. This becomes clear from the fact that κράτος ~ κάρτος has the same two nuances as its base form.[488] In βίῃ καὶ κάρτεϊ εἴκων 'yielding to violence and brute force' (*Od*. 13.143 and 18.139, both about criminal or violent deeds) and κάρτεϊ χειρῶν '(trusting on) the might of their hands' (*Il*. 8.226 = 11.9), κάρτος denotes a raw, unrestrained force.[489] This meaning is also attested for the normal form κράτος in κράτος … κτείνειν 'the power to kill' (*Il*. 11.192-3 = 207-8), as well as in *Od*. 1.70 where the unrestrained, brute physical force of Polyphemus is said to be greatest among the Cyclopes.[490] The second nuance is 'endurance', the momentum or strength to persevere. This is attested e.g. in *Il*. 16.524 for κράτος (wounded Glaukos asks Athena for the power to endure), and in e.g. *Il*. 17.561-2 for

[484] Cf. on Attic θράσος beside θρασύς, section 4.5.2.

[485] With regard to the etymological connection with Germanic 'hard', it is often stressed that κράτος has the meaning 'hardness' in *Od*. 9.393. However, the context (9.391-4) is not unambiguous: ὡς δ' ὅτ' ἀνὴρ χαλκεὺς πέλεκυν μέγαν ἠὲ σκέπαρνον εἰν ὕδατι ψυχρῷ βάπτῃ μεγάλα ἰάχοντα φαρμάσσων· τὸ γὰρ αὖτε σιδήρου γε κράτος ἐστίν· ὣς τοῦ σίζ' ὀφθαλμὸς ἐλαϊνέῳ περὶ μοχλῷ. "As when a bronze smith dips a large axe or an adze into cold water to temper it, and it hisses loudly: for of iron that is the κράτος; likewise did the eye [of the Cyclops] hiss around the stake of olive wood." Here, the poet could just as well refer to the escaping sound and waterdamp as characteristic for the violent qualities of iron. The translation ultimately depends on the referent of τὸ γὰρ αὖτε.

[486] That is, the lasting authority which allows a leader to control and direct a body of subjects. The *LfgrE* (s.v. κράτος) translates "Macht". In my view, *Gewalt* is a better German equivalent: this may denote both an applied physical force and the authority of a ruler or institution. *Macht*, as a potential, is more appropriate as a translation of δύναμις.

[487] Some scholars (e.g. Benveniste 1969, followed by Strunk 1975, cf. also Breuil 1989) have translated κράτος in this sense as 'superiority, prevalence' rather than 'force, might'. Their motivation is that κράτος is often of a volatile and temporary character: it changes sides between Achaeans and Trojans according to the will of Zeus. But among its 30 attestations, there are unmistakable indications that κράτος is a force or energy of physical origin (cf. de Lamberterie 1990: 345-6 and especially O'Sullivan 1990: 14-15). I therefore reject abstract translations like 'superiority' or 'prevalence' for Homeric Greek. Nordheider's definition of the core meaning as "überlegene Kraft" (*LfgrE* s.v. κράτος) is nothing more than a blend of Benveniste's 'superiority' and the traditional translation 'force, power'. Contrary to Nordheider and Trümpy (1950: 204 on *Il*. 17.613), I think that victory (*Sieg*) is never required as a translation of κράτος in Homer.

[488] Benveniste's claim (1969: 77) that κρατερός may mean 'superior, unrivalled', corresponding the supposed meaning of κράτος 'superiority', is simply wrong. This is also noted by de Lamberterie when he stresses that κρατερός and κράτος are intimately related: "ce dernier groupe, loin de désigner uniquement la "supériorité", se rapporte lui aussi, dans bien des cas, aux notions de dureté, de solidité, de vigueur" (1990: 345, with examples).

[489] It is attractive to compare κάρτεϊ χειρῶν to a few instances where θάρσος has the same meaning, and especially to the formula θρασειάων ἀπὸ χειρῶν. Possibly, κράτος ~ κάρτος took over the semantic slot 'fierceness, impetuousness' from θάρσος after the latter form had changed its meaning to 'confidence, courage, assurance'.

[490] O'Sullivan (1990: 14) rightly criticizes Kirk's view that κράτος would here denote socio-political power. The sense 'brute force' is preserved in Classical Ionic-Attic in the prepositional expression κατὰ κράτος 'with all one's might' and κατὰ τὸ καρτερόν 'with violence' (e.g. in Hdt., Th., X., trag.).

the variant κάρτος (Menelaos is oppressed by enemies and asks Athena for the power to endure).[491]

Thus, in the senses 'violence, brute force' and 'endurance, stamina', Homer uses κάρτος as a metrical alternative for κράτος. But in the meaning 'power, dominion', he uses only κράτος (and the denominative verbs κρατέω and ἐπικρατέω 'to hold sway').[492] Therefore, the doublet κράτος ~ κάρτος can be analyzed as a productive derivation from κρατερός ~ καρτερός in the meanings 'impetuous, violent' and 'steadfast, enduring'.[493]

Homer has only one compound in -κρατής, and only as an adverb: ἐπικρατέως 'impetuously'.[494] A by-form in $^{++}$-καρτής does not exist, because there was no metrical incentive to create it.[495] An adjective *ἐπικρατής is also presupposed by the denominative stative verb ἐπικρατέω 'to have the upper hand; to be a slave's master; rule over' (7x Hom.).[496] The more frequent stative verb is κρατέω (13x), which in Homer means 'to have κράτος' in both senses of the neuter: 'to be rampant, berserk' or 'to be in control, rule'.[497] On three occasions, κρατέω is modified by the adverb μέγα and therefore seems to be derivationally linked with κράτος (cf. μέγα κράτος 6x Hom.), not with ἐπικρατής.[498] This could be important for the following reason. The aorist κρατῆσαι 'to obtain victory or power' is unattested in Homer. Although this may theoretically be due to chance, it seems more probable that the form, frequent as it is in Classical Greek, was avoided in Epic Greek for

[491] The passages in question are: (1) δὸς δὲ κράτος, ὄφρ' ἑτάροισι κεκλόμενος Λυκίοισιν ἐποτρύνω πολεμίζειν, αὐτός τ' ἀμφὶ νέκυι κατατεθνηῶτι μάχωμαι "Give me strength, so that I may call my Lycian fellows and encourage them to do battle, and that I myself may fight over the dead body [of Sarpedon]" (*Il*. 16.524-6). Here, κράτος picks up the ἔχεο κρατερῶς in Sarpedon's last words at *Il*. 16.501. (2) εἰ γὰρ Ἀθήνη δοίη κάρτος ἐμοί, βελέων δ' ἀπερύκοι ἐρωήν "May Athena give me power [to continue fighting], and ward off the storm of arrows" (*Il*. 17.561-2). In both cases, the power to persevere is granted by Athena. Cf. further κάρτος τε βίη τε (*Od*. 4.415, about the tenacious force which Menelaos has to apply in order to control the shape-shifting Old Man of the Sea) and *Od*. 3.370, where κάρτος denotes the endurance or stamina of horses.

[492] In Homer: *Il*. 16.54 (Agamemnon over the Achaeans), *Od*. 1.359 and 21.353 (Telemachus over his household), 5.4 (Zeus), 11.353 (Alkinoos over the Phaeacian δῆμος). This distribution also holds good for Hesiod, provided that one follows the evidence of the mss. for the genitive κράτεος in *Th*. 647 (the lasting dominion of Zeus), rather than emendating to κάρτευς (*pace* West's edition, who bases this reading on the reading κα[in one papyrus). On κάρτος as 'power' in *Od*. 6.197, see the next footnote.

[493] The situation is perhaps slightly more complicated. Although there is no trace of κρατερός ~ καρτερός in the meaning 'powerful, in control' in the *Iliad*, there are two possible instances of καρτερός in this meaning in the *Odyssey* (14.116 and 15.534). It is also possible to translate κάρτος τε βίη τε in *Od*. 6.197 as "(whose) power and might (are greatest among the Phaeacians)", but this use of the formulaic collocation κάρτος τε βίη τε seems slightly strained. In my view, then, the specific sense 'authority, dominion' was found only in the abstract κράτος when κρατερός ~ καρτερός served as a model for the creation of κάρτος, and the incidental use of καρτερός, κάρτος in the meaning 'power(ful)' in the *Odyssey* is innovative. In Classical prose there is no trace of such derivational patterns (see section 5.2.2): κράτος and καρτερός have gone their separate ways.

[494] Further attested in Hes. *Op*. 206, *Scut*. 321, 419, 461, Stes. fr. 40.24 Page, Ibyc. fr. S199.6 Page.

[495] The only evidence for -καρτης comes from a few epigraphically attested personal names, most of which are of Cretan or Theran origin. See section 5.2.2 above.

[496] It is conceivable that νήσοισιν ἐπικρατέουσιν ἄριστοι (3x *Od*.) is to be segmented as νήσοισιν ἔπι κρατέουσιν ἄριστοι "the noblemen that rule on / over (ἔπι) the islands". It may further be asked whether ἐπικρατής is a possessive ('having κράτος on it') or deverbative compound in origin (see section 5.3 on the verbal root underlying κρατερός). Deverbative compounds in -ής are derivationally associated with uncompounded positive adjectives: in the present case with κρατερός ~ καρτερός on the surface, but perhaps more originally with κρατύς.

[497] Commenting on cases where κρατέω refers to the *aristeia* of a warrior (Diomedes, Patroklos, Achilles), Trümpy thinks that "κρατέω setzt hier Siege voraus und garantiert gleichzeitig weitere Siege. Es bedeutet nie 'siegen', sondern 'siegreiche Überlegenheit haben'." (1950: 205). But in these instances, the past or future victories are accidental; κρατέω merely refers to the impetuous and destructive momentum of warriors.

[498] Tucker (1990) has demonstrated that uncompounded stative verbs in -έω (with aorist in -ησ-) were originally derived from *s*-stem compounds, rather than from *s*-stem neuters. But μέγα κρατέω beside μέγα κράτος seems to prove that this derivational rule does have exceptions in Homer.

metrical reasons.[499] It must then be asked why the metrical problem was not mended by creating an artificial form [++]καρτῆσαι, based on the proportion κράτος : κρατῆσαι (both spoken Ionic) = κάρτος : X (Epic Greek).[500] Perhaps, the reason was that the meanings of κράτος ~ κάρτος 'brute force; endurance' and κρατῆσαι 'to obtain victory or power' (not: [++]'to acquire brute force or endurance') diverged too much. Synchronically, κρατῆσαι could only be linked to κράτος in the meaning 'power, control', not to κάρτος.

5.2.6 The forms of comparison in Homer

All Greek and Homeric grammars state that κρείσσων and κάρτιστος are the Homeric forms of comparison of the positive κρατύς, at least in origin. The *LfgrE*, for example, has one single entry "κρατύς (κρείσσων, κάρτιστος)"; cf. also Chantraine (1942: 255-6). This doctrine appears to be incorrect for two reasons. First, given that κρατύς has no clear synchronic meaning in Homer, one wonders why the grades of comparison are not included under καρτερός ~ κρατερός; indeed, as we will presently see, κάρτιστος is the synchronic superlative of καρτερός ~ κρατερός in Homer. Furthermore, κρείσσων is synchronically isolated, i.e. it remains without a corresponding positive or superlative in Homer.

Let us start with the superlative. Whereas Classical κράτιστος means 'most powerful, supreme', the Homeric form κάρτιστος (11x) only means 'fiercest, most impetuous', as I will now show. Synchronically, then, there is no doubt that κάρτιστος is the superlative of κρατερός ~ καρτερός, cf. the following two examples:

(1) ἄγριον αἰχμητὴν κρατερὸν μήστωρα φόβοιο, ὃν δὴ ἐγὼ κάρτιστον Ἀχαιῶν φημι γενέσθαι "[Diomedes] that savage spearman, a fierce deviser of rout, who has definitely, I say, proven to be [the] fiercest [warrior] of the Achaeans" (*Il*. 6.98-9).[501]
(2) καρτίστην δὴ τήν γε μάχην φάτο δύμεναι ἀνδρῶν "this battle of men, he said, was the fiercest that he ever took part in" (*Il*. 6.185) can be compared with κρατερὴ ὑσμίνη 'fierce battle' (frequent in Homer) and καρτερὴ μάχη 'id.' (Hdt.).

If the only Homeric superlative form is κάρτιστος, this is clearly due to the avoidance of κράτιστος for metrical reasons.[502] Given the doublet κρατερός ~ καρτερός, the variant form κάρτιστος could be created beside the regular vernacular form κράτιστος by means of a simple proportion.[503]

In eight of the remaining nine attestations, the being qualified as κάρτιστος is the fiercest or strongest of his group or class. Warriors may be 'fiercest' in comparison with other

[499] As appears from the vocalism of Lesb. ἐπικρέτει and κρέτησαι, the pre-form of κρατῆσαι never contained a syllabic liquid. The use of κρατῆσαι would therefore require the application of the *muta cum liquida* licence, which is systematically avoided in Homer (see section 6.5). There is no reason to assume that κρατῆσαι did not yet exist in spoken Ionic when the Homeric poems reached their final form, because it belonged to the relatively small group of "Tucker statives", in which the aorist in -ησ- is old (type θαρσέω : θαρσῆσαι, never -έ(σ)σαι, cf. Tucker 1990: 38).

[500] As in Hom. καρτύνω for κρατύνω, which could be reanalyzed as derived from κάρτος ~ κράτος after the adjective κρατύς had become obsolete. See below.

[501] For a discussion of this passage, see section 5.1.3 above.

[502] See section 4.1.3 for the reconstruction of a full grade root **kret-isto-*, and section 6.5 on the avoidance of *McL* scansion before original full vowels

[503] It may even be asked whether Homeric κάρτιστος 'fiercest, most impetuous' is a metrical replacement of the forerunner of Classical κράτιστος 'best', or whether it is merely an artificial superlative to καρτερός ~ κρατερός 'fierce, impetuous'. There is no indication that Classical κράτιστος 'best' originally functioned as the superlative of καρτερός 'steadfast, firm'. The isolated position of κράτιστος and κρείττων rather suggests that they were originally forms of comparison of κρατύς before that form became obsolete.

men.[504] Zeus calls himself θεῶν κάρτιστος ἀπάντων (*Il*. 8.17) when he threatens the other gods that he will subdue them and throw them into murky Tartarus (cf. also *Il*. 20.243). The eagle is called ἅμα κάρτιστός τε καὶ ὤκιστος πετεηνῶν (*Il*. 21.353) "both the fiercest and the swiftest of birds".

Since all the above cases point to the meaning 'fiercest', it is imperative to closely consider the only place in Homer where κάρτιστος allegedly means 'best', which is also its only occurrence in the *Odyssey*. Kirke instructs Odysseus how to evade the monstrous Skylla:

> ἡ δέ τοι οὐ θνητή, ἀλλ' ἀθάνατον κακόν ἐστι,
> δεινόν τ' ἀργαλέον τε καὶ ἄγριον οὐδὲ μαχητόν·
> οὐδέ τις ἔστ' ἀλκή· φυγέειν κάρτιστον ἀπ' αὐτῆς.
> ἢν γὰρ δηθύνῃσθα κορυσσόμενος παρὰ πέτρῃ,
> δείδω μή σ' ἐξαῦτις ἐφορμηθεῖσα κίχῃσι
> τόσσῃσιν κεφαλῇσι, τόσους δ' ἐκ φῶτας ἕληται.
> ἀλλὰ μάλα σφοδρῶς ἐλάαν, … (*Od*. 12.118-24).

"She is not mortal, you know, but an immortal evil, terrible, difficult, and wild: not to be fought with. There is no defense: flee from her with all your might (κάρτιστον). For if you tarry arming yourself by the cliff, I fear that she will jump forth again and reach you with as many heads [as before], and catch as many men. No, you should row away most energetically, (…)."

Line 120 is commonly translated as: "there is no defence: fleeing from her is [the] best [thing to do]".[505] In my view, this grammatical interpretation is wrong; instead, I propose to read φυγέειν as an *infinitivus pro imperativo*, and to take κάρτιστον as an adverbially used accusative, which yields "you must flee from her with all your might". This is clearly an improvement, because φυγέειν κάρτιστον is picked up in line 124 by μάλα σφοδρῶς ἐλάαν "you should row most energetically", with the same syntactic construction.[506] Note that the new translation of φυγέειν κάρτιστον agrees with the use of καρτερός ~ κρατερός to qualify darting missiles and warriors.[507]

A more complicated problem is the status of the Homeric comparative form κρείσσων 'stronger, superior; better' (17x). In West Greek dialects, as we have seen, the root shape of the positive καρτερός spread to all derivationally connected forms, including the comparative κάρρων (literary Doric), καρτων (Gortyn). Ionic-Attic, however, did not introduce the analogical root shape κρατ- in κρείσσων. This morphological difference with the superlative κράτιστος is remarkable and requires an explanation. It seems to follow that κρείσσων was no longer conceived of as the comparative of κρατύς when κρατ- was introduced in κράτιστος. Let us see whether a semantic justification of this conjecture can be found.

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[504] In *Il*. 1.266-68, the Lapiths and the Centaurs both receive the same epithet in a description of their war: κάρτιστοι δὴ κεῖνοι ἐπιχθονίων τράφεν ἀνδρῶν· κάρτιστοι μὲν ἔσαν καὶ καρτίστοις ἐμάχοντο φηρσὶν ὀρεσκῴοισι καὶ ἐκπάγλως ἀπόλεσσαν. The Lapiths were the fiercest mythical human warriors, the Centaurs were the fiercest non-human mortal creatures. Here, κάρτιστοι … ἀνδρῶν (also in κάρτιστον … ἄνδρα *Il*. 7.155 and κάρτιστος … ἀνδρῶν *Il*. 9.558) is paralleled by καρτερός ἀνήρ (*Od*. 4.242, 4.271, 20.393).

[505] Cf. Wyatt's "the best course is to flee from her"; similarly *LfgrE* s.v. κρατύς. It may be wondered whether the syntax of this phrase is in order for a nominal sentence: wouldn't one expect a predicative κάρτιστον to be in final position?

[506] This is the only occurrence in Homer of the prose adjective σφοδρός, which means 'violent, impetuous, fierce, energetic'. As I will show below, there is a complementary distribution between σφοδρός (Classical Attic prose) and κρατερός ~ καρτερός (Epic poetry). This corroborates the semantic reinterpretation of Epic κρατερός ~ καρτερός proposed in section 5.1.

[507] Compare the words by which Idomeneus explains why he lacks κράτος, *Il*. 13.481-6.

In Classical Greek, κρείσσων generally means 'better, stronger', but in most Homeric attestations it still means 'more powerful', in a violent confrontation or a duel of main force.[508] It never means 'more violent, fiercer' and is therefore paradigmatically unrelated to κρατερός ~ καρτερός and κάρτιστος, which refer either to the actual might or violence of a combatant, or to fierceness as a characteristic property. Hom. κρείσσων may be used either with or without a term of comparison in the genitive, depending on whether a concrete duel is thought of or whether a person is superior in general. There is an interesting restriction: almost without exception, κρείσσων refers to the the result of a future conflict that can still be avoided.[509] The seer Kalchas, for example, is afraid of Agamemnon's wrath and asks Achilles for protection before he interprets the dire situation of the Achaeans. His motivation: κρείσσων γὰρ βασιλεύς ὅτε χώσεται ἀνδρὶ χέρηϊ (*Il*. 1.80), "For the king wins out [in the end] when he gets angry with a lower-ranked man. For even if he swallows down his wrath for that day, afterwards he will cherish resentment in his heart, until he will turn it into action. Tell me whether you will safeguard me." (1.80-3).[510] These lines illustrate how Agamemnon's power (κράτος) is based on the principle that the threat is stronger than its execution.[511]

Thus, κρείσσων 'stronger, superior' (in an imaginary or future confrontation) is an isolated lexical item. Although its genitive complement betrays its origin as a comparative, it sometimes functions as a plain adjective. The paradigmatic isolation of κρείσσων is also reflected in the single occurrence of κρατερώτερον … ἄεθλον '[no] fiercer contest' (*Od*. 11.624), a newly-formed comparative which confirms that 'fierce' is a productive meaning of κρατερός in Homeric Greek.[512] Given that κάρτιστος is current as the superlative of καρτερός, it does not come as a surprise that the superlative κρατερώτατος is absent from Homer; it is first attested in Hesiod, referring to iron, and may mean either 'the hardest' or 'the fiercest'.[513]

The above conclusions are summarized in the following table:

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[508] In one instance only (*Od*. 6.182), κρείσσων has the bleached meaning 'better' that is also found in Classical Greek.

[509] The *LfgrE* gives the following translations: "aktuell *sich im Zweikampf als der stärkere erweisen ~ siegen* (…); dauernd *stärker* (…); *mächtiger* (…); mit Angabe des Bereichs *überlegen in/an* (…); *besser* (…)." The translation *siegen* goes back to e.g. Trümpy (1950). On the basis of *Il*. 3.71 νικήσῃ κρείσσων τε γένηται, he asserted that victory is a prerequisite for being κρείσσων: "… für κρείσσων ist ein Sieg Voraussetzung" (1950: 205-6). But this formulation fails to take into account that κρείσσων never qualifies an actual victor in Homer. Parties that have won a specific confrontation are referred to in Homer with the ptc. νικήσας, and the victory with νίκη. I would therefore modify Trümpy's words to: "für κρείσσων ist ein *gedachter* Sieg Voraussetzung".

[510] Another illustrative case is *Il*. 19.216-9, when Odysseus adresses Achilles: ὦ Ἀχιλεῦ Πηλῆος υἱὲ μέγα φέρτατ' Ἀχαιῶν, κρείσσων εἰς ἐμέθεν καὶ φέρτερος οὐκ ὀλίγον περ ἔγχει, ἐγὼ δέ κε σεῖο νοήματί γε προβαλοίμην πολλόν, ἐπεὶ πρότερος γενόμην καὶ πλείονα οἶδα, "Achilles, son of Peleus, by far the best of the Achaeans, stronger are you than I am and better not a little with the spear. But I would beat you by far in counsel, because I was born earlier and know more." As Breuil (1989: 44) notes, "… la prévalence d'Achille sur Ulysse ne s'actualise que de manière indirecte". For the same typical use of κρείσσων, cf. also *Il*. 20.334 and *Il*. 23.578. When the νόος 'mind' of Zeus is qualified as κρείσσων (*Il*. 16.688, 17.176), the idea is that his will (the Διὸς βουλή) will prevail *eventually*, no matter what another god or a human being may devise.

[511] κρείσσων appears to function as a positive in the meaning 'having authority' (+ gen., 'over') in one passage in the *Odyssey*: μῆτερ ἐμή, τόξον μὲν Ἀχαιῶν οὔ τις ἐμεῖο κρείσσων, ᾧ κ' ἐθέλω δόμεναί τε καὶ ἀρνήσασθαι (…) τῶν οὔ τίς μ' ἀέκοντα βιήσεται, αἵ κ' ἐθέλωμι καὶ καθάπαξ ξείνῳ δόμεναι τάδε τόξα φέρεσθαι "Mother of mine, as for the bow, no one of the Achaeans has authority over me (οὔ τις ἐμεῖο κρείσσων), that I may give or deny it to whoever I wish to: (…). No one of them shall force me against my will (οὔ τίς μ' ἀέκοντα βιήσεται), even if I should wish to give this bow once and for all to the stranger to carry it away with him." (*Od*. 21.344-45 and 348-9). Here, κρείσσων functions as the positive of an adjective corresponding to the abstract κράτος in the sense 'power, authority' (G. *Gewalt*) and κρατέω 'to have authority'. In Class. Attic, κρείττων may also function as a positive, e.g. in κρείττων αὐτοῦ 'in control (master) of oneself'.

[512] In this instance, κρεῖσσον obviously would not have yielded the intended meaning. Thus, at least in the *Odyssey*, a new comparative κρατερώτερος was formed to κρατερός. Cf. also κρατερώτερον ἄλλο κεραυνοῦ "[no] fiercer [weapon] than lightning" (Hes. fr. 343.8).

[513] σίδηρος, ὅ περ κρατερώτατός ἐστιν (Hes. *Th*. 864).

Positive	**Comparative**	**Superlative**	**Meaning**
None	κρείσσων	None	‘superior’; ‘better’
κρατερός ~ καρτερός	κρατερώτερος	κάρτιστος	‘fiercer’, ‘fiercest’

Table 5.4: The grades of comparison with κρετ-, κρατ- ~ καρτ- in Homer

In Homer, κρείσσων is an isolated comparative formation, which synchronically belongs neither with κρατύς nor with καρτερός ~ κρατερός.[514] It mostly means ‘stronger, superior’, in an imaginary duel or confrontation. On the other hand, κάρτιστος functions as the superlative of καρτερός ~ κρατερός; κρατερώτερος is the synchronic comparative form.

5.2.7 κρατύς and καρτύνω in Homer

Hom. καρτύνω is attested only as a middle aorist ἐκαρτύναντο ‘they roused their ranks’ (vel sim.), in a repeated battle scene where a phalanx is formed.[515] It has a different vowel slot in comparison with κρατύς and Classical κρατύνω, which requires an explanation. It is unlikely that καρτύνω was derived from the weak stem of the *u*-stem adjective before the vocalization of *r̥*, because Epic καρτύνω and Classical κρατύνω cannot both be the direct reflex of a pre-form **kr̥tu-n-i̯e/o-*.

It is not hard to find a motive for the creation of καρτύνω: like κράτιστος, the vernacular form κρατύνω may have been avoided in Homeric Greek for metrical reasons.[516] It remains to find a linguistic model for the creation of καρτύνω. At first sight, it is not so easy to indicate an adequate proportional analogy. Whereas κάρτος and κάρτιστος are derivationally and semantically linked with καρτερός ~ κρατερός, καρτύνω can be derived neither directly from καρτερός nor from κρατύς (which has no by-form $^{++}$καρτύς). But as we have seen in section 4.5, καρτύνω may have been created beside the Epic form κάρτος in the sense ‘fierceness’ or ‘endurance’. The model for the proportion may have been the semantically close θάρσος ‘perseverance, courage’ : θαρσύνω ‘to encourage’. Since the original form *θαρσύς had been ousted by θαρσαλέος, and since the lexical meaning of θρασύς was distinct, θαρσύνω could be derivationally associated with θάρσος.[517] Thus, it appears that ἐκαρτύναντο φάλαγγας ‘they roused their ranks’ (beside κρατερὰς φάλαγγας) is

[514] A different question is whether κρείττων and κράτιστος are still part of the same paradigm in Classical Attic. It is normally thought that both forms belong to the positive ἀγαθός. But since the preserved *e*-grade of κρείττων suggests that the comparative form was paradigmatically isolated in Proto-Ionic already, the same must be assumed for Classical Attic, until the contrary is proven.

[515] After Homer, ἐκαρτύναντο is attested once in Hesiod (*Th.* 676) and in two epic fragments (Antimachus fr. 42.1 Wyss, also ἐ]κ̣αρτύναντο μελικ̣[fr. 64.4 Lloyd-Jones & Parsons). Furthermore, the active present καρτύνειν is attested once in Pindar (*Ol.* 13.95). The middle in the Homeric formula ἐκαρτύναντο φάλαγγας could be interpreted, in the terms of Allan (2003: 82f.), as a collective motion middle. This can be rendered in English translation as “they filled *their* ranks with battle spirit”. Strunk (1975) points out that the line preceding ἐκαρτύναντο φάλαγγας, in all three Homeric attestations, depicts an army leader arousing the battle spirit (ἀλκή ‘resilience’) of his men. In his discussion of *Il.* 16.563, he remarks that the consequences of the leader’s call to arms “bestehen nicht nur im blossen zusammenrücken der φάλαγγες, sondern auch darin, dass diese neuen Anlass zum Kampf sehen und frischen Mut fassen.” (1975: 273). Alternative interpretations have been proposed by Benveniste (1969, II: 80, “la phalanxe comme un corps solide et métallique”) and de Lamberterie (1990: 332, “objets solides et massifs … lignes de bataille (φάλαγγες) aussi infrangibles qu’une bille de bois”). In my view, this is less likely: in Homeric imagery, bars, logs and walls are easily broken when they meet with a force that is κρατερός. Cf. especially *Il.* 5.85-94, where Diomedes, whose fixed epithet is κρατερός, is compared to a raging river that breaks everything on its way. Needless to say, it is difficult to pinpoint the meaning of καρτύνω with certainty on the basis of one single formula.

[516] The Ionic vernacular form κρατύνω was derived from the *u*-stem adjective κρατύς after the vocalization of the syllabic liquids and the subsequent spread of the allomorph κρατ- (see section 4.4).

[517] Strunk (1975: 296) gives the same derivation, but does not explain the other distributional peculiarities of the variations κρατ- ~ καρτ- and θρασ- ~ θαρσ-.

not necessarily a replacement of the vernacular form κρατύνω 'to harden, strengthen'.[518] Rather, καρτύνω is a productive inner-Epic creation, meaning 'to provide with κάρτος'.[519]

5.2.8 κάρτα

The adverb and particle κάρτα 'very, much, vehemently; surely, indeed' is well-attested in Classical Ionic-Attic: it is frequent in Herodotus, the Hippocratic corpus, and the tragedians. However, it is not found in inscriptions, Thucydides, Xenophon and the orators, only 3x in Aristophanes, and it is almost entirely shunned in hexameter poetry.[520] Its absence from prose authors suggests that κάρτα was not current anymore in spoken Classical Attic. On the other hand, it remained alive in Eastern Ionic.[521] As I will argue below, σφόδρα was introduced as a replacement of κάρτα in spoken Attic.

Since the semantic relation between κάρτα and κρατερός ~ καρτερός in the sense 'fierce, vehement' is clear, it cannot be doubted that κάρτα is the regular outcome in Ionic-Attic of a pre-form **kr̥ta* that was part of a Caland system.[522] The reconstruction of the Greek adverbial marker -α and the origin of the type are still subject to debate.[523] In any case, the zero grade -αρ- in κάρτα (beside the full grade **kret*-) is at odds with the development of **r̥* to -ρα- that was hitherto assumed to be regular. Illustrative for the embarassment of previous scholarship is Ruijgh's explanation of κάρτα:

"Noter que *κράτα est le résultat phonétique de **kr̥tn̥* (cf. ἔδρακον : δέρκομαι). Il faut donc expliquer κάρτα par une métathèse due au modèle de *κέρτος (attesté par l'anthroponyme Ἰ-κέρτης), doublet de κρέτος; cf. la substitution de δαρτός à δρατός d'après δερ-. (…) La métathèse se retrouve dans καρτερός, κάρτιστος, κάρτος, καρτύνω et lac. κάρρων < *κάρσων, doublets de κρατερός etc." (1980: 563 n. 10).

The assumption that not only κάρτα, but also καρτερός, κάρτιστος, κάρτος, and καρτύνω must be explained as influenced by an unattested form *κέρτος is bizarre. First of all, there is no evidence whatsoever for a form *κέρτος in Ionic-Attic. As we have seen above, the epicisms κάρτος and κάρτιστος can be explained after the model of καρτερός : κρατερός, where καρτερός is the regular reflex of **kr̥teró*-. Furthermore, the name Ικερτης is not found in Ionic, but in Lesbian. As is shown by Hodot (1974), Lesbian names in -κρέτης are attested from the 5th c. BC onward, whereas those in -κέρτης first appear in the 2nd c. BC and for this

[518] According to de Lamberterie, the meaning of κρατύνω in later prose is "«endurcir, raffermer, consolider, renforcer», au sens le plus materiel, le plus physique du terme." (1990: 328).

[519] In the words of Strunk (1975: 273-4): "Die von Benveniste geleugnete semantische Brücke zwischen κράτος und καρτύνεσθαι (κρατύς) ist damit zumindest in der homerischen Sprache (…) greifbar: mit ἀλκή, »kämpferischer Gesinnung«, haben beide Wörter zu tun." Strunk claims that his philological analysis of Homeric καρτύνω does not depend on the derivation of this factitive verb from κάρτος (1975: 294), but I think that de Lamberterie (l.c.) is right in claiming that it does.

[520] In pre-Classical poetry: Aristeas Epicus fr. 5.2, Empedocles fr. 4.4; cf. also Protagoras fr. 9, Epicharmus fr. 85 Austin. It occurs only once in Plato (*Tim*. 25d, in the story about Atlantis). This story is said to be due to the elder Critias, who is supposed to have heard it from Solon (ὑπὸ τοῦ παλαιοῦ Κριτίου κατ' ἀκοὴν τὴν Σόλωνος), who in turn was told it by an Egyptian priest. This is a clear example of high register speech.

[521] That κάρτα was current in spoken Eastern Ionic is suggested by its occurrence not only in Herodotus, but especially in Hipponax (fr. 32.2), the poet from Ephesus and Clazomenae reputed for his use of low register vocabulary.

[522] In both form and meaning, κάρτα looks like Lat. *certus* 'certain', adverb *certe* 'certainly, surely', but the similarities are merely superficial because the Latin word is derived from **kritó*- 'sifted, distinguished' (cf. de Vaan *EDL* q.v.).

[523] For a summary of different theories regarding the origin of the Greek adverbs in -α, see Meissner (2006: 63-4). Ruijgh (1980) argued that the zero grade root vocalism of the type κάρτα (found e.g. in μάλα, ἄρα, ῥίμφα, τάχα, πύκα, λίγα, λίπα, etc.) was inherited from PIE.

reason must be considered an innovation. Hodot convincingly suggests that Lesb. -κέρτης is the regular outcome of -κρίτης.[524]

Ruijgh misses the mark again (1980: 562 n. 8) when suggesting that κάρτα could be the result of a post-Homeric analogy μάλα : μάλιστα = X : κάρτιστα. This model breaks down because the artificial Homeric form κάρτιστος does not occur in the Ionic vernacular, which is where κάρτα is attested. As an alternative model, one could think of a proportion μάλα : μαλερός = X : καρτερός. This would require, however, that μαλερός 'crushing, vehement' was current in spoken Ionic-Attic when the analogy was operative.[525] Again, there are serious objections: μαλερός is an exclusively poetic adjective, whereas κάρτα is also a prose form. Moreover, μαλερός would in this case have to be the outcome of a *ró*-adjective inherited from PIE, but a pre-form **mlh₁-ró-* could only yield ⁺⁺βληρός.[526] I do not accept the existence of a Caland suffix **-eró-* alternating with *-ró-* in Proto-Greek, because all instances of the suffix -ερός can be explained as having spread from καρτερός ~ κρατερός (see section 5.3.2 below). Therefore, μαλερός is better explained as an artificial poetic form, analogical beside μάλα on the model of κάρτα : καρτερός (or **kŕ̥ta* : **kr̥terós-*).

Since an analogical explanation of κάρτα cannot be given, we may conclude that it is the regular outcome of Proto-Greek **kr̥ta* (or **kr̥tN̥*). Beside καρτερός, it is another valuable piece of evidence for the regular development **r̥* > -αρ- in Proto-Ionic.

5.2.9 From Proto-Ionic to Classical Ionic-Attic

On the basis of our comparison between the Homeric and Classical Ionic-Attic forms in the preceding sections, it is possible reconstruct the following situation for Proto-Ionic, directly after the vocalization of **r̥* to -αρ- and the levelling in κρατύς, but before the generalization of -ρα- to other former full grade forms:

1. **krétos, *-kretḗs* (→ **kretéō̄*)
2. *kratús* (→ *kratū́nō̄*)

Grades of comparison **krétsōn*, **krétistos*

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[524] Meissner (2006: 68-9) thinks that the compounds in -κρετής are recent creations anyway: "It seems quite possible that personal names in -κρέτης were created independently in the different dialects. This suggestion is supported by the fact that personal names formed from this root only appear to become frequent in post-Homeric Greek. κρέτος / κράτος does not seem to belong to the established lexical inventory out of which personal names are formed."

[525] I do not share Frisk's doubts as to whether the meaning of μαλερός can still be established (s.v. μαλερός, "wegen der unbestimmten Bedeutung ohne überzeugende Etymologie", with references to earlier proposals by Bechtel and Osthoff). I also disagree with Blanc's claim (*DELG*, Supp. s.v. μαλερός) that μαλερός refers to the brilliant splendor of light, and therefore cannot accept his etymological speculations. Just like κρατερός, μαλερός qualifies lions, war, and especially fire as a consuming elemental force (in Homer only the last-mentioned usage). It can therefore be translated as 'crushing, vehement'. In fact, μαλερός qualifies the same nouns as κρατερός. In Homer, μαλερῷ πυρὶ (2x *Il.*) and μαλεροῦ πυρός (1x *Il.*) can be compared with πυρὸς κρατερὸν μένος αἰθομένοιο (*Od.* 11.220). After Homer, we find: (1) πυρὸς μαλερὰ γνάθος "the crushing jaw of fire" (A. *Choe.* 325); (2) Ἄρεά τε τὸν μαλερόν (S. *OT* 190), which may echo Ἄρηϊ κρατερῷ (*Il.* 2.515, cf. also *Scut.* 446) and formulae like φυλόπιδος κρατερῆς, κρατερὴ ὑσμίνη; (3) πόθῳ στένεται μαλερῷ "[she] laments in vehement longing [for them]" (A. *Pers.* 62, transl. Weir Smyth), which may be compared with e.g. κρατερὸς … τρόμος 'vehement trembling' (*Il.* 6.137) or κρατερὸν δέος 'heavy fear' (*Od.*); (4) μαλερῶν λεόντων 'fierce lions' (A. *Ag.* 141), which may be compared with κρατεροῖο λέοντος (*Od.* 4.335) and κρατεροῖσιν ὀδοῦσιν (*Il.* 11.113-4, of a lion's teeth). A somewhat aberrant use of μαλερός is found only in Pi. *Ol.* 9.21-2: ἐγὼ δέ τοι φίλαν πόλιν μαλεραῖς ἐπιφλέγων ἀοιδαῖς, "But as for me, while I light up (ἐπιφλέγων) that dear city with my μαλεραῖς songs, …" (transl. after Race). It seems that μαλεραῖς … ἀοιδαῖς refers to Pindar's Ode as a bundle of fiery arrows that bring light to the city. But as always in Pindar, the precise interpretation of the passage crucially depends on the rest of the Ode, which cannot be dealt with here.

[526] In my view, the root underlying μάλα, μᾶλλον, μάλιστα is probably **melh₁-* 'to crush, grind'. If the analogical model proposed in the text is correct, the meaning of μαλερός 'crushing, vehement' may have been influenced by that of καρτερός ~ κρατερός 'vehement, violent'.

3. *karterós*
4. *kárta*

Homeric Greek and Classical Ionic-Attic agree in the *s*-stem forms κράτος, -κρατής, and in the denominative verb κρατέω. This suggests that -ρα- was introduced in κράτος, -κρατής, and the superlative κράτιστος as early as Proto-Ionic. This led to the following situation, still in Proto-Ionic:[527]

1. κράτος 'power, control; fierceness', -κρατής (→ κρατέω 'to be in control; be rampant')
2. κρατύς 'impetuous, fierce' (→ κρατύνω 'to make firm, harden')
   κράτιστος 'most powerful'
   κρέσσων 'superior'[528]
3. καρτερός 'steadfast, enduring, firm'
4. κάρτα 'vehemently' > 'very'

The allomorph κρατ- first arose in the adjective κρατύς.[529] Whereas κρατύς is not alive anymore even in Homer, it must have been so in Proto-Ionic because the introduction of *a*-vocalism in κράτος and Class. κράτιστος started from this form. It is not possible to assume influence of καρτερός on **krétos*, **krétistos*. Firstly, the forms καρτερός and κράτος have different vowel slots in Classical Greek.[530] The variant κρατερός cannot be reconstructed for spoken Proto-Ionic, because it clearly arose in Epic Greek. If the Homeric doublet κρατερός ~ καρτερός had also existed in the vernacular, it would be hard to understand why καρτερός, with its deviant vowel slot, was not ousted by κρατερός. Secondly, the semantic distance between Class. καρτερός 'steadfast, firm' and κράτος 'power' is considerable. As we have seen above, this is reflected in the fact that both forms have their own system of derivations in Classical Attic. A final argument for a prolonged presence of κρατύς in the vernacular is the productivity of the adjectives in -ερός beside -ύς in Epic Greek. As I suggest in section 5.3.2, the only feasible model for the creation of e.g. γλυκερός beside γλυκύς is a proportion with κρατύς : κρατερός.

Two questions remain. Why were there two adjectives καρτερός and κρατύς? And by which forms was κρατύς replaced in Homeric Greek and in Classical prose?

As for the first question, the formal distinction between κρατύς and καρτερός must have been accompanied by a semantic difference in Proto-Ionic. As we have seen, the Epic doublet κρατερός ~ καρτερός has two very different basic meanings: 1. 'impetuous, violent, fierce', and 2. 'steadfast, enduring; solid, firm'. In Classical Attic, καρτερός never means 'impetuous, violent, fierce', and 'solid, firm' is limited to a few lexicalized collocations;[531] its only productive meaning is 'steadfast, enduring, obstinate', in continuity with Epic usage. It is therefore conceivable that Epic κρατερός ~ καρτερός is a conflation of Proto-Ionic κρατύς *'impetuous, violent, fierce' and καρτερός 'enduring, firm'.[532]

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[527] In this overview, I leave aside the precursors of κραταιός and κραται- because these forms were limited to Epic poetry. Their vocalization has a special, inner-Epic explanation (see chapter 6). The case of κρατύς (also limited to Epic Greek) is different, as I will demonstrate in the main text.

[528] I have cited the forms in Greek alphabet, because this is the situation reflected in Homer. Of course, the Proto-Ionic form was **kretsōn* rather than κρέσσων: the outcome of intervocalic **-tį̂-* over a morpheme boundary was Proto-Ionic **-ts-*.

[529] See section 4.2.1 on the spread of *a*-vocalism in cases like θαρσέω, ταρβέω, where the respective *u*-stem adjective was ousted too.

[530] The result of a levelling of the zero grade would have to be $^{++}$κάρτος, as in Gortynian Cretan (see below).

[531] These meanings do occur for καρτερός in Herodotus, see below.

[532] That κρατερός replaced κρατύς has been argued by de Lamberterie (1990: 331ff.), who considers the meaning 'solid, hard' to be original.

As for the second question, it appears to be possible to indicate the lexemes by which κρατύς was ousted in Classical Ionic and Attic. Classical Attic prose has its own adjective for 'impetuous, violent, fierce': σφοδρός. This also frequently appears as an adverb σφόδρα 'vehemently, heavily; very'. Class. σφοδρός and Epic κρατερός ~ καρτερός show a considerable overlap in terms of the nouns which they modify.[533] Moreover, with one single exception, σφοδρός and σφόδρα are completely absent from Homer.[534] In other words, Class. σφοδρός and Epic κρατερός ~ καρτερός are in a complementary distribution: both adjectives replace the original form κρατύς. Among Classical authors, the same complementary distribution exists between the adverbs σφόδρα and κάρτα. Aristophanes and Thucydides only use σφόδρα, whereas the tragedians and Herodotus regularly use κάρτα.[535] This means that the Proto-Ionic adverb κάρτα 'very, heavily' was retained in the Ionic of Herodotus and in older Attic, but ousted in spoken Classical Attic by σφόδρα.

In Eastern Ionic, κρατύς *'vehement, fierce' may have been absorbed by καρτερός, as appears from the testimony of Herodotus.[536] But Eastern Ionic does preserve the adverb κάρτα, which appears not only in Herodotus but also in Hipponax, a poet well-known for his use of words from lower (non-poetic) registers. The relationship between σφοδρός and κρατερός can therefore be summarized as follows:

Variety of Greek	**Adj. 'violent, vehement'**	**Adv. 'vehemently, heavily'**
Proto-Ionic	κρατύς	κάρτα
Homer	κρατερός ~ καρτερός	κρατερῶς, σφεδανός
Herodotus	καρτερός (κρατερός in oracles)	κάρτα
Attic prose	σφοδρός	σφόδρα
Tragedians	καρτερός (κρατερός in lyrical parts)	κάρτα

Table 5.5: Adjective versus adverb 'vehement(ly)' in different varieties of Ionic-Attic

In view of the semantic difference to be reconstructed for κρατύς as opposed to καρτερός, we are not dealing with mere morphological variants. Since the root forms an extensive Caland system in Ionic-Attic, the secondary creation of a *u*-stem adjective κρατύς would not be difficult to account for. The suffix -ερός of καρτερός, on the other hand, is much harder to explain. I therefore propose that **kr̥terό-* 'impetuous, violent, fierce' is the original, Proto-

[533] The adj. σφοδρός basically means 'vehement, violent, excessive', e.g. σφοδρὸς πόνος 'excessive trouble'. Like Epic κρατερός, σφοδρός qualifies violent words and vehement pains. For τὸ σφοδρόν 'vehemence, excess' (Pl.), compare τὸ καρτερόν 'id.' (trag.). Further, σφοδρός means 'violent, impetuous', of men and their behavior, e.g. νέος καὶ σφοδρός (Pl.), also 'active, zealous' (X. *Cyr*. 2.1.31), 'strong, robust' (X. *Oec*. 5.5).

[534] The only Homeric attestation of σφοδρός is the adverbial form σφοδρῶς (*Od*. 12.124, on which see section 5.2.6). The Homeric form corresponding to Class. σφόδρα may well be σφεδανόν 'violently, furiously' (only three times in the *Iliad*), which probably derives from the same root. It is interesting that σφεδανόν and λύσσα … κρατερή, qualifying Achilles as he is routing the Trojans, are found side-by-side in *Il*. 21.542. Unfortunately, the etymology and morphological makeup of σφοδρός and σφεδανός are unclear: the *o*-grade root vowel is strange in a *ro*-adjective, the origin of the suffix -ανός is unclear, and the root σφεδ- has no outer-Greek connections.

[535] The adverb σφόδρα occurs only 2x in Sophocles, 1x in Herodotus, and σφοδρῶς only 1x in Euripides. Aeschylus has no instances of σφόδρα or σφοδρῶς, but one instance of the factitive verb σφοδρύνω. The figures for κάρτα are: Hdt. 93x, A. 34x, S. 18x, E. 16x. The diminishing relative frequency of κάρτα in the tragedians suggests that κάρτα was present in older Attic, and preserved in poetry as an archaism. This seems to be confirmed by the only attestation of κάρτα in Plato (*Tim*. 25d). The passage contains the story about Atlantis, which according to Plato is due to the elder Critias, who supposedly heard it from Solon (ὑπὸ τοῦ παλαιοῦ Κριτίου κατ' ἀκοὴν τὴν Σόλωνος), who in turn was told it by an Egyptian priest.

[536] This appears from cases like ὄνυχας καρτερούς 'fierce claws' (of the crocodile, Hdt. 2.68), μάχη (ναυμαχίη, προσβολή) καρτερή 'fierce battle (attack)' (Hdt. 1.76, 2.63, 3.11, 4.200, 6.101, 8.12), and ὑπνωμένου καρτερῶς τοῦ μάγου "while the Magus was in deep sleep" (Hdt. 3.69). It is hard to exclude, however, that καρτερός in this sense is a Homerism in Herodotus; see below for a different analysis.

Greek form of the adjective.[537] Early on, possibly already in Proto-Greek, it underwent a semantic development to 'persevering, steadfast, enduring', then to 'lasting, firm'. Thereby, **kr̥terό-* was dissociated from forms like **krétos* 'fierceness, might, violence', **kr̥ta* 'vehemently', and possibly from the then-existing verbal root. A new ablauting *u*-stem adjective **krét-u-*, **kr̥t-éw-* 'fierce, violent', corresponding to the neuter abstract **krétos*, was then created, possibly directly based on the Proto-Greek reflex of the PIE verbal root **kréth₁-* (see section 5.3). As a productive derivation, the precursor of κρατύς preserved the older root meaning, while καρτερός 'steadfast, enduring' had become derivationally isolated and further developed its meaning to 'lasting' and 'solid, firm'.[538]

Our questions regarding the problematic relationship between καρτερός and κρατύς can be answered as follows. Early on, the pre-form **kr̥terό-* had become isolated from other Caland formations by a semantic development to 'steadfast, enduring, firm'. After that, a new positive κρατύς 'impetuous, fierce' was productively created beside the other forms. In Ionic-Attic, κρατύς was eventually eliminated, but only at a post-Proto-Ionic stage: it was replaced by σφοδρός in Attic, and absorbed by καρτερός in Herodotus. In Epic Greek, however, it was retained directly in the formula |H κρατύς Ἀργεϊφόντης, and indirectly in κρατερός in its meaning 'impetuous, fierce'.[539]

5.2.10 The reconstruction of κραταιός and κραται-

It is generally assumed that κραταιός, the first member κραται-, and κραταιΐς (PN Κράταιϊς) had pre-forms starting with **kr̥t-*. Although there is no reason to assume that -ρα- replaced an older full grade in these forms, their morphological analysis (especially the origin of -αι-) remains an object of debate to this date. In the present section, I will review previous attempts to reconstruct κραταιός and κραται-, and offer a new proposal for both forms; κραταιΐς and Κράταιϊς are discussed in the next section. Anticipating the conclusions to be reached in chapter 6, there is one strong indicator for the former presence of **r̥*: of all lexemes containing the root κρατ-, the forms κραταιός, κραται-, and κραταιΐς are the only ones to undergo *muta cum liquida* scansion.[540] In chapter 6, I will argue that the outcome -ρα- in such forms is the regular reflex of **r̥* in Epic Greek.

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[537] As I will argue in section 5.3, **kr̥terό-* 'impetuous, violent' can be etymologically equated with Ved. *śithirá-* 'loose' < PIE **kr̥th₁-ró-*.

[538] As we have seen in section 5.2.1, such a semantic development also seems to be presupposed by the diverging semantics of the Cretan forms καρτερος 'firm' and καρτος 'violence'.

[539] Given the semantic difference between **krétu-* ~ **kr̥téw-* and **kr̥terό-* reconstructed here for Proto-Greek, it remains to explain how κρατύς could be absorbed by κρατερός in Epic Greek. Could this be due to the same development reflected in the Ionic of Herodotus, where καρτερός retains the same wide gamma of meanings? This is not the only option: as so often, Herodotus could be Homerizing, and it remains unclear why Ionic would have given up the otherwise clear formal and semantic distinction between κρατύς and καρτερός. I am therefore inclined to consider an inner-Epic mechanism for the conflation of κρατύς and κρατερός ~ καρτερός. The form κρατύς is attested only in the formula |H κρατύς Ἀργεϊφόντης. When κρατύς 'fierce' had to qualify other names like Diomedes in verse-final position, its use was inhibited by Hermann's Bridge. In fact, κρατερός occurs after |H in almost 60% of its instances. It is conceivable that there was an old distribution between κρατύς and κρατερός in pre-Homeric Epic: |H κρατύς |B V- [PN] ## versus |H κρατερός C- [PN] ##. After κρατύς had gone out of use in spoken Ionic-Attic, its fate in Epic Greek was sealed by the much greater metrical utility of κρατερός, and it survived only in one single relic formula. It might then be speculated that formulae like |H κρατερὸς Διομήδης and |H κρατερὴ ὑσμίνη date back to a stage when **kr̥terό-* still had the meaning 'impetuous, fierce, violent', and that **kr̥terό-* underwent the development of Epic **r̥*, to be discussed in the next chapter. If the semantic development of **kr̥terό-* to 'steadfast' was indeed Proto-Greek, this would suggest a very high antiquity for the epic hexameter. Needless to say, this scenario remains uncertain, but it seems clear that κρατύς and κρατερός were somehow conflated in Epic Greek.

[540] The *muta cum liquida* licence is never used in other forms with κρατ- (κρατύς, κράτος, κρατερός, κρατέω). Moreover, forms like κράτιστος, κρατύνω and ἐκράτησα were apparently avoided in Homeric Greek. The only

As we have seen, κραταιός is semantically equivalent to κρατερός ~ καρτερός.[541] Its reconstruction has been much debated, but a convincing solution has not yet been provided. It is often assumed that the masculine κραταιός is a back-formation from the feminine, attested in the Homeric formula Μοῖρα κραταιή.[542] Authors like Risch, de Lamberterie, and Meissner suppose that κραταιή continues an archaic motional form *$k̥rth_2u̯ih_2$ of the *u*-stem adjective κρατύς, where the second *-a-* would be the outcome of a vocalized *h_2.[543] This explanation is inspired by Πλάταια (Πλαταιαί), which is analyzed as the direct outcome of a motional feminine *$pl̥th_2u̯$-ih_2 'wide' (cf. πλατύς).[544] The reconstruction as a relic *u*-stem form is corroborated by the pattern of accentuation (singular Πλάταια, plural Πλαταιαί), which recurs in a few other archaic motional feminines of Greek *u*-stem adjectives (see section 4.1). Furthermore, the root-final *-h_2- can be reconstructed on the basis of the Indo-Iranian cognates and of the Greek substantive πλαταμών 'flat surface'.

When this explanation is extended to κραταιός, however, severe problems arise. First of all, there is no independent evidence that the root underlying κρατ- ended in *-h_2. Meissner accepts the etymological connection with Vedic *krátu-* and Avestan *xratu-*, but these forms exclude a root-final laryngeal; he therefore assumes that a suffix *-h_2u- (replacing older *-*u*-) became productive in *u*-stem adjectives in Proto-Greek, which is clearly an *ad hoc* explanation.[545] De Lamberterie (1990: 352-3) derives κρατύς from the root **kert-* 'to cut', and is forced to assume a contamination between **kert-* and **kerH-* 'to cut', which would have given rise to *$kerth_2$-. Both ideas are designed specifically in order to explain κραταιός, and neither of them is supported by further evidence.

A second problem concerns the inner-Greek developments that are assumed to lead to κραταιός. The expected feminine of a *u*-stem adjective would be *κραταια (with short -ă), but

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exception is *Il*. 20.121, where κράτος stands after the trochaeic caesura. For such incidental cases of *muta cum liquida* scansion, see section 6.4.

[541] According to de Lamberterie (1990: 337), κραταιός "présente la même gamme d'emplois que la formation en -ερός, et cela est vrai aussi des composés en κραται˚, καρται˚." To his representative list of examples I would add that the equivalence of κραταιός and κρατερός is most clearly proven by *Od*. 18.383, where κραταιός occurs in a speech of Odysseus (18.365-86). The "beggar" Odysseus addresses the suitor Eurymachos and warns him that Odysseus would beat him in any contest of *endurance*, be it in mowing the grass from morning till evening, in ploughing a field all day long, or in full war. This means that κραταιός, in the verse καὶ πού τις δοκέεις μέγας ἔμμεναι ἠδὲ κραταιός (18.383) "you think you are some big and tough guy", refers to the stamina or endurance which the suitor Eurymachos, a daily consumer of banquets, is lacking. This shows that κραταιός does not only appear in the sense 'impetuous, fierce' (likely in its other Homeric instances, and probably the more original meaning), but that it also means 'enduring' on at least one occasion.

[542] Risch (1974: 74), Nagy (1999: 85-89 and 349-54), de Lamberterie (1990: 337ff.), Meissner (2006: 62f.). In Risch's words, "danach [i.e. after Πλάταια] wohl zu κρατύς : μοῖρα κραταιή (statt *-αιᾱ), Versende 9 mal *Il*. (nachträglich ist κραταιός gebildet worden)."

[543] Most scholars reconstruct PIE *$k̥rth_2u̯$-ih_2, but departing from such a pre-form, I would expect the **u* to surface in Greek as a syllabic segment. For this reason, I prefer to reconstruct the Greek form as *$k̥rth_2$-*eu*-ih_2: see the next note.

[544] This toponym may originally have denoted a wide or flat area (e.g. *πλάταια χώρα). Of course, the normal feminine πλατεῖα to πλατύς is analogical. As explained in section 4.1.1, the reconstruction *$plth_2$-*u*-ih_2 required by Ved. *pṛ̊thivī-* would not yield Greek Πλάταια, because one expects the **u* to surface as a syllabic segment in the Greek outcome. This means that the Greek and Indo-Iranian forms cannot be derived directly from one and the same pre-form. In my view, the full grade suffix *-ew-* presupposed by the Greek feminine (*$plth_2$-*eu*-ih_2) was taken from the weak stem of the masculine. Risch's (1974: 74) suggestive reference to Pausanias, according to whom Πλάταια used to harbor a cult of the goddess Earth, does not necessarily imply a direct formal equation between Πλάταια and Vedic *pṛ̊thivī-* 'Earth'.

[545] Meissner uses this reconstruction to explain the compounding element κραται- from κραταιο-, which would have been altered under pressure of other compounds with a "linking element -αι- (of various origins) which is favoured over -ο- wherever possible and (…) thus found not only in κλυταιμνήστρη, Πυλαιμένης, κελαινεφής, LvB] but even in comparative forms like γεραίτερος alongside γεραιός."

this form is unattested, and κραταιή is found in the archaic Homeric formula Μοῖρα κραταιή.[546] As explained in section 4.1, in a pre-form Ns. *κράταια I expect the accent to be on the root, which makes the final accent of κραταιή problematic. Furthermore, there is no apparent motive for replacing an earlier *Μοῖρα κραταιά by Μοῖρα κραταιή. The creation of a secondary masculine κραταιός beside κραταιή is not without problems either. De Lamberterie (1990: 339) proposed to call κραταιός a "masculinatif", but most of the parallels cited for this process are from post-Classical Greek, and the similarities with κραταιός are only partial.[547]

In view of these objections, the proposal to derive κραταιός from the feminine of a *u*-stem adjective remains doubtful.[548] Before further analyzing κραταιός, let us now consider the first member κρατ**αι**-, which requires an explanation too. A number of details concerning its reconstruction remain unclear:

(1) What is the origin of -αι-? Is there a derivational relation between κρατ**αι**- and κραταιός?

(2) A first member κρατ**αι**- was metrically awkward, because it entailed the use of *muta cum liquida* scansion. Why was it created at all?

(3) What is the relation between names with Κρατ**αι**- and those with Καρτι-, Κρατι-?

Let us first consider the existing opinions on the origin of -αι- in κρατ**αι**-. Meissner argues that κρατ**αι**- is a remodeling of κραταιο-, citing γεραιός 'old' beside the comparative γεραίτερος as a parallel.[549] This is unlikely: it remains unclear why the thematic vowel would be dropped in the first member of a compound. Moreover, the assumed influence of γεραιός on κραταιός lacks a semantic motivation. Finally, γεραίτερος is not a compound but a comparative, and the relation between γεραιός and γεραίτερος is unclear itself.

For κρατ**αι**-, the reconstruction of a pre-form *$\acute{k}rth_2i$- does not really help: between two consonants, PIE *-h_2i- is expected to yield -ι- rather than -αι- (cf. Nagy 1999: 86f. n. 5). Nagy assumes that κρατ**αι**- arose within Greek as a cross of the adverb *$k\r{r}t$-*a* with the expected Caland allomorph *$k\r{r}t$-*i*-. He follows a suggestion by Nussbaum that adverbs in -α could also appear in place of a first member in -ι-, as in the names Ἀλκάθοος (*Il*. 12.93) and Ἀλκαμένης (Bechtel 1917: 35) beside ἀλκί-φρων. Indeed, a first member Κρατι- is also

[546] De Lamberterie (1990: 340) proposed to recognize a trace of *κραταιά in κραταιΐς (*Od*. 11.597), which he derives from a syntagm *κραταιὰ ϝίς 'strong force' by haplology. But this scenario cannot be further substantiated; for a different analysis of κραταιΐς, see below.

[547] A masculine form (ϝ)ιδυῖος, which refers to an overseer of youngsters, occurs in late Laconian and Messenian inscriptions from the 2nd and 1st c. BC. The same form recurs in glosses ascribing the form to Attic in the meaning 'witness' or 'jury in a homicide case'. De Lamberterie proposes that (ϝ)ιδυῖος was based on the feminine pf. ptc. ἰδυῖα, which seems likely. It deserves attention, however, that (ϝ)ιδυῖος is a substantivization, whereas κραταιός is a full-fledged adjective. None of the other examples of "masculinatives" furnishes a clear parallel for κραταιός: beside πέπων (fem. πέπειρα), a new masculine form πέπειρος is found first in the Hippocratic corpus; beside Homeric θαμέες (fem. θαμειαί), the thematic comparative form θαμειότερος first occurs in Nicander. Finally, beside the inherited adjective στεῖρα 'barren, sterile', typically used with female referents, the secondary masculine στεῖρος is first attested in Euripides. Among the alleged examples, the only clear Homeric case is ἑταῖρος 'companion' beside ἕταρος. But here, it is hard to exclude influence of the feminine ἑταίρη on an already existing masculine form ἕταρος.

[548] We have already seen that the *u*-stem form κρατύς may have been productively formed within Greek, induced by the semantic differentiation between the precursors of καρτερός and κράτος. Again, this casts doubts on the idea that κρατύς and its supposed feminine *κράταια existed when the root-final *-h_2- was still intact. I will argue below (section 5.3) that the inherited form of the adjective κρατερός ~ καρτερός corresponds directly to Vedic *śithirá*- 'loose'. This identification does point to a root-final laryngeal, then, but the root must be set up as *$\acute{k}reth_1$- in view of the -ε- in Ion.-Att. καρτερός. For the sake of the argument, one could be tempted to assume that the root was *$\acute{k}reth_2$-, and that *καρταρός was reshaped to καρτερός within Greek, for instance after ἱερός, which was originally close in meaning ('active, agile'). However, this would not solve the other problems with previous explanations of κραταιός. It does not explain either why Cretan has καρτερος: corresponding to Hom. ἱερός, West Greek dialects have ἰαρός.

[549] Meissner (2006); see also Meissner (1998: 244-46).

found, but only in personal names (Nagy 1999: 86). This scenario receives some support from the fact that an adverb **kr̥ta* is attested in Classical Greek as κάρτα. One would have to assume that **kr̥ta-*, of adverbial origin, could be used as the first member of a compound, and then extended with the Caland suffix *-i-* or contaminated with **kr̥ti-*. But unfortunately, there are no clear parallels to support this scenario.

A model for the creation of **kr̥tai-* is difficult to indicate. But if we assume that this form is old, a motivation for its retention is available within Epic Greek. In compounds, the first member κραται- functions as an allomorph of κρατερός. This is clearly illustrated by personal names with Κραται- which correspond to Epic syntagms with κρατερός, cf. de Lamberterie (1990: 337):

Κραταιμένης (Th., inscr.)[550] ~ Hom. κρατερὸν μένος 'impetuous fury'

Κραταίβιος (inscr. Delos)[551] ~ Hom. κρατερῆφι βιῆφι 'with vigorous force'.

Another piece of evidence is καρταίποδ-, attested both in Pindar (qualifies a bull in *Ol*. 13.81) and in Cretan inscriptions in the meaning 'cattle'. Furthermore, κραταίποδες 'with strong feet', epithet of ἡμίονοι 'mules', is attested in the *Lives* of Homer.[552] This appellative compound must be compared primarily with the Homeric epithet κρατερῶνυξ, which (with one exception) qualifies horses and mules that are used as draught animals.[553] In other words, κραταίποδες is the equivalent of a phrase "whose πόδες are κρατεροί", just like κρατερῶνυξ means "whose ὤνυχες are κρατεροί".

Given that κραται- functions as an allomorph of κρατερο- in compounds, we have to examine their distribution. In my view, the underlying principle is metrical and must be sought in Epic Greek. The only two Homeric compounds with a first member κραται- are κραταιγύαλοι 'with solid breastplates' (*Il*. 19.361, qualifies θώρηκες) and κραταίπεδον (*Od*. 23.46, qualifies οὖδας 'ground'). In these cases, the second member starts with a single consonant and has a short first syllable. The same applies to the post-Homeric personal names Κραταιμένης and Κραταίβιος, which are clearly of Epic origin, and to κραταίποδες (cf. Cretan and Pindaric καρταίποδ-). In this context, both κρατερο- and καρτερο- were excluded for metrical reasons in Epic Greek, because they would have yielded a sequence of three or more short syllables. In front of a second member starting with two consonants or with a vowel-initial heavy syllable, we find κρατερο-: cf. κρατερόφρων, κρατερῶνυξ. When the first syllable of the second member was heavy and started with a single consonant, καρτερο- was used: cf. καρτερόθῡμος). Thus, the distribution is as follows:

First member:	**Second member starts with:**
καρτερό-(θῡμος)	CV̄-, CVCC-[554]
κρατερό-(φρων)	CC-
κρατερ-(ῶνυξ)	V̄-, VCC
κραταί-(πεδον)	CV̆(C)V̆-

[550] The oldest attestation is the name of an Achaean victor in Olympia (*SEG* 22.345, appr. 600 BC). Further attested (mostly late) in Κραταιμένου *SEG* 19.108 I.117 (Attica, cf. *SEG* 23.124.2), Κραταιμένης *IG* V(1) 127.4 and 211 II.34 (Laconian), also *IG* V(2) 419.8 (Arcadian, 2nd c.), Εὔδ]ημος Κραταιμένου Ἐρετριεύς *IG* XII(9) 91.4 (Euboea). Cf. also Καρταιμένη[ς], *IG* XII (Supp.) 312 III.31 (Tenos, Ionic Cyclades, 2nd c.).

[551] Κραταίβιος *IG* XI(2) 287 A.146 *passim* (Delos). The form Καρταίβιος (with -αρ-) is also attested as the name of a Cretan in Miletus (Bechtel 1917: 256).

[552] *Vit*. 19, 4 (ed. Wilamowitz).

[553] The exception is λύκοι κρατερώνυχες ἠδὲ λέοντες (*Od*. 10.218), 'with violent claws' (vel sim.).

[554] In κραταιρίνοιο 'hard-shelled' (oracle in Hdt. 1.47, hexameter), the allomorph κραται- is used in front of a heavy syllable starting with a consonant, but here, the underlying reason is the use of the genitive in -οιο.

The compounds with κραται- were preserved because they could not be replaced by compounds with **kr̥tero-* within Epic Greek.[555] This makes it likely that κραται- represents a relic "Caland allomorph" of **kr̥tero-* as a first member.

The question then arises how the compounds with κραται- relate to personal names with Καρτι- and Κρατι-, which contain the expected outcome of a pre-form **kr̥ti-*. As evidence for such names, Bechtel (1917: 256) mentions Κρατ-ερμος, Κρατ-ιππιδας, Κρατι-δημος and Καρτι-δαμας, Καρτι-νικος, Καρτι-σθενης. Meissner (1998: 244-45, cf. also Frisk s.v. κράτος) remarks that the attestations are not very early.[556] For this reason, he claims that these names could be innovations of the classical period, when first members with -ι- enjoyed productivity, and remarks (1998: 245): "das Fehlen von κρατι- bei Homer [ist] nicht auf metrische Gründe zurückführbar. (…) Ein καρτι- bzw. κρατι- wäre metrisch vielseitig verwendbar. Sein vollständiges Fehlen ist also auffällig." However, given that κραται- occurs only twice, the absence of καρτι- ~ κρατι- in Homer is not necessarily remarkable in the first place. Furthermore, the above distribution suggests that κραται- was preserved in Epic Greek merely because it could *not* replaced by κρατερο-. Since forms with **kr̥ti-* may underlie the forms with **kr̥tero-*, Meissner's argument is invalid. Since κρατερο- ~ καρτερο- is unattested as the first member of PNs in Ionic-Attic (see section 5.2.2), it seems much more likely that the personal names with Κρατι- and Καρτι- directly continue the inherited form **kr̥ti-*, and that **kr̥ti-* was replaced by **kr̥tero-* only in appellatives.[557]

We now arrive at the following scenario. In Epic Greek, the use of the inherited allomorph **kr̥ti-* was problematic in front of a single consonant followed by a short syllable.[558] This may have initially been solved by a metrical lengthening to **kr̥tī-*, e.g. **kr̥ti-pedo- >> *kr̥tī-pedo-*. Subsequently, the remaining cases of **kr̥ti-* were replaced by **kr̥tero-* whenever this was possible (or by κρατερο- ~ καρτερο-, as soon as this option became available). Finally, the isolated first member **kr̥tī-* was replaced by **kr̥tai-* (which eventually developed to Hom. κραται-) under the influence of κραταιός. As we will see in chapter 6, this scenario accounts for the synchronically irregular *muta cum liquida* scansion of κραται-: the metrical lengthening occurred when **r̥* was still in place.

Let us again return to the reconstruction of κραταιός. In view of its oxytone accent, a derivation with the unaccented suffix *-i(i)o-* can be excluded. As possible parallel formations, three other adjectives are of special interest: παλαιός 'of the past', γεραιός 'old', and δηναιός 'long-lived'.[559] Of these, δηναιός occupies a special position, because it probably derives

[555] As a consequence, the compound κραταίλεως 'consisting of hard rock' (only attested in the tragedians, containing λᾶας 'stone' as its second member) must be considered a recent formation (note the Quantitative Metathesis). In Homer, one would expect to find a *καρτερόλαος.

[556] According to Meissner, one example possibly dates from the fifth century, and the rest is from the fourth century or younger.

[557] In Epic Greek, this replacement occurred before the vocalization of the syllabic liquids (which would have altered the metrical structure of **kr̥ti-*).

[558] This is more or less in line with de Lamberterie (1990: 343): "Dans les composés, le système de Caland fait attendre un premier membre καρτι-, κρατι-, attesté effectivement dans l'onomastique; une fois constitué l'adjectif κραταιός (…), on conçoit qu'il ait pu fournir aux aèdes un modèle pour faire entrer dans l'hexamètre des formes amétriques comme *κρατίπεδος ou *κρατιγύαλος." As explained in the text, I would prefer to assume metrical lengthening of *-*i-* at a stage before the vocalization of the syllabic liquid. In his immediately following remark, however, de Lamberterie seems to express his doubts about this explanation: "Il reste que l'existence de καρταῖπος en Crète interdit de voir dans les composés and κραται- une création littéraire artificielle; ils ont bel et bien une réalité linguistique." If I understand this correctly, the Cretan form καρταιποδ- would invalidate, in his view, an exclusively inner-Epic explanation of the compounds in κραται-. However, the Cretan word for 'cattle' must be of poetic origin in any case: it was originally an epithet which replaced or supplemented an older word for 'cattle', such as τετράποδ-.

[559] Other words which contain final -αιό- are: ἀραιός 'thin, slender' (no etymology), βαιός 'small, slight' (no etymology), γηραιός (probably a younger variant of γεραιός), ἀλαιός (only attested in Hsch., variant of ἠλεός 'crazed'), λαιός 'left' = Lat. *laevus* etc. (an old formation PIE **leh$_2$i-uo-*, cf. δεξιός 'on the right'), σκαιός 'left,

from a compound **dwān-aiw-ó-* '(one) having a long life-span'.[560] On the other hand, the adjective παλαιός is already attested in Myc. *pa-ra-jo*, which excludes a compound with **-aiw-*.[561] It would not be illogical to derive παλαιός from the adverb πάλαι 'in times before, for some time now', which also occurs as the first member of compounds (e.g. παλαιγενής 'born long ago', παλαίφατος 'said/hit some time ago'). Later, παλαιός may have induced the creation of γεραιός.[562]

The formation of κραταιός may theoretically be explained like that of παλαιός, or as a compound, like δηναιός. Nagy (1999: 353) tentatively suggested that κραταιός may be analogical after παλαιός (which he considers to be a "thematization" of πάλαι).[563] A similar scenario had already been proposed in *DELG* (s.v. κράτος). But as Nagy himself admits, it is problematic that κραται- (unlike πάλαι) is not found as a simplex. In order to avoid this problem, one could think of a proportion between κραται- and παλαι- in compounds (cf. Frisk, s.v. κράτος). In other words, after παλαιός "(one) of a while ago" had been formed by adding hypostatic *-ó-* to the adverb πάλαι, it could be supposed that κραταιός was formed by analogy. It is problematic, however, that κραται- itself remains in need of an explanation – that is, unless one assumes that it was influenced by an already existing κραταιός, as suggested above.

I therefore propose to derive κραταιός from a compound PGr. **kr̥t-aiw-ó-* 'having impetuous vital force', where **kr̥t-* is the prevocalic variant of the Caland allomorph **kr̥ti-*, and **-aiw-* continues PIE **$h_2$eiu-*. Note that in Homeric Greek, αἰών does not only mean 'life, life span': it is also used as an equivalent of μένος in the sense 'vital force' (cf. *LfgrE* s.v. αἰών). The required meaning of **$h_2$eiu-* is probably also attested in the Vedic avatar *ā́yu(s)-* 'life, lifetime, vital force'. This proposal is strengthened by the personal names Κραταιμένης and Κραταίβιος, which presuppose underlying syntagms κρατερὸν μένος and κρατερὴ βίη with the same meaning 'impetuous force'. In other words, **kr̥ti-* + **aiw-* is both formally and

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western' = Lat. *scaevus* (likewise old, PIE **skeh$_2$i-uo-*). It could also be interesting to compare the ethnicon Ἀχαιοί, on which see Nagy (1999: 349-54). The common classical form ἀρχαῖος 'ancient' does not occur in early epic, except in Hes. *fr.* 322. As the accent shows, this was formed in a productive way to the noun ἀρχή 'beginning'; the suffix goes back to PGr. **-i(i)o-*.

[560] As is recognized by *DELG* (s.v. δήν), there is no reason to doubt the reconstruction of δηναιός as **dwān-aiw-ó-*, because the meaning 'long-lived' is consistent in both Homer and Aeschylus. Frisk (s.v. δήν) has problems with this etymology, presumably because of the unexpected adverbial form of the first member. He thinks that δηναιός could be an artificial formation influenced by παλαιός and ἀρχαῖος ("vielleicht sogar nach ihrem Vorbild direkt aus δήν erweitert sein"). However, ἀρχαῖος cannot be compared in view of its different accent. Even if the use of the adverb δήν in derivations is judged to be problematic, the same objection applies to Frisk's own proposal. Is it possible that **dwān-* was introduced because the expected outcome **duwi-* of a PIE **duh$_2$-i-* had become morphologically opaque? Note, in this connection, that Homer does use δήν predicatively (e.g. οὐδὲ γὰρ … δὴν ἦν 'for he [Lycurgus] did not live long', *Il.* 6.130-1).

[561] As Chadwick has shown (1976), παλαιός originally referred to the recent past: "the length of a period does not normally extend beyond a lifetime, and may be much shorter". In the tablets, *pa-ra-jo* qualifies wine and is used in opposition to *ne-wo* 'young'.

[562] Since παλαιός is found in Mycenaean, this would be the most obvious scenario; but nothing excludes that γεραιός (30x Hom.) is also an old formation. An adverb **$^{++}$gerai* is not attested, but it would not be unthinkable that the precursor of γεραιός was somehow reshaped under the influence of παλαιός. As another possibility, one might consider a compound **ger-aiw-ó-* '(one) of an old lifetime / generation'. Karl Praust draws my attention to the Vedic compound *jarā́yu-* 'cast-off snake skin; outer skin of the embryo' (as well as an unclear meaning in RV 10.106.6), which looks similar to the Greek adjective.

[563] I disagree with Nagy's proposal to reconstruct κραταιός as a compound **kr̥tai-wi(H)-i(e)h$_2$* 'having strong force' (Gr. ἴς, Lat. *vis*). The pre-form would first have lost the laryngeal, and then removed its suffixal ablaut to yield **kratai-wyā*. This would, finally, have given rise to a secondary masculine form. Apart from the fact that the assumed laryngeal loss in a compound is not very pretty, the objections to the other two points are the same as for Risch's proposal discussed above.

semantically parallel to **kr̥ti-* + **menes-* and **kr̥ti-* + **g^{w}iā-*.[564] An objection to such an original compound is that κραταιός is not an epicene adjective (its feminine κραταιή is formed with **-ā-*). It would not be far-fetched, however, to assume that the feminine of κραταιός was influenced by that of adjectives like παλαιός, γεραιός, λαιός, σκαιός once it was no longer analyzed as a compound.

5.2.11 κραταιΐς, Κράταιϊς

The enigmatic form κραταιΐς (PN Κράταιϊς) occurs twice in Homer. The first time is in the story about Sisyphus in the *Nekuia*:

> … ὁ μὲν σκηριπτόμενος χερσίν τε ποσίν τε
> λᾶαν ἄνω ὤθεσκε ποτὶ λόφον· ἀλλ’ ὅτε μέλλοι
> ἄκρον ὑπερβαλέειν, τότ’ ἀποστρέψασκε κραταιΐς·
> αὖτις ἔπειτα πέδονδε κυλίνδετο λᾶας ἀναιδής. (*Od*. 11.595-98)

“… he [Sisyphus] would brace himself with hands and feet, and thrust the stone up toward the crest of a hill, but as often as he was about to throw it over the top, [a] κραταιΐς would turn it back, and then the ruthless stone would come rolling down to the plain again.”

In this episode, many commentators translate κραταιΐς as ‘heavy weight’ (e.g. “das Übergewicht, seine Wucht”, Ameis-Hentze ad loc.).[565] Editors like von der Mühll and van Thiel print Κραταιΐς, but I fail to see how a personal name could have oxytone accentuation.[566] A personal name Κράταιϊς is ascertained in the second attestation, where Kirke warns Odysseus about the monstrous Skylla:

> οὐδέ τις ἔστ’ ἀλκή· φυγέειν κάρτιστον ἀπ’ αὐτῆς.
> ἢν γὰρ δηθύνῃσθα κορυσσόμενος παρὰ πέτρῃ,
> δείδω μή σ’ ἐξαῦτις ἐφορμηθεῖσα κίχῃσι
> τόσσῃσιν κεφαλῇσι, τόσους δ’ ἐκ φῶτας ἕληται.
> ἀλλὰ μάλα σφοδρῶς ἐλάαν, βωστρεῖν δὲ Κράταιϊν,
> μητέρα τῆς Σκύλλης, ἥ μιν τέκε πῆμα βροτοῖσιν·
> ἥ μιν ἔπειτ’ ἀποπαύσει ἐς ὕστερον ὁρμηθῆναι. (*Od*. 12.120-26)

“There is no defence; flee from her as fast as you can.[567] For if you tarry arming yourself by the cliff, I fear that she may jump up again, and attack you with as many heads and seize as many men as before. Therefore you should row with all your might, and call upon Krataiis, the mother of that Skylla, who bore her to be a bane to mortals. She will then keep her from leaping forth again.”

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[564] A second member **-aiw-* extended with hypostatic *-ó-* could perhaps explain the etymology of the name Ἀχαιοί. In the Mycenaean tablets, the name of the region Achaea is attested as an allative *a-ka-wi-ja-de* /Ak^{h}aiwian-de/ ‘to Achaea’. This means that a PGr. reconstruction **ak^{h}-aiw-ói*, denoting the men (Ἀχαιοί) “who have a painful life”, is formally possible. Although the possibility to etymologize such names may be doubted, the semantics of such a compound would fit the thematics of the Homeric epics uncovered by Nagy (1999). Himself, Nagy is clearly struggling when he tries to derive Ἀχαιοί from **ak^{h}ai-wi-yā*, with the first member from the root of ἄχος ‘pain’, ἄχνυμαι ‘to suffer’, and the second member **wiH-* ‘force’. For the formal problems with Nagy’s analysis, see the previous footnote.

[565] In the Anhang, Ameis-Hentze add: “die höhere Macht, die jedesmal die Kraftanstrengung des Sisyphos auf wunderbare Weise vereitelte, also die ‘Wucht’ in sinnlicher Belebtheit gedacht.”

[566] Cf. the comment by Heubeck(-Hoekstra) ad loc.: “[W]e would expect to find a personal subject for ἀποστρέψασκε, e.g. a mythical figure Κραταιΐς, homonymous with the mother of Scylla.” For the name of such a figure, a possessive compound would be in order (see below on the etymology).

[567] For this translation, see the discussion of the superlative κάρτιστον above (section 5.2.6).

Aristarchus held the opinion that lines 124-26 in this passage were later additions. But the fact that line 124 contains the hapax βωστρεῖν and the quasi-hapax Κράταϊν strongly advises against athetizing it.[568] Indeed, the idea has been mostly abandoned in more recent scholarship (see *Comm. Heubeck* ad loc.), but Merkelbach (1951) still argued that lines 125-6 (not 124) are late additions. Given that the two lines seem to contain general explanatory statements, this is a definite possibility. In fact, in view of the preceding μάλα σφοδρῶς ἐλάαν 'you should row very quickly', the two lines bring up a question: why would Odysseus and his team have to row so quickly if they can also call upon Skylla's mother to restrain her daughter?[569] However this may be, it seems best to retain line 124 as authentic Homeric.

The correct morphological analysis of κραταιΐς and Κράταιϊς has also yielded problems from antiquity onwards; see de Lamberterie (1990: 340-43) for a clear summary of the issues. Before proposing my solution (5), I will first discuss the previous proposals (1 - 4).

(1) The oldest proposal goes back to Aristarchus, who analyzed κραταιΐς as an adverb in -ις. But this cannot be correct, because the transitive verb ἀποστρέψασκε 'pushed back (repeatedly)' (*Od*. 11.597) is in need of a subject, and the only candidate to fulfill this role is precisely κραταιΐς.

(2) Chantraine (*DELG*) tried to analyze κραταιΐς as an adjective: an anomalous feminine of κραταιός which allegedly qualifies λᾶας 'stone' in the next line. For the formation, he compared the Homeric feminine θοῦρις, belonging to θοῦρος 'furious'. But as de Lamberterie remarks, λᾶας is always masculine in Homer.

(3) The idea of an irregular elision in an underlying κραταί' ἴς cannot be maintained either, in view of the long -η in combination with the initial digamma of ἴς 'force'. De Lamberterie's proposal (l.c.) to reconstruct a syntagm *κραταιϝὰ ϝίς, that would have developed to κραταιΐς by haplology, remains hypothetical.

(4) Nagy (1999: 349f.) analyzed κραταιΐς as a possessive compound *κραται-ϝις "whose force has κράτος", which would make sense from a semantic point of view.[570] On the formal side, however, the problems remain. If the second member were indeed ἴς 'force' < PIE **uiH-s* (with long *ī*), this would contradict the proparoxytone accent of the name Κράταιϊς.[571] It would be unmotivated to assume a secondary shortening of the **ī*.

(5) In view of the above problems, the analysis of κραταιΐς ~ Κράταιϊς as a feminine substantivization of the type νυκτερίς 'bat' (mentioned by Nagy 1999: 349) is worth consideration. As we have seen, the attestation of κραταιΐς suggests that it means something like 'strong force, impetus'. Nagy objects that beside νυκτερίς and ἡμερίς 'cultivated vine', the corresponding adjectives (νύκτερος 'nightly' and ἥμερος 'tame, cultivated') retain their epicene inflection, where κραταιός is of three endings. But κραταιΐς functions as a substantive, and I fail to see why the possibility to derive a feminine substantivization in -ίδ- would be affected by the presence or absence of a separate motional feminine.[572] We may conclude that κραταιΐς, as a direct derivation from κραταιός, adds nothing new to the picture.

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[568] The formation of βωστρεῖν is unclear. It is conventionally translated as 'to call to help', and thought to be related to βοάω 'to cry' (*LfgrE* q.v.).

[569] Within the new interpretation of φυγέειν κάρτιστον 'flee as fast as you can' (section 5.2.6), it would be attractive to view Κράταιϊς as a personified force which grants impetus to the boat, just like κραταιΐς in *Od*. 11.597 is a force which accelerates a stone. In that case, the interpretation of Κράταιϊς as Skylla's mother in lines 125-6 could be due to a post-Homeric reinterpretation of the passage.

[570] In a number of Homeric instances, ἴς refers to the impetus of natural forces (wind, river). In my view, a translation "whose force is κρατερός" would be preferable: as we have just seen, κραται- continues a relic allomorph of κρατερός.

[571] In fact, all analyses of the form as a compound (or syntagm) with ἴς 'force' suffer from the same problem.

[572] Moreover, if the analysis of κραταιός as an original compound is correct (see the previous section), this problem would disappear.

5.3 A new etymology for κρατερός

We have already discussed the previous etymological proposals for κρατερός and the problems involved (section 5.1). As a new etymology, I propose to directly equate Hom. κρατερός 'impetuous, fierce' with Ved. *śithirá-* 'loose', which belongs to a primary verbal root *śrath*^{i}- 'to be loose'. This idea has several advantages:

(1) *śithirá-* and καρτερός can be derived from the exact same pre-form, PIE **ḱrth$_1$-ró-*. Since the -ε- is not only found in the Ionic-Attic form, but also in Cretan and in the dialectal gloss κορτερά, we are dealing with a root ending in **-h$_1$-*. I accept the view that not only **h$_2$*, but also **h$_1$* regularly caused aspiration of a preceding stop in Indic.[573] The Vedic outcome *śithirá-* is the result of a regular dissimilation of **śr̥thirá-* (see Lubotsky 1994: 96, with reference to Narten); in later, Classical Sanskrit, it occurs only in the form *śithila-* 'loose, relaxed, slack'.

(2) Ved. *śithirá-* belongs to the primary verbal root *śrath*^{i}- 'to be loose', and the earlier existence of a primary verb in Greek makes it much easier to understand the large body of Caland formations.[574] It is well-known that individual Caland forms could be analogically created in the more recent prehistory of Greek, as in ὀτραλέως (: ὀτρύνω) which was probably formed after θαρσαλέως : θαρσύνω. But it is unlikely that the entire Caland system of κρατερός, which is the largest of its kind in Greek, was based only on the adjective κρατύς, as those who defend the connection with Ved. *krátu-* (section 5.1) would have it.[575] If a verbal root also existed in Proto-Greek, the derivation of forms like **krétu-* / **kr̥téw-*, **krétos*, and **-kretes-* can be easily explained.

(3) Departing from an inherited adjective **ḱrth$_1$-ró-*, we may explain not only the coexistence of two adjectives καρτερός and κρατύς, but also the origin and spread of the Greek suffix -ερό-. Note that κρατερός ~ καρτερός is by far the most frequent adjective in -ερό- in Homer. In section 5.3.2, I will show how -ερό- could acquire a certain productivity, and by which mechanisms it spread.

Obviously, the most important question is how the semantic side of the equation works. An extensive semantic analysis of the Vedic attestations is necessary, and I intend to elaborate this in a separate article in the near future. Presently, I will limit myself to an outline of the argument. The basic idea is that the original meaning of κρατερός in Proto-Greek was 'impetuous' (sections 5.1.3-4), and that this meaning developed from 'unrestrained, unbridled, moving freely'. If Ved. *śrath*^{i}- 'to loosen' was originally an intransitive verb with the meaning 'to be loose', the apparent semantic gap with κρατερός can be bridged.

5.3.1 Vedic *śithirá-* 'loose', *śrath-* 'to loosen'

Let us now first discuss the previous proposals for Vedic *śithirá-*. Peters (1993a) tried to revive Meillet's connection between *śithirá-* and Greek καθαρός, but there are grave formal and semantic problems with this etymology, as we will see in section 9.4. We may therefore

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[573] For this point, see Lubotsky (2011: 115). The most important piece of evidence is Ved. *sphāyate* 'to become fat' < PIE **sph$_1$-oi-e/o-*, which belongs with Hitt. *išpāi* (3s. pres.) 'eats to satiation' < **sph$_1$-oi-ei*. The color of the laryngeal is proven by OCS. *spěti* 'to succeed', Ru. *spet'* 'to ripen', Lith. *spė́ti* 'to be in time', OE *spōwan* 'to prosper' as well as by Lat. *spēs* 'hope' (see Kloekhorst, *EDHIL* s.v. *išpāi-*^{i}). The aspirate is also found in the old word for 'foam, froth', Skt. *phéna-* < PIE **(s)ph$_1$ói-mn-o-* (for this reconstruction, cf. Lat. *spūma*, OE *fām*, OCS. *pěna*, OPr. *spoayno*). Confirmation of this idea is furnished by the PIE adjective **piHuon-* 'fat', as reflected in Skt. *pī́van-*, Gr. πίων, where a laryngeal metathesis had regularly operated on the pre-PIE form with **ph$_1$iu̯-*; see Lubotsky, op. cit. 116 n. 23. The root also formed a *ro*-adjective **sph$_1$-ró-*, attested in Ved. *sphirá-* 'fat' and Lat. *prosperus* 'prosperous'.

[574] See the abundant evidence for derivation from intransitive verbs (stative-inchoatives) in Indo-Iranian and Greek collected by Rau (2009: 146-60), which proves that the Caland system was to a large extent deverbal not only in Greek, but already in the proto-language.

[575] Strunk's proposal (1975) to etymologically separate κρατύς from the other Greek Caland formations is completely *ad hoc*: it is due to a desperate attempt to retain the etymological connection with Ved. *krátu-*.

leave it out of consideration.[576] So far, the only other noteworthy IE comparandum that has been proposed for *śithirá-* and the verbal root *śrath*^{i}- 'to loosen' is the Germanic verb for 'to save' (e.g. OHG. and OE. *hreddan*). There is no obstruction, then, to a reconstruction of the underlying root as **ḱreth$_1$-*.

The meaning of Ved. *śithirá-* is glossed as 'loose, lax, slack, flexible, pliant', and similar meanings are attested for Class. *śithila-*. This meaning, especially 'lax, slack', seems to be almost diametrically opposed to the meanings 'impetuous, fierce' or 'steadfast, solid' of Greek κρατερός. But in the *Rigveda*, where *śithirá-* occurs only four times, it qualifies the whip (*áṣṭrā-*) by which the god Pūṣan controls a herd (RV 6.58.2) and the "loose, strong, golden arms" (*bāhū́ śithirā́ bṛ́hántā hiraṇyáyā*, RV 7.45.2) of the god Savitar.[577] It is used in the construction *śithiré dhātam* "you two set free" (RV 7.71.5, of the Aśvins) and in *sárvā tā́ ví ṣya śithiréva deva* (RV 5.85.8) "… all das löse von uns wie lockere Bände, o Gott!" (addressed to Varuṇa). Clearly, *śithirá-* originally did not mean 'slack, weak', but 'loose' in the sense of 'flexible, agile, moving freely'. This already brings us much closer to Homeric κρατερός in its oldest, but still productive meaning 'impetuous'.

Let us now briefly consider the verbal root in the *Rigveda*, which is attested in the following forms:

(1) transitive class IX nasal present *śrathnā́ti* (3x), also class X *śrathāyati* (3x) which is derived from a pre-form **-n̥H-i̯é/ó-* based on the class IX present.

(2) causative *śrathā́yati* (1x), middle *śrathā́yate* (4x).[578]

(3) causative reduplicated aorist *śiśrathat* (8x).

(4) middle perfect *śaśrathe* (1x).

As an inner-Indic innovation, the reduplicated aorist cannot be old, and the presents *śrathāyati* and *śrathā́yati* both look like secondary deverbative formations beside the older *śrathnā́ti*.[579] In my view, the absence of an old aorist formation, in combination with the causative *śrathā́yati* and the transitive nasal presents, suggests that the verbal root was originally intransitive (non-agentive, i.e. an older middle or perfect). This is also made likely by the existence of a nominal derivative with Caland morphology, *śithirá-*.[580]

The precise meaning of *śrath-* is a complicated problem. At a first glance, the original domain of application of *śrath-* seems to be the loosening of bonds. On a number of

[576] Departing from a proto-meaning 'loose' for καθαρός, Peters compared the semantic shift in Greek λῦμα 'dirt', which is mostly derived from λύω 'to loosen'. However, καθαρός does not originally mean 'undefiled', but 'clean' in the sense of 'clear'. In its oldest attestations in Homer, καθαρός denotes a clearing (an open spot) and this use continues to be found in the Classical language (e.g. clear skies, cleared paths or plots of land). There is no indication whatsoever in Greek that 'loose' is the older meaning. For further criticism of Peters' argument, see section 9.4.

[577] *úd asya bāhū́ śithirā́ bṛ́hántā hiraṇyáyā … anaṣṭām*, "Seine gelockerten grossen goldenen Arme haben sich [bis zu den Grenzen des Himmels] erstreckt" (Geldner).

[578] Including **śrathayanta* RV 8.99.6, a generally accepted correction of *śnathayanta* found in the *Saṃhita* text. The hapax present *śratharyáti* (RV 10.77.4b) can be left aside for purposes of reconstruction: pace Peters (1993a), it must be a nonce formation based on *vithuryáti* in the same *pāda*.

[579] This is, at least, the opinion of Jamison (1983: 104) "In the absence of any consistently intransitive formation to this root, *śrathā́yati* is best derived from the deverbative *śrathāyati* according to the type *gṛbhāyáti* : *gṛ́bhāyati*." She interprets the four middle forms of *śrathā́ya-* as the "common creation of a med. intrans.-reflex. formation to act. trans. *-áya*-formations (…) In all cases, we find that the competition between two or more synonymous intransitive presents cannot be old" (1983: 104 n. 64). It cannot be excluded, however, that *śrathā́yati* is an older causative formation.

[580] Cf. Rau (2009: 163): "The deverbative nature of many Caland system associative *ro*-stem adjectives can be seen clearly from the behavior of this suffix in Indic and Iranian. (…) the vast majority [of *ra*-stem adjectives] pair with primary verbs", and of these, "the majority pair with state-oriented verbs or verbs of motion." One of the examples in his table on p. 164-7 is *śithirá-*. In the accompanying n. 105, Rau remarks: "It is interesting to note that *ra*-adjectives in Indic and Iranian are not as a general matter made to verbs that are associated with result states."

occasions, we find that a sin (*énas*-) is conceived of as a bond or noose, and removed from a worshipper. Consider, for instance, RV 1.24.14-5 (in Geldner's translation):

"Wir bitten dir den Groll ab, Varuna, mit Verbeugungen, mit Gebeten, mit Opferspenden. Du, der die Macht hat, einsichtsvoller Asura, König, erlass uns die getanen Sünden (*énāṃsi śiśrathaḥ kṛtáni*)! Löse die oberste Schlinge von uns, o Varuna (*úd uttamáṃ varuṇa páśam asmád … śrathāya*), löse die unterste ab, löse die mittlere auf! Dann wollen wir, Sohn der Aditi, in deinem Dienste vor Aditi sündlos sein".[581]

This use is also attested in RV 2.28.5-7, where Varuna is asked to release a sin like a girdle (*ví mác chrathāya raśanáṃ ivágaḥ*, 5a), and to let go all neglect (*ví ṣú mṛ́dhaḥ śiśratho*, 7d) with the objective that the worshipper may live in freedom (*jīváse naḥ*, 7d).[582] Common to these and similar passages is that sins or moral transgressions are conceived of as bonds, nooses or girdles (*páśa*-, *raśaná*-).[583] These bonds restrain the worshipper in his movements and cause *áṁhas*- 'narrowness, obstruction' (cf. 2.28.6).

The removal of such restrictions, yielding free movement without impediments, is often expressed in the *Rigveda* by the verbal root *muc*- 'to untie, release, liberate', with or without preverbs like *ví*. This is especially salient in RV 1.24, where *muc*- and *śrath*- are used in a semantically completely identical way: compare *kṛtáṃ cid énaḥ prá mumugdhy asmát* "whatever sin has been done, release that from us" (9d) and *ví mumoktu páśān* "let him remove the noose" (13cd) with *énāṃsi śiśrathaḥ kṛtáni* "untie the sins committed [by us]" (14d) and *páśam … śrathāya* "loosen the noose" (15), respectively. The root *muc*- is especially used to refer to the liberation of horses or the removal of their bridle; similarly, *śrath*- may qualify the movement of horses, in a few instances to be discussed below.

When *śrath*- refers to the liberation from bonds, it takes an accusative object (*páśam*). Similarly, we find cases like *ví mumoktu páśān* "let him remove the noose". Now, Ved. *prati-muc*- 'to put on clothes', which has parallels in Iranian, shows that the older meaning of *muc*- was 'to take off, remove from' (e.g. clothes, harness, armor). Since *muc*- is the more frequent and productive lexeme in the meaning 'to loosen a bond' already in the RV, it may have influenced the less frequent lexeme *śrath*- in this construction.[584] We therefore have to consider whether *śrath*- may originally have been an intransitive verb in the meaning 'to be loose, move freely'.

This meaning is indeed attested in a number of instances of *śrath*-, where a connection with words for fury or impetuousness appears from the context. Consider RV 5.59.1cd: *ukṣánte áśvān táruṣanta á́ rájó 'nu svám bhānúṃ śrathayante arṇavaíḥ* "they sprinkle their horses as they rush across the sky; along with their own radiance, they go loose (*śrathayante*) accompanied by floods." This hymn is addressed to the Maruts, the storm deities (the monsoon winds) who are conceived of as riotous young warriors. Their "own radiance" (*svám bhānúṃ*) may well refer to the lightning which precedes the release of the heavy rains.[585]

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[581] All following translations from the *Rigveda* are by Geldner.

[582] Geldner's translation of the intended parts of stanzas 5-7 runs: "Löse die Sünde von mir wie einen Gurt (*ví mác chrathāya raśanáṃ ivágaḥ*)! (…) Löse von mir die Angst, wie einen Strick vom Kalbe (*dáṃeva vatsád ví mumugdhy áṁho*), denn fern von dir vermag ich auch nicht einen Augenblick zu sein. (…) Erspare uns fein die Unbilden, auf daß wir leben (*ví ṣú mṛ́dhaḥ śiśratho jīváse naḥ*)."

[583] A releasing of mistakes or sins (*ágas*-) is also found in *yát sīm ágaś cakṛmá́ tát sú mṛḷa tád aryamáditiḥ śiśrathantu* "Wenn wir ein Versehen begangen haben, so verzeih uns das fein! Aryaman, Aditi sollen es uns erlassen" (RV 7.93.7cd, Agni is addressed). Cf. also, in almost identical terms, 5.85.7c (to Varuna). These parallels could suggest that the secondary *aya*-present *mṛḷáya*- 'to forgive, release from sin' (beside *mṛḷá*-) was due to the influence of *śratháya*-.

[584] Influence of *muc*- may also have caused the odd meaning (or reinterpretation) 'to remove one's clothes' for certain cases of *srath*-.

[585] Cf. the 'horn' referred to in the third stanza of this hymn (5.59.3), which (in Geldner's translation) runs: "Wie der Rinder Horn ist euer höchstes Horn prächtig zu schauen, wie das Auge der Sonne bei Aufhören des

In RV 5.54.10, the riotous motion of the Maruts is compared to the pace of their horses: "Wenn ihr gleichgewichtigen Marut, ihr Sonnenmänner, ihr Mannen des Himmels bei Sonnenaufgang ausgelassen seid (*mádathā*), so lassen eure Rosse in ihrem Laufe niemals locker (*ná vó 'śvāḥ śrathayantā́ha sísrataḥ*). An einem Tage erreichet ihr das Ende dieses Weges." In his translation, Geldner uses a peculiarity of German with respect to horse-running: "lassen nicht locker" means that the horses do not relent, keep on going. It is perhaps pertinent to compare passages like RV 2.28.4: "Die Ströme gehen den regelrechten Weg des Varuna; sie werden nicht müde und spannen nicht aus (*ná ví mucanti*). Rasch wie die Vögel fliegen sie in ihrem Kreislauf." Just like the rivers in 2.28.4 keep flowing, which is expressed in horse terminology as "they are not unharnessed" (*ná ví mucanti*), the Maruts are depicted in 5.54.10 as having horses which remain harnessed (*ná … śrathayanta*). In other words, they keep running orderly in service of the Maruts, and do not bolt.

It is probable that the Maruts themselves are referred to with the unnegated form *śrathayanta* in 5.85.4d, in a hymn addressed to Varuna as a rain-bringer: "Varuna goss den Schlauch mit der Öffnung nach unten in beide Welten und den Luftraum aus; damit durchnetzt der König der ganzen Welt den Erdboden, wie der Regen das Korn. Er netzt den Boden, Erde und Himmel. Wenn Varuna gemolken haben will, dann kleiden sich die Berge in Gewölk und kraftbewusste Männer lockern das Kleid" (5.85.3-4). The last clause is Geldner's translation of *taviṣīyántaḥ śrathayanta vīrā́ḥ*. The context strongly suggests that *vīrā́ḥ* 'strong men', the subject of *śrathayanta*, are the Maruts. Since there is no trace of a piece of clothing in the Vedic text, I would rather translate *śrathayanta* as 'they are released, release themselves, go loose' and to compare this clause directly with *śrathayante arṇavaíḥ* "they go loose accompanied by floods" in 5.59.1, discussed above.

On at least three occasions, the object of *śrath-* is a rock or stone. Indra, whose heroic first deeds are briefly summarized in 10.112.8, is said to have "set the rock in motion" (*aśrathāyo adriṃ*) when he was "really angry" (*satīnámanyur*).[586] In 2.24.3 (to Bṛhaspati = Indra), the supreme hero's feats are summarized as *áśrathnan dṛḷhā́vradanta vīḷitā́*, "Das Feste lockerte sich, das Harte gab nach". In other words, even that which is immovable (*dṛḷhá-*, firm as a rock) was set in motion.[587] In 10.94.11, part of a hymn to the pressing stones, these stones are called *ádrayo aśramaṇā́ áśṛthitā ámṛtyavaḥ*, "untireable, immovable, undying" (Geldner: "nie gelockert").

Thus, verbal forms of *śrath*^{i}- are used to refer to the violent actions of the Maruts, the setting in motion of a heavy stone or an oppressive rock, and the release of fettered human beings or yoked horses. The behavior of the Maruts may be compared with κρατερός 'fierce' as a warrior epithet, and their character as storm deities reminds of καρτερόθυμος 'blowing

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Dunkels." I take *anu* 'along, together with' (+ acc.) as a preposition rather than a preverb, and I reject Geldner's translation "sie lösen durch die Regenfluten ihren Glanz auf" because I fail to see how this could make sense.

[586] *prá ta indra pūrvyā́ṇi prá nūnáṃ vīryà̀ vocam prathamā́ kṛtā́ni satīnámanyur aśrathāyo ádrim suvedanā́m akṛṇor bráhmaṇe gā́m*. Geldner translates "[du] machtest den Felsen mürb", i.e. 'you made the rock brittle', but this is not easily reconciled with *śrath*^{i}- in the meaning 'to release, loosen'. It is interesting that Pindar speaks of a καρτερὸν … λίθον in the myth of Tantalos: ἅν τοι πατὴρ ὕπερ κρέμασε καρτερὸν αὐτῷ λίθον. τὸν αἰεὶ μενοινῶν κεφαλᾶς βαλεῖν εὐφροσύνας ἀλᾶται, "That [ἅτα], you know, the Father hung over him as a powerful stone. Always desiring to cast it from his head, he wanders far from the joys of festivity" (*Ol.* 1.56-58). The stone which Sisyphus has to push uphill, in the description of his labor in the *Odyssey*, is driven back at the decisive moment by a force called κραταιΐς 'gravity' vel sim. (see section 5.2.11).

[587] Stanzas 2 and 3 of 2.24 together read as follows: "Der das Biegsame mit Kraft niederbog (*yó nántvāny anaman ny ójasā*) und er zersprengte im Grimm die Sambarafesten. Das unbewegliche brachte Brahmanaspati ins Wanken (*prā́cyāvayad ácyutā*), da er in den schätzereichen Berg ein und hindurch drang. Das war die Aufgabe für den Göttlichsten der Götter: Das Feste lockerte sich (*áśrathnan dṛḷhā́*), das Harte gab nach. Er trieb die Kühe heraus, spaltete mit dem Zauberwort den Vala, er beseitigte das Dunkel, liess die Sonne scheinen." It may be wondered why Geldner translates the active class IX imperfect *áśrathnan* as an intransitive verb: it would be more likely, in my view, that Indra is the subject of *áśrathnan*.

turbulently' (Hes.), of the winds. It may also be recalled that καρτερός and κραταιός (κραταιΐς) are used to qualify the pressure of heavy stones, and that horses are called κρατερώνυχες, which can be translated as 'with impetuous hoofs'. Considering these instances together, I think that PIE **ḱreth₁-* already referred to an unrestrained or unstoppable violent motion, perhaps as a specialization of a more general meaning 'to be loose'. As said earlier, more detailed proof of this proposition is forthcoming in the form of a closer inspection of the Rigvedic attestations. But this summary discussion already shows that the seeming gap between Homeric κράτος, κρατερός and Vedic *śrath*^{i}*-*, *śithirá-* is not so wide as to be unbridgeable.

5.3.2 The origin and spread of the suffix -ερό- within Greek

Previous etymological proposals for κρατερός have left the origin of the pair κρατύς : κρατερός unexplained. For instance, de Lamberterie states that we are dealing with a "supplétisme des suffixes -ύ- et -(ε)ρό-, hérité de l'indo-européen et bien représenté en grec" (1990: 331). But while there are other instances of inherited adjectives in *-u-* beside *-ró-*, it remains unclear why κρατερός has -ερό-, rather than -ρό-. No instance of **-eró-* can be reconstructed for PIE.[588] In Homeric Greek, only four examples of -ερό- appear beside a *u*-stem adjective:

κρατύς : κρατερός ~ καρτερός
γλυκύς 'sweet' : γλυκερός 'id.'
ταρφύς 'numerous' : τραφερός 'solid'
θαλύς 'abundant' : θαλερός 'id.'

The only form in -ερός attested in Classical prose is καρτερός, whereas γλυκερός, τραφερός, and θαλερός are limited to Epic and poetic Greek. The limited productivity of -ερό- within Epic Greek, which led to the creation of γλυκερός, τραφερός, and θαλερός, must therefore have started out from κρατύς : κρατερός.[589] For semantic and formal reasons, I have argued above (section 5.2) that the oldest form of the adjective is καρτερός, and that the precursor of κρατύς was of more recent, inner-Greek origin.[590] This explains the origin of the pair κρατύς : κρατερός.[591]

In previous scholarship, a reconstruction **-h₁-ró-* has been proposed for one other adjective in -ερός: ἱερός 'sacred; agile, energetic' (Ion.-Att., Arc. and Hom.), already found in Myc. *i-je-ro* 'holy, sacred' and related to Ved. *iṣirá-* 'energetic, active, flourishing'. Beside the South Greek form ἱερός, several dialectal variants are found (ἰαρός, ἶρος, ἰρός).[592] Beekes

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[588] Chantraine (1933: 229-30) does not distinguish between accented -ερό- and unaccented -ερο- (as in ἐλεύθερος). The last word is the only good example of an adjective in **-ero-* that is found in more than one branch of Indo-European: cf. Lat. *līber* 'free' < **h₁leud*^{h}*-ero-*. In that case, however, the unaccented suffix **-ero-* has its normal oppositional value, "zum Volk gehörig" as opposed to 'foreign' (Frisk s.v. ἐλεύθερος; cf. **h₁leud*^{h}*-(o-)* 'people', which can be reconstructed on the basis of Germanic and Balto-Slavic). Note that θαλερός 'abundant' cannot be directly equated with Arm. *dalar* 'fresh, green', because **d*^{h}*lh₁-ró-* would yield Gr. $^{++}$θληρός (cf. the remarks in Clackson 1994: 118-20). The older Greek form is the *u*-stem adjective *θαλύς, and θαλερός, like γλυκερός, must be a secondary formation.

[589] We have seen (section 4.3.2) that τραφερός was probably formed beside compounds in -τρεφής, and therefore points not to κρατύς : κρατερός, but to -κρατής : κρατερός as a model.

[590] Κρατύς may have supplied a new simplex adjective beside the Caland system of **krétos, *-kretēs, *kr̥ti-, *kr̥ta*. If an intransitive verbal stem still existed in Proto-Greek, κρατύς may even have been deverbal.

[591] As explained in section 5.2.9, the semantic identity of κρατύς and κρατερός, which has to be assumed for an earlier stage of Epic Greek, could be due to a preservation of the older meaning of κρατερός in poetry.

[592] West Greek, Boeot., Pamph. ἰαρός, Lesb. ἶρος, North-Eastern Ion. ἰρός. For the attestations, see Locher (1963: 5-8). Since the Lesbian form is ἶρος rather than $^{++}$ἴρρος, García Ramón assumes that it was influenced by

(1969: 184f., 1973: 387f.) reconstructs a root **Heish$_1$-* and assumes that **Hish$_1$-ró-* > PGr. **iheró-* was assimilated to **ihiró-* in the dialects underlying Hom. ἱρός and Lesb. ἶρος, then contracted to (*)*hīró-*.

In his extensive discussion of the Greek evidence, however, García Ramón (1986, 1992) has argued that **-h$_1$-* is unlikely to have been root-final in PIE. He assumes that there was only one single Proto-Greek form **isró-*, and that ἱερός, ἰαρός, and *iṣirá-* all have a secondary vowel. His second argument against a root ending in **-h$_1$-* is the comparison between Ved. *iṣṇáti* 'to set in motion, send away' and ἰνάω 'to empty' (medical term), ἰάομαι 'to heal' (which he derives from an older athematic reduplicated present). In his view, both Greek verbs point to a root ending in **-h$_2$-*. While some details of García Ramón's analysis could be debated, I agree with him that the Greek adjectives are best explained from a pre-form **isró-*. West Greek ἰαρός may owe its suffix to one of the other adjectives in -αρός. In my view, South Greek may have formed **iheró-* after **kr̥teró-*: the two adjectives are semantically close and occur in similar traditional syntagms.[593] It appears, then, that the Homeric variants ἱερός and ἱρός were not necessarily taken from two different dialects: ἱρός is an archaism, ἱερός the productive South Greek form.

Let us now consider the other Homeric examples for the adjectival suffix -ερός collected by Risch (1974: 69). It is probable that σκιερός 'shady' (2x) is a later form than σκιόεντ- 'id.' (15x, formulaic). The word is clearly poetic; it is noteworthy that σκιερός on both occasions qualifies a sacred domain (νέμος, ἄλσος), and that Pindar and Bacchylides use σκιαρός. There are several options for a secondary origin of σκιερός: influence of ἱερός (assuming that σκιαρός is older: cf. West Greek ἰαρός) and/or δνοφερός 'dark, gloomy', both of which are semantically close, or analogy with the Epic pair κρυόεντ- : κρυερός. It is further possible to assume that διερός 'quick, lively' (no established etymology, cf. *DELG*) was influenced by ἱερός in its original meaning 'active, agile'. The poetic form μαλερός 'vehement, crushing' can be analogical after κρατερός ~ καρτερός on the model of the proportion μάλα : κάρτα (or their respective pre-forms with **r̥*; see section 5.2.8).

The remaining three Homeric forms with -ερό- are στυγερός 'hateful, dreadful', δνοφερός 'gloomy', κρυερός 'dreadful, ghastly'. At first sight, κρυερός seems to be the oldest of them, in view of the similarity with Ved. *krūrá-*, Av. *xrūra-* 'bloody' < **kruH-ró-*. However, since -ερό- is not the same suffix as IIr. **-rá-*, κρυερός has to be a secondary reshaping of Greek. The other two formations, στυγερός and δνοφερός, do not seem to be inherited. Since they have similar meanings, they may have influenced each other.[594]

In post-Homeric Greek, the suffix -ερό- was rather productive in poetry, and occasionally penetrated into prose.[595] I have been able to identify two productive models for its spread:

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neighboring Eastern Ionic. Differently Peters (1980: 325), who assumes that Lesbian ἶρος was borrowed from Mycenaean *i-ro*.

[593] Compare ἰερὸν μένος ~ κρατερὸν μένος, ἱερὴ ἴς ~ κρατερὴ ἴς, and for the meaning 'quick, agile', cf. ἱερὸς δίφρος 'swift wagon' (*Il.* 17.464), ἱερὸς ἰχθύς 'agile fish' (*Il.* 16.407). The meanings are not identical: ἱερός seems to refer to beneficient energetic movement, whereas κρατερός has the connotation of unbridled and violent energy.

[594] Cf. e.g. κλαυθμοῦ τε στυγεροῖο beside κρυεροῖο γόοιο, both 'dreadful wailing', στυγερός σκότος 'hateful darkness' beside δνοφερός 'dark'. There are several possible ways to explain this. For instance, κρυερός could be a reshaping of an inherited formation PGr. **krūró-* after another adjective in -ερός (e.g. κρατερός 'violent') and may then have influenced the formation of στυγερός and of δνοφερός (note that the latter has no established etymology). Alternatively, if the most frequent form στυγερός (44x) is the oldest instance of -ερός among these three adjectives, it may have influenced the formation of δνοφερός and κρυερός. Note that στυγερός stands beside a present in -έω (στυγέω 'to hate, shun'), and could in theory be analogical after κρατέω : κρατερός.

[595] Chantraine (1933: 230) stresses that the adjectives in -ερός generally belong to a higher, mostly poetic register: only φανερός, φοβερός, φθονερός, and βλαβερός and "quelques autres" (we may certainly add

(1) creation beside an existing *s*-stem adjective. This may have happened in -βλαβής (Hom.+) → βλαβερός ‘damaging’ (Hes.+), -σφαλής (Hom.+) → σφαλερός ‘wavering; slippery’ (Class.), -φανής (Hom.+) → φανερός ‘shining, clear’ (Pi.+). The model may have been κρατερός beside -κρατής or θαλερός beside -θαλής, the two cases where both formations are attested in Homer.

(2) δνοφερός (Hom.) was reanalyzed as derived from δνόφος ‘darkness’ (A., Simon.). This single example led to a productive derivation of adjectives from thematic nouns: φόβος → φοβερός (Class.), γόος → γοερός (trag.), φθόνος → φθονερός (Thgn.+), ψόγος → ψογερός (Pi.), μόγος → μογερός (trag.), νόσος → νοσερός (Hp.) and similar forms. All these forms have negative connotations; the *o*-grade thematic substantive is clearly the primary formation, and the derived adjectives in -ερός are in most cases limited to poetry.

Even if the origin of στυγερός, δνοφερός, and κρυερός can be debated, we may conclude that all other instances of the suffix -ερό- in Epic and Classical Greek can be traced back to καρτερός ~ κρατερός. In this adjective, which can be equated with Ved. *śithirá-* and reconstructed as **ḱrth₁-ró-*, the suffix -ερό- arose by a reinterpretation of the reflex of **h₁* as forming part of the inherited adjectival suffix -ρό-.

5.4 Conclusions for the vocalization of **r̥*

The present analysis of κράτος, κρατερός and related forms has corroborated the conclusions reached in chapter 4. Like the other *u*-stem adjectives, κρατύς (whence Class. κρατύνω) generalized a form with the vowel slot of the original strong stem. The root allomorph κρετ- was preserved only in the comparative Ion. κρέσσων, but κρατ- was introduced from κρατύς in κράτιστος, κράτος, -κρατής, and the derived verb κρατέω. Within Epic Greek, καρτύνω was based on the artificial form κάρτος. None of these forms can be used as evidence for the regular vocalization of **r̥*.

In the Homeric doublet κρατερός ~ καρτερός, only the latter form is the regular outcome of **kr̥terό-* < PIE **ḱrth₁-ró-*. In my view, it is to be derived from the verbal root **ḱreth₁-*, and to be directly equated with Ved. *śithirá-* ‘loose’. The variant κρατερός replaces the *u*-stem adjective κρατύς (itself of inner-Greek origin) within Epic Greek, and came into being either as a cross between κρατύς and καρτερός, or as the regular Epic outcome of **kr̥terό-*. Apart from καρτερός, the regular Ionic-Attic reflex of **r̥* is also found in the post-Homeric adverb κάρτα. Once the doublet κρατερός ~ καρτερός existed, analogies within Epic Greek led to the creation of κάρτος (beside κράτος) and κάρτιστος (beside κράτιστος). Classical prose does not have such by-forms: it only has καρτερός (whence καρτερέω), κράτος, κράτιστος, and κρατύνω.

I conclude that of the formations belonging to this root, καρτερός and κάρτα are the only two to display the regular Proto-Ionic vocalization of **r̥* to -αρ-. The Epic forms κραται-, κραταιός and κραταιΐς (all with *muta cum liquida* scansion) also directly continue a pre-form with **r̥*, but as I will argue in the next chapter, they did not vocalize in the Proto-Ionic vernacular: they underwent a separate, inner-Epic development **r̥* > -ρα-.

καρτερός) are found in prose. He further notes that the suffix was ousted by -ώδης in Ionic-Attic and in Koine Greek.

6. The epic reflex -ρα- and the origin of the *McL* licence in Homer

6.1 The reflex -ρα- and the metrical behavior of κραδίη

So far, we have encountered three compelling pieces of evidence for *$r̥$ > -αρ- in Ionic-Attic: ταρφύς, καρτερός, and κάρτα. Besides, we have seen that a large number of forms with -ρα- or -αρ- can be explained as analogical zero grades: *u*-stem adjectives (κρατύς, πλατύς, βραχύς), *s*-stems (κράτος, θάρσος), forms of comparison (κράτιστος). Finally, we have found evidence for artificially created epic forms, such as κάρτος, κάρτιστος. The main remaining task is to explain the large body of Greek forms with *$r̥$ > -ρα-.

Upon a closer inspection, it appears that most forms with -ρα- < *$r̥$ only occur in poetry, and in Epic Greek in particular.[596] When there are variant forms with -ρα- and -αρ-, it is often possible to indicate a distribution, as in the following examples[597]:

PGr. pre-form	Prose form	Poetic form
*$k_{\mathring{u}}$rteró-	καρτερός (also poetic)	κρατερός
*$k_{\mathring{u}}$rta	κάρτα	
*$k_{\mathring{u}}$rtaiwó-		κραταιός
*$k_{\mathring{u}}$rti- >> *$k_{\mathring{u}}$rtai-		κραται-
*$k^{w}e_{\mathring{u}}$rto-	τέταρτος (also poetic)	τέτρατος
*$k_{\mathring{u}}$rdiā-	καρδίη, καρδία (also poetic)	κραδίη, κραδία

Table 6.1: variant forms with -ρα- and -αρ- in Ionic-Attic

In all these cases, the forms with -ρα- are found exclusively in Epic Greek and in later poetry, while -αρ- is the only reflex found in (Ionic and Attic) vernacular forms. The cases of -ρα- are normally considered to be phonological archaisms that were preserved because of their metrical utility. In other words, it is thought that the forms καρτερός, τέταρτος, and καρδίη arose by analogy in the vernacular and were then introduced into Epic Greek, where they supplied metrical alternatives for the original outcomes with -ρα-. As we have seen in the previous chapter, however, it is impossible to explain καρτερός by analogy or as an inner-Epic artificial formation. Moreover, τέταρτος cannot be explained by analogy, and must therefore be the regular outcome of *$k^{w}e_{\mathring{u}}$rto- (section 2.6).

Let us now consider the case of καρδίη : κραδίη, which is of cardinal importance for the entire question. The attestations are as follows. Homer has both κραδίη and καρδίη, of which the latter occurs only in a thrice-repeated verse and in the compound θρασυκάρδιος 'stout-hearted'.[598] In Classical prose, on the other hand, the only form is Attic καρδία, Ionic καρδίη. The form with -αρ- is also predominant in poetry, being found in e.g. Archilochus (5x), Alcman, and in Sappho, where it must be a borrowing from Ionic poetry. On the other hand, after Homer the form with -ρα- is limited to dactylic poetry, and occurs only in Pindar, Bacchylides, and lyrical passages in Aeschylus and Euripides (total 11x).

[596] Exceptions are τράπεζα and στρατός, but in my view these two forms have to be explained as epicisms in Classical prose.

[597] For the forms with *$k_{\mathring{u}}$rt-, see the previous chapter.

[598] The αρ-variant καρδίη occurs only three times (*Il.* 2.452, 11.12, 14.152) in the repeated line καρδίῃ ἄλληκτον πολεμίζειν ἠδὲ μάχεσθαι, in enjambment with the preceding line ending in ἐν δὲ σθένος ὦρσεν ἑκάστῳ (or a transformation), with the dative καρδίῃ depending on the preposition ἐν.

Both forms continue the weak stem **ḱr̥d-* of the PIE root noun for 'heart', which was extended in Greek with a suffix **-iā-*.[599] It is usually supposed that κραδίη is the regular outcome of PGr. **kr̥diā* (e.g. Schwyzer 1939: 342, Rix 1992: 65), and that the classical prose form καρδία analogically introduced the vowel slot of κῆρ 'heart' < PIE NAs. **ḱēr(d)*. There are a number of serious problems with this scenario. First of all, it deserves attention that the root of **kr̥diā* ends in *-d-*, whereas κῆρ had lost its final consonant long before the vocalization of **r̥*. In other words, it is not obvious at all that speakers would conceive of **kr̥diā* as related to κῆρ.[600] Furthermore, κῆρ was never part of the same synchronic paradigm as κραδίη, because the latter is a non-ablauting *ā*-stem. The NAs. κῆρ is a relic form already in Homer (out of 65 attestations, 59 are found in verse-final position),[601] is absent from classical prose and hardly occurs in post-Homeric poetry.[602] Other dialect groups also have reflexes of **kr̥diā*, cf. the Cyprian gloss κόρζα· καρδία. Πάφιοι (Hsch.). Together, these facts suggest that 'heart' was **kr̥diā* already in Proto-South Greek, perhaps even in Proto-Greek, and that the archaic form κῆρ was preserved only in poetry. It is therefore extremely doubtful that κῆρ could have analogically influenced the vocalization of the supposedly regular vernacular outcome κραδίη.

Given the distribution of the attestations, it becomes attractive to assume that καρδίη is the regular Proto-Ionic vernacular outcome, and that κραδίη originated within Epic Greek. This is confirmed in a beautiful way by Hoenigswald's discovery concerning the metrical behavior of κραδίη in Homer: forms of κραδίη are regularly avoided after a word ending in a short vowel.[603] The total number of attestations of κραδίη in Homer is 56; if we subtract repeated verses, we are left with 46 instances.[604] The localization of κραδίη is also remarkable: with two exceptions, κραδίη only occurs in the biceps of the second (13x = 23.2%) or third foot (41x = 73.2%).[605] That is, it either directly precedes or directly follows the masculine caesura.[606]

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[599] The relation of the Greek extension **-iā-* to similar forms and alternations of **ḱr̥d-* in other IE languages (Hitt. Ns. *ker*, Gs. *kardiias*, OIr. *cride* < **ḱr̥d-i̯o-*, Ved. *hŕ̥daya-* beside *hŕ̥d-*, Av. *zərəδaiia-* beside *zərəd-*, etc.) is problematic: for previous theories, see the convenient summary in *NIL*, q.v. It is possible that PIon. **kr̥diā-* was derived from a locative **ḱr̥d-i* 'in the heart'. However, the issue is not directly relevant for the Greek reflexes of the syllabic liquids: while it cannot be excluded that an early form of Proto-Greek had a heteroclitic paradigm Ns. **kēr*, Gs. **kr̥dios* (similar to Hittite), such a paradigm was certainly given up before the syllabic liquids vocalized in Ionic-Attic, as we will presently see.

[600] Only the etymologically incorrect and artificially distracted form κέαρ is regularly attested in lyric poetry, in the tragedians, and in two isolated instances in comedians. It is usually assumed that κέαρ is analogical for κῆρ on the model of ἔαρ 'spring' beside ἦρ. This suggests that κῆρ was not recognized anymore as related to καρδία when κέαρ was created.

[601] The recessive accentuation of the Homeric Ds. κῆρι, which must have been secondarily created on the basis of the NAs. κῆρ, is odd: in the weak case forms of a monosyllabic neuter noun we would expect oxytone κηρί (cf. δουρί, Ds. of δόρυ 'spear'). Again, this suggests that κῆρ had been lost from spoken Ionic already a long time before Homer.

[602] After Homer, the only attestations are *Scut*. 435 and Thgn. 619, both of which have the Homeric verse-end ἀχνύμενος κῆρ. In A. *Choe*. 410, the vocative φίλον κῆρ is normal in Homer as a nominative, and is clearly an epicism.

[603] Hoenigswald (1991: 10, cf. also 1968, 1988).

[604] In both cases where κραδίη is used after a short vowel (ὅππῃ σε |P κραδίη 3x and ὅτινα |P κραδίη καὶ θυμὸς ἀνώγει 2x Hom.), the form directly follows the main caesura. This means that the long scansion of σε and ὅτινα is due to the licence *longum in breve*. Moreover, ὅππῃ σε κραδίη could be considered a transformation of ὅππῃ μιν κραδίη (2x). It is possible that a few other constructions are traditional or formulaic: for instance, κραδίη preceded by a dative pronoun in -οι occurs 11x. But given the large numbers, this does not make Hoenigswald's discovery any less surprising.

[605] The two exceptions are |H κραδίην δ' ἐλάφοιο (*Il*. 1.225) and |P δόρυ δ' ἐν κραδίῃ ἐπεπήγει (*Il*. 13.442).

[606] Since κραδίη stands after |P in 41 instances, and since *brevis in longo* is a common metrical licence in front of |P, one could object that information about the prosodic behaviour of initial κρ- in κραδίη is contained in a mere 13 instances. But this does not eliminate the remarkable fact that a seemingly attractive metrical possibility was

As Hoenigswald remarks, the metrical behavior of κραδίη in Homer "is only apparent if *r̥* [later > ρα] was still the equivalent, in the source formula, of a short vowel".[607] Indeed, if we compare words with the same metrical surface structure, the figures for κραδίη appear to be exceptional. In κρατερός and προτερός, for instance, the poets regularly made use of the possibility to lengthen a preceding word-final short vowel by position.[608] Given the large number of attestations of all these forms, we are dealing with a significant distribution.[609] Hoenigswald (l.c.) therefore rightly concludes that the metrical behavior of κραδίη "necessitates adjustments in our view of the relative chronology of certain processes in the prehistory of Greek," but he never further elaborated his views on this matter in print. The question remains, then, how exactly our views of relative chronology must be changed, and which processes have to be envisaged.[610]

With his somewhat vague remark, Hoenigswald might be taken to imply that the vocalization of the syllabic liquids was a comparatively recent sound change in all of Greek. In the Ionic vernacular, however, the vocalization cannot have been too recent: the lack of discernable differences between the Ionic and Attic reflexes shows that we are dealing with a Proto-Ionic sound change, i.e. before the Ionic migrations to Asia Minor.[611] This means that the Ionic vernacular form καρδίη had already developed in Proto-Ionic. Is it possible that the metrical behavior of the original form **kr̥diā-* was preserved in Epic Greek for such a long time? I do not think so. In my view, the only conceivable explanation would be that **r̥* was retained within Epic Greek for a considerable period of time after the split-up of Proto-Ionic, perhaps until one or two generations of poets before Homer.

In this way, we may explain not only the metrical behavior of κραδίη, but also the reflex -ρα- itself in a number of other words. As briefly explained in chapter 1, I assume a prolonged retention of **r̥* in Epic Greek after its vocalization in spoken Proto-Ionic, and a subsequent vocalization **r̥* > -ρα- (-ρο- after a labial consonant) in Epic Greek. As we will

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not used at all, and that a word of this metrical structure occurs after |ₚ in 73.2% of its occurrences. In Homer, the prepositions κατά and ἀνά frequently precede other words for body parts and mental faculties, as in κατὰ φρένα καὶ κατὰ θυμόν or ἀνὰ θυμόν. It is conspicuous, then, that prosodically attractive syntagms like ⁺⁺κατὰ κραδίην or ⁺⁺ἀνὰ κραδίην are unattested. Among the 11 instances of κραδίη in Apollonius Rhodius, we find ὑπὸ κραδίῃ |ₚ (3.287 and 296) and |ₜ ἐνὶ κραδίῃ (3.644). This highlights the peculiar status of the Homeric distribution.

[607] The comment "[later > ρα]" is Hoenigswald's. The full quotation runs: "Spot checks throughout the poems yield a rich additional harvest; cp. Hoenigswald 1988: 204. The strange reversal in the case of κραδίη – 27 times (not counting repeated lines) in the Iliad after long vowel, diphthong, or short vowel followed by a consonant, as against only once, in the second arsis, | - - ὅππη σε κραδίη Ν 783, after a short vowel – is only apparent if *r̥* [later > ρα] was still the equivalent, in the source formula, of a short vowel after the manner of ἀνδροτῆτα καὶ ἥβην (…). This necessitates adjustments in our view of the relative chronology of certain processes in the prehistory of Greek." (Hoenigswald 1991: 10, n. 28).

[608] This implies that **kr̥teró-* must have lost its syllabic liquid within early Ionic Epic at a much earlier date than **kr̥díā-*. As I have explained in chapter 5, κρατερός analogically introduced the root allomorph of κρατύς; the regular outcome of **kr̥teró-* is found in καρτερός. See further chapter 8. Another salient example is προσέφη, which is often considered to be a recent replacement of older *ποσέφη or some metrical equivalent (Wathelet 1966: 153, Janko 1979, following Meillet; for criticism of Meillet's idea, see chapter 7). While προσ- often fails to make position, the possibility to generate length by position in front of προσέφη was used incidentally by Homer, e.g. in ὥς πού σε προσέφη (*Il.* 16.842). For κραδίη, on the other hand, this seemingly useful option was not used at all. A reasonable explanation of this difference would be that a form πρός /pros/ existed in the vernacular, whereas a vernacular form /*kradiæ/ did not exist at any point between Proto-Ionic and Homer. If it would have existed, poets would certainly have used the opportunity to close a preceding short syllable.

[609] As far as I have been able to check, the metrical behavior of κραδίη is not paralleled in any other Homeric word that has a comparable token frequency. For instance, if κραναός 'rocky' (5x Hom., no established etymology) is never used after a word-final short vowel, this may simply be due to chance.

[610] For instance, since κραδίη does not occur in clear formulaic material, Hoenigswald's reference to "the source formula" with **r̥* does not seem to make sense.

[611] These are conventionally dated, on the authority of later chronologers, to 140 years after the Trojan War, which yields a date of around 1000 BC. See further chapter 11.

presently see, this scenario is attractive for several additional reasons. Most importantly, it allows us to understand the scansion of Homeric forms like κραταιός, δράκων, τράπεζα, which could not have been used in Epic Greek if it were not for the so-called *muta cum liquida* licence (henceforth abbreviated as *McL* licence).[612] Before further elaborating my scenario for a prolonged retention of **r̥* in Epic Greek, I will now first extensively consider the problem of Homeric *McL* scansions.

Both the origin and the distribution of *McL* scansions in Homer require an explanation. Wathelet (1966) argued that a number of frequently occurring instances of *McL* scansion (e.g. κραταιός, βροτοῖσι, and a dozen or so other forms) are metrical archaisms. In his view, the first instances of *McL* scansions in Epic Greek came into being when **r̥* developed to -ρα- (Ionic) or -ρο- (Aeolic, Mycenaean) in the vernacular. Subsequently, the licence became more productive not too long before Homer.

This idea has become widely accepted, but by no means universally. Wathelet's argument builds on a distinction between formulaic (traditional) and non-formulaic (recent) instances of the *McL* licence, which has been criticized by Haug (2002). A second line of criticism has objected that the bulk of instances of *McL* scansion in Homer are to be explained synchronically (e.g. Tichy 1981). I will therefore first review the basic facts concerning the *McL* licence in Homer, and argue that Tichy's scenario does not explain the distribution between words that allow and avoid *McL* scansion in Homer. This appears in particular from the numerous strategies to avoid *McL* scansion in Epic Greek. The new scenario for -ρα- as a special Epic reflex of **r̥* allows us to explain the origin of *McL* scansions in Homer, and at the same time to explain the difference with the reflex -αρ- as found in Ionic-Attic vernacular forms.

6.2 *Muta cum liquida* scansions in Homer

McL scansions are also known as *correptio attica* because the phenomenon is extremely frequent in Attic drama. A convenient summary of the basic details is found in Allen (1987: 106ff.). In Attic, the phenomenon concerns the scansion of sequences consisting of a plosive consonant (π τ κ, φ θ χ, β δ γ) plus a liquid (λ, ρ) or a nasal (μ, ν).[613] In these cases, "the consonant group may either be divided, like any other, between preceding and following syllables (thus, for example, πᾰτ-ρός, giving a heavy first syllable), or it may belong as a whole to the following syllable (thus πᾰ-τρός, giving a light first syllable)" (Allen, o.c. 106).[614] Thus, the term '*McL* scansion' generally refers to the light scansion of a short vowel preceding the sequence of plosive plus liquid (or, for certain plosives, plosive plus nasal). From a historical point of view, this light scansion is unexpected.[615]

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[612] The term *muta cum liquida* was originally applied to a peculiarity of later (mainly Attic) poetry, and does not adequately describe the Homeric licence. Even so, I will also use it as a conventional designation when referring to the Homeric licence.

[613] The term 'liquidae' is a translation of Greek ὑγρά. It was originally applied in ancient grammatical theory (Dionysius Thrax) not only to what we now call liquids, but also to nasals. The term ὑγρά may have originally referred to the fluid or unstable behavior of these consonants in metrical theory, that is, precisely in sequences of plosive plus liquid or nasal. See Allen (1987: 39-40).

[614] The rule is often formulated in terms of syllable boundaries, cf. Tichy (1981: 28): "Die aus Plosiv und Liquida bestehenden Konsonantengruppen (…) zeichnen sich vor allem auch in intervokalischer Stellung durch die Besonderheit aus, dass die Silbengrenze ebensogut vor wie in oder nach ihrem ersten Bestandteil liegen kann". In descriptive terms, however, *McL* scansions are primarily a metrical phenomenon.

[615] I follow the traditional view on Indo-European syllable structure, for which all intervocalic sequences of more than one consonant (i.e. /$VC_1…C_nV$/, with $n > 1$) were heterosyllabic in PIE and in early IE languages. This is the Vedic situation, and basically also the Homeric one. The only exceptions in Homer are the occasional *McL* scansions, as well as a few isolated light scansions before word-initial ζ- and σκ-, which occur in toponyms (e.g. Ζάκυνθος, Σκάμανδρος).

There is a number of clear differences between *McL* scansions as applied in Attic drama and the *McL* licence in Homer.[616] First of all, *McL* scansion is the rule rather than an exception in Attic drama (tragedy, comedy), even if there are many peculiarities in the relative frequencies of the various possible combinations. For this reason, it can hardly be called a licence. In Homer, on the other hand, the number of instances of *McL* scansion is small in comparison with the normal treatment. Secondly, in Homer the rule never applies to the sequence "stop plus nasal".[617] Thirdly, in Homer *McL* scansion is more frequent in certain specific combinations of stop plus liquid (τρ-, πρ-, κρ-) than in others.[618]

Is the Homeric use of the *McL* licence governed by a rule? Some scholars have claimed that the licence was applied out of metrical necessity, in order to fit words into the hexameter that could otherwise not be used.[619] Examples are δράκων, -οντ- 'snake' or case forms like βροτῶν, βροτοῖσι 'mortals'. However, metrical constraints do not adequately account for the entire Homeric corpus of *McL* scansions.[620] First, no metrical necessity is involved in a number of individual instances, such as πρός (section 7.2.5), certain case forms of θρόνος (section 7.3.4), and various incidental light scansions, e.g. in front of πρίν (see section 6.3).[621] Such words can be used, and in many cases are regularly used in Epic verse, without the *McL* licence. A second objection is that Epic Greek normally avoids metrically problematic words, and replaces them with a semantically or functionally equivalent metrical alternative.[622] Such alternatives were available in many cases where *McL* scansion is regularly applied. A possible alternative for Ἀφροδίτη would have been Κύπρις, -ιδος (5x Hom.); and instead of δράκων 'snake', the semantic equivalent ὄφις (only 1x Hom.) would have been metrically acceptable. It follows that words like δράκων and κραταιός are tolerated in Epic Greek because they are traditional, in a sense to be made more precise in section 6.5 and further.

Tichy (1981) advocates an explanation of the *McL* licence that was proposed already by Hartel (1873) and Danielsson (1909: 269).[623] She claims that the licence was normally avoided in words in close syntactic connection ("in Konnex", a term due to Danielsson) when the second word started with plosive plus liquid: "Im Wortinlaut und zwischen zwei im Satz

[616] A good overview of all Homeric instances of *McL* scansion in word-initial position is found in Ehrlich (1907: 390-2), with a number of corrections on the overview in La Roche (1869: 1ff.). For word-internal position, Tichy (1981: 30) lists all instances from the *Iliad*.

[617] In Attic drama, the *correptio* does occur in sequences of stop plus nasal, but only if the stop was voiceless (*muta*), as in τέκνον; voiced stop plus nasal (as in Κάδμος) always behaves like other sequences of more than one consonant. This is the origin of the name "muta cum liquida" (where *liquida* denoted both liquids and nasals, see above). On the avoidance of *McL* scansion in Lesbian and Eastern Ionic archaic poetry, see West (1974: 113-4 and 1988: 166). In Hesiod, there are two instances of *McL* scansion for the sequence "stop plus nasal".

[618] For instance, φρ- rarely undergoes *McL* scansion, γρ- never. See the overview of the material in La Roche (1869: 1-44).

[619] "[in Homer,] a light syllable is found only before the groups plosive + ρ or voiceless plosive + λ, and then almost only *metri gratia*, where a word could not otherwise be accomodated in the metre (…)." (Allen 1987: 108). This doctrine goes back to La Roche (1869), the first to have listed all instances of the sequence "plosive plus liquid" in Homer, and was accepted by Chantraine (1942: 108ff.).

[620] Cf. Wathelet (1966: 146). This is also noted by Tichy (1981: 28 n. 2), but without further argumentation.

[621] For instance, in πρίν (only 4x on a total 195x in Homer) and φαρέτρη (1x, otherwise only verse-final) the application of the *McL* licence is incidental; normally, these words do not require *McL* scansion.

[622] This objection is much more severe than the first one. After elimination of πρός, the number of instances of avoidable *McL* scansion in front of a word-initial short syllable is very low. They could therefore be considered metrical accidents. See the overview in Ehrlich (1907: 391-92, "II. Fälle anderer Art"), from which it appears that most instances of metrically avoidable *McL* scansions appear in front of word-initial heavy syllables, and may therefore be ascribed to the more general avoidance of length by position in this metrical slot.

[623] Tichy (1981: 28 n. 2): "Im folgenden schliesse ich mich an W. Hartel (…) an, nachdem ich mich bei einer durchsicht von Il. *ΛΠΤ* von der Richtigkeit seiner Beurteilung überzeugt habe". Given the relative paucity of *McL* scansions in Homer generally, it may be wondered whether the evidence contained in just three books (< 2200 lines) is sufficient to draw such a conclusion.

eng miteinander verbundenen Wörtern – im Konnex – bewirkt Plosiv plus Liquida Positionslänge, in Pausa und in der echten Wortfuge fällt die Silbengrenze dagegen mit der Wortgrenze zusammen." (1981: 28-9).[624] But a closer scrutiny of the evidence for *McL* scansions reveals that the *Konnex* theory does not adequately explain their distribution. First, as Tichy herself admits, the *McL* licence is also applied in connected groups (e.g. τῶν δὲ τρίτων *Il*. 12.94, οὐδὲ Δρύαντος υἱός *Il*. 6.130). In order to get around this problem, she assumes that it was a choice of the individual poet to use either the light or the heavy scansion.[625] Moreover, Tichy also has to assume that the licence was further extended to *McL* sequences after a morpheme boundary in compounds (e.g. ἀμφιβρότης), and thence more generally to such sequences in word-internal position (as in Ἀφροδίτη).[626]

In this way, anything goes. The explanation of the Homeric *McL* licence by means of the *Konnex* theory is based on a selective examination of the evidence. It does not explain the Homeric data on a synchronic level, and makes extensive use of *ad hoc* explanations.[627] Since no set of synchronic rules has so far accounted for all Homeric examples of *McL* scansion in an adequate way, the explanation of the phenomenon must, at least in part, be historical.

6.3 Wathelet's proposal for the origin of *McL* scansions

Such a historical explanation for the problem of *McL* scansions in Homer has been offered by Wathelet. As he remarks, "Il n'est guère de «licence poétique» dans l'épopée qui ne se justifie au départ par un fait de langue, que les aèdes ont eu, sans doute, tout loisir de développer, de généraliser selon les nécessités." (1966: 147). In his view, *McL* scansion originated in words with a syllable onset or word-initial sequence **CL̥-*, such as **dr̥kōn*. When the Proto-Ionic vocalization **r̥* > -ρα- generated δράκων, which violated the metrical constraints of the dactylic hexameter, the form was retained with its older scansion. This is how the metrical licence must have originated. Wathelet motivated the retention of such metrically aberrant

[624] This scheme has recently been followed by Hackstein in his encyclopedic discussion of the phenomenon (2010), and is also accepted by Haug (2002: 67). Note, however, that Hartel's *Konnex* theory was devised not for word-initial plosive plus liquid, but more generally in order to explain exceptions to the avoidance of length by position *in thesi* in front of a word boundary. Most such exceptions (which do have length by position) appear to be connected syntagms of the type τὰ κτήματα.

[625] "Wie nicht anders zu erwarten, haben sich die Dichter unter dem Zwang des Metrums gelegentliche Freiheiten erlaubt. So tritt Kurzmessung mitunter auch dann auf, wenn die betreffenden Wörter üblicherweise in Konnex gestanden haben dürften (Fälle wie τῶν δὲ τρίτων *M* 94, οὐδὲ Δρύαντος υἱός *Z* 130). Doch hat auch die metrisch bedingte Übertragung der in der echten Wortfuge regulären Behandlung auf Konnexe, in denen normalerweise die Wortinlautsbehandlung eingetreten wäre, ihren sprachlichen Grund; denn sofern zwei Wörter nicht durch Pausa getrennt oder in Akzenteinheit verbunden sind, *steht es zumeist im Ermessen des Sprechers*, ob er die Wortgrenze hervorheben oder beide Wörter als phonetische Einheit behandeln will." (Tichy 1981: 30; my emphasis). Since there is no synchronic distribution, it is incorrect to speak of "synchronic sandhi-variants" (Hackstein 2010: 416). Like Tichy, Hackstein admits that the "two possibilities … were consciously exploited by the poets for metrical purposes" (2010: 417). If one claims to have knowledge of choices "consciously" made by the poets in individual cases, no further explanations are necessary.

[626] For word-internal *McL* scansions, see the list in Tichy (1981: 30), which contains about 20 items, some of which are formulaic or extremely frequent. Hackstein assumes that the rules "may be suspended due to metrical necessity" (2010: 417), in order to explain the examples Ἀφροδίτη, Ἀμφιτρύωνος, and the anapestic scansion of φαρέτρης at *Il*. 8.323. Note that there was no metrical necessity to introduce an anapestic scansion in the Gs. φαρέτρης.

[627] It is clear that Tichy adopts the *Konnex*-theory merely because it supports Berg's proto-hexameter theory. The same goes for the treatments of the Homeric *McL* licence by Haug (2002) and Hackstein (2010). A devastating criticism of Tichy's recent variant of this theory (2010) has been provided by M. L. West in his review (2011) of her book. This is not the place to extensively discuss the existing theories on the prehistory of the hexameter, none of which has won broad acceptance so far. As we will see below, the theory cannot be correct in any of its current forms.

forms by claiming that they belong to traditional formulaic diction.[628] In confronting this explanation with the evidence, he argued that the instances of *McL* scansion have to be subdivided as follows:

(1) A form with word-initial consonant plus liquid is placed in the position after $|_T$, as happens with Κλυταιμνήστρη (*Il*. 1.113, *Od*. 11.442), πλέων (*Il*. 7.88, *Od*. 4.474), τρέμον (*Od*. 11.527), τρέφει (*Od*. 5.422, 13.410), τριήκοσι (*Od*. 21.19), Τρίκης (*Il*. 4.202), τρόποις (*Od*. 4.782, 8.53).[629] Beside these forms which always contained a full vowel, some instances of the phenomenon derive from pre-forms with **r̥*, such as the hapax $|_T$ κραταίπεδον and the formulae $|_T$ τραπείομεν εὐνηθέντε (3x), $|_T$ θρασειάων ἀπὸ χειρῶν (7x).[630] But since irregularities due the main caesura are more widespread in Homer, Wathelet leaves all these cases out of consideration.[631]

(2) A different (dialectal) form can be substituted in which there was no need to apply the licence. The most important example is the preverb and preposition προσ-, πρός, which is generally thought to have replaced an older form ποσ- or ποτ-. This idea of Meillet has been generally accepted, but see chapter 7 for a different view.

(3) The form may have been recently introduced from the Ionic vernacular into Epic Greek (*abrègements récents*). Wathelet first cites an extensive list (1966: 154-160) of words in which the licence is normally avoided, and applied only once or twice. As we will see in section 6.5 below, this separation can be justified. Furthermore, he assumes that the regular application of the licence in a few of the more frequent instances (e.g. ἀλλότριος, ἀλλοθρόος) is of recent date too, because the forms in question may have been introduced from spoken Ionic into Epic Greek. We will discuss these cases in more detail in the following section.

(4) If none of the above points applies and the pre-form contained **r̥*, Wathelet speaks of *abrègements anciens*: "Il subsiste une série de mots et de formes, manifestement anciens et où la *correptio* correspond en fait au développement d'un ancien **r̥* ou d'un ancien **l̥*" (1966: 161). Since he cites only one example for **l̥* (the toponym Πλάταια in *Il*. 2.504), I will henceforth limit myself to forms which once contained **r̥*. The following list contains all Wathelet's instances of -ρα- and -ρο- from **r̥* (including the number of Homeric attestations):[632]

1. δράκων 'snake' (9x)
2. κράνεια 'cornel tree' (2x)
3. κραταιός 'strong' (13x, of which 1x $|_T$ κραταιοῦ, and 9x $|_B$ Μοῖρα κραταιή)
4. τράπεζα 'table' (35x, of which 1x $|_T$ τραπέζας)
5. τραπέσθαι 'to turn' (also with preverb προ-, 7x)
6. ἀβροτάξομεν 'we will miss' (1x)

[628] "Dans les formules anciennes c'est-à-dire achéennes, où le phénomène se produit, il est dû au développement du *r̥* et peut-être du *l̥* au cours de l'histoire de la tradition formulaire de l'épopée. L'anomalie s'est introduite dans les formules parce que les aèdes ont tenu à conserver des expressions traditionnelles, tout en leur laissant suivre l'évolution de la langue." (Wathelet 1966: 172).

[629] The number of cases of *McL* scansion in this position is actually larger: cf. e.g. προθυμίῃσι (*Il*. 2.588), κρατευταί (*Il*. 9.214), κραδαινόμενος (3x).

[630] Other examples of *McL* scansion deriving from pre-forms with **r̥* that are found after the trochaeic caesura are βροτῶν (44x), τράπεζα (1x), κραταιός (1x), δράκων (3x), πρόσω (2x), πρόσωπον (3x). In chapter 7, I will show that προκείμενα (in a formulaic verse which is repeated 14x) also derives from a pre-form with **r̥*.

[631] Since Milman Parry, irregularities due the main caesura are generally supposed to have originated in the practice of poets to recombine hemistichs or formulaic units. It is true that before $|_T$, the licence seems to have been exploited in Homeric Greek, be it marginally, for incorporating forms (especially names) the inherent prosodic structure of which was unfit for the hexameter. It must be noted, though, that all cases of *longum in breve* in front of $|_T$ appear in words with initial consonant plus liquid. It would therefore be attractive to ultimately ascribe this part of the licence to the vocalization of **r̥*, too.

[632] Wathelet adduces the frequent theonyms Ἀφροδίτη (42x), Κρόνος (24x), Κρονίων (44x) only with reserve.

7. ἀνδροτῆτα ‘vigor’ (3x), cf. ἀνδρεϊφόντης (4x, repeated formulaic verse).
8. βεβροτωμένα ‘covered with gore’ (1x)
9. βροτοῖσι ‘mortals’ (Dp., 28x),[633] ἀσπίδος ἀμφιβρότης (3x), νὺξ ἀβρότη (1x)
10. θρόνος ‘throne’ (53x, of which 23x with *McL* scansion)

Wathelet concludes: “… l’abrègement devant le groupe occlusive + liquide revèle qu’il s’agit chaque fois de termes dans lesquels l’étymologie signale la présence d’un *r* ou *l* voyelles. On constatera alors que la restitution de ce *r̥* ou *l̥* élimine la difficulté de scansion.” (1966: 149). For each individual lexeme, he tries to argue that its presence in Epic Greek reaches back to a time when **r̥* was still part of the language. A recurring argument is that the words in question occur in “traditional” Epic material. To establish whether a word is traditional, Wathelet uses three criteria: the form either occurs in formulaic material; it frequently occurs in syntactic connection with other typical Homeric words (possibly of Mycenaean origin); or the word has a fixed position in the hexameter.[634]

After a substantial number of cases of *McL* scansion had come into being in this way, its use was extended to syllables starting with consonant plus liquid followed by a Proto-Greek full vowel. In this way, *McL* scansions must have gradually acquired the status of a metrical licence. In Wathelet’s view, the theonyms Κρόνος and Ἀφροδίτη, which have no established etymology, may owe their metrical treatment to such an early extension of the licence. The same holds for the substitution of πρός for πός (group 2), and for the examples following the trochaeic caesura $|_T$, where the licence may in his view have been tolerated for a longer time (group 1). At a final stage, the incidental light scansions in group 3 became more frequent. Wathelet does not exclude that this final extension was accompanied by a change of syllabification in spoken Ionic, but considers a combination of several other factors, such as the rise of secondary (non-medial) caesuras, to be more likely.[635]

6.4 Criticism of Wathelet’s scenario

Although Wathelet’s conclusions have been widely accepted, two lines of criticism have been advanced against his argumentation. First, proponents of the proto-hexameter hypothesis have claimed that his conclusions are unlikely for chronological reasons.[636] Wathelet departs from the widespread view that the syllabic liquids disappeared from Proto-Ionic and Proto-Achaean before the attestation of the Mycenaean tablets.[637] This implies that a substitution of Mycenaean forms for Homeric ones does not remove the problem of scansion: for instance, Myc. *to-pe-za*, if to be interpreted as /torpedi̯a/, is not a metrical equivalent of τράπεζα. In Wathelet’s words, “On en conclura donc qu’il faut remonter à une forme de l’achéen

[633] For an analysis of the frequency and metrical behavior of the different case forms, see section 7.2.1. Leaving aside instances following the trochaeic caesura, *McL* scansion is required only in βροτοῖο (1x), βροτῶν (5x).
[634] For instance, βροτοῖσι, κράνεια, κραταιός, τράπεζα, and τραπέσθαι mostly occur in verse-final position.
[635] “… soit par l’apparition, mais alors très timide, d’un changement dans la coupe syllabique, soit plus probablement, par l’effet combiné de diverses analogies, celle des mots qui comportent originellement un *r̥*, l’exemple de πρός et aussi la multiplication des césures non médianes qui a permis aux aèdes de jouir d’une plus grande liberté de composition et de décaler à l’intérieur des hémisitches des éléments formulaires qui, situés primitivement après la coupe médiane suscitaient un abrègement autorisé par la présence de la césure elle-même.” (1966: 172-73). This remark concerning the role of “césures non médianes” is introduced abruptly at the end of his article. Cf. also Wathelet’s remark about group (3): “Ce pourrait être là l’indice d’une évolution dans la syllabation en grec (…), à moins qu’il ne faille expliquer la présence de telles formes par l’analogie des emplois mentionnés dans les deux premières catégories et par l’influence d’un quatrième groupe que l’on va maintenant aborder.” (p. 160-61).
[636] Cf. Tichy (1981: 54-55), Haug (2002: 62ff.), and the doubts in Hackstein (2002: 6-7).
[637] This was originally argued by Mühlestein (1958) and was soon picked up by Ruijgh (1961), see section 1.1.1. Note, however, that Wathelet (1970) thinks that the vocalization of **r̥* must have been a relatively recent, if pre-Mycenaean, development.

antérieure à celle de nos tablettes et qui connaissait encore des liquides voyelles" (1966: 170).

The chronological gap between Homer (dated by most scholars to the second half of the 8th c.) and the assumed age of the formulaic material is about seven centuries. Haug (2002: 62ff.) argued that the preservation of an archaic metrical feature over such a long period of time is highly unlikely.[638] But even if one may intuitively agree with this, it must be stressed, with Heubeck (1972), that there is no compelling reason to date the disappearance of *$\mathring{r}$ from Mycenaean or Ionic-Attic that early.[639] As I will argue in chapter 11, it is quite possible that *$\mathring{r}$ was preserved until the 12th or 11th century in Proto-Ionic. This would make the preservation of metrical traces of *$\mathring{r}$ in words with *McL* scansion somewhat less problematic.[640] In reality, as appears from the present chapter, forms with *$\mathring{r}$ must have been retained within Epic Greek until not very long before Homer. In this way, the chronological objection against Wathelet's explanation of *McL* scansions disappears.

A second line of criticism has been advanced by Haug (2002: 64-67), in whose view Wathelet's argumentation concerning the supposed formulaic behavior of individual forms is insufficient.[641] In order to establish his group of "old" examples of *McL* scansion, Wathelet first isolates several incidental and non-formulaic instances of *McL* scansion.[642] These are either linguistic innovations (e.g. thematic δακρύοισι for older δάκρυσι, contracted κρᾶτα beside uncontracted κράατα), deviations from the normal prosodic behavior of a word (e.g. anapestic φαρέτρης, or πρῶτος preceded by a light syllable), or transformations of traditional material (e.g. the Odysseian hapax πρωτόπλοος, which may be a nonce formation after formulaic πρωτόγονος, inspired by instances of the verb πλέω with *McL* scansion). Haug does not contest Wathelet's decision in any of these incidental cases. The majority (18 out of 30) is found in the *Odyssey*, which corroborates the observation that the incidental use of the *McL* licence increased with time.[643]

A number of more frequent words regularly undergo *McL* scansion, but they cannot be derived from a pre-form with *$\mathring{r}$. This makes them potential counterevidence to Wathelet's thesis. In order to exclude the forms in question from his list of "abrègements anciens", Wathelet frequently makes assumptions regarding their formulaic behaviour. I will now review the two most important cases criticized by Haug: ἀλλότριος 'someone else's; foreign' and ἀλλοθρόος 'of foreign tongue'.

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638 Since these scholars think that light scansions in front of consonant plus liquid can be explained synchronically, their argument mainly revolves around the supposed examples of *McL* scansion in word-internal position, ἀνδροτῆτα and ἀνδρεϊφόντῃ. I will extensively discuss these forms in section 7.3.

639 For a discussion of the Mycenaean data, see chapter 2.

640 In order to avoid misunderstandings, let me stress that my present argument does not presuppose the existence of the dactylic hexameter in its Homeric form for several centuries. On the contrary, from the different treatments of *$\mathring{r}$ in Epic Greek and the Ionic vernacular, it follows that the dactylic hexameter had more or less reached its Homeric form when *$\mathring{r}$ vocalized in Proto-Ionic (see chapter 11). This refutes most of the currently available proto-hexameter theories.

641 "Après ce triage tout à fait légitime [of Wathelet's groups 1 and 2], il reste nombre d'abrègements que Wathelet veut diviser en abrègements récents et abrègements anciens. Pour cela, il se sert de l'analyse formulaire contre laquelle nous avons élevé de critiques d'ordre général dans l'introduction. Cette méthode nous semble peu exacte et elle permet souvent de trouver ce que l'on cherche" (Haug 2002: 65).

642 "formes isolées dans l'épopée […] qui ne sont manifestement pas formulaires" (Wathelet 1966: 155).

643 This thesis is not criticized, and therefore seems to be accepted, by Haug. From the material in Chantraine (1942: 108-9), it appears that most examples for incidental *McL* scansion are found in the *Odyssey*. On the basis of an examination of all instances of *McL* scansion, I have reached the conclusion that the poets of the *Iliad* and the *Odyssey* made a different use of the licence, in that the former structurally avoided it, whereas the latter had a looser attitude. For instance, the forms κλιθῆναι, προσέκλινε and κρυφηδόν, ἐνέκρυψε, κεκρυμμένα are attested with *McL* scansion only in the *Odyssey*, whereas the poet of the *Iliad* always uses forms of κλινθῆναι, and thus avoids the licence. More extensive proof is forthcoming.

At first sight, it is not easy to explain away the metrical behavior of ἀλλότριος and ἀλλοθρόος as secondary. As Haug points out, Wathelet's remark that ἀλλότριος occurs in "recent" formulae is insufficient. There is no clear criterion, in Haug's view, by which οἴκῳ ἐν ἀλλοτρίῳ |P (2x as a first hemistich) can be deemed recent.[644] Moreover, many scholars have remarked that recently coined formulae may acquire huge popularity in a relatively brief span of time.[645]

There is, however, a good argument (mentioned neither by Haug nor by Wathelet) for viewing ἀλλότριος as a relatively late introduction: ἀλλότριος is close in meaning to ἀλλοδαπός 'belonging to another people or land, foreign' (*LSJ*). Like ἀλλότριος, ἀλλοδαπός occurs in repeated hemistichs, e.g. ἄνδρας ἐς ἀλλοδαπούς |P (3x), γαίῃ ἐν ἀλλοδαπῇ |P, δήμῳ ἐν ἀλλοδαπῷ |P (both 1x, the latter also transformed as verse-final ἀλλοδαπῷ ἐνὶ δήμῳ). There is perhaps a slight difference in meaning between ἀλλοδαπός and ἀλλότριος in Homer. The former qualifies people and their origins or allegiances ("from somewhere else"), while the latter mostly qualifies belongings or possessions ("someone else's", e.g. βουσὶν ἐπ' ἀλλοτρίῃσι *Od*. 20.221, ἀλλότριον βίοτον *Od*. 1.160 and 18.280).[646] After Homer, the two are not strictly separated, and ἀλλότριος is also used in a sense originally reserved for ἀλλοδαπός: 'stranger', 'foreign country', etc. (see *LSJ* s.v. ἀλλότριος, mg. II.: "opp. οἰκεῖος"). In fact, the semantic separation between the two adjectives is already hard to make in Homer. Compare:

ἄνδρας ἐς ἀλλοδαπούς (1x *Il*., 2x *Od*.)	beside ἀλλότριος φώς (1x *Il*., 2x *Od*.)
δήμῳ ἐν ἀλλοδαπῷ (*Od*. 8.211) and ἀλλοδαπῷ ἐνὶ δήμῳ (*Il*. 19.324)	beside οἴκῳ ἐν ἀλλοτρίῳ (2x *Od*.)
γαίῃ ἐν ἀλλοδαπῇ (*Od*. 9.36)	beside γαίης ἀλλοτρίης (*Od*. 14.85-6)

In view of the widespread occurrence of ἀλλότριος in later Ionic-Attic, it is quite possible that its extension in Homer at the expense of ἀλλοδαπός is recent. In other words, the difference between ἀλλότριος and ἀλλοδαπός need not be old *within* Epic Greek. It seems possible, then, to uphold Wathelet's conclusion that ἀλλότριος was a recent introduction into Epic Greek, be it for a different reason. Once the use of *McL* scansions became increasingly accepted, ἀλλότριος became available as a substitute for ἀλλοδαπός.

The second compound with ἀλλο-, ἀλλόθροος 'of foreign tongue', only occurs four times in the *Odyssey*: |T ἐπ' ἀλλοθρόους ἀνθρώπους (1x), |T κατ' ἀλλοθρόους ἀνθρώπους (2x), and in the verse πλάζετ' ἐπ' ἀλλοθρόων ἀνδρῶν δῆμόν τε πόλιν τε (1x). This rare word is not found in Attic prose, but only occurs a few times in the tragedians and in Herodotus. As with ἀλλότριος, it cannot be excluded that the word is recent in Epic Greek, and that the hemistichs in which it occurs were modelled after earlier versions with ἀλλοδαπός (cf. ἄνδρας ἐς ἀλλοδαπούς above).

Both ἀλλότριος and ἀλλόθροος could have theoretically been utilized after |P, in all case forms of the singular and in the Np., without the *McL* licence. The absence of such scansions is remarkable. Furthermore, as Wathelet remarked, ἀλλόθροος does not occur at all in the *Iliad*, and ἀλλότριος occurs only twice in the *Iliad*, but 15x in the *Odyssey*. As we will see in chapter 7, a similar increase in *McL* scansions in the *Odyssey* is also found with the plural forms of θρόνος 'throne'.

[644] It is also uncertain, in Haug's view (2002: 65), whether verse-final |B ἀλλότριος φώς (3x) was formed after |B ἰσόθεος φώς (14x), as per Wathelet, rather than the other way around. I do not share Haug's criticism on this particular point: in |B ἰσόθεος φώς, ἰσόθεος is clearly an generic epithet of heroes, and the only one with this metrical structure and function (see Parry 1971: 91).

[645] Haug (2002: 20 and 23) cites the example |B ὠκέα Ἶρις, which occurs 20 times in Homer, but seems to be recent in view of the Ionic shortening of -εῖα to -έα (common in Herodotus, but not in Homer). In my view, another such case is |T Κρόνου πάϊς ἀγκυλομήτεω (see chapter 7).

[646] In Hesiod, ἀλλότριος qualifies belongings or possessions, and ἀλλοδαπός is not used.

Finally, let me draw attention to the present participle forms of πλέω 'to sail, go by sea' (πλέων, πλέουσα), which were not discussed by Wathelet. They are used in the following instances:

- πλέων ἐπὶ οἶνοπα πόντον |T (*Od*. 1.183)
- |T πλέων ἐπὶ οἶνοπα πόντον (*Il*. 7.88, *Od*. 4.474)
- Ἑλλήσποντον |T ἐπ' ἰχθυόεντα πλεούσας (*Il*. 9.360)
- |T παρ' Αἰήταο πλέουσα (*Od*. 12.70).

In my view, the starting point may have been the first hemistich πλέων ἐπὶ οἶνοπα πόντον |T, which only scans if -εω- is read with synizesis. This implies that |T πλέων ἐπὶ οἶνοπα πόντον, as well as the other two instances, can be read with synizesis as well.[647] Similarly, it cannot be excluded that the toponym Κλέωναι (only *Il*. 2.570) derives from earlier *Κλήωναι. In that case, it would be an instance of regular synizesis, not of *McL* scansion.[648]

In conclusion, Haug's criticism of Wathelet's argument is justified in the above instances: it is generally difficult to prove or disprove the antiquity of a particular verse or formula.[649] But since forms like ἀλλότριος, ἀλλόθροος (and a few others discussed by Wathelet) *may* be analyzed as recent introductions into Epic Greek, as I have argued in the present section, there is no reason to doubt the possibility of explaining the remaining structural instances of *McL* scansion from the presence of *$\mathring{r}$ in their pre-forms.

6.5 The avoidance of *McL* scansion in Epic Greek

The number of incidental applications of the licence in Wathelet's group 3 (as opposed to the cases due to *$\mathring{r}$) is not very large. The licence is more frequent in the *Odyssey* than in the *Iliad*, and it becomes even more frequent in Hesiod and the hymns.[650] On the other hand, the licence is avoided with great precision in Lesbian poetry, as well as in Eastern Ionic poets like Archilochus. These facts by themselves show that the licence gradually became more acceptable within Early Greek Epic, and that this process started not too long before the completion of the *Iliad*.[651]

There is another reason to distinguish two different types of *McL* scansion. There are numerous traces of the structural avoidance of *McL* scansion in certain categories of words in Epic Greek. This point seems to have been neglected in previous discussions of the phenomenon. I propose to replace Wathelet's distinction between recent and old instances of *McL* scansion, and to speak henceforth of *incidental* applications of the *McL licence*, as opposed to *structural McL scansions* of certain lexemes.

Let us first of all consider the pair γλυκύς : γλυκερός.[652] Here, γλυκερός is analogical beside γλυκύς on the model of κρατύς : κρατερός, where the formation in -ερός is frequent and inherited. The *u*-stem adjective γλυκύς is only found in the Ns. and As. msc. and ntr.

[647] Notice, however, that an Ionic contraction of -εω- / -εου- to -ευ- is unlikely, because Herodotus simply attests πλέων, πλέουσα and does not have a contracted form. As an alternative, the irregular scansion of πλέουσα may have been influenced by that of θέω, which also takes ships as its subject: cf. νηῦς … θέουσα |T (*Od*. 15.294), |T θεούσης νηὸς (*Od*. 3.281), ἣ δ' ἔθεεν κατὰ κῦμα (*Il*. 1.483, *Od*. 2.429, 14.299).

[648] Haug (2002: 66) rightly criticizes Wathelet's argumentation concerning Κλέωναι.

[649] E.g. "… une vue d'esprit, sans fondation ni argumentation", "Parfois, l'argumentation est manifestement circulaire.", etc. (Haug, l.c.)

[650] See Wathelet (1966: 148 with n. 1).

[651] It is possible that this increased productivity was helped by a real linguistic change in syllabification, but this is ultimately hard to prove. The *McL* licence certainly did not originate from a change in syllabification.

[652] For -αλέος, see section 4.2.2. It is possible that the feminine was supplied from an etymologically distinct stem in some Homeric adjectival paradigms: cf. πλατύς, fem. εὐρεῖα (both 'wide, broad'), which may replace unmetrical *πλατεῖα.

(total 22x). On the other hand, γλυκερός (total 20x) supplies not only the feminine γλυκερή (4x), but is also found in other case forms, including those where forms of γλυκύς are found. Thus, the distribution of attestations shows that γλυκύς is unproductive, whereas γλυκερός is productive. The replacement was characteristic for Early Greek poetry, because the paradigm in Classical Attic is simply γλυκύς, ntr. γλυκύ, fem. γλυκεῖα. The occurrences of γλυκερός in other genres of poetry can be interpreted as epicisms.[653] The rationale behind this distribution is obviously metrical: the feminine γλυκεῖα could not be used in the epic hexameter. This example shows that *McL* scansion was apparently not a ready-made option for epic poets: they preferred to create an artificial, metrically convenient adjective γλυκερός.[654]

A second and much more important example is the behavior of the preverb προ-, which leads to remarkable adaptations in the inflection of the following verbal root. In this sense, the metrical behavior of προ- is diametrically opposed to that of προσ-, which admits of *McL* scansion on a regular basis. In three instances with προ-, Homer attests an artificial perfect with presentic meaning:

- The present stem προβαινε/ο- is unattested in Homer, and we only find forms of the perfect stem προβέβηκα, προβεβήκει, and also the pres. ptc. προβιβάς, which may be an archaism in view of Ved. *jígāti* 'steps, strides' < *$g^{w}i$-$g^{w}eh_2$-*ti*. Otherwise, the present βαίνω is frequent in Homer, where it prefers verse-final position. A similar artificial formation is ἀμφιβέβηκα, which replaces unmetrical ἀμφιβαίνω.
- The perfect προβέβουλα 'I prefer' (only *Il*. 1.113) must be an artifical replacement of προβούλομαι, which is unmetrical and therefore unattested in Homer. In the preceding line, we find the simplex βούλομαι.[655]
- The middle perfect προπέφανται (only *Il*. 14.332) was created in order to avoid the metrical problems that would have arisen in προφαίνεται (unattested in Homer).

In all three cases, the perfect has presentic meaning, and the forms προβέβουλα and προπέφανται are clearly artificial. The present stems προβαινε/ο-, προβουλε/ο-, and προφαινε/ο- were avoided for metrical reasons. This picture is confirmed if we consider all other instances of προ- as a preverb. For instance, the thematic aorist stem προβαλε/ο- 'to throw forth, surpass' is attested 8x (with one exception only verse-final), whereas the present προβαλλε/ο- is not attested at all. The adjective πρόπας occurs 10x in the formulaic colon πρόπαν ἦμαρ 'all day long', which preserves the original short-vowel neuter form *πάν (replaced by πᾶν, analogical after πᾶς, already in Homer), and beside that only once in $|_{H}$ νῆας τε προπάσας 'all the ships' (*Il*. 2.493). The latter instance must be a nonce formation, in view of its deviant semantics.[656] The archaic neuter πρόπαν with short -ᾰ- was the only form of the adjectival stem προπαντ- that could be used at all in the hexameter, and therefore the only form to be preserved. Apart from νῆας τε προπάσας, the only evidence for προ- in front of a heavy root syllable consists of $|_{T}$ προθυμίῃσι (*Il*. 2.588, again in the catalogue of ships!), which displays a secondary type of metrical lengthening, and $|_{T}$ προκείμενα, which occurs in a repeated formulaic verse (14x) to be discussed in chapter 7.

[653] γλυκερός is attested a number of times in lyrical poetry, but it is limited to dactylic or anapestic metres. The form can therefore be ascribed to epic influence.

[654] For κρατερός (and the adjectives in -ερός generally), see chapter 5, specifically section 5.3.2.

[655] The only other attestation of προβέβουλα is in the verse θανατὸν δ' ὅ γε δουλοσύνας προβέβουλε (Ion fr. 53.4 Snell), where it may also be due to the avoidance of a cretic sequence.

[656] In the complete enumeration of the ships and their leaders at *Il*. 2.493, προπάσας is semantically equivalent to ἁπάσας or συμπάσας 'all together'. Both alternative forms are metrically unfit in this slot. The *LfgrE* (s.v. πρόπας) translates πρόπαν ἦμαρ as 'den ganzen Tag', and speaks of a "Verstärkung von πᾶς wie ἅπας und σύμπας". But in my view, προ- in πρόπαν ἦμαρ 'all day long' preserves a more original temporal meaning.

As a third category, consider the subjunctive, 3p. indicative present, and active participle forms of verbs like τρέμω, τρέπω. These are formed more than once from the corresponding denominative verbs of the type τρομέω, τροπέω,[657] formations which were treated as semantic equivalents of thematic root presents in Epic Greek, and mainly occur with roots of the structure *CLeC*- (see Tucker 1990: 140ff.). For instance:

- βρομέωσι (*Il*. 16.642) occurs beside βρέμω (βρέμει 1x prevocalic, βρέμεται 2x)
- ἐτρόμεον (*Il*. 7.151), τρομέοντο (*Il*. 10.10), τρομέουσι (*Il*. 15.627 and 17.203, *Od*. 20.215) beside τρέμω[658]
- περιτροπέων (*Il*. 2.295), τρόπεον (*Il*. 18.224), παρατροπέων (*Od*. 4.465), περιτροπέοντες (*Od*. 9.465).

Again, the poets found a structural way to avoid metrically awkward forms like $^{++}$τρέμουσι, $^{++}$τρέπων, and so forth. The productivity of this process is proven by the semantically atypical use of τρόπεον as an equivalent for $^{++}$τρέπον at *Il*. 18.224.[659]

Fourth, the absence of certain paradigmatic forms in thematic and intransitive aorists is noteworthy. Active aorist stems of the type *CraC-e/o*- (e.g. ἔδρακον, ἔτραπον) do not attest any participle forms in -ών-, -όντ-, nor any subjunctive forms.[660] This distribution requires an explanation, which will be provided in chapter 8. A second example is the intransitive aorist of βλάπτω 'to hinder, drive off course'. Whereas the normal vernacular form is ἐβλάβην, Homer uses only the form in -θη- (ἐβλάφθην), with the exception of the 3p. ἔβλαβεν (*Il*. 23.461), βλάβεν (*Il*. 23.545). Another similar case is the regular vernacular form ἐτράφην 'was raised, grew up' (τρέφω), which in Homer is only found in the 3s. and 3p. ind. τράφη, τράφεν before a vowel.[661] Paradigmatic forms which were metrically problematic were replaced by the thematic aorist ἔτραφον, which must be an artificial formation (see chapter 8).

Finally, one single lexical item deserves special attention. As we have seen in chapter 5, Homer avoids the vernacular form κράτιστος, which would not scan, and instead uses the (artificially created) analogical form κάρτιστος. However, *McL* scansion was not considered problematic in the etymologically related adjective κραταιός. Why was κραταιός tolerated as an exception to the general avoidance of *McL* scansion, and why did κράτιστος belong to the group of inadmissible forms? The reconstruction of κράτιστος as an analogical replacement of **krétisto*- (with a full grade, see section 4.1.3) is a compelling reason to assume a direct historical relation between the scansion of κραταιός and the presence of **r̥* in its pre-form. In other words, κράτιστος was traditionally excluded from the *McL* treatment because its pre-

[657] Most of the verbs of this Greek type can be analyzed as denominatives to thematic φορός-type nouns, see Tucker (1990, especially 152ff.). There are only very few traces in Greek of inherited causative-iterative verbs of the formation **CoC-eie*-: possible instances are τροπέω 'to turn around' (see next footnote), ποθέω 'to long for' and (ϝ)οχέομαι 'to be driven'. The origin of δοκέω 'to seem' is unclear; it might ultimately continue an inherited perfect **doḱ-e*.

[658] An isolated application of the *McL* licence is found in |$_{T}$ τρέμον θ' ὑπὸ γυῖα ἑκάστου (*Od*. 11.527).

[659] There is no clear difference in meaning between τρέμω and τρομέω or βρέμω and βρομέω (Tucker 1990: 142ff.). On the other hand, there is a difference between τρέπω 'to turn towards, direct' and most instances of τροπέω, which means 'to turn around' and is used as a frequentative (cf. *LfgrE* s.v. τροπέω). This is consistent with the meaning of *to-ro-qe-jo-me-no* 'making tours (of inspection)' in Mycenaean. However, at least at *Il*. 18.224, τροπέω used as an equivalent of τρέπω (Tucker 1990: 141).

[660] The only exception to this rule are certain middle aorist forms of τρέπω (τράποντο, τραπέσθαι, etc.), which occur 7x in verse-final position, and can be analyzed as archaisms (see section 6.7.9).

[661] I do not count ἐτράφημεν (*Il*. 23.84) in view of the various alternative readings of the context, see the discussion in chapter 8.

form never contained *$\mathring{r}$, whereas the scansion of κραταιός is historically related to the fact that its pre-form did contain *$\mathring{r}$.[662]

Without a doubt, this list of structural avoidances can be extended.[663] In many of the above cases, the avoidance of *McL* scansion has led to the creation of artificial forms (perfects like προβέβουλα, προπέφανται, the adjective γλυκερός, the thematic aorist ἔτραφον) or helped the preservation of archaic formations (pres. ptc. προβιβάς, the neuter πρόπαν with short ă). On this basis alone, we have to conclude that *McL* scansion was entirely inadmissible in a not-too-distant pre-stage of the epic tradition, until it arose in a few isolated lexemes with -ρα- and -ρο-.

Thus, there appears to be a distribution between a small group of lexical items which regularly allow *McL* scansion, and a much larger group of lexical items where the licence was strictly avoided. Since most items in the first group derive from a pre-form with *$\mathring{r}$, the only conceivable explanation seems to be that the *McL* licence historically originated in such forms. The avoidance of κράτιστος as opposed to the acceptability of κραταιός confirms this conclusion. The structural artificial replacements of metrically awkward forms prove that epic poets concisely avoided *McL* scansions for many generations.

The inclusion of ἀλλόθροος and ἀλλότριος in the group of words with regular *McL* scansion was probably of recent date; it may even be thought that the poet of the *Odyssey* was responsible for the productive use of these two forms. The possibility of an *incidental* use of the *McL* licence, of which Homer already makes use, may or may not be related to an underlying phonetic change in syllabification, but this is not of our direct concern here. We have proven that there is a clear distinction between incidental and structural cases of *McL* scansion, and that the emergence of the latter group must be related to the erstwhile presence of *$\mathring{r}$ in the respective pre-forms.

6.6 Epic *$\mathring{r}$: -ρα- is the regular reflex of artificially retained *$\mathring{r}$

I agree with Wathelet's main conclusion that the regular *McL* scansion of Homeric forms like δράκων and κραταιός is related to the presence of *$\mathring{r}$ in their pre-forms. But whether one agrees or disagrees with his use of the terms 'formulaic' or 'traditional expression', there remain other, more severe problems with his scenario. According to Wathelet, "les aèdes ont tenu à conserver des expressions traditionnelles, *tout en leur laissant suivre l'évolution de la langue*" (1966: 172, my emphasis). In other words, he thinks that formulaic expressions automatically underwent the phonological developments of the vernacular, and that forms with *McL* scansion came into being as a result of the change *$\mathring{r}$ > -ρα-. However, if the evidence for -αρ- as the regular phonological reflex of *$\mathring{r}$ in Proto-Ionic is taken seriously, the outcome -ρα- cannot be due to a normal Ionic development of *$\mathring{r}$. This applies not only to words with regular *McL* scansion, but also to other Homeric words with -ρα- < *$\mathring{r}$. In forms like δράκων, θρασειάων, κραδίη, τράπεζα, and τραπείομεν, it is impossible to explain -ρα- by analogical developments. In order to explain the distribution between prose forms with -αρ- and Homeric or poetic forms with -ρα- (section 6.1)[664], I propose that the development of *$\mathring{r}$ in Epic Greek was different from that in spoken Ionic, in the following way:

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[662] A second possible example is δράκων 'snake', where *McL* scansion is regularly applied, as against the absence of forms of the thematic aorist ἔδρακον (δρακών, etc.) which would require the use of *McL* scansion. The application of the licence in δράκων was acceptable because its pre-form was *$d\mathring{r}k\bar{o}n$. Participle forms like δρακών also had a pre-form with *$\mathring{r}$, but their metrical behavior must be explained in a different way (see chapter 8).

[663] Cf. e.g. Chantraine (1942: 112) on the introduction of a nasal in the θη-aorist of verbs like κλίνω, κρίνω. Another case is the avoidance of the Gp. in -ων when the preceding syllable had the structure *CCV̆C-*, in which case Homer may use the artificial thematic ending -οφι(ν).

[664] This holds for τέταρτος ~ τέτρατος, καρδίη ~ κραδίη, καρτερός ~ κραταιός, ταρπῶμεν ~ τραπείομεν. As we will see in section 7.2.4, another instance is Epic ἤμβροτον versus Classical ἥμαρτον.

1. When spoken Proto-Ionic underwent the sound change *$\underset{\circ}{r}$ > -αρ-, Epic Greek preserved *$\underset{\circ}{r}$.
2. At a later stage, Epic Greek underwent its own conditioned sound change: *$\underset{\circ}{r}$ > -ρα-, but > -ρο- after a labial consonant.

Henceforth, I will refer to this *$\underset{\circ}{r}$ which developed to -ρα- and -ρο- in Homeric Greek as "Epic *$\underset{\circ}{r}$".

The possibility that *$\underset{\circ}{r}$ was retained longer in Epic Greek is mentioned by Haug, but only to be immediately rejected.[665] The objection could be made more precise, in the following way. The language of Epic Greek is commonly viewed as a composite, consisting of the vernacular of a poet plus a large number of traditional, dialectal, and artificial forms. It is usually taken for granted that sound changes applied in Epic Greek just like they did in the vernacular, unless there was a compelling metrical reason to retain an older form. This is reflected in the principle formulated by Milman Parry: "as the spoken language changes, the traditional diction of an oral poetry likewise changes, so long as there is no need of giving up any of the formulas".[666] Indeed, the vocalization of *$\underset{\circ}{r}$ would have altered the traditional metrical structure of the words and formulas which contained this sound. This would have formed a clear incentive for Epic poets to resist the introduction of some vernacular forms with -αρ-, e.g. the metrically awkward form καρδίη. However, Parry's principle does not explain why no traces of forms like $^{++}$δάρκων or $^{++}$τάρπεζα survived in Homer – that is, unless one is prepared to argue, with Wathelet, that their pre-forms were already "formulaic" in some sense of that word.[667]

The idea that Epic Greek always followed spoken Ionic in its phonological developments is certainly the default assumption, but I see no compelling reason to stick to Parry's principle. Instead, I assume that the reflexes of (at least a number of) vernacular sound changes penetrated into Epic Greek only by lexical diffusion. This new principle can be applied in a profitable way to other sound changes, such as the development of the labiovelars. As is well known, labiovelars developed into labial stops even before the front vowels *e, ē* in several Epic words, for instance:

- πέλω, πέλομαι 'to be, become' < *$k^{w}el$- (Ion.-Att. and Hom. τέλλομαι 'to turn around')
- βέλεα, βέλεμνα 'missiles' < *$g^{w}el$-*es*-, *$g^{w}ele$-*mn*- (Arc. εσ-δελλω, Ion. βάλλω)
- βέρεθρον 'abyss' < $g^{w}eret^{h}ro$- (Arc. ζέρεθρον, Att. βάραθρον)
- φήρ 'centaur', Φῆρες 'a mythical race' (Ion. θήρ, θήριον 'wild animal').[668]

[665] "Naturellement, on peut admettre que la langue épique a gardé le *r* voyelle plus longtemps que le vernaculaire, mais même dans une tradition très conservatrice, il semble peu probable que l'on ait gardé longtemps un phonème qui n'existait plus dans le vernaculaire" (2002: 63).

[666] Parry (1971: 331). This is, clearly, the source of Wathelet's formulation, "les aèdes ont tenu à conserver des expressions traditionnelles, tout en leur laissant suivre l'évolution de la langue".

[667] The problems with Parry's conception of the formula and with his views on the formulaic nature of Epic Greek are well-known, and need not be discussed in extension here. One could rephrase Parry's final clause less strictly, as follows: "… unless this would damage the metrical structure of words and traditional syntagms". But even if we were to apply this modified principle to the change Epic *$\underset{\circ}{r}$ > -ρα-, it would be hard to understand why the ensuing *McL* scansions did not "necessitate poets to give up their formulas". In other words, the application of Parry's principle to Epic *$\underset{\circ}{r}$ > -ρα- presupposes that the *McL* licence was already acceptable when the change was phonologized. That assumption, however, seems to be contradicted by the distinction between incidental and structural *McL* scansions discussed above. This is another reason to doubt the adequacy of Parry's formulation of his principle, "as the spoken language changes, the traditional diction of an oral poetry likewise changes (…)".

[668] Other instances are ὀβελός 'spit' (Att. ὀβολός 'a monetary unit'), πέλωρ 'monstrum' (Hsch. τέλωρ), ἔννεπε 'told' and (in front of *i*) πίσυρες (unattested, in this form, in any Greek dialect). Attested in Sappho and/or

Scholars who assume an Aeolic phase naturally derive these words from some Aeolic vernacular (e.g. Wathelet 1970). Those who do not accept an Aeolic phase (e.g. Miller 1982) explain some of them as borrowings (the Φῆρες are associated with Thessaly), and explain other cases by analogical leveling (e.g. πέλομαι after the aorist ἔπλετο, βέλος after βάλλω).

As we will see in section 11.4, it follows from the present scenario for the vocalization of **r̥* that an Aeolic phase has to be excluded altogether. While the analogical explanations or borrowings assumed by antagonists of an Aeolic phase cannot be excluded, an alternative and more attractive explanation of the forms with a labial reflex is now within reach. Epic Greek may have retained unpalatalized labiovelars in the position before *e* and *ē* when the labiovelars underwent palatalization in the Ionic vernacular. At a second stage, the retained Epic labiovelars may have generally developed into labial stops, perhaps as part of the elimination of the remaining labiovelars in the vernacular, but possibly indepedently.

In all four cases listed above, there would have been a clear rationale for not introducing the vernacular form. In the meaning 'to become, be', the ancestor of πέλομαι had been lost in the vernacular, which uses only γίγνομαι or εἰμί. On the other hand, the fact that the *yod*-present τέλλομαι is attested in the Ionic vernacular explains why this form replaced a putative *πέλλομαι in Homer. The words βέλεα, βέλεμνα, βέρεθρον are all absent from the Ionic vernacular. Finally, φήρ 'centaur' may have escaped replacement with θήρ 'wild animal' (also attested in Homer) because of its specialized lexical meaning.[669]

If we apply this scenario to the vocalization **r̥* > -αρ- in Proto-Ionic, it follows that all traditional epic words with **r̥* were retained at the time of vocalization, unless they were replaced by vocalized forms from the vernacular. Examples of introduced vernacular forms are ταρφέες, καρτερός, ταρπῆναι and, with leveled root vocalism, κρατύς, βραχύς, ἔδραμον. On the other hand, forms like **dr̥kōn*, **tr̥pedi̯a*, and **kr̥tai(w)os* escaped replacement.

There are two principal reasons why forms with Epic **r̥* were not replaced. In some instances, the form was absent from the Proto-Ionic vernacular (compare the instances of a non-palatalized labiovelar reflex above). I argue that this was the case in forms like **dr̥kōn*, **tr̥pedi̯a*, **kr̥tai(w)os*.[670] Secondly, the form with Epic **r̥* may have been retained for metrical reasons because it occurred in a formula, as in the case of τραπείομεν. Thirdly, the vernacular form may have been metrically inconvenient by its own means. For instance, καρδίη could only be used in the Ns. and Ds. in front of a vowel. Thus, Epic **r̥* was retained not only in words which were later to acquire *McL* scansion, but also in words which had an unproblematic scansion after the later Epic vocalization to -ρα- or -ρο-.[671]

We now have to ask how an inner-Epic sound change should be conceived of, and whether it is possible to point out parallel cases. As a language which was recited and pronounced, Epic Greek was also subject to changes in pronunciation, even if it was more conservative than the Ionic vernacular. A sound like Epic **r̥*, which had been eliminated from all Greek vernaculars prior to its vocalization in Epic Greek, was especially liable to such changes. Like all normal sound changes, the Epic development may have started as a slight articulatory change, during recitations, as a result of which the automatic anaptyctic [ə] tended to grow after the liquid. This phonetic change was phonologized when [rə] merged with the already-existing sequences /ra/ and /ro/:

Alcaeus are πέλομαι (4x), ἔννεπε (4x), βέλος (2x), and φῆρ (1x), but all these forms are generally attested in Epic (and archaic) poetry.

669 I am confident that this new principle (that certain vernacular sound changes did not operate in Epic Greek) can also be fruitfully applied to sound changes such as **ā* > *ē*, prevocalic shortening, quantitative metathesis, and the loss of initial digamma. But to elaborate the details would probably require another monograph.

670 The thematic contexts in which these words occur may motivate their absence from the vernacular: e.g. heroic exploits (δράκων), banqueting scenes or rituals of hospitality (τράπεζα), and war narrative (στρατός).

671 Instances with -ρα- are κραδίη and στρατός.

	Epic recitation	**Ionic-Attic vernacular**
Early Mycenaean period:	*r̥*	*r̥*
appr. 12th c. BC:	*r̥*	*ar*, analogical *ra*
appr. 800 BC:	*ra*, *ro*	*ar*, *ra*

A parallel situation is found in Indic, where Vedic *r̥* was traditionally pronounced as [rɪ], while the outcome of **r̥* in Middle Indic dialects was different.[672] This shows that *r̥* was initially retained, probably for metrical reasons, in the recitation of Vedic after this sound had been eliminated from the Indo-Aryan vernaculars, and that it was subject to a change in pronunciation later in the Old Indo-Aryan (OIA) period.[673]

	Sanskrit recitation	**Indo-Aryan vernacular**
Vedic period:	*r̥*	*r̥*
Post-Vedic OIA I:	*r̥*	**ər*
II:	*ri*	**ər*
Middle Indic	*ri*	Pali *a*, *i*, etc.

As a consequence of the vocalization of Epic **r̥*, *McL* scansion came into being in a number of Epic Greek lexemes. This scansion was synchronically aberrant at that time, but the poets apparently chose to retain the lexemes in question, probably because they were indispensable traditional elements (think of frequent forms like τράπεζα and βροτοῖσι). As we will see on various occasions, the ensuing *McL* scansions were still avoided as far as possible. For instance, there are no traces of *McL* scansion in the active thematic aorists of the type ἔδρακον, and hardly any traces in case forms of βροτός and ἄμβροτος that could be used without the licence. In other words, the increasing productivity of the *McL* licence in Epic Greek is a relatively recent phenomenon.

Let us now delimit the corpus to be treated in the following sections. The treatment of forms with -ρο- < **r̥* will be postponed to chapter 7, because the problems involved will be easier to address once we have clarified the scenario for the Homeric reflex -ρα-. The following forms with -ρα- will be treated here:

- Wathelet's cases of *abrègements anciens*: δράκων, κράνεια, κραταιός, τράπεζα, and τραπέσθαι.
- Homeric forms with -ρα- with a definite indication for a pre-form with **r̥*: θρασειάων (fem. Gp. of θρασύς), the compounds κραταιγύαλος and κραταίπεδος, τραπείομεν (1p. aor. subj. of τέρπομαι), κραδίη, τέτρατος, στρατός.
- Homeric forms with -ρα- which undergo *McL* scansion, no matter whether they occur after the trochaeic caesura or elsewhere: βραχίων 'upper arm', κραδαίνω 'to brandish', κρατευταί 'supports of the barbecue'.

The thematic aorists of the type ἔδρακον, ἔπραθον are treated in chapter 8, and the forms in ἀνδρα- are treated together with those in ἀνδρο- in chapter 7.[674]

[672] As established by Berger (1955), the reflex of Skt. *r̥* in Pali and other Middle Indic dialects is normally *a*, but *i* is also found, mostly before a palatal consonant: see von Hinüber (1986: 78-9).
[673] "Im Prakrit tritt im Anlaut für *r̥* gelegentlich *ri* ein: skt. *r̥ṣi* > Ardhamāgadhī *risi* (…). Teilweise lässt sich dies durch die Aussprache des *r̥* als *ri* erklären, die lautgesetzlich ins Mittelindische übernommen wird." (von Hinüber 1986: 80). In other words, in the Old Indo-Aryan vernaculars, an anaptyctic vowel developed in front of the liquid, after which the syllable-final *r* was lost in Middle-Indic.
[674] The origin of -ρα- in κρατερός 'impetuous, violent' will also be explained in chapter 8.

The forms with *McL* scansion after the trochaeic caesura were left out of consideration by Wathelet (1966: 150-51), because they were not of direct relevance for his idea about the preservation of a metrical archaism. But within the present context, all these forms acquire primary importance as potential counterevidence to the Proto-Ionic vocalization to -αρ-. Our main task regarding these forms is, therefore, to check whether there is some definite indication that they directly continue a pre-form with **r̥*. Thus, the discussion of this corpus will be subdivided as follows. In section 6.7, the compelling evidence in favor of a special vocalization of Epic **r̥* to -ρα- will be discussed. In section 6.8, I will treat Homeric forms with -ρα- for which there is no unambiguous evidence for a pre-form with **r̥*. In section 6.9, a few isolated occurrences of -ρα- are analyzed as nonce formations.

6.7 The evidence for -ρα- from Epic **r̥*

I will start with forms which exclusively occur in Epic Greek, or which are typically poetic and absent from spoken Ionic-Attic: δράκων, κραδίη, κραταιός, compounds with κραται-, κραταιΐς, τέτρατος, and τραπείομεν. The discussion of these examples for -ρα- as a reflex of Epic **r̥* is accompanied by an analysis of their metrical behavior in Homer. After that, I will turn to forms with -ρα- which are also well-attested in Classical prose authors: τράπεζα, στρατός. In these two cases, arguments in favor of a borrowing from Epic Greek will be provided. Finally, -ρα- is found both in Homer and in the Ionic-Attic vernacular in τραπέσθαι and θρασύς.

6.7.1 δράκων

In view of the structure of its stem, the application of *McL* scansion could not be avoided in δράκων 'snake, dragon'. It is widely accepted that δράκων is based on an inherited PIE root noun **dr̥ḱ-*, as attested in Ved. *dr̥ś-* 'aspect' and also preserved in the Homeric adverb ὑπόδρα '(looking) sternly' (on which see chapter 9). In the prehistory of Greek, the stem **dr̥k-* was extended with the suffix -ων, -οντ-, which might be identical with the suffix of γέρων 'old man', κρείων 'ruler', and μέδων 'id.'.[675]

The word is attested 9x in Homer, has no fixed position in the line, and does not occur in ostensibly formulaic material. This does not mean that δράκων is not a traditional Epic word. The absence of a reflex *δάρκων can be understood, but only if a lexeme PGr. **dr̥kont-* was absent from Proto-Ionic, and limited to Epic Greek from an early date. Moreover, as far as the thematics of traditional poetry are concerned, δράκων is a typical Epic word. Originally, it may have been an epithet of ὄφις 'snake', as in ὄφιος κρατεροῖο δράκοντος (Hes. *Th*. 322, δεινοῖο 825).

Unlike the substantive δράκων, forms of the aorist ἔδρακον which would require *McL* scansion in order to be used at all (e.g. aor. ptc. δρακών) are completely absent from Homer. This structural difference shows, from a different angle, that the application of the *McL* licence in the substantive δράκων was not due to metrical necessity, but to the preservation of its older metrical structure. A closer examination of the thematic aorists of the type ἔδρακον can be found in chapter 8.

6.7.2 κραδίη

As we have seen in section 6.1, the metrical behavior of κραδίη in Homer strongly suggests that the form retained **r̥* until not too long before Homer. Within the present framework, the Homeric form can simply be viewed as the regular, inner-Epic outcome of **kr̥diā-*. This form

[675] Examples are listed Risch (1974: 27), but he does not comment on the semantics of the *nt*-formations. Beekes (1985: 75) discards the interpretation as an extended root noun without further arguments, and states that δράκων is a substantivized aorist ptc. with retracted accent. Although this cannot be definitively excluded, it seems more likely to me that the suffix -οντ- derives from PIE individualizing **-nt-*.

was retained in Epic Greek because the introduction of the vernacular form would have created metrical problems: καρδίη could only be used before a following vowel, and only in the Ns. and Ds. Even so, the vernacular form καρδίη was introduced in Epic Greek (both as a simplex and in the compound θρασυκάρδιος), but only on a sporadic basis. This explains the origin of the doublet κραδίη ~ καρδίη.

6.7.3 κραταιός, κραταιΐ̃ς, Κράταιϊς, κραται-

These forms and the presence of **r̥* in their pre-forms have been extensively discussed in chapter 5. Let me summarize the most important facts concerning their attestations. Both the substantive κραταιΐ̃ς and the name Κράταιϊς are hapaxes in Homer.[676] The adjective κραταιός is Homeric (13x) and remains confined to poetry until the end of the Classical period. With the exception of one instance of κραταιοῦ after |T (*Il*. 11.119), these three forms are used only in verse-final position. The first member |T κραται- is the compounding allomorph of the inherited *ró*-adjective καρτερός (section 5.2.10). The expected outcome of the PIE allomorph **kr̥th₁-i-* > **kr̥ti-* was replaced by the productive allomorph κρατερο- ~ καρτερο- whenever this was possible, but it was retained when the second member had a light initial syllable that started with a single consonant, as in κραταίπεδος and κραταιγύαλος.[677] This **kr̥ti-* underwent a metrical lengthening to **kr̥tī-* and was then replaced by κραται-, perhaps under the influence of κραταιός. Poetic compounds with κραται- after Homer may be due to Epic influence, just like the post-Homeric personal names with Κραται-.

Thus, we may reconstruct the Epic pre-forms as **kr̥tai-* and **kr̥taiwó-*, whence **kr̥taiw-íd-*. The vocalization -ρα- in all these forms can now be explained as the regular outcome of Epic **r̥*. This confirms our analysis of -αρ- as the regular vernacular reflex of **r̥* in καρτερός and κάρτα.

It is noteworthy, finally, that a neuter plural καρταιποδα is attested in Cretan in the meaning 'cattle'. In Pindar, the adjective καρταίποδ- 'with violent feet' qualifies a bull. Since -αρ- is the regular vocalization in Cretan and since that dialect does have instances of CραC from different origins (e.g. γραφ-, τραπ-, see section 3.2), καρταιποδα must have participated in the sound change **r̥* > -αρ- in the Cretan vernacular.[678] The word is clearly an epithet in origin, as it is in Pindar, and its -αι- can only be understood as the reflex of metrical lengthening in Epic Greek. Therefore, it must have been borrowed from some Epic tradition before the vocalization of Epic **r̥* to -ρα-. In other words, Cretan καρταιποδα is indirect evidence for an intermediate stage **kr̥tai-* in some variety of pre-Homeric Epic poetry. It would be tempting to think of a Mycenaean Epic tradition.

6.7.4 τέτρατος

In section 2.6, it was remarked that τέτρατος is all but limited to Epic Greek, whereas τέταρτος is the only form attested in Classical prose, both Ionic and Attic. Since τέταρτος cannot be the result of an analogy, it must be the regular vernacular outcome of **k^{w}etr̥to-*. It was then asked whether τέτρατος may have arisen within Epic Greek by analogy with other

[676] Beside its Homeric attestation, Κράταιϊς is mentioned only in A. R. 4.829 as another name of Scylla's mother, who is there called Hekate.

[677] Moreover, in the Homeric *Vitae*, κραταίποδες occurs once as a qualification of ἡμίονοι 'mules'. Compounds with κρατι- or καρτι- (the expected outcome of **kr̥ti-* in Epic and spoken Ionic, respectively) are absent from Epic Greek because they had already been replaced by compounds with κρατερο- or καρτερο-. The outcome $^{++}$κρατι- ~ καρτι- may have been preserved in proper names with Κρατι- and Καρτι- (attested in the 5th c. and later). Again, it is possible (but ultimately hard to prove, in view of the pattern of attestations) that Κρατι- is the Epic reflex of **kr̥ti-* in front of a single consonant plus a heavy syllable, and that Καρτι- is analogical after e.g. κρατερός : καρτερός.

[678] As concerns the vocalization of **r̥*, nothing can be based on Pindar's καρταίποδ- (*Ol*. 13.81): in contrast with Homer, it is hard to exclude that Pindar substituted αρ for ρα for metrical purposes.

ordinals. To assume a secondary extension of -ατος from δέκατος, as happened in τρίτατος and similar Epic forms, would be unmotivated: unlike in the case of τρίτος, there was no inherent metrical problem with the feminine forms of τέταρτος.

Considering the pattern of attestations of τέτρατος in Homer, it appears that this variant only appears in the NAs. ntr. τέτρατον (7x), with the single exception of the Ns. msc. τέτρατος (*Il*. 23.615). By contrast, τέταρτος (14x) is used in various different case forms, and is clearly the productive form. These distributions are compatible with an older metrical lengthening, which allowed poets to use the ordinal in front of a vowel-initial word, as in **k^{w}ētr̥ton āmar* > τέτρατον ἦμαρ.[679] There are then two ways to proceed. On the one hand, it is possible that **k^{w}ētr̥to-* was analogically reshaped to **k^{w}etrato-* beside the compositional form τετρα-, on the model of τρι- : τρίτος. On the other hand, τέτρατος may contain the regular outcome of Epic **r̥*; after the first syllable had been closed by the vocalization of Epic **r̥*, the then-unnecessary metrical lengthening could be cancelled.

6.7.5 τραπείομεν

The form τραπείομεν only occurs in the formulaic hemistich |$_{T}$ τραπείομεν εὐνηθέντε (2x *Il*., 1x *Od*.) "let us go to bed and satisfy ourselves". It derives from an earlier 1p. aor. subj. **tr̥pēomen*. The root shape τραπ- is not attested in any other form of the paradigm of τέρπομαι 'to enjoy oneself'. Upon the traditional analysis, τραπείομεν contains the regular and unrestored Ionic reflex -ρα- of **r̥*, whereas the outcome -αρ- in the normal Homeric and Classical Greek form ταρπῆναι is due to a restoration on the model of the full grade τέρπομαι. But in view of the evidence for -αρ- as the regular outcome, this explanation has to be abandoned.

From a synchronic perspective, τραπείομεν is a monstrous form. Due to the possibility of confusion with the zero grade of τρέπω 'to turn', it would have been quickly replaced in a normal language situation, at least after the elimination of the labiovelars from Proto-Ionic.[680] It makes good sense, then, to relate the origin and preservation of τραπείομεν to its presence in a formula. Three indications suggest that the hemistich τραπείομεν εὐνηθέντε is quite old. First, the dual ending of the participle εὐνηθέντε was not productive anymore in Homer or synchronic Ionic. Secondly, τραπείομεν contains the metrically restored reflex of quantitative metathesis in the outcome **-eōmen* < **tr̥pēomen*. Finally, a formula $^{++}$|$_{P}$ ταρπείομεν εὐνηθέντε would also be metrically acceptable, and equally useful in epic verse composition.[681] We may conclude that after the vocalization of **r̥* in spoken Ionic, the introduction of the productive root shape ταρπ- into this concrete hemistich was apparently avoided.

This avoidance can be explained. In both its Iliadic attestations, the formula τραπείομεν εὐνηθέντε is preceded by the locative (ἐν) φιλότητι. As Latacz (1966: 185) shows, φιλότητι must have been part of the original formula, because it is a syntactic complement to εὐνηθέντε, with hyperbaton, the crucial point being that τέρπομαι normally governs the genitive.[682] This means that the introduction of the productive allomorph ταρπ- was excluded

[679] As I will argue in section 9.2.1, a similar metrical lengthening is also probable in the Dp. τέτρασι < **k^{w}etr̥si*.
[680] The root of τρέπω was probably **trek^{w}-*, cf. Myc. *to-ro-qe-jo-me-no* 'making tours'.
[681] A metrical alternative for |$_{T}$ τραπείομεν εὐνηθέντε was indeed created: the formula |$_{P}$ ταρπώμεθα κοιμηθέντες, which contains the artificial thematic aorist ταρπώμεθα. See chapter 8.
[682] Latacz compares ἐν φιλότητι λιλαίεαι εὐνηθῆναι (*Il*. 14.331) and ἐν φιλότητι παρήπαφεν εὐνηθῆναι (14.360), both of which refer to Hera and Zeus making love. It has been thought that confusion between τραπείομεν and the aorist τραπῆναι 'to turn' took place in one instance of the formula, λεκτρόνδε τραπείομεν εὐνηθέντε (*Od*. 8.292). On this account, the allative λεκτρόνδε would prove that the poet of the *Odyssey* took the words λεκτρόνδε τραπείομεν to mean "let us *turn* to bed". But as Latacz remarks, "wäre dem so, dann entstände an dieser Stelle die absurde Aufforderung ‚zum Lager wollen wir uns wenden, nachdem wir uns gelagert haben'."

for metrical reasons.[683] The formula *p^h*ilotāti tr̥pēomen eunāt^{h}ente* preserved an instance of Epic **r̥*, which was vocalized to -ρα-. A further discussion of this important example is given in chapter 11.

6.7.6 τράπεζα

On account of the comparison with Myc. *to-pe-za*, the pre-form of τράπεζα 'table' can be reconstructed as **tr̥pedi̯a*. Even if τράπεζα does not occur in formulae, the form is traditional in a different way.[684] With the exception of *Od*. 11.419, Homer uses τράπεζα (35x) only in verse-final position. It is true that trisyllables of the same structure have a strong preference for verse-final position in Homer. Even so, the rate of 97% obtained for τράπεζα is remarkably high in comparison with examples like θάλασσα (75%) and μέλαινα (85%).[685] In these figures, it should be taken into account that μέλαινα and θάλασσα frequently occur in verse-final formulae, whereas τράπεζα does not. This makes the percentage obtained for τράπεζα quite remarkable. It is attractive, then, to assume that Hom. τράπεζα contains the outcome of Epic **r̥*.

It remains to account for the absence of a reflex $^{++}$τάρπεζα in any form of Ionic-Attic. The above scenario requires that the pre-form **tr̥pedi̯a* was absent from the Proto-Ionic vernacular. However, τράπεζα is widely attested in classical Ionic-Attic, both in literary prose and in inscriptions. The only conceivable explanation of this fact is that τράπεζα is an epicism. But if the word refers to a commonplace domestic object, why would it be a borrowing? The answer may well be that a τράπεζα was not an everyday utensil at all: it is either a dining table at which guests are entertained on special occasions, or a table on which public offerings to the gods were deposited in temples. A third meaning, a money-changer's counter or a bank, must derive from the second use, since the oldest banks were located at temples (cf. *Der kleine Pauly*, s.v. Trapeza). In other words, the τράπεζα had a specific social and ritual function, and may well have denoted a traditional, ornamented object. For this reason, I see no reason to doubt the possibility that Class. τράπεζα was taken from the epic tradition.

(1966: 186). He argues that εὐνηθέντε is here the intransitive of a verb of movement εὐνάω 'lagern'. This makes it possible to compare the allative λεκτρόνδε with the locative φιλότητι in the original shape of the verse.
In *Od*. 4.294-5, the imperative 2p. τράπετε 'direct!' and the subj. 1p. ταρπώμεθα co-occur: ἀλλ' ἄγετ' εἰς εὐνὴν τράπεθ' ἥμεας, ὄφρα καὶ ἤδη ὕπνῳ ὕπο γλυκερῷ ταρπώμεθα κοιμηθέντες, "Come on then, direct us to bed, so that we may replenish ourselves with sweet sleep". This suggests that the poet of the *Odyssey* considered ταρπώμεθα κοιμηθέντες to be an equivalent of τραπείομεν εὐνηθέντε, and that he distinguished τραπε/ο- 'turn' from ταρπε/ο- 'become satisfied'.

[683] Even if φιλότητι was not originally part of the formula, the preservation of the metrical structure of an entire verse-half could have been a sufficient reason to artificially retain **r̥*.

[684] Wathelet (1966: 162-64) gives two reasons for subsuming τράπεζα among his "abrègements anciens": it occurs only in verse-final position, and is found in combination with words that are supposed to be of Achaean origin, as in ἠμὲν δέπα' ἠδὲ τραπέζας (*Od*. 15.466), where δέπας is to be compared with Myc. *di-pa*. Wathelet is clearly wrestling with the lack of clear formulaic attestations: "Dans les passages qui précèdent, on a pu constater que τράπεζα s'emploie surtout avec des mots qui ne reviennent pas ailleurs dans l'épopée, certains d'entre eux sont uniquement poétiques. De telles considérations tendent à faire penser que τράπεζα entre dans un système de formules anciennes." (1966: 163). This unfortunate formulation has been exploited by Haug in his criticism of Wathelet's argument: "Ici, donc, le caractère isolé d'une attestation est devenu un critère de formularité. Cela s'accorde mal avec les critères opérés dessus." (2002: 66).

[685] These figures have been taken from Bowie (1981). When commenting on the same tendency in Sappho and Alcaeus whenever their lines end in ˘ – x, he states: "it would be tempting, particularly in the case of trisyllabic words in ˘ – x, to look to Homer for the origin of this practice. In Homer and Hesiod, these trisyllables occur finally in 93% of cases, and some 38% of lines in those poets end with a trisyllabic word of this shape" (Bowie 1981: 44-45, referring to O'Neill 1942: 142). Perhaps, the different percentages of τράπεζα on the one hand and θάλασσα, μέλαινα on the other can be accounted for by the fact that θάλασσα and μέλαινα remained part of spoken Ionic all along, whereas τράπεζα was not part of the vernacular in Homer's time.

For this part of the argument, it does not matter whether **tr̥pedi̯a* was an archaism preserved in Ionic Epic, or whether it entered Epic Greek from some other dialect. Nevertheless, the non-vernacular origin of τράπεζα is quite understandable if we assume that the word and concept were borrowed from Mycenaean high culture. The poet of the *Odyssey* describes polished tables with a ceremonial use (e.g. παρὰ δὲ ξεστὴν ἐτάνυσσε τράπεζαν, 6x *Od*.). A number of other Homeric words for utensils used in ceremonial contexts (rituals of hospitality, feasting, bathing) are attested in the same form and/or meaning only in Mycenaean, but nowhere in alphabetic Greek. Compare the following lexical correspondences:

- *ta-ra-nu* ~ θρῆνυς 'footstool': on the continuity between Mycenaean and Homer, see Hajnal (1998: 14-15);
- *di-pa* ~ δέπας 'a drinking vessel', often used in rituals of libation: the word is used only by Homer and a few times in archaic poetry;
- *re-wo-to-ro-ko-wo* ~ λοετροχόος 'kind of tripod for pouring bath-water', used in bathing rituals;
- *to-no* ~ θρόνος '(ceremonial, ornamented) chair' (see section 7.3.4).

A commonly heard objection is that such vocabulary may consist of preserved lexical archaisms that were shared by Mycenaean and Ionic. It is true that differences between Proto-Ionic and Mycenaean were probably not very numerous. Even so, it is noteworthy that τράπεζαι occur in the context of dining rituals in the "palace" of Ithaka (e.g. *Od*. 1.111, 19.61, 20.151). In these rituals, the word occurs in combination with other words that have cognates in the Linear B tablets (such as δέπας, θρῆνυς, and θρόνος). This suggests that τράπεζα is an inheritance from the palatial period.

Another possible objection against an Achaean origin of τράπεζα would be that *to-pe-za* is normally interpreted as /torpedd^{y}a/. Within the scenario sketched above, however, all such chronological problems may be resolved if we follow Heubeck's idea that Myc. *to-pe-za* represents /tr̥pedd^{y}a/.[686] If, on the other hand, Heubeck's scenario is rejected, one is forced to conclude that τράπεζα has nothing to do with Myc. *to-pe-za*, apart from the fact that both derive from Proto-Greek **tr̥pedi̯a*.

6.7.7 στρατός

In view of its etymological isolation within Greek, Ionic-Attic στρατός is an important example for the vocalization of **r̥*. At first sight, it seems to furnish strong evidence for -ρα- as the regular outcome. However, in order to judge the relevance of στρατός, we first have to consider the dialectal attestations and their semantics.

From Homer onwards, στρατός is the normal word for 'army' in Ionic-Attic. The other word for 'army' in Homer is λαός (Att. λεώς, Eastern Ion. ληός), but this has a broader meaning: it denotes not only a body of warriors, but also the collective of men in the council,

[686] "In all the passages cited by Wathelet, a case-form of τράπεζα stands at the verse-end; the assumption that τράπεζα, at a very early period of epic poetry, was placed at this position by preference is attractive; if we suggest that τράπεζα has replaced an original **tr̥peza*, it seems less strange that τρ- in τράπεζα does not lengthen the preceding short word-end ἠδὲ τραπέζας (χ 438 etc.). To suppose an intermediate (Myc.) **torpeza* is to complicate the situation needlessly" (Heubeck 1972: 77-8). According to Wathelet's interpretation, the pre-form **tr̥pedi̯a* had regularly developed into τράπεζα in Ionic, and replaced an Aeolic form **τρόπεζα* in the artificial language of epic. This Aeolic **τρόπεζα* would have preserved the original scansion of a pre-Mycenaean pre-form **tr̥pedi̯a* which dates back to the mid-second millennium: "Il est certain que les aèdes ioniens ont donné aux mots qui existaient en ionien le vocalisme *a* tandis qu'ils conservaient le timbre *o* aux termes qui ne possédaient pas de parallèle dans leur dialecte" (1966: 162 n. 4). But since the regular Proto-Ionic outcome of **r̥* was -αρ-, this scenario cannot be correct.

or (in the *Odyssey*) the body of subjects under a ruler. In Classical Attic, λεώς retains traces of all these meanings (see *LSJ*, q.v.). On the other hand, from Homer onwards and throughout the classical language, στρατός only denotes the army or its camp – most notably the Achaean military expedition against Troy. Even if forms continuing **lāwó-* are not very frequent in Ionic and Attic, its broader range of meanings suggests that this was the normal generic term for 'band, clan' in Proto-Ionic. The word is also found in the Mycenaean title *ra-wa-ke-ta* /lāwāgetā-/ "leader of the **lāwó-*", the second-highest ranking person in the Achaean realm.

Correspondences of στρατός within Greek are found in the Aeolic and West Greek dialects. In Lesbian, στρότος 'army; host' (Sapph.) has the regular Aeolic vocalization to -ρο-, and the native Lesbian character of the word is confirmed by the title στροταγος as attested in inscriptions.[687] In Boeotian inscriptions, we find names in -στροτος, and also the verbal form εσστροτευαθη, which is an equivalent of Ionic (mid. pf.) ἐστρατεύαται 'they are on campaign'. In Cretan, the word is attested in the form σταρτος (*Lex Gortyn* etc.).[688]

If we consider the semantics of the dialectal forms, it appears that the North Greek form στρατός (σταρτος, στρότος) could denote not only an army or its camp, but more generally a band, clan or collective of men, the "people" in the same sense as Ionic-Attic λαός, ληός, λεώς. Pindar regularly uses στρατός in this sense, and it is attested in the Cretan simplex σταρτος.[689] There is another indication that Proto-North Greek **str̥tó-* and Proto-South Greek **lāwó-* had the same referent: the title Myc. *ra-wa-ke-ta* /lāwāgetā-/ "leader of the **lāwó-*" beside West Greek στραταγός "leader of the **str̥tó-*" (Doric dialects and Arcadian) and Lesbian στροταγος.[690] These titles may originally have denoted a military function, but often came to have a socio-political meaning. It seems plausible, then, that we are dealing with an old lexical isogloss between North Greek **str̥tó-* and South Greek **lāwó-*. Both denote the main social group which surpassed kinship relations, and both could refer to a body of men under arms.[691]

After these introductory remarks, let us now consider the problems involved in the etymology of στρατός. The formal variation between Homeric and West Greek -ρα-, Cretan -αρ-, and Aeolic -ρο- automatically leads to the reconstruction of a pre-form **str̥tó-*. Two PIE roots have to be distinguished:

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[687] The military meaning of στρότος is found in Sapph. fr. 16, but the socio-political meaning in Alc. fr. 382. In the Lesbian poets, λαός is attested only in Alc. fr. 356 (καὶ πλείστοισ' ἐάνασσε λάοισ'). In Pindar, both λαός and στρατός may denote any body of men (Slater: 'people, folk'), but only στρατός is found in the meaning 'army, expedition', which is an epicism.

[688] In my view, the interpretation of the Myc. PN *to-ti-ja* as /Stortiā/ or /Str̥tiā/ (cf. García Ramón 1985: 201ff.) is too uncertain to be of any value here.

[689] See Slater (q.v.), who distinguishes "a. *people, folk*" and "b. army, expedition". It is likely that the first meaning was traditional in the lyric tradition of which Pindar is part, and that the second is an epicism. In Cretan, the simplex σταρτος occurs only in *Lex Gortyn* V 5-6 and *IC* IV 80.7 (Gortyn); the latter inscription also has the compound σταρταγεταν (lines 4-5). Although the approximate meaning of σταρτος in Cretan seems clear, a more precise definition still has to be found ("La magistrature suprême est le cosmat, dont les membres sont choisis parmi les σταρτοι, au sens précis encore mystérieux", Bile 1988: 338). In Willetts' view (1967: 10), the σταρτοι may have denoted either political divisions or kinship groups. For present purposes, it is relevant that the Cretan σταρτοι are groups of adult men that are not primarily bands of warriors. This is also confirmed by the gloss στάρτοι· αἱ τάξεις τοῦ πλήθους "divisions of the people" (Hsch.).

[690] The Cretan form is σταρταγετας (*IC* IV 80.7, lines 4-5). On the surface, this looks like an Achaean form in *-āgetās*, where the first member **lāw(o)-* has been replaced with the synchronic Cretan term. In view of the reflex -ρα-, Arcadian στραταγος was probably borrowed from neighboring Doric dialects.

[691] Greek does not have a continuant of the PIE word **korio-* 'war band'; it only preserves the title κοίρανος 'army leader'. It is attractive to assume that both NGr. **str̥tó-* and SGr. **lāwó-* filled the semantic slot 'war band' in the respective dialects, at least at some point in their pre-history. On account of the widely accepted connection between PGr. **lāwó-* and Hittite *lāḫḫ(a)-* 'military campaign, journey' (cf. e.g. Kloekhorst, *EDHIL* s.v. *lāḫḫ(a)-*), it seems possible that **lāwó-* originally denoted a campaign, whereas **str̥tó-* referred to a certain social group ('clan, band') that could also be summoned to join an expedition.

(1) *$sterh_3$- ‘to strew, spread out’: Ved. *$star^i$-*, pres. *$st̥ṇā́ti$*, Lat. *sternere, strātus*, Gr. στόρνυμι, στρωτός, OIr. *sernaid* ‘spreads’, *srath* ‘valley’.
(2) **ster*- ‘to lay low’: Ved. *star*- ‘to lay low, make subject’, pres. *$st̥ṇoti$*, perhaps merged with the reflex of *$sterh_3$- in Lat. *consternere* ‘to bring down’.

From a formal point of view, στρατός can only be derived from the second root **ster*-, but the semantic connection between ‘army’ and ‘to lay low’ has not been satisfactorily clarified so far. It is usually assumed that στρατός originally denoted the ‘army camp’, the semantic derivation being ‘spread out’ > ‘bed’ > ‘camp’.[692] This view is outdated, because the root ‘to spread out’ must be reconstructed as *$sterh_3$-. Accepting the formal identification between στρατός and Vedic *star*- ‘to lay low’, which is unavoidable within the framework of the laryngeal theory, Mayrhofer (*EWAia* s.v. *STAR*) follows a suggestion by Strunk (1964): a participle **st̥r-tó*- “Niederstreckbar” would have been substantivized as ‘Feindesheer’, and then developed to ‘army’ in general.

Two objections can be advanced against Strunk’s proposal.[693] First, the assumed semantic development from ‘to be taken down’ to ‘enemy force’ is an emergency solution, and the broader meaning ‘clan, band of men’ attested in West Greek dialects speaks against it. Secondly, there are no old examples in Homer where the suffix -τό- conveys potential meaning, as it does in Classical Greek λυτός ‘to be loosened’ (for the Homeric material, see Risch 1974: 19-21).

Departing from the idea that στρατός and λαός are originally equivalent dialectal lexemes for the social concept of the war band, I propose the following scenario for the semantic derivation of **st̥r-tó*- from **ster*- ‘to make subject’. Since the meaning ‘subjects’ is attested for λαός in the *Odyssey*, it is quite possible that **st̥rtó*- also originally referred to a band of ‘subjected’ men who owed subservience to their leader, the Doric στραταγός. After the various West Greek tribes had settled down, the term acquired a socio-political meaning, although the subjects of a στραταγός could still be summoned to join him on military expeditions.

Against this background, the semantic value of στρατός in Epic Greek asks for an explanation. All Homeric attestations of στρατός and its derivations (ἐστρατόωντο ‘were on campaign’, ἀμφεστρατόωντο ‘encamped around’, στρατιώτης ‘soldier’) have a military meaning.[694] This is also the situation of Classical Greek: common derivatives such as στρατόπεδον ‘army camp’, στρατεύω ‘to march against, campaign, wage an expedition’, στρατεία ‘campaign, military expedition or service’, or στρατιή ‘army’ all show the same semantic narrowing as their base form στρατός.[695] An explanation of this situation can be given if we assume that in South Greek, **st̥rtó*- was retained only in poetry. As a relic form with the same referents as the regular Proto-Ionic vernacular form **lāwó*- ‘body of subjects, band of men; campaign’ that had ousted it in the first meaning, the meaning of **st̥rtó*- may

[692] Thus e.g. *DELG* (s.v.). Chantraine apodictically claims that “Les emplois du crétois sont secondaires et le sens originel est militaire.”
[693] In his criticism of Strunk’s article, Beekes (1969: 280-1) pleaded for an original meaning ‘camp’, referring to the frequent semantic development ‘camp’ > ‘army’ (as in Du. *leger*). Indeed, an original meaning ‘camp’ is one of the possibilities to be reckoned with, but only from a semantic point of view. A formal problem with this view is that the PIE root **ster*- did not mean ‘to spread out’, but ‘to lay low, make subject’.
[694] Since the verb στρατάομαι is limited to hexameter poetry, Tucker (1990: 232, 249-50) argues that it is a poetic creation, derived directly from στρατός: “The frequency of the suffix *-táō* in such artificial creations is sufficient to explain why in this case we find a derivative in *-áō* rather than *-éō*, which would be regular for a thematic stem.” (o.c. 250).
[695] Most of these forms are frequently attested in Th., Hdt., inscriptions, etc.

have been narrowed down to 'expedition, campaign'.[696] For a pre-stage of Epic στρατός, we may therefore depart from a synchronically isolated pre-form **str̥tó-* without any corresponding form in the vernacular, where it had been replaced by (the outcome of) **lāwó-*. Since all classical derivations may be analyzed as post-Homeric creations based on στρατός, it is possible to analyze στρατός as an epicism.

From a metrical perspective, στρατός differs from the other words discussed in this chapter. Its pre-form **str̥tó-*, with its double initial consonant, would always close a preceding syllable, independent of the preceding word. This implies that the pre-form **str̥tó-* can be substituted everywhere for στρατός without damaging the metre, just like in forms with -ρα- and *McL* scansion. The reason for this is the following: even before the vocalization of Epic **r̥*, the word could only be used in the biceps of a foot, and only in front of a vowel.[697] Since a variant $^{++}$σταρτός would have yielded a useful metrical alternative to στρατός, it would certainly have been utilized if it had existed (cf. καρδίη beside κραδίη in Homer).

Thus, everything points in the same direction: **str̥tó-* did not exist in the Ionic vernacular when **r̥* vocalized to -αρ-. The word originally denoted a body of men subjected to a leader, the **str̥tāgo-* > West Greek στραταγός. In the restricted meaning 'army, campaign', **str̥tó-* > στρατός was a poetic archaism of Ionic Epic. When the Homeric poems acquired their popularity, it entered the Classical vernacular.

6.7.8 θρασειάων

In the formula |$_{T}$ θρασειάων ἀπὸ χειρῶν 'from their dauntless hands' (7x Hom.), the epic correption of θρ- can be analyzed as a trace of Epic **r̥*. The combination of its thematics (war narrative) and the old Gp. ending -άων suggest that θρασειάων ἀπὸ χειρῶν is a traditional formula. On five occasions, the formula refers to hands which throw spears in battle or in an encounter with a lion.[698] In Wathelet's view (1966: 150-51), however, the preceding trochaeic caesura renders this example non-probative for his thesis (cf. also de Lamberterie 1990: 847). Since θρασύς is also the vernacular form of this adjective, and since the ending -άων remained productive in Epic Greek, the formula could in principle have been formed at any time after the adjective θρασύς had reached the shape in which it is attested – or so it seems.

As we have seen in section 4.5, however, θρασύς itself is an oddity which needs to be explained. Since the expected form of the *u*-stem adjective is *θαρσύς, θρασύς cannot be a product of the ablauting *u*-stem paradigm **t^{h}érs-u-*, **t^{h}r̥s-éw-*. The forms with θρασ- must have arisen in a different environment, such as the compounds with first member **t^{h}r̥su-*. It is doubtful, however, that an adjective θρασύς could be backformed on the sole basis of compounds with θρασυ-.

A solution for this problem can now be given. The adjective **t^{h}érs-u-*, **t^{h}r̥s-éw-* yielded *θαρσύς in the Ionic vernacular, and was then replaced or ousted by θαρσαλέος. A relic of the old ablauting paradigm is θρασειάων < **t^{h}r̥sewi̯āōn*. Likewise, the Homeric

[696] This is not contradicted by the fact that 'campaign' was probably the more original meaning of **lāwó-*. I assume that **lāwó-* and **str̥tó-* first influenced each other semantically; then **str̥tó-* became restricted to poetry or high register, and finally **lāwó-* acquired a socio-political meaning in the Mycenaean period. Both **lāwó-* and **str̥tó-* retained their military meanings only in poetry.

[697] The formulaic behavior of στρατός in Homer has been discussed by Beekes (1969: 281). The word occurs 64x, with a strong preference (especially in the *Iliad*) for the position between |$_{H}$ and |$_{B}$. Beekes shows that almost all attestations of the As. form στρατόν (46 out of 58) can be reduced to the formula |$_{T}$ ἀνὰ στρατόν (εὐρὺν Ἀχαιῶν) or |$_{T}$ κατὰ στρατόν (εὐρὺν Ἀχαιῶν). The longer variant with |$_{B}$ εὐρὺν Ἀχαιῶν is probably the older one; but κατὰ στρατόν and ἀνὰ στρατόν also occur with other bucolic clausulas.

[698] The remaining two instances are *Od*. 5.434, where θρασειάων is a mere ornamental epithet of the hands, and *Il*. 23.714 where "its use seems slightly strained" (Kirk et al., ad loc.).

compounds in θρασυ- may have the regular reflex of a pre-form *t^h*r̥su-* with Epic *$r̥$*.*[699] On the basis of θρασειάων, and supported by compounds and personal names with θρασυ-, Epic poets then created a new accusative form θρασύν.[700] It seems probable that πόλεμον θρασύν 'fierce war' was one of the first creations, because it presupposes more or less the same archaic meaning preserved in θρασειάων ἀπὸ χειρῶν.[701]

Thus, the creation of the formula θρασειάων ἀπὸ χειρῶν pre-dates the generalization of the strong stem θαρσ- throughout the paradigm of the *u*-stem adjective. That is, it was probably coined before the vocalization of *$r̥$* in the vernacular. The creation of the new adjectival form θρασύν within Epic Greek pre-dated the lexical developments that took place in θαρσαλέος, θάρσος, θαρσέω, θαρσύνω (for which see section 4.5). This leads to the conclusion that the vernacular form θρασύς was borrowed from Epic Greek or later poetry, which, given its martial meaning, is certainly conceivable.

To close this discussion, let us briefly reconsider the semantics. It is thought that θρασύς normally qualifies an agent or his actions, but this is not universally true.[702] Generally, θρασύς means 'bold, reckless' already in Homer (see section 4.5).[703] But in θρασειάων ἀπὸ χειρῶν, the spear-throwing hands are called 'dauntless, fierce'. This reminds of some attestations of θαρσαλέος (e.g. θαρσαλέον πολεμίστην 'fierce warrior'), and may be an old etymological meaning of the root, because cognates in Indo-Iranian are used to qualify winds or other irresistible natural phenomena. Similarly, the colon |$_P$ πόλεμον θρασύν |$_B$ (3x, twice followed by ὀρμαίνοντες) is best translated as 'fierce war'; de Lamberterie (1990: 848) aptly compares the formulaic syntagm κρατερὴ ὑσμίνη 'fierce battle'. Like κρατερός, the qualification θρασύς is neither laudatory nor pejorative in itself, but always potentially ambiguous between 'bold' and 'over-bold'.

6.7.9 τραπέσθαι

Among the middle forms of τραπε/ο- 'to turn', there are seven instances of *McL* scansion, always in verse-final position:

(1) ἀπονόσφι τραπέσθαι 'to turn away' (*Od*. 5.350 and 10.528). In the first passage, Odysseus is summoned by Kalypso to untie his amulet and throw it back into the sea once he has safely reached the shore. Then, he must turn away from the sight of this object. In the

[699] It is especially attractive to assume a high antiquity of |$_P$ θρασυμέμνονα θυμολέοντα 'bold-hearted destroyer of life', a formula which qualifies Herakles in both of its attestations and is the only Homeric instance, apart from Agamemnon's name, of a compound in -μέμνων. On the other hand, θρασυκάρδιος (with the Ionic vernacular form of 'heart') must have been created at a more recent date. This is not surprising, given that forms containing θαρσ- and θρασ- remained productive in combination with words for 'heart' (θαρσαλέον and θαρσύνω occur in combination with ἦτορ in Homer, cf. also θρασείᾳ καρδίᾳ Pi. *Pyth*. 10.44).

[700] Apart from θρασύς at *Od*. 10.436 and the formula |$_T$ θρασειάων ἀπὸ χειρῶν, all attestations are in the As. msc. θρασύν, which is located after either |$_P$ or |$_H$.

[701] Note, incidentally, that θρασύν has a different metrical structure as compared to the older As. form *t^h*érsun*.

[702] Cf. the remark "chiefly of persons" in *LSJ* s.v., and the overview in *LfgrE* s.v.

[703] According to most authorities (e.g. *DELG* s.v. θάρσος, *LfgrE* s.v. θρασύς), θρασύς means both 'bold' and 'courageous'. The only acknowledged exception is *Od*. 10.436, where θρασύς is supposed to mean 'reckless'. In my view, θρασύς only means 'bold, reckless' in Homer, whereas 'courageous' is one of the meanings of θαρσαλέος. Concerning the formulaic θρασὺν Ἕκτορα, de Jong (2012: 179, ad *Il*. 22.455) aptly remarks: "Andromache's use of θρασὺν Ἕκτορα is significant. Hector is given this epithet six times, and the three instances preceding this one are all contextually significant: Polydamas warns 'bold Hector' to follow a more moderate military strategy." Here, Andromache speaks of 'reckless Hektor' precisely when she begins to suspect that he entered his fatal duel with Achilles under the walls of Troy. When Zeus argues, later on, that the plan to "steal away bold Hektor" from Achilles' tent is no good, the words θρασὺν Ἕκτορα are again significant, for as de Jong remarks (ad 22.457, o.c. 180), "it is part of Hector's tragedy that his martial overconfidence is due to the support of Zeus". Finally, in four instances clustered in book 8 of the *Iliad*, Hektor's charioteer (ἡνίοχος) is called θρασύν 'reckless'. Two of these cases are concerned with Ἀρχεπτόλεμος, the stand-in charioteer who is killed by one of Teucer's arrows soon after he has mounted Hektor's chariot.

second attestation, Odysseus is told to turn away from two sacrificial victims. In both instances, the idea seems to be that one should not look back after performing an apotropaic ritual activity.

(2) ἐπὶ ἔργα τράποντο 'they turned to their tasks' (*Il*. 3.422, of servant maids), ἐπὶ ἔργα τράπωνται (*Il*. 23.53, of the Achaean warriors).

(3) Three instances derive from the prefixed verb προτρέπομαι. The first, ἔθελον δ' ἄχεϊ προτραπέσθαι (*Il*. 6.336), can be translated as "I wanted to surrender to sorrow". Two other cases, προτράπηται (*Od*. 11.18) and προτραποίμην (*Od*. 12.381), probably refer to the turning of the sun's course (τροπαὶ ἠελίοιο) during summer solstice.

In Wathelet's view (1966: 161-62), these instances belong to traditional diction. He remarks that the maintained digamma in ἐπὶ ἔργα and lack of augment in τράποντο are indications of an old formula, but neither argument is conclusive. One might wonder, then, whether Wathelet is not merely seeking confirmation for his thesis. Let us first take a closer look at the Homeric and Classical paradigms.

The Homeric aorist paradigm of τρέπω consists of a transitive active ἔτραπον 'turned', an intransitive thematic middle ἐτραπόμην 'turned', and another transitive (causative) sigmatic aorist ἔτρεψα.[704] The original Proto-Ionic aorist paradigm of τρέπω probably consisted of a transitive active ἔτραπε beside an intransitive middle ἐτραπόμην.[705] In these forms, the vernacular vocalization -ρα- was due to the vowel slot of the present τρέπω. Since the transitive active ἔτραπε is not found in Classical prose, we may conclude that the sigmatic form ἔτρεψα had already replaced it in the Ionic vernacular of Homer's time.[706]

The use of *McL* scansion is avoided in all forms of the active thematic aorist ἔτραπον, just like in all other active thematic aorists of this structure (see chapter 8). Moreover, τρ- generates length by position in the 3s. middle forms (ἐ)τράπετο, ἐτράπετ', ἐτράπεθ' (19x). Anticipating the discussion of the other thematic aorists with -ρα- in chapter 8, it is clear that Epic poets avoided the use of *McL* scansions as far as possible in this specific morphological category. This suggests that the scansion of τραπέσθαι, τράποντο and the like is an archaism, and that these forms contain the regular reflex of Epic **r̥*. Indeed, it is quite possible that |$_{H}$ ἀπονόσφι τραπέσθαι was part of a formulaic description of apotropaic rituals. A different question is why Epic Greek did not find a way to avoid *McL* scansion in τραπέσθαι, τράποντο after these forms had developed out of pre-forms containing Epic **r̥*. Given their intransitive meaning, it would have been theoretically possible to create an artificial aorist in -θη- (τραφθῆναι). Such a form is indeed attested at *Od*. 15.80, but only as a Homeric hapax; it may

[704] Homer has 24 instances of the sigmatic aorist τρεψα/ε-, but the middle only occurs in the ptc. τρεψάμενοι (*Od*. 1.422 = 18.305, in a repeated passage). Forms like τρέψαντο or τρέψασθαι would have been metrically very useful, and they are rare in Classical prose in comparison with the middle thematic aorist ἐτραπόμην. For this reason, I think that τρεψάμενοι was created as a replacement of the unsuitable form τραπόμενοι, which had three consecutive light syllables.

[705] See Allan (2003: 172-3): "certainly one of the most complex verbal paradigms is that of τρέπομαι. In Classical Greek, five different middle and passive aorist forms occur: ἐτρεψάμην, ἐτραπόμην, ἐτράπην, ἐτρέφθην, and ἐτράφθην. The sigmatic middle is only used in the indirect reflexive meaning (…) 'rout'. The thematic and passive formations have the same meaning, this being, in most cases, intransitive 'turn'. There are no certain instances of τρέπομαι with passive meaning. (…) ἐτράφθην appears to be restricted to Homer (o 80) and Herodotus. In Herodotus, the form could be a special Homeric feature since the form that is used most commonly in Herodotus is ἐτραπόμην ('turn'). In Attic, the common form is ἐτραπόμην. The passive aorist forms ἐτρέφθην and ἐτράπην are clearly marginal. ἐτρέφθην cannot be old (cf. ε-vocalism); (…) ἐτράπην occurs mainly in drama, probably as a metric alternative to ἐτραπόμην, and further in Plato (1x) and Xenophon (2x)." To these remarks, I would add that the rare form ἐτράφθην could be an innovation based on the middle perfect τέτραπται (5x Hom., normal in Class. prose).

[706] Apart from Early Greek Epic, the active thematic aorist ἔτραπε only occurs in Pindar. For the replacement of a transitive active thematic aorist with a sigmatic form, one might compare cases like πείθω, aor. ἔπεισα 'to persuade' beside intransitive πείθομαι, aor. ἐπιθόμην 'to obey'.

have been avoided in view of the possible confusion with aorist forms of τρέφω ‘to feed, raise a child’. Apparently, the poets preferred to keep τραπέσθαι, τράποντο (etc.) when these forms came into being as the regular reflexes of pre-forms with Epic *ṛ.

The isolated status of the forms with Epic *ṛ is confirmed by their lexical semantics. The only Homeric instance of the present προτρέπομαι means ‘to flee headlong’ (*Il*. 5.700):

> Ἀργεῖοι δ’ ὑπ’ Ἄρηϊ καὶ Ἕκτορι χαλκοκορυστῇ
> οὔτε ποτὲ προτρέποντο μελαινάων ἐπὶ νηῶν
> οὔτε ποτ’ ἀντεφέροντο μάχῃ, ἀλλ’ αἰὲν ὀπίσσω
> χάζονθ’, ὡς ἐπύθοντο μετὰ Τρώεσσιν Ἄρηα. (*Il*. 5.699-702)

“But the Argives, before the onset of Ares and bronze-clad Hektor, neither did they flee headlong towards the black ships, nor yet could they hold out in fight, but they constantly gave ground backward, having noticed that Ares was among the Trojans.”

The isolated application of the *McL* licence in προτρέποντο may have been modelled on the other three, verse-final instances of the aorist προτραπέσθαι.[707] The meaning of προτρέπομαι recurs in the adverb προτροπάδην ‘head over heels, headlong’ (*Il*. 16.304). The hemistich ἔθελον δ’ ἄχεϊ προτραπέσθαι (*Il*. 6.336) can be translated as “I wanted to surrender to sorrow”, with a metaphor to be understood from the military meaning in *Il*. 5.700.[708] In the Homeric meaning ‘to flee headlong’, προτρέπομαι is a lexical archaism. In Classical Ionic-Attic, προτρέπομαι means ‘to be incited, be led on’ (active προτρέπω ‘to incite’) and normally uses the middle sigmatic aorist προυτρεψάμην. Whereas the Classical meaning can be productively derived from προ- ‘forward’ and τρεπ- ‘to turn to, direct’, this is not possible for Homeric προτρέπομαι, προτραπέσθαι.[709]

Let us finally consider the two remaining, highly similar passages where προ-τραπε/ο- is found. It is said that the sun never shines upon the mythical people of the Kimmerians, neither when it goes towards heaven (στείχῃσι, ἰών), nor even when it “turns again from heaven towards the earth”, ἂψ ἐπὶ γαῖαν ἀπ’ οὐρανόθεν προτράπηται (*Od*. 11.18; προτραποίμην *Od*. 12.381).[710] The difference between the aorist subjunctive προτράπηται and the present subjunctive στείχῃσι can be explained if we assume that the former refers to the point of summer solstice, whereas the latter refers to the sun’s steady ascent during spring.[711]

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[707] The use of the presential aspect may have been induced by the negation. Kirk (ad loc.) speaks of a “steady but controlled retreat” of the Achaeans; Ameis-Hentze (ad loc.) point at the assonance of ἀντεφέροντο in the following line.

[708] *Comm. Kirk* (ad loc.) speaks of “the vivid and unusual ἄχεϊ προτραπέσθαι (‘turn myself headlong to grief’)”. Indeed, the “metaphorical” meaning ‘to give oneself up’ (thus *LSJ*, *LfgrE*) can be compared with the military use of προτρέπομαι, ‘to flee headlong’: the subject avoids confrontations with other people and “flees headlong in sorrow”.

[709] It is conceivable that ‘to flee headlong’ derives from older *‘to turn or roll forth’ (e.g. like a boulder). If so, it would preserve a trace of the etymological root meaning of **trek*^{w}-, ‘to turn around’. Generally, the verb τρέπω has telic aspect already in Homer, but the older atelic root meaning ‘to revolve, rotate’ is retained (in combination with the preverb περι-) in a few instances: περιτροπέων ‘revolving’ (*Il*. 2.295, of the year, ἐνιαυτός), περιτροπέοντες ‘encircling’ (*Od*. 9.465, the circular movements by which shepherds keep a flock of sheep together), περὶ δ’ ἔτραπον ὧραι (*Od*. 10.469) ‘the seasons had turned (a)round (the heavens)’, and (without περί) also in Myc. *to-ro-qe-jo-me-no* /trok^{w}ei̯omeno-/ ‘performing tours (of inspection)’.

[710] ἔνθα δὲ Κιμμερίων ἀνδρῶν δῆμός τε πόλις τε, ἠέρι καὶ νεφέλῃ κεκαλυμμένοι· οὐδέ ποτ’ αὐτοὺς Ἠέλιος φαέθων καταδέρκεται ἀκτίνεσσιν, οὔθ’ ὁπότ’ ἂν στείχῃσι πρὸς οὐρανὸν ἀστερόεντα, οὔθ’ ὅτ’ ἂν ἂψ ἐπὶ γαῖαν ἀπ’ οὐρανόθεν προτράπηται, ἀλλ’ ἐπὶ νὺξ ὀλοὴ τέταται δειλοῖσι βροτοῖσι (*Od*. 11.14-19). In the parallel passage, Helios prays to Zeus and the other gods to punish the comrades of Odysseus for eating his cows: Ζεῦ πάτερ ἠδ’ ἄλλοι μάκαρες θεοὶ αἰὲν ἐόντες, τεῖσαι δὴ ἑτάρους Λαερτιάδεω Ὀδυσῆος, οἵ μευ βοῦς ἔκτειναν ὑπέρβιον, ᾗσιν ἐγώ γε χαίρεσκον μὲν ἰὼν εἰς οὐρανὸν ἀστερόεντα, ἠδ’ ὁπότ’ ἂψ ἐπὶ γαῖαν ἀπ’ οὐρανόθεν προτραποίμην. εἰ δέ μοι οὐ τείσουσι βοῶν ἐπιεικέ’ ἀμοιβήν, δύσομαι εἰς Ἄϊδαο καὶ ἐν νεκύεσσι φαείνω (*Od*. 12.377-383).

[711] Cf. *LfgrE* s.v. τρέπω, mg. II 8αβ.

It is hard to derive this use of προτραπέσθαι from the military one. Given the thematics of both passages, we may well be dealing with a traditional description taken from the observation of meteorological and heavenly phenomena.

In conclusion, all seven instances of the middle τραπέσθαι are located in verse-final position and require the use of the *McL* licence. It is remarkable that three instances have the preverb προ-. In view of the consistent avoidance of problematic forms with προ- (section 6.5), it is likely that at least προτραπέσθαι contained Epic **r̥*. This is corroborated by the fact that προτρέπομαι 'to flee headlong' is a lexical archaism. The use of unprefixed τραπέσθαι, τράποντο in the same slot, but with the synchronically productive meaning of the middle aorist, may have been modelled on προτραπέσθαι. On the other hand, nothing forbids us to view the unprefixed forms as retained archaisms with Epic **r̥*, especially in the case of the formula ἀπονόσφι τραπέσθαι and its ritual context.

6.8 Uncertain evidence for Epic **r̥*

The forms with -ρα- to be discussed in this section are etymologically unclear. They are potential examples of Epic **r̥*, because their appearance in the epic hexameter inherently requires the use of a metrical licence. However, since none of these forms is frequent in Homer, the few instances of *McL* scansion may be viewed as late extensions of the licence. They cannot be used, therefore, as counterevidence to the Proto-Ionic vernacular development **r̥* > -αρ-.

6.8.1 κραδαίνω and κραδάω

In Homer, the verb κραδαίνω 'to brandish' is only attested in the middle pres. ptc. |T κραδαινομένη, -μενον (3x, qualifies αἰχμή and ἔγχος, respectively). It remains rare in post-Homeric poetry until the end of the classical period, and always occurs in the present, but not necessarily in the middle.[712] Although the light scansion of the syllable preceding κραδαινόμενος can be due to an extension of the *McL* licence, we have to ask whether it may contain the reflex of Epic **r̥*. It is very difficult to answer this question. First of all, κραδαίνω has a by-form κραδάω 'id.' (4x Hom.), attested only in the formulae |P κραδάων δολιχοσκιον ἔγχος (2x) and ὀξὺ δόρυ κραδάων |P (2x). Whatever the origin of -αίνω, the forms |T κραδαινόμενος and |P κραδάων function as metrical alternatives. It is possible that |T κραδαινομένη was coined on the basis of a pre-existing |P κραδάων once *McL* scansion had become accepted as a licence. Secondly, the verbs κραδαίνω and κραδάω have no accepted etymology. It has been supposed that κραδάω is related to the noun κράδη 'branch, especially of the fig-tree' (cf. *DELG* s.v. κραδαίνω). If so, then κραδάω could be a denominative, or κράδη a backformation (cf. Frisk q.v.), but the semantic connection is not compelling.[713] Schulze (see Frisk s.v. κραδάω) conjectured that the root of κραδάω, κραδαίνω is that of PIE **ḱērd*, **ḱr̥d-* 'heart', but this is speculative at best. As etymologically isolated forms, κραδάω and κραδαίνω cannot be of use in the present discussion.

6.8.2 κρατευταί

κρατευταί (|T κρατευτάων *Il*. 9.214, in later literature only in Eup. fr. 171 Kock) designates the supporting blocks of the barbecue on which the spits rested. Its etymology is uncertain,

[712] The first attestations of the aorist ἐκράδηνα are post-classical. In a hexameter fragment of Xenophanes (25.2 DK), κραδαίνει is used in verse-final position with *McL* scansion, but in this late author the use of the *McL* licence is unremarkable.

[713] Alternatively, it may be argued that κράδη is similar to κλάδος (m.) 'branch' in both form and meaning. This could point to substrate origin at least for these two nouns. Beekes (*EDG* s.v. κλάδος) remarks that "… it may be accidental that all forms [that is, Gr. κλάδος and the group of G. *Holz*] can be derived from **kldo-*, since κλάδος can also be connected within Greek with κραδάω, which points to an interchange ρ/λ and therefore to substrate origin."

and the fact that a by-form κραδευταί is attested in Attic inscriptions (cf. Threatte 1980: 438) does not inspire confidence in the connection with κράτος advocated in Frisk and *DELG* (q.v.). Folk-etymological influence on either variant would be conceivable, but it is equally possible that both variants are attempts to render a foreign (Pre-Greek) word (cf. Beekes *EDG*, q.v.). It is difficult, then, to draw any conclusions about this hapax.

6.8.3 κράνεια

The tree name κράνεια 'cornel cherry' is attested twice in Homer, both times in verse-final position: τανύφλοιόν τε κράνειαν (*Il.* 16.767) and καρπόν τε κρανείης (*Od.* 10.242, Kirke feeds mast, acorns and the fruit of the cornel tree to Odysseus' transformed comrades).[714] The only obvious etymological comparandum for κράνεια is Lat. *cornum* 'id.', which can be reconstructed as **kr̥no-*.[715] In view of this comparison and the Homeric *McL* scansion, it could be thought that the pre-form of κράνεια contained Epic **r̥*.

Somewhat problematic for the etymology, however, is the fact that Greek (-εια) and Latin (**-o-*) attest different formations. The form κράνον (Thphr.) would directly match Lat. *cornum*, but in view of its absence from (pre-)Classical Greek, the value of this form for purposes of reconstruction can be doubted. Tree names in -έη < **-e̯i̯ā-* are productively derived from fruit names, as in μηλέη, συκέη ← thematic μῆλον 'apple', σῦκον 'fig' (cf. Risch 1974: 133), but this analysis cannot be extended to κράνεια, with its unparalleled suffix.

Even if the suffix -εια remains unexplained, it could still be assumed that the pre-form was **kr̥new̯ia*, with Epic **r̥*. If so, the occurrences of the word in Classical Ionic-Attic yield considerable problems, because they all have the reflex -ρα-. The Homeric form κράνεια occurs in E. fr. 785 (Nauck), X. *Cyn*. 10.3, and middle comedy, and also seems to underlie the derivative κρανέϊνος 'made of cornel wood', which qualifies javelins and bows (*h. Herm*., Hdt., X.).[716] A by-form κρανία is attested in comedy (Cratinus +) and in the Hippocratic corpus.

Since -αρ- was the reflex of **r̥* in the Proto-Ionic vernacular, all these post-Homeric forms would have to be explained as epicisms if the reconstruction **kr̥new̯ia* is correct. A borrowing from Epic Greek is perhaps not very likely for a word with a botanical meaning, and it would not explain the different ending of κρανία. On the other hand, it would not be wise either to base any conclusions on the comparison with Lat. *cornum*, because the referent is a species of tree with a rather limited geographical distribution. The cornel tree is native to the Mediterranean, Turkey, the Caucasus and Iran, but not to southern Russia or the Ukraine. Besides, it is problematic that the suffix -εια cannot be easily accounted for. It is at least a theoretical possibility that Latin and Greek independently borrowed a word starting with **kr̥n-*; a similar case might be πράσον 'leek' beside Lat. *porrum* 'id.' (see section 9.1.7).

In view of these considerations, we cannot be sure that the pre-form of κράνεια ever had **r̥*. If it did, we have to assume that **r̥* was retained in Epic Greek because the form did not exist in the vernacular, and the post-Homeric attestations would have to be epicisms. If it did not contain **r̥*, on the other hand, the Homeric scansion of κράνεια may be secondary after that of forms like κραταιός, τράπεζα, and τραπέσθαι, which occur in the same position of the verse. Since κράνεια occurs only twice in Homer, this is a definite possibility.

[714] The epithet τανύφλοιος does not occur elsewhere in Homer. Its precise meaning is unclear: perhaps 'with thin bark', see *LfgrE* s.v.

[715] The appurtenance of Lith. *Kirnis* 'divine protector of the cherry' (see the references in Walde-Hofmann, s.v. *cornus*) seems uncertain to me.

[716] A noteworthy characteristic of the wood of the cornel cherry is its density: it sinks in water.

6.8.4 βραχίων

Among the attestations of βραχίων '(upper) arm' (6x) in Homer, five instances are located after the main caesura |T, which is the natural metrical slot for words of this structure (O'Neill 1942: 143). The final instance (*Il*. 13.529, first hemistich δουρὶ βραχίονα τύψεν) could then be due to an incidental application of the *McL* licence. Although in Wathelet's view (1966: 168 n. 3; see section 6.3), the localization after |T would sufficiently explain the light scansion of βρ-, the possibility that -ρα- reflects Epic **r̥* has to be seriously considered.[717]

But are there any etymological indications for the presence of **r̥* in βραχίων? A connection with βραχύς 'short' has sometimes been advocated and seems semantically conceivable. In a number of instances, βραχίων specifically denotes the upper arm.[718] Whereas the upper arm is longer than the forearm in human beings, it must be taken into account that some sources in antiquity defined the forearm as the distance from the elbow to the tip of the middle finger (see Ruijgh 1968: 147). Furthermore, it is conceivable that βραχίων originally referred to the upper part of the animal leg, as in e.g. X. *Eq*. 12.5. Since the shank of many domestic animals is longer than the upper leg, the connection with 'short' would make sense. In this context, it is perhaps relevant that the root of Toch. B *märkwace* 'upper leg, thigh' can also be reconstructed as **mr̥ǵʰ-*. If *märkwace* is indeed related to βραχίων, it could provide additional evidence that the latter originally referred to the upper leg of animals, and was later transferred to denote the human upper arm. On the basis of Greek and Tocharian, however, it is only possible to set up a root etymology, so that the comparison remains uncertain.

Apart from that, the morphological make-up of βραχίων is a long-standing problem. Chantraine (*DELG* s.v. βραχίων) defends the analysis as an old comparative of βραχύς, but does not explain why the form has a long ῑ in Homer.[719] As Seiler (1950: 42) stresses, the comparatives in -ίων never have a long ῑ in Homer; the length first appears in Classical Greek (cf. Att. κακῑ́ων beside Hom. κακῐ́ων). May the ῑ have come into being by metrical lengthening? In a word with four consecutive short syllables, this would be a distinct possibility. However, in a comparative one would expect a full grade root, **mrek*^{h}*-i(h)on-* or probably rather **mrek*^{h}*-i̯oh-* (see section 4.1).[720] Even if we depart from **mrek*^{h}*-i(h)on-* and accept that it was at some point replaced by **mrak*^{h}*i(h)on-*, with the *a*-vocalism of the adjective, the odd fact remains that |T βραχίονα would require the combined operation of two metrical licences.[721] In addition, it is not evident that metrical lengthening could affect functional morphemes: as we will see in chapter 8, metrical lengthening was systematically avoided in the augment. Thus, it remains difficult to analyze βραχίων as a comparative.

As an alternative speculation, it could be worthwhile to reconsider Ruijgh's idea (1968: 147) that βραχίων was derived from βραχύς with the suffix **-īwon-*, which could be used to form sobriquets. Ruijgh compares the use of the suffix *-āwon-* in πυγεών (sense unclear, perhaps 'buttocks') and ποδεών 'paw which hangs from an animal skin', which seem to be derived from πυγή 'buttocks' and πούς 'foot', respectively. But since these have the suffix *-āwon-*, it is perhaps more pertinent to compare βραχίων with the Homeric sobriquet κυλλοποδίων "Lamefoot", a nickname of Hephaistos (3x). The meaning "shorty" would be an

[717] Compare |T θρασειάων and |T κραται- in the same position.
[718] It is used in opposition to πῆχυς 'forearm' in Pl. *Ti*. 75a and X. *Eq*. 12.5 (where the parts of a horse's leg are denoted). Further, in Homer, πρυμνὸς βραχίων means 'shoulder'.
[719] Chantraine comments: "le procédé est inattendu, mais doit être admis, malgré les doutes de Seiler (…)".
[720] Thus, the expected outcome of an inherited comparative form would be *βράσσων. This form is attested in *Il*. 10.226, but its meaning seems to be 'slow', which suggests that it belongs not with βραχύς, but with βραδύς.
[721] If the pre-form of βραχίων contained **r̥*, it would be less problematic to explain the ῑ by metrical lengthening: **mr̥k*^{h}*i(h)ona* (four consecutive light syllables) → **mr̥k*^{h}*ī(h)ona* > **mrak*^{h}*īona* (vocalization of Epic **r̥*). But given the zero grade root, **mr̥k*^{h}*i(h)ona* cannot have been an older form of the comparative.

appropriate designation for the upper arm in the case of a warrior whose forearm had been chopped off.

If we suppose that Ruijgh's idea is correct, two options remain. First, given the relic status of the suffix *-*īwon*- and the regular *McL* scansion of βραχίων in Homer, it would be natural to consider it a case of Epic **r̥*. However, as we will establish in chapter 7, the regular outcome of Epic **r̥* was -ρο- after a labial consonant, and the only form that would militate against this distribution is exactly βραχίων. This problem can be avoided if one is prepared to assume that the semantics underlying the derivation βραχύς → βραχίων were still perceived synchronically, and that βραχύς could have influenced the expected Epic outcome *βροχίων. Secondly, one could assume that βραχίων was derived from the vernacular form of the adjective βραχύς *after* the leveling of root vocalism in the *u*-stem adjective had taken place. This would have the disadvantage that we leave the regular *McL* scansion in this word unexplained.

We have extensively discussed βραχίων because its metrical behavior seems to furnish an indication in favor of Epic **r̥*. However, in view of the uncertainties regarding its etymology, it is better not to base any conclusions on the foregoing speculations, and to leave the origin of βραχίων and its Homeric scansion undecided.

6.9 Homeric nonce formations with -ρα-

Three Homeric hapaxes show -ρα- instead of an expected form with -αρ-: δρατά (*Il*. 23.169), θράσος (*Il*. 14.416), Κράπαθον (*Il*. 2.676). Especially δρατός has played an important role in earlier arguments for -ρα- as the regular, unrestored development of a syllabic liquid.[722] In view of the details uncovered in this book, however, this idea will have to be abandoned. Let us consider the forms and their attestations in more detail.

In section 4.5, we observed that the hapax θράσος is the only case in Homeric Greek where the otherwise regularly observed distinction between θρασ- 'bold' and θαρσ- 'confident' is disturbed. This leads to the conclusion that θράσος is a nonce formation based on θάρσος, which has the same meaning in Homer, and does not continue a pre-form with syllabic liquid. The same may have happened in Κράπαθος, which occurs only once in the *Catalogue of Ships* (*Il*. 2.676). The normal name of the island is Κάρπαθος; obviously, the name has no etymology and it would be completely *ad hoc* to reconstruct a pre-form with syllabic liquid. The form δρατός, as attested in περὶ δὲ δρατὰ σώματα νήει (*Il*. 23.169), is a hapax in Greek. Just like θράσος and Κράπαθος, it is possible to view δρατός as a nonce formation based on the vernacular form δαρτός.

One might object that the assumption of such nonce formations is *ad hoc*. But there are only three such cases in all of Homer; moreover, it is of the utmost importance to distinguish structural tendencies (such as the acceptability and avoidance of *McL* scansion in certain lexemes) from incidental deviations. The regular alternation between κρατερός (Epic) and καρτερός (Epic and spoken Ionic) was extended within Homer, by a normal analogical process, to create by-forms such as κάρτος beside κράτος. The three forms Κράπαθος, θράσος, and δρατός may show that the author of the *Iliad* extended the same alternation to other forms – but only on an incidental basis.[723] Alternatively, one might assume that δρατὰ σώματα continues a traditional syntagm **dr̥ta sōmata*, but this is hard to prove.

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[722] It has become a canonical example in the handbooks: see Schwyzer (1939: 342), Lejeune (1972: 196), Sihler (1995: 92).

[723] For this difference between incidental and structural cases, one may compare the localization behavior of κράτος. Normally, κράτος << **kretos* had to be placed in the biceps in front of a following vowel. This is indeed what we find in 27 instances; only in one isolated instance (*Il.* 20.121) is κράτος placed after the trochaeic caesura in front of a consonant.

Let us finally consider the compound ὀφιό-σπρατον "sown or engendered by serpents" (thus *LSJ*), which is attested in Aelius Herodianus and in *EM* 287.14 as a variant of ὀφιό-σπαρτον.[724] The form has often been used (e.g. Kuryłowicz 1968: 247) as evidence for a regular outcome -ρα- < *$\mathring{r}$. Grammarians adduce the form in order to illustrate the swapping of liquid and vowel in the Homeric hapax δρατά beside regular δαρτά. In view of the thematics presupposed by ὀφιόσπρατον, the compound is clearly poetic and may well have been taken from some now-lost Epic text. It is possible that the Ancient Grammarians were right in comparing the isolated hapax δρατά to this specific form, in the sense that both forms could be due to an incidental licence of Epic poetry.[725]

6.10 *McL* scansion in words continuing *$\mathring{l}$?

There is no clear evidence for *McL* scansions in words with old *$\mathring{l}$. Wathelet's only example is Πλάταιαν (*Il*. 2.504), in the *Catalogue of Ships*, but it cannot be demonstrated that this is an old verse. It is quite possible, then, that the scansion of Πλάταιαν is due to an incidental application of the *McL* licence in a toponym. In fact, there is evidence for the avoidance of *McL* scansion in the adjective πλατύς 'broad'. The feminine πλατεῖα is unattested in Homer, and the alternative εὐρεῖα is used instead, for instance in the formula |$_{\text{B}}$ εὐρεῖα χθών. A similar avoidance of *McL* scansion is found in the root βλαβ- (see section 6.5). This avoidance could be explained if we assume that πλατεῖα originally contained a full-grade root *πλετ- (section 4.1), and that βλαβ- contained a nasal infix *ml-$\mathring{n}$-k^w- (see chapter 9), but we could also assume that the vocalization *$\mathring{l}$ > -λα- preceded that of *$\mathring{r}$ > -αρ-. The evidence is insufficient to draw a conclusion.

6.11 Conclusions

In a number of forms where Classical prose has the expected reflex -αρ- < *$\mathring{r}$, there are by-forms with -ρα-: κραδίη ~ καρδίη, τραπείομεν ~ ταρπῶμεν, τέτρατος ~ τέταρτος, and κραταιός ~ καρτερός. These by-forms with -ρα- appear to be limited to poetry, and especially to Epic Greek. Two independent distributional facts suggest that -ρα- arose within the Epic language: the metrical behavior of κραδίη in Homer, and the frequent and structural *McL* scansion among forms with -ρα- and -ρο- < *$\mathring{r}$. I propose to explain these distributions by assuming that *$\mathring{r}$ was retained longer in Epic Greek after it had disappeared from the vernacular. Much later, and not too long before Homer, this Epic *$\mathring{r}$ underwent a conditioned development to -ρα-, but to -ρο- after a labial consonant. The evidence for the conditioned development to -ρο- will be discussed in the next chapter. Since the vernacular vocalization *$\mathring{r}$ > -αρ- (and analogically restored -ρα-) had also made its way into Epic Greek, this scenario allows us to explain the doublets with -ρα- ~ -αρ-. At the same time, it illuminates how *McL* scansions could come into being. If this scenario for a conditioned inner-Epic sound change is correct, Epic Greek can no longer be considered a *Kunstsprache* in the traditional sense, but must be viewed as a separate dialect which had its own phonological developments. The implications of this point are hard to oversee at this moment.

Two types of words retained Epic *$\mathring{r}$. On the one hand, some lexemes also existed in the vernacular, but the introduction of the vocalized vernacular form was avoided for metrical reasons, and the non-vocalized form was simply retained in Epic Greek. This happened in

[724] Since σπάρτον means 'rope, coil', and given that snakes coil, it may be thought that ὀφιό-σπαρτον rather means something like 'having a snake-like coil'. Given the lack of context, this is impossible to decide.

[725] On the other hand, it is also possible to understand -ρα- in ὀφιόσπρατον as a case of Epic *$\mathring{r}$, along the lines set out in this chapter. However, the regular reflex of Epic *$\mathring{r}$ after a labial consonant was -ρο- (see chapter 7). This means that ὀφιόσπρατον would have to have introduced the vocalism of σπαρτόν 'sown' (or σπάρτον 'rope') in the expected outcome *ὀφιόσπροτον. This seems possible. In any case, ὀφιόσπρατον cannot be used to argue for -ρα- as the regular vocalization of *$\mathring{r}$ in Ionic-Attic.

κραδίη, τραπέσθαι, θρασειάων, and τραπείομεν (the latter two in clear formulae). On the other hand, we have to assume that certain lexemes did not exist anymore in the vernacular when *̥*r* developed to -αρ-: δράκων, κραταιός and other forms with κραται-, τράπεζα, and στρατός. I assume that these words were only current in poetry at the relevant time, because we find no trace of vernacular by-forms with -αρ-. The assumption of Epic *̥*r* in these words is plausible, given their lexical values. Of course, the argument could also be turned around: since -αρ- was the regular vernacular reflex, τράπεζα and στρατός must contain the reflex of Epic *̥*r*. The prolonged preservation of Epic *̥*r* may account for the peculiar metrical behavior of κραδίη, which is easier to explain if the time gap between Homer and the elimination of Epic *̥*r* is not too large. I will further discuss the chronological issues in chapter 11.

The potential counterevidence to this scenario consists of a number of words with -ρα- and *McL* scansion: βραχίων, κραδαίνω, κρατευτάων, and κράνεια. In neither of these words, however, do we have compelling etymological evidence for a pre-form with *̥*r*. A small number of hapaxes (δρατά, θράσος, Κράπαθος) can be analyzed as nonce formations on the model of e.g. κράτος : κάρτος. In the case of *̥*l*, there is no evidence for a special Epic reflex, nor for structural *McL* scansions.

The assumed inner-Epic sound change *̥*r* > -ρα- ~ -ρο- naturally explains the rise of *McL* scansions in Homer. *McL* scansion is regular only in a small but irreducible set of words (type κραταιός), in contrast with another, much larger group of words and formations that were structurally avoided in Epic Greek (type κράτιστος). From the extensive spread of artificial formations like κάρτιστος, it follows that *McL* scansion was originally permissible only in a limited set of lexemes, a point which has not been noticed in previous accounts. Since most lexemes which regularly undergo *McL* scansion involve *̥*r*, it is natural to infer that the phenomenon originated when this sound was eliminated from Epic Greek. The behavior of κραδίη, in combination with the evidence for *McL* scansions, suggests that this happened not too long before Homer. Subsequently, structural *McL* scansion was extended to a few other words with -ρα- that never contained *̥*r* (ἀλλότριος, ἀλλόθροος, and perhaps κράνεια, βραχίων). This extension may have been promoted by cases like τραπέσθαι, which contains a reflex of Epic *̥*r*, but was at the same time a vernacular form with analogically restored -ρα-. Finally, the author of the *Iliad* already applied *McL* scansion in forms where there was no *̥*r* and without any inherent necessity. But since he does so only rarely, we may speak of a poetic *licence* in these cases. In this way, the discovery that -αρ-, rather than -ρα-, is the undisturbed outcome of *̥*r* in Proto-Ionic corroborates Wathelet's conclusions concerning the origin of structural *McL* scansions.

7. Epic forms with -ρο-

For forms like δράκων and κραταιός, which combine the reflex -ρα- < *$\mathring{r}$ with *McL* scansion, an inner-Epic explanation has been proposed in the previous chapter. In the present chapter, those Homeric forms are discussed in which -ρο- potentially derives from *$\mathring{r}$. The material consists of the following forms:[726]

(1) the form undergoes *McL* scansion and derives from a pre-form with *$\mathring{r}$:
ἀβροτάξομεν 'we will miss' < *am$\mathring{r}$t-ak- (cf. ἁμαρτάνω, ἤμβροτον)
ἀνδρεϊφόντης epithet of Enualios < *ἀνδροφόντης < PGr. *an$\mathring{r}$-k^{wh}on-tā- 'man-slayer' (Myc. PN *a-no-qo-ta*)
ἀνδροτῆτα 'vigor' < PGr. *an$\mathring{r}$tāt- < PIE *$h_2$nr-teh_2t-
βροτός 'mortal' < PGr. *m$\mathring{r}$tó- (Arm. *mard* 'man'), together with ἀσπίδος ἀμφιβρότης, νὺξ ἀβρότη
προκείμενα 'served' (of comestibles, in a repeated formula) < *p$\mathring{r}$-keimena.

(2) the form undergoes *McL* scansion; *$\mathring{r}$ is suggested by Greek dialectal material with *-or-*:
Ἀφροδίτη ~ Cret. Αφορδιτα
θρόνος 'throne, luxurious chair' ~ Myc. *to-no* 'ornamented chair, throne'
πρός 'towards, etc.' ~ Cret. πορτι, also in πρόσωπον 'face'
πρόσω 'forward, further' ~ Att. πόρρω, πόρσω

(3) reconstruction of *$\mathring{r}$ deserves consideration for some other reason:
κροαίνων 'galloping', verse-final quasi-hapax with *McL* scansion
Κρονίων 'Zeus', with long ῑ and pervasive *McL* scansion only in the Ns.
Κρόνος, only the G. Κρόνοιο undergoes regular *McL* scansion
ῥοδόεντ- 'rose-scented' (~ Myc. *wo-do-we*, with a different vowel slot)

Apart from ῥοδόεντ-, all forms in groups 2 and 3 have an irregular Homeric scansion which could be ascribed to an earlier *$\mathring{r}$. However, the former presence of *$\mathring{r}$ cannot always be taken for granted.[727] The following discussion aims to find additional arguments in favor of or against the erstwhile presence of *$\mathring{r}$ in these forms. Before we can embark on a treatment of the metrical issues, the problem of the dialectal origin of Homeric forms with -ρο- must be addressed.

7.1 The dialectal origin of forms with -ρο-

The substantive βροτός is firmly anchored in the Ionic Epic and poetic tradition from Homer onwards. Since βροτός cannot be the regular reflex of the pre-form *m$\mathring{r}$tó- in Ionic-Attic, the

[726] From the examples listed in section 6.3, I have left out the hapax βεβροτωμένα 'covered with gore' (*Il.* 11.41). There is no etymology for its base form βρότος (4x *Il.* in verse-final ἄπο βρότον αἱματόεντα, 1x *Od.*), nor is there any other indication that its pre-form contained a syllabic liquid. On the contrary, the initial βρ- regularly generates length by position in the simplex βρότος as well as in the formula ἔναρα βροτόεντα 'blood-stained spoils' (5x verse-final in the *Iliad*, also 3x after |ρ). On the possibility that the pre-form of ἀολλέες 'thronged, all together' contained *$\mathring{l}$, see section 10.5.2.

[727] Cf. de Lamberterie (2004: 245) on θρόνος: "… la *correptio* du groupe θρ- (…) ne saurait être considérée à elle seule comme une preuve suffisante pour poser un /$\mathring{r}$/. Il faudrait encore, pour cela, que la sonante-voyelle soit garantie par l'étymologie", referring to the example of βροτός beside Arm. *mard*. I agree with the first statement, but feel that the second restriction is too rigorous.

form is usually taken to have originated in Aeolic[728] or Mycenaean[729] poetry. The same origin is assumed for the negated form ἄμβροτος 'immortal' and other derived forms like ἀμβρόσιος.[730] This explanation of the phonologically aberrant outcome of *$r̥$ is then extended to other Epic forms with -ρο-, like ἀβροτάξομεν or ἀνδροτῆτα. Some scholars even assume that θρόνος derives from a pre-form with *$r̥$.[731]

It is true that -ρο- is the regular reflex of *$r̥$ in the Aeolic dialects, at least in Boeotian and Lesbian (see section 3.4). For the Homeric forms βροτός and ἄμβροτος, however, an Aeolic origin is not straightforward at all. First of all, there is no unambiguous trace of a *βρότος or ἄμβροτος in the Lesbian poets: the normal words for 'mortal' and 'immortal' are clearly θνᾶτος (attested 4x) and ἀθάνατος (5x, with the metrical lengthening of the initial ἀ- characteristic for Epic Greek). The only evidence for ἀμβρόσιος is Alc. fr. 296b.4.[732] In view of the small corpus of fragments of Lesbian poetry, it cannot be entirely excluded that βροτός and ἄμβροτος are absent from Sappho and Alcaeus by chance. Nevertheless, the fact that these authors regularly use θνᾶτος and ἀθάνατος is remarkable. Furthermore, Aeolic provenance is hardly an option for ἀβροτάξομεν (in view of the Achaean velar suffix), and unmotivated for ἀνδροτῆτα and θρόνος (unattested in Lesbian poetry).[733]

A second problem with an Aeolic origin of βροτός concerns the accent. Since the Lesbian accent is regularly recessive, the epic form βροτός as such cannot be of Lesbian origin. To mend this problem, one would have to assume either a form borrowed by Ionic Epic from mainland Aeolic poetry, or a blend of an older Ionic form with an Aeolic one, which retained the Ionic accent but took over the Aeolic vocalism. Neither assumption can be further substantiated. A third argument against an Aeolic origin of βροτός will be established in chapter 8: some Epic forms have -ρα- as the reflex of original *$r̥$, but behave metrically as if they never contained *$r̥$ (κρατερός and the thematic aorists with -ρα-). These forms must have arisen analogically within an Ionic Epic tradition, but at the same time the introduction of -ρα- in these forms must have taken place at an early date. This renders the concept of an Aeolic phase itself highly improbable. In order to stick to the idea that the group of βροτός is of Aeolic origin, one would have to assume that it was a lexical borrowing from Aeolic poetry, but this seems highly unlikely: the *McL* licence, which is regularly applied in the most frequent case forms of βροτός, is unknown in the Lesbian poets.[734]

For some of the forms with -ρο- (ἀβροτάξομεν, ῥοδόεντ-, θρόνος, and ἀνδρεϊφόντης), there are concrete indications pointing in the direction of a Mycenaean origin. However, a borrowing from Mycenaean or a continuation of a form from a putative Achaean Epic

[728] E.g. Heubeck (1972: 76): "it is to be noticed that in all these cases it is not the Ionic, but the Aeolic development *$r̥$ > ρο that is to be found." See further e.g. Wathelet (1966 and 1970), Frisk and *DELG* (s.v.), although the latter adds that the form may also be Achaean.

[729] *DELG* (s.v., see previous note), Strunk (1957), Ruijgh (*passim*), West (1988: 156-7). Heubeck's (1972) analysis will be discussed below.

[730] For a discussion of the meaning of ἄμβροτος and ἀμβρόσιος, see Thieme (1952: 15-34).

[731] For θρόνος see e.g. Wathelet (1966). Proponents of the proto-hexameter hypothesis (e.g. Tichy 1981) have tried to explain ἀνδροτῆτα καὶ ἥβην and ἀβροτάξομεν by starting from an older epic verse with a trochaeic fourth foot. This hypothesis is unnecessary, and the idea is unfalsifiable.

[732] As well as one instance of the substantivization ἀμβροσία 'divine food' (Sapph. fr. 141.1).

[733] The famous ποικιλόθρον' (Sapph. fr. 1.1) probably contains the different Homeric word θρόνα 'embroideries'. The only Homeric form where -ρο- certainly derives from *$r̥$ and which has a clear analogon in Lesbian is the aorist ἤμβροτον 'missed, made a mistake'. Below and in chapter 8, however, I argue that ἤμβροτον is the inner-Epic reflex of a Proto-Ionic word with *$r̥$. Furthermore, there are numerous attestations of ῥόδον in Sappho (a number of times in the form βρόδον, both as a simplex and in compounds). It is possible, but not entirely certain, that this form derives from *$wr̥do$- (see section 7.2.8). No other Homeric form with -ρο- discussed in this chapter is attested in the Lesbian poets.

[734] On the avoidance of *McL* scansion in Lesbian, see Wathelet (1966: 148-9); on that in Eastern Ionic elegiac and iambic poetry, see West (1974: 113-4 and 1988: 166). This means that the scansion of βροτῶν, βροτοῖσι cannot have been borrowed together with the forms.

tradition does not solve the origin of -ρο- either, because it can be excluded that *-ro-* was the regular reflex of **r̥* in Linear B (chapter 2). To be sure, a form like βροτός may theoretically be of Mycenaean origin, but only if Ionic Epic borrowed it in a form with **r̥*. The only remaining explanation, then, is that forms with -ρο- < **r̥* are archaisms of Epic Greek.

7.2 -ρο- as a conditioned reflex of Epic **r̥*

The above arguments justify a fresh look at other possibilities to explain forms with -ρο- < **r̥* in Homer. A cardinal issue remains the application of *McL* scansion in a number of these forms. We found that Homeric Greek applies various strategies to avoid *McL* scansion, and that all words with -ρα- which have *McL* scansion on a regular basis directly continue a pre-form with **r̥*. Where *McL* scansion could not be related to the former presence of **r̥*, this could often be ascribed to an incidental (and therefore secondary) application of the licence.[735] In βροτός, however, the regular application of *McL* scansion in the most frequent case forms (Gp. βροτῶν and Dp. βροτοῖσι) coincides with the reconstruction of a pre-form with **r̥* (**mr̥tó-*). This suggests that βροτῶν and βροτοῖσι contain an artificial reflex of **r̥*.

Let us try to explain the *o*-vocalism of βροτός by the same process as -ρα- in τράπεζα and similar forms. We depart from input forms **tŕ̥pedi̯a*, **mr̥tó-*, with preserved **r̥*, into Ionic Epic.[736] When this Epic **r̥* was eventually eliminated, the default reflex was obviously *a*-colored (κραδίη, κραταιός, τράπεζα, etc.). Note that Ionic Epic even has an *a*-colored reflex in words which existed in Aeolic poetry (cf. στρατός beside Lesb. and Boeot. στρότος). In order to explain the divergence between -ρο- and -ρα-, I propose that -ρο- was conditioned by a directly preceding labial consonant.[737] The evidence in favor of this rule consists of the following forms:

- ἀβροτάξομεν < **amr̥t-ak-*, ἤμβροτον < **ām̥rte/o-*
- βροτός < **mr̥tó-*, and also ἄμβροτος ~ ἀβρότη < **ámr̥to-*, **ámr̥to-*, ἀμφιβρότη- < **amp^{h}imŕ̥tā-*
- πρόσω < **pŕ̥sō* < **pŕ̥ti̯ō*
- |$_T$ προκείμενα < **pr̥keímena* in a formulaic verse (14x).

It is attractive to add the following examples to the evidence:

- Ἀφροδίτη < **Ap^{h}r̥dī́tā*
- ῥόδον < **wŕ̥do-*
- πρός < **pr̥s* < prevocalic **pr̥ti̯-*, προσηύδα ‘said (s)he’.

Note that πρός and προσ- are, together, responsible for 240 instances of *McL* scansion in Homer, on a total of approximately 782 instances, and that Ἀφροδίτη takes care of 42 instances. In the few remaining forms with -ρο-, the *o*-vocalism may have been introduced by analogy with similar forms or formations. For instance, in ἀνδροτῆτα, ἀνδρο- was preferred

[735] The application of the *McL* licence on an incidental basis must be separated, as a recent phenomenon, from systematically occurring *McL* scansions in artificial Epic forms with -ρα- and -ρο- < **r̥*.

[736] Such forms may have been present in Ionic Epic prior to the vocalization to -αρ- in spoken Ionic, but they may also have been introduced after this change had taken place if we assume that **r̥* was maintained longer within Epic Greek. All we have to require is that Epic input forms like **tr̥pedi̯a* were no longer current in the vernacular when **r̥* vocalized to -αρ- in Proto-Ionic. It is immaterial whether the form in question was inherited from Proto-Ionic (or Proto-South Greek), or whether it was adopted from Mycenaean Epic.

[737] But not by a following labial consonant, as appears from the *a*-vocalism of τράπεζα. In section 3.2, I have already suggested that the Cretan development to ορ (beside regular αρ) was conditioned by the feature [+labial] of the preceding consonant (examples: πορτι, Αφορδιτα, -μορτος). The Ionic vernacular development seen in ἤμαρτον (as opposed to Epic ἤμβροτον) was not subject to the same condition. As we will see, this proves that an independent sound change took place within Epic Greek, posterior to the Proto-Ionic vocalization to -αρ-. On the problematic reflex -ορ- in Class. πόρσω < **pr̥sō*, see section 9.1.9.

over the regular outcome ἀνδρα- (attested in ἀνδρακάς) because ἀνδρο- was already normal as the first member of compounds, which introduced the compositional vowel *-o-* (**anr-o-* for older **anr̥-*). The cases θρόνος ~ Myc. *to-no* and Κρόνος, Κρονίων have their own particular problems, to be discussed in more detail below.

The only potential counterexamples with Epic -ρα- after a labial consonant are βραχίων 'upper arm' and πραθεῖν 'to destroy, pillage'. For πραθεῖν, the influence of other thematic aorists like τραπεῖν provides an easy way out (see section 8.3.3). The etymology and reconstruction of βραχίων are problematic, as we have seen in section 6.8.4.[738] These two forms, then, offer no cogent reason to doubt that the development Epic **r̥* > -ρο- may have been conditioned by a preceding labial consonant.

7.2.1 The metrical evidence for βροτός

The forms discussed in this section all ultimately derive from **mr̥tó-* 'man, mortal'. The same pre-form is presupposed by Arm. *mard* 'id.', which may point to a common innovation of Greek and Armenian (Frisk s.v. βροτός, de Lamberterie 1997: 73).[739] As has recently been stressed by Barnes (2011), the oldest attested reflex of **mr̥tó-* is μροτός, -μροτο- (without the epenthetic -β-) as found in archaic inscriptions from several different dialects and regions.[740] The epenthesis of -β- in -μρ- is a natural phonetic development. It may have come about as an independent innovation in different dialects at different times, and the retention of the shared archaism -μρ- in a few isolated pockets is not strange at all. In view of the 7th c. Naxian form μροτοισιν, it is likely that μροτός and μροτοῖσι were still pronounced in Homeric times.[741] If so, the fairly consistent manuscript spelling -βρ- in forms like ἀβρότη, ἀμφιβρότη, ἀβροτάξομεν must have been introduced in a later, but relatively early authoritative written version of the Homeric text.[742]

The following table shows the number of attestations of the different case forms of βροτός in Homer, as well as their metrical behavior:

Case	Form	##	Formulaic behavior
Ns.	βροτός	16	verse-final βροτὸς ἄλλος (5x); otherwise no fixed position
As.	βροτόν	6	5x before |B, e.g. βροτὸν |B ἄνδρα (2x) For verse-final βροτὸν ἄλλον (*Il.* 2.248), cf. Ns.
Gs.	βροτοῖο	1	σῆμα βροτοῖο |T (*Il.* 23.331)[743]

[738] Possibly, βραχίων originated as a sobriquet in **-īwon-* based on the adjective βραχύς, as suggested by Ruijgh.

[739] Ved. *mr̥tá-* 'dead' is generally supposed to preserve the older meaning of PIE **mr̥tó-*, whereas PGr. and PArm. **mr̥tó-* 'mortal' may have been created under influence of the antonym **n̥-mr̥-to-* 'immortal' (cf. Lat. *mortālis* after *immortālis*). A different view is found in Thieme (1952: 15-34).

[740] μροτοισιν (*CEG* 402, Naxos, 7th c.), Κλεομροτος (Dubois 2002: 23ff., bronze tablet dedicated by an Olympic victor from Sybaris and dated to appr. 600 BC), Σωμροτιδας (name of a physician in Megara Hyblaea, an Achaean colony in Magna Graecia, *IGDS* 22, ca. 550 BC), Φιλομροτος (*SEG* 24.405, Pelasgiotis, early 5th c.), and Μροχο Ιηερ[ογ]ενέα (woman's name from Perrhaebia, first half 5th c. *SEG* 24.406). A name Κλεομορτος is also attested twice (Aeolis, 2nd c. and Cyclades, 3rd c.), see the details in Masson (1963: 219). As Barnes remarks, these five forms "may seem like a small amount of evidence, but it must be stressed that these inscriptions come from three totally different dialect areas (Italian colonies, Thessaly, Insular Ionic) and are among the earliest inscriptions from their respective areas."

[741] This is not entirely certain, however, because 7th c. Naxian also preserves a distinction between /ǣ/ and /ē/ which has been lost in Homer.

[742] Contra Mühlestein (1958: 226): "Notlösungen sind auch ἀβρότη, ἀμφιβρότη, ἀβροτάξομεν, wo überall zur Zeit der Niederschrift der Lautwandel längst zu verswidrigen Formen mit -μβρ- geführt hatte (vgl. ἄμβροτος, τερψίμβροτος, ἤμβροτον)".

[743] Cf. σῆμα βροτοῖσιν |T in the same position (*Il.* 13.244), itself one of the few cases where the Dp. does not stand in verse-final position.

Gs.	βροτοῦ	1	|$_{T}$ βροτοῦ ἀνέρος (*Il*. 18.85)
Ds.	βροτῷ	4	always before |$_{B}$; βροτῷ ἀνδρί (3x)
Np.	βροτοί	15	οἷοι νῦν βροτοί εἰσ' |$_{P}$ (4x *Il*.) ὅσσοι νῦν βροτοί εἰσιν |$_{T}$ (1x *Od*.) verse-final βροτοὶ ἄλλοι (3x *Il*.)[744], see Ns.
Ap.	βροτούς	1	|$_{T}$ βροτούς (*Il*. 24.464)
Gp.	βροτῶν	44	39 after |$_{T}$; the other 5 instances may be modifications.[745]
Dp.	βροτοῖσι(ν)	28	verse-final (24x); before |$_{T}$ (4x)[746] δειλοῖσι βροτοῖσι(ν) (6x) θνητοῖσι βροτοῖσι(ν) (3x, also Hes., hymn.)

Table 7.1: Pattern of attestation of βροτός in Homer

Among the forms with a second syllable that is long by nature, only Gp. βροτῶν (44x) and Dp. βροτοῖσι(ν) (28x) are frequently used. Each of them has its own preferred position in the line: βροτοῖσι(ν) is verse-final on 24 of 28 occasions, as expected for a form of this metrical structure. The Gp. βροτῶν (44x, the most frequent case form of βροτός in Homer) is found directly following \|$_{T}$ in 39 cases. The frequency of βροτῶν, in combination with its consistent localization, can hardly be predicted from its iambic structure (generally, between 50 and 60% of such forms stands after \|$_{T}$, see O'Neill 1942: 140). This suggests that its scansion reflects an archaism.

Apart from βροτῶν and βροτοῖσι(ν), *McL* scansion is found only in two forms which otherwise would not scan: the Ap. βροτούς and the Gs. βροτοῖο, each attested once in Homer. All other case forms of βροτός, i.e. the entire singular and the Np., are always followed by a vowel, with only one exception.[747] This shows that *McL* scansion in βροτός was generally avoided as far as possible in the Homeric epics.[748]

That the Dp. βροτοῖσι contains a relic scansion is perhaps confirmed by the inflecting system of formulae for 'mortals' or 'human beings'. In the Gp., ἀνθρώπων (96x) is frequent in verse-final position (61x), notably in the formulae \|$_{H}$ μερόπων ἀνθρώπων and \|$_{T}$ (κατα)θνητῶν ἀνθρώπων. In the Dp. (38x), we find the spondeic clausula \|$_{B}$ ἀνθρώποισι(ν) (12x), but there are no noun-epithet formulae ending this way. It is clear, then, that the normal Dp. form of 'mortals' used in formulae is βροτοῖσιν. The accompanying traditional epithet

[744] Only in the quasi-formulaic verse νύκτα δι' ὀρφναίην (ἀμβροσίην), ὅτε θ' εὕδουσι βροτοὶ ἄλλοι, which only occurs in the *Doloneia* (2x) and at *Il*. 24.363.

[745] *Od*. 15.253 after e.g. *Od*. 13.297; *Il*. 6.142 and *Od*. 6.153 after e.g. *Il*. 7.446, *Od*. 1.66, 11.218, 13.297; *Od*. 15.492, 16.63, and 19.170 perhaps after *Od*. 23.267.

[746] Of the 4 non-verse final attestations, 2 identical verses have θνητοῖσι βροτοῖσιν (*Od*. 3.3 and 12.386), which also occurs in verse-final position (*Od*. 7.210, 3x Hes. *Th*.) and is a transformation of θνητῶν ἀνθρώπων. The same holds for μερόπεσσι βροτοῖσιν beside the frequent μερόπων ἀνθρώπων.

[747] The only exception in Homer is αἶψα γὰρ ἐν κακότητι \|$_{T}$ βροτοὶ καταγηράσκουσιν (*Od*. 19.360). After Homer, we find \|$_{T}$ βροτὸν κρατερόν τε μέγαν τε (*Scut*. 106), οὔ τι \|$_{T}$ βροτοὶ κείρουσι σιδήρῳ (*h*. *Aph*. 268). In all these cases, βροτο- stands directly after the trochaeic caesura, where the use of the licence may have been extended from the Gp. The prevocalic forms have a preference for the biceps of the fourth or fifth foot. Taken together (42x), they are less frequent than the Gp. and Dp. A similar ratio is found if we consider the *Theogony* and *Works and Days* together: the Gp. and Dp. (9x) make up more than half of the attestations of βροτός (16x); the Gs. βροτοῖο is not used.

[748] In order to cross-check the statistical relevance of the high frequency of *McL* scansion in θρόνος and βροτός, I counted the occurence of this licence in thematic nominal forms of the same metrical structure (*CLVCo*-) in Homer. On a total of 111 attestations, the vast majority of forms is used in front of a following vowel. The licence is applied only in three cases: ὡς μεμνέῳτο δρόμους \|$_{P}$ (*Il*. 23.361), ἀρνειούς τε τράγους τε \|$_{T}$ (*Od*. 9.239), and οὐδὲ τροφοῦ οὔσης \|$_{P}$ (*Od*. 19.489). The licence found in the inflected forms of θρόνος, βροτος and Κρόνος is exceedingly rare in other words of the same metrical structure.

may be |T ὀϊζυροῖσι (2x) or |H δειλοῖσι (6x), both 'miserable'. We can therefore reconstruct the following system for 'mortals' (cf. Parry 1971: 114-5):

Placed after	**Dative plural**	**Genitive plural**
|B	ἀνθρώποισιν (12x)	
|H	δειλοῖσι βροτοῖσιν (6x)	μερόπων ἀνθρώπων (10x) θνητῶν ἀνθρώπων (9x)
|T	ὀϊζυροῖσι βροτοῖσιν (2x)	καταθνητῶν ἀνθρώπων (7x) ἐπιχθονίων ἀνθρώπων (5x)

Table 7.2: Homeric formulae for 'men, mortals' in the genitive and dative

Whereas βροτοῖσιν is normal in verse-final position, the Dp. θνητοῖσι is avoided in this slot.[749] Since the use of βροτοῖσιν requires the use of a metrical licence, this distribution requires an explanation. One could point out that a dactylic fifth foot was generally preferred over the spondaeic cadence which θνητοῖσι would have yielded. However, if βροτοῖσιν violated metrical rules, the spondaeic cadence yielded by θνητοῖσι would certainly have been preferred. In other words, |H δειλοῖσι βροτοῖσιν and |T ὀϊζυροῖσι βροτοῖσιν (with *McL* scansion) would not have been created unless they scanned regularly at some pre-stage of Epic Greek. It also seems clear that both δειλοῖσι and ὀϊζυροῖσι are traditional ornamental epithets.

As explained in section 7.1, it is unlikely that βροτός is an Aeolic form.[750] Departing from **mr̥tó-*, inherited by Epic Greek in this form, I propose the following scenario. In the forms where the thematic ending was long by nature, the first syllable of **mr̥tó-* had to be placed in the second half of the biceps. The other forms would have a preference for the biceps of the fourth or fifth foot, where they could be used in front of a heavy syllable starting with a vowel.[751] After the development of Epic **r̥* to -ρο-, the forms βροτῶν and βροτοῖσι could only be used with *McL* scansion, while in most other forms the *McL* licence was avoided as far as this was possible: they were henceforth only used in prevocalic position.

7.2.2 ἀσπίδος ἀμφιβρότης and the compounds in -(μ)βροτος

In the two Homeric compounds in -μβροτος (τερψίμβροτος, φαεσίμβροτος), a preceding short vowel is scanned long. Their existence proves that the synchronic form underlying Homeric βροτός was /mrotó-/ rather than /mr̥tó-/.[752] But this does not contradict the conclusion that βροτῶν and βροτοῖσι contain a direct metrical trace of the older pre-form **mr̥tó-*: the two compounds are probably recent creations, as an inspection of their attestations shows.[753] The

[749] The dative in -οις before a consonant is a recent and marginal phenomenon in Homer: see Chantraine (1942: 194-6).

[750] As Wathelet remarks (1966: 166 n. 5), "L'absence d'abrègement chez Alcée et Sappho et le fait que βροτοῖσιν soit l'unique cas d'abrègement dans un contexte éolien, indiquent à suffisance que l'abrègement ne saurait provenir d'une influence éolienne." In his discussion of the dative βροτοῖσιν, however, Wathelet overinterprets the evidence by emphasizing "passages" with Aeolic forms. Out of 28 attestations in Homer, βροτοῖσι(ν) occurs in combination with Aeolic εσσι-datives only twice: μερόπεσσι βροτοῖσιν (*Il.* 2.285) and πάντεσσι βροτοῖσι (*Od.* 13.397). These numbers prove nothing, because we also find πᾶσι βροτοῖσι (*Od.* 15.255), with the Ionic dative form. The dative in -οισι need not be of Aeolic provenance, but may also continue the old South Greek locative ending. Finally, μερόπεσσι βροτοῖσιν is clearly a transformation of the more frequent μερόπων ἀνθρώπων.

[751] Compare the localization of the indicative forms of the thematic aorist (chapter 8). It is possible that **mr̥tó-* was only current in its Gp. and Dp. forms until rather recently before Homer.

[752] Personal names in -(μ)βροτος are frequent in Greek inscriptions (see Bechtel 1917: 298-9), but the existence of names in -μορτος in some dialects (see section 3.2.2) shows that the pre-form had **-mr̥to-*.

[753] One might even speculate that the low frequency of words ending in a short vowel in front of βροτό- is another metrical trace of **mr̥tó-* (cf. the case of κραδίη, section 6.7.2). In ἐρίσσειε βροτὸς ἄλλος (*Il.* 3.323, *Od.*

hemistichs |ᵖ τερψιμβρότου ἠελίοιο (*Od*. 12.269, 274) and |ᵖ φαεσιμβρότου ἠελίοιο (*Od*. 10.138) cannot be very old, in view of the epic correption of -ου in combination with the genitive in -οιο. Furthermore, φαεσίμβροτος ἠώς (*Il*. 24.785) is not an old noun-epithet formula, because ἠώς has an extensive traditional formulaic system with a different nominative form (see below).[754]

To be contrasted with these compounds of relatively recent date is the formula ἀσπίδος ἀμφιβρότης, which occurs in three different verses (*Il*. 2.389, 12.402, 20.281, each time occupying the first hemistich). Besides, there is also one instance of ἀμφιβρότην … ἀσπίδα (*Il*. 11.32). Wathelet (1966) stands in a long tradition when he views ἀσπὶς ἀμφιβρότη as referring to the "tower shield", which according to archaeologists dates back to Mycenaean times.[755] Two objections can be advanced against this identification. First, as remarked by Tichy (1981: 32-3), the formula ἀσπίδος ἀμφιβρότης is never explicitly used for the "tower shield" in the *Iliad*: the context of all passages makes clear that it refers to a round shield.[756] Secondly, the actual meaning of ἀμφιβρότη does not favor the connection with the tower shield. Tichy convincingly argues that the first member ἀμφι- must mean 'around', because shields or weapons are typically hung around a warrior's shoulders (1981: 33-4, with examples of Homeric phraseology). Thus, ἀμφιβρότης '[hung] around a man' may have referred to any shield and, as far as the semantics are concerned, may have been formed at any time.

This does not imply, of course, that ἀσπίδος ἀμφιβρότης is a recent creation. Since *McL* scansion is avoided as far as possible in the simplex βροτός, the scansion of the compound ἀμφιβρότη- suggests a pre-form **amp*^{h}*i-mr̥tā-*.[757] Moreover, the motional feminine in ἀμφιβρότη-, which is paralleled by νὺξ ἀβρότη (see below), is remarkable. Tichy remarks that compounds with governing prepositional first member generally have no motional form, and feels that an *ad hoc* explanation for ἀμφιβρότη- is justified.[758] But Tichy's analysis requires a number of additional assumptions, and it is unproblematic to assume that the scansion of ἀμφιβρότη- reflects older **amp*^{h}*i-mr̥tā-*. Whereas the more recently created compounds in -(μ)βροτος were based on the underlying synchronic form /mroto-/, the relic form **amp*^{h}*i-mr̥tā-* was automatically resolved as ἀμφιμρότη- when Epic **r̥* was vocalized. In

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15.321 and 19.286) and ὅτε θ' εὕδουσι βροτοὶ ἄλλοι (*Il*. 10.83, 10.386 and 24.363), the verbal form may originally have ended in ephelcystic -ν. If we disregard these six cases, there are only four instances (out of 41 possible ones) where βρ- demonstrably lengthens a preceding short vowel: ὅ με βροτὸς οὔτασεν ἀνήρ (*Il*. 5.361), μὴ δὲ βροτὸν ἄνδρα τελέσσαι (*Il*. 19.22), οἷα βροτοὶ ἄνδρες ἔδουσιν (*Od*. 5.197), ὅτε με βροτοὶ οὔ τι τίουσι (*Od*. 13.129). It is hard to decide whether this low frequency is statistically significant; cf. the comparison between κραδίη and κρατερός in chapter 8.

[754] The first member φαεσί- was based on the thematic aorist φάε (only *Od*. 14.502 φάε δὲ χρυσόθρονος ἠώς), like ταμεσίχρως on the aorist ταμεῖν. As a first member, βροτο- is only found in βροτολοιγός, epithet of Ares (13x, on four of which βρ- lengthens a word-final short vowel by position). This epithet is old in the generic noun-epithet formula |ᵖ βροτολοιγῷ ἶσο- Ἄρηϊ "equal to man-destroying Ares" (5x).

[755] Cf. *LfgrE* s.v. The so-called "tower shield" (σάκος ἠύτε πύργον) is associated with Ajax in the *Iliad*. According to archeologists, it fell into disuse around 1300 BC. Wathelet concludes: "Nous nous trouvons ici en présence d'une remarquable coïncidence des faits linguistiques et archéologiques: l'archaïsme du modèle de bouclier, correspond à la formule archaïque (…)." (1966: 167-8).

[756] As van Wees (1992: 320 n. 32) remarks, the phrase ἠύτε πύργον which gave rise to the term "tower shield" is more likely to refer to a thick or impenetrable shield: the actual meaning of πύργος in Homeric Greek is not 'tower', but 'bulwark, fortification'.

[757] Cf. West's remark concerning ἀμφιβρότη- that "short scansion before βρ, though admissable at a pinch, is a departure from the epic norm" (1988: 157).

[758] The only two motional forms among prepositional compounds with a governing first member are ἀμφιβρότη- and the quasi-hapax ἀντιθέην ἄλοχον. Since the latter is clearly secondary beside the ubiquitous masculine ἀντίθεος (60x Hom.), Tichy proposes to explain ἀμφιβρότη- as a recent hypostasis of a phrase ἀμφὶ βροτῷ. It would have assumed the gender of other compounds with ἀμφι- (e.g. ἀμφιρύτῃ, in her view a "Zusammenrückung") and of other feminine qualifications of ἀσπίς.

my view, then, the scansion of ἀμφιβρότη-, in combination with the motional feminine, must be considered an archaism.

7.2.3 ἄμβροτος, ἀμβρόσιος and νὺξ ἀβρότη

The adjective ἄμβροτος 'immortal; refreshing' continues an inherited formation: like Ved. *amṛ́ta-*, Av. *aməšа-* 'id.', Lat. *immortālis*, it reflects PIE **n̥-mr̥to-*. Since the metrical behavior of βροτός can be related to the fact that its pre-form is **mr̥tó-*, one might also expect to find metrical traces of the pre-form **ámr̥to-*. However, the only direct trace is the hapax νὺξ ἀβρότη (only *Il*. 14.78, with *McL* scansion of βρ-); elsewhere, **-mr-* always closes the preceding syllable in ἄμβροτος (20x) and ἀμβρόσιος (37x).

At first sight, this near-absence of instances of *McL* scansion seems to imply that ἄμβροτος and ἀμβρόσιος do in fact contain an Aeolic reflex -ρο-, as the *communis opinio* has it. But once the metrical difference between dactylic ἄμβροτος and its pre-form **ámr̥to-* is taken into account, the picture changes. Like the inherited form ἀνέρες < PIE **h₂nér-es*, **ámr̥tos* was a tribrachic form. In an earlier stage of Epic Greek, **ámr̥to-* (either with a long final syllable, or when followed by a consonant) would have competed with the metrically lengthened dactylic form **ā́mr̥to-* (cf. *ānéres*). The stem **ā́mr̥to-* would have occurred especially in the neuter plural (as in Hom. ἄμβροτα εἵματα, ἄμβροτα τεύχεα followed by a verbal form). Besides, the precursor of ἀμβρόσιος coexisted with that of ἄμβροτος at an early date.[759] This adjective could only be used with a metrically lengthened first syllable, i.e. **āmŕ̥sio-* (cf. the metrical lengthening in ἀθάνατος 'immortal').[760] Taken together, the existence of **āmŕ̥sio-*, the high relative frequency of metrically lengthened **ā́mr̥to-*, and the fact that *McL* scansion was avoided as far as possible after the vocalization of Epic **r̥* may have favored the decline of anapestic **ámr̥tos C-*.

The poetic forms **ā́mr̥to-* and **āmŕ̥sio-* were unknown in the Proto-Ionic vernacular, or in any other vernacular of the Dark Ages. When Epic **r̥* vocalized, they yielded **ā́mroto-* and **āmrósio-*. These forms were then shortened to *ámroto-* and *amrósio-*, either by cancelling the metrical lengthening once it had become superfluous, or even regularly by Osthoff's Law.[761] They ultimately appear in our Homeric texts as ἄμβροτος and ἀμβρόσιος. The latter was used as a metrical variant which originally supplied the case forms of ἄμβροτος ending in long vowel or diphthong plus consonant, as in ἀμβροσίην διὰ νύκτα. It could then also be used in front of a consonant in most of the masculine forms (e.g. ἀμβροσίου διὰ πέπλου *Il*. 5.338).[762]

In view of this systematic alternation between ἄμβροτος and ἀμβρόσιος, there would have been no need to create a syntagm νὺξ ἀβρότη. It requires the use of a metrical licence that was otherwise avoided in the simplex βροτός. Moreover, νὺξ ἀβρότη has a motional feminine. According to our grammars, ἄμβροτος is an adjective of two endings in Homer, but this statement is based only on one single instance (νὺξ φθῖτ' ἄμβροτος, *Od*. 11.330), and the

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[759] See Thieme (1952: 16), who remarked that ἀμβρόσιος never clearly means 'immortal' in Homer, but rather "*Lebenskraft enthaltend*", i.e. 'refreshing'. It can be derived from a neuter substantive *ἄμβροτον with the same meaning as Ved. *amṛ́ta-* (n.) 'vital force'. On the other hand, ἄμβροτος does not only mean 'refreshing' (like ἀμβρόσιος), but also 'immortal' in the colon θεὸς ἄμβροτος (4x, Ns. and As.), and only here (cf. West 2007: 127).

[760] Note that ἀμβρόσιος is metrically equivalent to ἀθάνατος, but that the two adjectives do not qualify the same nouns.

[761] The same environment is found in Ion. μεσαμβρίη 'mid-day' (Att. μεσημβρίη with analogical -η- after the base word, cf. Peters 1980: 256). That **ā́mr̥ton* ends up as ἤμβροτον 'I missed' may be due to a reintroduction of the augment after the application of Osthoff's Law.

[762] In Homer, we find the syntagms ἀμβροσίη νύξ (*Od*. 4.429 and 574, 7.283), νὺξ … ἀμβροσίη (*Il*. 18.268-9), ἀμβροσίην διὰ νύκτα (*Il*. 2.57), and νύκτα δι' ἀμβροσίην (*Il*. 10.41 and 142, 24.363, *Od*. 9.404, 15.8). See *Comm. Kirk* ad *Il*. 14.78.

epicene inflection is synchronically expected in Greek. It is not obvious at all, then, that νὺξ ἀβρότη is secondary to the single instance of νὺξ … ἄμβροτος.[763] In my view, it is much more plausible that the aberrant scansion, phonology, and morphology of ἀβρότη represent an archaism.

On the other hand, one could also reason differently. It cannot be entirely excluded that the hapax νὺξ ἀβρότη is a nonce formation. This option has been argued for in detail by Tichy (1981: 34ff.), whose argument runs as follows. (1) Most determinative compounds have no separate feminine form. (2) In most of the exceptions to this rule, the compound may have taken over the feminine flexion from a co-occurring simplex. (3) In νὺξ ἀβρότη, this explanation is impossible because the simplex βροτός has no motional feminine itself. (4) Therefore, νὺξ ἀβρότη must be a recent "Zusammenrückung" of ἀ- and βροτός, and is a "metrisch bedingte Ersatzbildung für ἀμβροσίη (…); vermutlich hat dabei ἀμφιβρότη- als Analogiemuster gewirkt, das in ähnlicher Weise neben φαεσίμβροτος f. und φθισίμβροτος f. steht wie im Ergebnis ἀβρότη neben ἄμβροτος f." (1981: 35).

If νὺξ ἀβρότη is indeed a nonce formation (replacing the regular Ns. form ἀμβροσίη νύξ), a motive for its formation must be indicated. In Tichy's view, the reason would be that the poet wanted to insert the idea 'immortal night' before ἣν καὶ τῇ |T ἀπόσχωνται πολέμοιο || Τρῶες. In conclusion, she asks: "… ist es verwunderlich, wenn als Ergebnis seiner wohl weitgehend unbewussten Bemühungen νὺξ ἀβρότη zustande kam?" (1981: 37). This line of reasoning is rather speculative. Although Tichy does show that ἣν καὶ τῇ |T ἀπόσχωνται πολέμοιο || Τρῶες is a transformation of traditional Epic material, she does not explain how exactly the poet's "unconscious" calculations may have led him to fashion νὺξ ἀβρότη. The possibility of a proportional analogy "ἀμφιβρότη- : φαεσίμβροτο- = X : ἄμβροτος → X = ἀβρότη-" (thus Tichy) is not evident either: the first pair contains two different types of compounds (prepositional compound vs. compound of verbal government), whereas the second pair are mere phonological variants. Finally, precisely because of the existence of νὺξ … ἄμβροτος, it is hardly comprehensible why the poet would have preferred νὺξ ἀβρότη over *νὺξ ἄβροτος.

In conclusion, it seems likely to me that the feminine ἀβρότη represents a relic motional form **amr̥tā*, but some caution is necessary because we are dealing with a hapax.

7.2.4 ἀβροτάξομεν and ἤμβροτον beside ἁμαρτεῖν

In section 8.4.4, ἤμβροτον 'missed' will be analyzed as the Epic reflex of a pre-form **ắmr̥ton*. This explains both the exclusive use of specifically Ionic augmented forms (ἠ-) and the distribution between augmented and unaugmented forms of the root. Thus, ἤμβροτον is an excellent example for the conditioned change described here. The form ἀβροτάξομεν is used only once, by the author of the *Doloneia*,[764] when Agamemnon speaks to Menelaos (*Il*. 10.65-66):

> αὖθι μένειν, μή πως ἀβροτάξομεν ἀλλήλοιιν
> ἐρχομένω· πολλαὶ γὰρ ἀνὰ στρατόν εἰσι κέλευθοι

"Stay there, lest by chance we miss each other as we go: for many are the paths throughout the camp." (transl. Wyatt)

[763] It is also to be noted that νὺξ ἀβρότη is attested in the *Iliad*, and νὺξ φθῖτ' ἄμβροτος in the *Odyssey*.

[764] The *Doloneia* is almost universally agreed to be a post-Homeric addition to the *Iliad* (see Danek 1988: 9-18 for an overview of the literature). Throughout her 1981 article, Tichy cites the form as ἀ(μ)βροτάξομεν (the v.l. ἀμβροτάξομεν is "nur schwach bezeugt", 1981: 31). However, there is no evidence for such a *varia lectio* in the group of mss. utilized by van Thiel for his edition, nor is it mentioned in the apparatus of the edition by Monro and Allen. It is therefore better to stick to the notation ἀβροτάξομεν. The problem is similar to ἀνδροτῆτα beside the weakly attested v.l. ἀδροτῆτα, but the difference is that ἀβροτάξομεν is a *lectio difficilior*, and ἀνδροτῆτα a *lectio facilior*.

Formally, ἀβροτάξομεν is a short vowel subjunctive of the *s*-aorist.[765] The stem ἀβροτάξ- is an extension of the root of ἁμαρτεῖν 'to miss, fail', probably a denominative based on the abstract noun **amr̥tā-* (cf. Ion.-Att. ἁμαρτή). Unless ἀβροτάξομεν would be a nonce formation of some sort, the velar aorist suffix -αξ- can hardly be anything but an Achaean element of Epic Greek (cf. Ruijgh 1957: 71-89).[766] The canonical interpretation, then, is that ἀβροτάξομεν contains a metrical and phonological trace of an Achaean pre-form **amr̥táksomen*. However, in her crusade against the idea that metrically irregular forms with -ρο- continue older forms containing a syllabic liquid, Tichy (1981: 64) tried to explain away ἀβροτάξομεν as an artificial Epic "Streckform".[767] She correctly points out (1981: 37-8) that the subjunctive of the Aeolic aorist stem, $^{++}$ἀμβρότωμεν, could not be used in hexameter verse, and agrees that the suffixation in -αξ- is "völlig abnorm". In my view, the only possible conclusion to be drawn from these remarks is that ἀβροτάξομεν is an archaism. Since there is no explanation for -αξ- within Ionic, the form must have originated in Mycenaean and entered Ionic Epic as **amr̥táksomen*. The reflex -βρο- for -μρο- < **-mr̥-* is due to the vocalization of Epic **r̥*. Incidentally, this provides circumstancial evidence for the idea that Mycenaean still preserved **r̥*.[768] The genitive dual form ἀλλήλοιιν following ἀβροτάξομεν could corroborate the antiquity of the hemistich.

In view of its morphological, phonological and metrical deviations, the *communis opinio* that ἀβροτάξομεν is a real archaism is probably correct. Having said that, it must not be forgotten that ἀβροτάξομεν is a hapax, attested in the *Doloneia*, which is most probably a post-Homeric addition to the *Iliad*.

7.2.5 πρός, πρόσω and πρόσωπον

The reconstruction of πρός, πρόσ- 'towards, against, by; in addition' and its relatives is a difficult problem. The three Homeric forms are πρός, προτί, and ποτί. In the vernacular dialects, we find πρός (Ionic-Attic, Lesbian), *po-si* (Mycenaean), ποϛ (Arcado-Cyprian), ποτι (Thessalian and Boeotian), πορτι (Cretan), and ποτι, ποτ, ποι in the other West Greek dialects.[769] On this basis, we can reconstruct neither a common South Greek form, nor a

[765] The form is sometimes cited as ἀ(μ)βροτάξομεν, e.g. by Tichy. This is misleading, because almost all Homeric manuscripts offer the reading ἀβροτάξομεν (with a minor v.l. ἀβροτάζομεν). Homer probably still had *-mro-* as a reflex of Epic **r̥*. After the sequence **-mr-* had become disallowed for phonotactic reasons, it may have been rendered as -βρο- (the closest form which still preserved the metrical structure) within the post-Homeric tradition. This is the form which appears in our Homeric texts and manuscripts, but given the 7th c. Naxian form μροτοισιν discussed above, even the author of the *Doloneia* may still have pronounced **-mro-*.

[766] The guttural aorist flexion is an innovation of the Achaean dialect group, not a preserved archaism. The innovation also took place with West Greek, but in spite of West (1988: 167-8), it is unlikely that Early Greek Epic structurally contained West Greek elements. Therefore, the only option to be seriously entertained is a Mycenaean origin.

[767] "Aus dem erhaltenen griechischen Sprachmaterial kann m.W. weder eine Bildeparallele noch ein Analogiemuster beigebracht werden, es sei denn, die reguläre Form *ἀμβρότωμεν wäre in Imitation nach dem Versausgang φυλάξομεν ἡμέας αὐτούς *Θ* 529 künstlich "gestreckt" worden." (o.c. 37-8). In Tichy's view, which has nothing to recommend itself, *ἀμβρότωμεν would have originally occupied the slot following $|_H$ in a verse-end like "*ἀμβρότωμεν ἑταίρων* (o.ä.)" (o.c. 64). This proposal is guided by her idea that the cretic sequence *ἀμβρότω- was metrically regular in this specific slot in a pre-stage of Epic Greek. Indeed, in Berg's proto-hexameter, a trochaeic sequence like ἀμβρο- could be placed at the beginning of an original verse-final pherecratean. But even if one were inclined to accept this theory, there is no basis whatsoever for the assumption that ἀβροτάξομεν ἀλλήλοιιν replaced an earlier $^{++}$ἀμβρότωμεν ἑταίρων. Moreover, as Tichy herself admits, no real inner-Epic model can be indicated for the assumed replacement of *ἀμβρότωμεν with ἀβροτάξομεν. Thus, Tichy's version of the proto-hexameter hypothesis explains neither the morphological nor the metrical problems posed by ἀβροτάξομεν.

[768] Scholars wishing to avoid this conclusion would have to argue that Ionic Epic took the form from some earlier form of Mycenaean, prior to the tablets. This seems both unnecessary and unlikely to me.

[769] As Wyatt (1978: 89 n. 1) remarks, the Argive form προτι is a mirage. Like Wyatt, I leave out of consideration the forms πρές 'in addition' (cited as Aeolic in Joh. Gramm.), Pamph. περτ' (also as a preverb in περτεδωκε, see

common North Greek one. It seems, then, that Proto-Greek had at least two forms, which are traditionally reconstructed as **poti* and **proti* and considered to be etymologically distinct.[770] A similar situation is found in Indo-Iranian: Ved. *práti* 'against, towards, etc.' is from PIIr. **práti*, whereas Av. *paiti* 'against, towards; also' and other Iranian forms derive from PIIr. **pati*.

That PGr. had a preposition **poti* is beyond doubt. Problematic for the reconstruction of PGr. **proti*, however, is that such a pre-form would not yield Cret. πορτι. As we have seen in section 3.2.2, Cret. πορτι could be explained from **pr̥ti*, a pre-form which also underlies the Hittite adverb *-parza* '-wards'. In what follows, I will argue that the evidence for *McL* scansion in Homeric πρός, προσ- offers further support for a reconstruction **pr̥ti*.[771]

The only direct evidence for PGr. **proti* is Homeric προτί.[772] It is therefore of the utmost importance to analyze the distribution between προτί, ποτί, and πρός in Homer. A groundbreaking treatment of the metrical and syntactic behavior of these forms has been provided by Wyatt (1978), a much-neglected article. He reaches the following conclusion: "*poti* is an inherited form, and *pros* entered the tradition from contemporary Ionic: *proti* seems to be somehow intermediate between the two, and is used only for metrical purposes – it seems a purely epic device" (1978: 115). Wyatt demonstrates that προτί is only used in two ways: (1) in front of vowel-initial words, e.g. προτὶ ἄστυ, προτὶ Ἴλιον;[773] (2) as a metrical variant of ποτί when the preceding word ends in a short vowel. Since (2) is rare and can be easily explained as secondary, he concludes that προτί originated as a metrical replacement of πρός in cases like προτὶ ἄστυ, where a long scansion of πρός before the once-digammated ἄστυ was apparently not tolerated.[774]

Once the evidence for PGr. **proti* has been eliminated, one wonders whether it is possible to depart from a single Proto-Greek form **poti*, reflexes of which are found in Homer, in mainland Aeolic, West Greek, and Arcado-Cyprian. This is indeed the position taken by Wyatt: he explains Homeric, Ionic-Attic πρός (whence Lesbian) and Cretan πορτι as due to contamination with other prepositions such as πρό, παρά, περί. It remains, then, to explain the structural *McL* scansion of Homeric πρός. As already observed in section 6.5, the metrical behavior of πρός and πρό is quite different: πρός / προσ- frequently undergoes *McL* scansion (240x in total, of which προσηύδα 163x), whereas the licence is all but completely avoided with πρό / προ-.[775]

Brixhe 1976: 61), and πρέσβυς 'elder' (Hom.+). Of these, πρές and πρέσ(-βυς) have a different meaning compared to πρός. The status of Pamphylian is too uncertain for purposes of reconstruction (section 3.6). If πρές and πρέσβυς derive from PGr. **préti(-)*, its *e*-vocalism can be compared with that of Latv. *pretī* (adv.) 'towards, opposite', *pret* (prep.) 'against, before', Lat. *pretium* 'reward, prize', and perhaps with Ved. *práti*.

[770] Thus e.g. Janko (1979), Frisk and *DELG* (s.v. πρός).

[771] The derivation of Hom. πρός from **pr̥ti- V-* is not contradicted by Forssman's analysis (1980) of ἔρρω 'to get lost' < **wertii̯ō*, because **-r̥ti-* and **-rti-* may have developed differently. Furthermore, Myc. *po-si* 'in addition' is commonly interpreted as /posi/ in view of Arcado-Cyprian ποϛ. It cannot be excluded, however, that the underlying form is /pr̥si/ or /porsi/ < **pr̥ti*. Some earlier scholars have admitted the possibility of /porsi/ (see *DMic*. s.v. *po-si*), but they assume that liquid metathesis operated on a pre-form **proti*, which is both unlikely and unnecessary.

[772] The Ionic-Attic vernacular form πρός can be explained by a contamination of **pr̥ti* with (the outcome of) **poti* or with πρό 'forward' (for a similar scenario, see Wyatt 1978: 120, 122). In addition, most scholars admit that Lesbian πρός can be due to Ionic influence (beside Wyatt, see e.g. Risch 1955, Janko 1979).

[773] Wyatt denies a connection between the use of προτί before vowel-initial words and the historical presence of **w*- in many of these words, a fact to which Meister (1921: 256) had already drawn attention.

[774] Wyatt's argument is rather intricate and cannot be repeated in its full form here. The lack of assibilation in Hom. ποτί is a different and difficult question. Miller (1982) argues that the South Greek assibilation only took place in words with more than two syllables. Wyatt (1978: 118-9, with ample discussion) also hints at this possibility, comparing ἀντί 'against' and ἔτι 'again'. The issue cannot be further pursued here.

[775] See Janko (1979: 24) for numbers. In his count, *McL* scansion before πρό or προ- occurs 7x *Il*. (3.8% of all cases where a short vowel precedes πρό) and 2x *Od*. (2.3%). The figures for *McL* scansion before πρός / προσ-,

As is well-known, Meillet (1913: 177) explained the Homeric scansion of πρός by assuming that the Ionic vernacular form πρός had replaced an earlier epic form **pos-* < **poti̯-*, the prevocalic variant of ποτί which was generalized in Arcado-Cyprian. This view has gained universal acceptance, and is also invoked by Wyatt.[776] There are, however, certain problems with Meillet's scenario. If the replacement of an older *πός is invoked to explain the scansion of the preposition and preverb πρός, then the scansion of other words with πρόσ- would have to be explained in the same way. This is indeed the scenario envisaged by Wathelet (1966) when he leaves all words with πρόσ- out of consideration in his enquiry into the origin of *McL* scansions:

"Il est possible que des aèdes qui trouvaient ποσηύδα dans la tradition aient opéré la substitution pour rendre une formule si fréquente intelligible à leur auditoire ionien. Dans la même catégorie figurent πρόσωπον (…) πρόσωπα formulaire surtout en fin de vers (…). On ajoutera προσφάσθαι (…), πρόσσω (…), et πρόσω (…) et enfin ἀλλοπρόσαλλον (…). Dans tous les passages où πρός provoque l'abrègement, ποσί peut le remplacer, ce qui élimine *ipso facto* l'abrègement. En conclusion, la *correptio* provoquée par l'emploi de πρός peut être due simplement à un changement dialectal dans l'évolution de la tradition formulaire" (1966: 154).

Of the words containing πρόσ- mentioned by Wathelet, *McL* scansion is found without exception in πρόσωπον, πρόσωπα 'face' (10x, of which 6x verse-final), πρόσω 'forward' (5x), and ἀλλοπρόσαλλον 'to each other' (2x).[777] Wathelet's explanation of the *McL* scansion in πρόσω and πρόσωπον seems unlikely to me. For πρόσω, an earlier form *πόσω can be excluded in view of the by-form πρόσσω (formulaic in |H πρόσσω καὶ ὀπίσσω, 4x Hom.), which suggests that the -ρ- is old. The vernacular form πόρσω, whatever its precise explanation, points in the same direction.[778] The assumption of a pre-form *πόσωπον also leads into difficulties. The related forms Ved. *prátīka-* (n.) 'face' < **pré/óti-h$_3$k^w-o-* and Toch. A *pratsak*, B *pratsāko* 'breast' confirm that the pre-form contained an *-r-*.[779] To be sure, the *pr-* in Vedic could be due to the influence of *práti-*, cf. Ved. *pratīpám* (adv.) 'against the current' beside Av. *paiti.āpəm* 'id.'. But the Tocharian word is isolated within that language, and confirms the PIE status of **pr-*.

In order to save Wathelet's argument, one would have to assume that the *forms* πρόσω and πρόσωπον as such are old, but that they entered Epic Greek only after πρός, προσ- had replaced *πός, *ποσ-. But this assumption can hardly be reconciled with the formulaic behavior of πρόσωπα, which is mostly verse-final (e.g. |B καλὰ πρόσωπα 3x) and has an

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on the other hand, are almost 60% in both epics. When I checked the numbers for προ-, it appeared that Janko did not include any instances of προκείμενα in his count. As far as I have been able to see, he included only the following cases: |T πρὸ ἄστεος (2x *Il.*, 2x *Od.*), |T πρὸ κούρων (*Il.* 17.726), and |T πρὸ μέν τε (*Il.* 13.799), |T προθυμίῃσι (*Il.* 2.588, with an otherwise rare type of metrical lengthening of -ι-), |H νῆας τε προπάσας (*Il.* 2.493), προῆκε (*Il.* 17.545); he also forgot to count |T προήκεα (*Od.* 12.205), προΐκτης (2x *Od.*). Janko points at the higher absolute frequency of the licence in front of πρό in Hesiod (*Th.* + *Op.*): "We may presume that the licence spread by analogy with πρός: Hesiod's diction is as usual more advanced than Homer's." It is noteworthy that in most of the Homeric cases, *McL* scansion in front of πρό occurs in combination with a preceding trochaeic caesura. In combination with the various strategies for the avoidance of *McL* scansion in compounded verbs (section 6.5), this suggests that *McL* scansion before πρό was originally completely avoided in Epic Greek, and that the licence could spread due to |T προκείμενα and |T προσηύδα. On προκείμενα, see the next section.

[776] Cf. Wathelet (1966), Wyatt (1978), Janko (1979), Miller (1982: 87f.), West (1988).

[777] Noteworthy is πρόσω ἵεσθε (*Il.* 12.274, with long ἵ- and preserved hiatus, probably from **wīest^{h}e*). The one instance of *McL* scansion in πρόσσω (*Il.* 11.572, on 14x Hom.) is due to an incidental application of the licence. The single case of *McL* scansion of προσφάσθαι when standing in the arsis (*Od.* 23.106) is better left aside as incidental, too.

[778] The problematic relation between Att. πόρρω 'further' and Ion. πρόσω is discussed in section 9.1.9.

[779] The Vedic word forms a near-perfect match with πρόσωπον if Olsen's proposal that unaccented **CiH$_{2/3}$C* > Greek *C̥ī̆/ō̆C-* (Olsen 2009) is correct. Toch. A *pratsak*, B *pratsāko* 'breast' is usually reconstructed as PIE **prótih$_3$k^{w}o-*, with *a*-umlaut of the first syllable.

artificially extended form |T προσώπατα |B (2x). It would also remain unclear why Epic poets did not avoid *McL* scansion in πρόσω, which could have been easily accomplished by using the word in prevocalic position only. Note, in addition, that πρόσσω existed as a metrical alternative.[780]

Let us return to Meillet's original assumption. It is clear that obsolete forms were frequently replaced with metrically equivalent forms that were current in the vernacular. But this never happened if the replacement entailed a violation of metrical rules. In view of the general avoidance of *McL* scansion, it would be unclear why Epic poets permitted themselves this licence on such a large scale with πρός, but avoided it almost completely in the case of πρό. It is also unclear why ποσ- would be difficult to understand for an Ionian audience, as argued by Wathelet: given the existence of ποτί in Homer, a *ποσ- would have been sufficiently perspicuous.

Within the present framework, Meillet's replacement hypothesis turns out to be unnecessary. Epic πρός may preserve the reflex of **pr̥ti* in front of long vowels (cf. προσηύδα), with the regular outcome of Epic **r̥* after a labial consonant.[781] A direct vernacular reflex of the same pre-form was also preserved in Cretan πορτι. In this way, we may now also reconstruct πρόσω and πρόσωπον as PGr. **pr̥t̂ī̆ō* and **pr̥t̂ī̆ōk^wo-*, respectively. This is the only way to explain the consistent use of πρόσω with *McL* scansion, and the non-avoidance of πρόσωπον in Homer. To be sure, the vernacular forms Ion. πρόσω (Hdt., Hp.) and Ion.-Att. πρόσωπον cannot be explained in the same way, but it is possible that the (Proto-)Ionic vernacular introduced -o- in the respective pre-forms **pr̥t̂ī̆ō* and **pr̥t̂ī̆ōk^wo-*, just like it replaced the outcome of prevocalic **pr̥t̂ī-* with πρός, probably under influence of πρό or **poti*. Epic Greek resisted this introduction for metrical reasons, and initially retained the inherited form **pr̥t̂ī-*.

It may finally be asked how the coexistence of **pr̥ti*, **préti*, and **poti* in PIE can be motivated. I think that the answer can be found in Wyatt's analysis. After eliminating a few minor exceptions, he establishes that ποτί never governs the genitive in Homer, while πρός does not occur with the dative in combination with a verb of motion (1978: 97-8). He notes that Avestan *paiti* "does occur with the genitive (…) but this may be an inner-Avestan matter." (o.c. 108, referring to Reichelt's *Elementarbuch*). It is therefore possible that PGr. **poti* (+ D.) 'to, against', modifying verbs of motion, is a syntactic archaism inherited from PIE. This construction was retained in Epic Greek, because after ποτί had been lost from Proto-Ionic, **pr̥ti* or πρός could not be used with this syntax. On the other hand, **pr̥ti* (+ A.) 'towards, against', the synchronically normal construction in Ionic-Attic, may also reflect inherited syntax. It is possible, finally, that **préti* was the original adverb corresponding to

[780] The verb πορσύνω ~ πορσαίνω 'to prepare', attested three times in Homer (each time with λέχος as its object), may further corroborate that πρόσω is an artificial form. Given that *McL* scansion was unproblematic in πρόσω, there would have been no metrical reason to reshape a putative *προσύνω to πορσύνω. So if πορσύνω ~ πορσαίνω was taken from the vernacular (where it was derived from πόρσω), πρόσω must be a product of Epic Greek.

[781] Apart from the frequent *McL* scansion in front of πρός, Janko (1979) advances three arguments for the supposed replacement of προτί and ποτί. (1) The high number of instances of *Silbenwägung*, i.e. "the 'lengthening' of a naturally light syllable in thesis before a following consonant" (1979: 24-5). Janko remarks that πρός is responsible for about 50% of the total amount of occurrences of this uncommon phenomenon in the second foot. But this may be due to a secondary extension of the use of πρός; it does not prove that the form itself is recent. (2) The use of προτί / ποτί in the thesis before vowels, especially if the hiatus was caused by the loss of digamma (e.g. προτὶ ἄστυ, προτὶ Ἴλιον). But this leaves unexplained Wyatt's strange distribution between προτί (before a hiatus caused by the loss of digamma, and also if the preceding word ended in a short vowel) and ποτί (elsewhere). This distribution could rather point to the reverse conclusion: προτί is a secondary form, due to a blend of ποτί and πρός. (3) The absence of πρός in the thesis of the fifth foot. However, the avoidance of a spondaeic cadence may have been generalized at any given time. Thus, Janko's arguments do not contradict an original situation where Epic Greek only had ποτί (or even **pr̥ti*) before *C-*, and **pr̥s-* before *V-*.

**pr̥ti*: for a different ablaut grade in the adverb, cf. ἐπί ‘on, at, by’ beside Myc. *o-pi*, Hom. ὀπίσσω ‘backwards’.

7.2.6 προκείμενα

An unexpected confirmation of the idea that -ρο- is the inner-Epic outcome of **r̥* after a labial consonant is furnished by the formulaic verse οἱ δ’ ἐπ’ ὀνείαθ’ ἑτοῖμα προκείμενα χεῖρας ἴαλλον, “and they strechted out their hands to the ready-lying lavishments that had been served” (3x *Il.*, 11x *Od.*). In Homeric Greek, the verb προκεῖμαι is attested only in this verse.[782] The normal verb in the meaning ‘to serve food’, both in Homeric and in Classical Ionic-Attic, is παρατίθημι, with a suppletive passive perfect (σῖτον) παρακεῖται ‘(the food) has been served’.[783] It is therefore highly attractive to regard προκείμενα as the regular inner-Epic outcome of **pr̥-keimena*, with the older form **pr̥* of the preverb παρ-, παρα-.[784] An illustrative passage is the following, where πάρθεσαν and προκείμενα refer to the same event:

> ὣς φάτο, καί σφιν νῶτα βοὸς παρὰ πίονα θῆκεν
> ὄπτ’ ἐν χερσὶν ἑλών, τά ῥά οἱ γέρα <u>πάρθεσαν</u> αὐτῷ.
> οἱ δ’ ἐπ’ ὀνείαθ’ ἑτοῖμα <u>προκείμενα</u> χεῖρας ἴαλλον (*Od.* 4.65-7).

“Thus he [Menelaos] spoke, and took in his hands the roast meat and served it to them [his guests], the fat ox-chine which they [the servants] had served to him as a part of honor. Then they stretched out their hands to the ready-lying lavishments that had been served.”

There is one instance of προτίθημι in Homeric Greek that seems to mean ‘to serve as food’, but the context is rather atypical: ἢ ἔτι πὰρ νήεσσιν ἐμὸς πάϊς, ἦέ μιν ἤδη ᾖσι κυσὶν μελεΐστὶ ταμὼν προύθηκεν Ἀχιλλεύς “whether my son is still by the ships, or whether Achilles has already chopped him up limb by limb and served him to his dogs” (Priam to Hermes, *Il.* 24.409).[785] This passage does not contradict the foregoing observations: it shows that the form προκείμενα had been reinterpreted by the author of these lines as containing the preverb προ-, rather than an archaic variant of παρ-. This is, of course, precisely what one would expect. The consequence of this discovery is that no old instances of *McL* scansion are found with the preverb προ- (see also the preceding discussion of πρός).

7.2.7 Ἀφροδίτη

The name of the goddess Ἀφροδίτη is attested in Classical Ionic-Attic from Homer onwards. Since it has no clear etymology, its pre-form is difficult to reconstruct. The reason to include it in the present discussion is twofold. In view of its long ī, the use of Ἀφροδίτη in Early Greek Epic automatically entails *McL* scansion of -φρ-.[786] Out of its 42 occurences in Homer, 40 are in verse-final position, and it always occupies verse-final position in Hesiod and the

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[782] After Homer, προκεῖμαι is a current form, but in the meaning ‘to be served’ (of food and drinks), it only occurs in Herodotus, where it could be due to Homeric influence.

[783] Cf. the following instances: γρηῒ σὺν ἀμφιπόλῳ, ἥ οἱ βρῶσίν τε πόσιν τε παρτιθεῖ (*Od.* 1.191-2), δαιτρὸς δὲ κρειῶν πίνακας παρέθηκεν ἀείρας παντοίων, παρὰ δέ σφι τίθει χρύσεια κύπελλα (*Od.* 1.141-2), τράπεζαν, τὴν ἧν οἱ παρέθηκεν (*Od.* 21.29), ἄρτους ἐκ κανέοιο δύω παρέθηκεν ἀείρας (*Od.* 18.120-1), καὶ δέπαϊ χρυσέῳ δειδίσκετο φώνησέν τε, σῖτον δ’ αἰδοίη ταμίη παρέθηκε φέρουσα (*Od.* 1.139-40 and elsewhere). Most instances of παρατίθημι (25x) are found in the *Odyssey*, and it appears only 3x in the *Iliad*, but this fact can be related to the thematic differences between the two Homeric epics.

[784] PIE **pr̥-* is also continued in the Latin preverb *por-* ‘forth’ and may also underlie Germanic **fur-* (Go. *faur-* and so on) whenever this means ‘forth, forward’.

[785] Besides, προτίθημι reappears only once: οἱ δ’ αὖτε σπόγγοισι πολυτρήτοισι τραπέζας νίζον καὶ πρότιθεν, τοὶ δὲ κρέα πολλὰ δατεῦντο “some [servants] washed the tables with porous sponges and put them in front [of the suitors], and others were portioning out meats in abundance” (*Od.* 1.112). Note that in this case, the object of πρότιθεν are tables rather than comestibles.

[786] For this reason, it is also discussed by Wathelet (1966: 171-2).

Homeric hymns. Moreover, the following system of name-epithet formulae proves a considerable antiquity of Ἀφροδίτη within the epic tradition:

N. φιλομμειδὴς Ἀφροδίτη[787], Διὸς θυγάτηρ Ἀφροδίτη
A. χρυσῆν Ἀφροδίτην
G. πολυχρύσου Ἀφροδίτης, (φιλο-, καλλι-)στεφάνου Ἀφροδίτης
D. (ἰκέλη) χρυσῇ Ἀφροδίτῃ.

As we have seen in chapter 6, Homer incidentally makes use of the *McL* licence to fit a word into the hexameter. But in all other forms with -ρα- or -ρο- where *McL* scansion is regular and appears in high quantities, the pre-form contained **r̥*. Therefore, a pre-form **Ap^{h}r̥rdītā* deserves serious consideration. A second reason for reconstructing **Ap^{h}r̥rdītā* is the Cretan form Αφορδιτα. This is mostly compared with Pamph. Αφορδισιυς (~ Φορδισιυς). The handbooks unanimously ascribe both forms with -ορ- to liquid metathesis.[788] But as was shown in chapter 3, -ορ- was probably the regular development of **r̥* after a labial consonant in Cretan (-αρ- in other environments), and the regular development of the syllabic liquids in Pamphylian cannot be determined with certainty. Neither in Cretan, nor in Pamphylian is there any secure evidence for liquid metathesis.[789] The Cyprian PN *a-po-ro-ti-si-yo* (*ICS*^{2} 327) is ambiguous: it could represent either /Ap^{h}rodīsio-/ or /Ap^{h}ordīsio-/.

One could object to a pre-form **Ap^{h}r̥rdītā* that no forms with -αρ- or -ρα- are attested in Ionic-Attic or West Greek. This is not a cogent objection, because the name may be a relic form that disseminated from Epic Greek.[790] The lack of attestations in Mycenaean does not prove a late, foreign origin either: this would be a mere *argumentum e silentio*.

Most attempts to etymologize the name of Aphrodite in IE terms are speculative or gratuitous.[791] In my view, IE etymologies for divine names are only acceptable if there is a direct formal correspondence to a similar deity in another IE language (e.g. **dieu- ph$_2$ter-*), or if the name clearly refers to an important characteristic of the deity (as with Lat. *Venus*, which also means 'love, charm' as an appellative). For this reason, I consider all attempts to analyze Aphrodite as a compound with first member ἀφρός 'foam' to be futile.[792] Note that on a phonological level, this analysis explains neither the Cretan form Αφορδιτα[793] nor the Homeric scansion of Ἀφροδίτη. On the other hand, since there are no formal correspondences in other IE languages, a large number of scholars have thought that Aphrodite is of Near-Eastern provenance. But in spite of the numerous and indubitable traces of influence of the cult of Astarte on that of Aphrodite, a Semitic origin for her *name* could not be pointed out.[794]

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[787] The epithet φιλομμειδής is practically restricted to Aphrodite.
[788] See e.g. Buck (1955: 64), Lejeune (1972: 142-3).
[789] See section 3.6.
[790] For a different explanation, see the end of this section.
[791] An overview of earlier attempts can be found in Witczak (1993).
[792] While ἀφρο- was analyzed as 'foam', the second member was connected in antiquity with δύω 'to submerge' by folk-etymology, for instance in Plato's *Kratylos* (hence the later Ἀφροδίτη Ἀναδυομένη 'Emerging Aphrodite'). As is well-known, this idea ultimately goes back to Hesiod's story of Aphrodite's birth in the *Theogony*. In more recent times, Maass, Pisani, and most recently Janda (2010: 65) maintained the analysis as a compound with a first member ἀφρός, seeing in the second member a participle **dītā-* 'shining', from the PIE root **dih$_2$-* (as in Hom. δέατο 'appeared'). A negative evaluation of these attempts is given, among others, by Witczak (1993, but he does accept **-dītā-* 'shining': see below) and *DELG* (s.v.).
[793] This was also noted by Witczak (1993).
[794] Thus also *DELG* s.v.; see especially the summary in Burkert (1985: 152-3 and the accompanying notes). There can be no doubt that Aphrodite and her cult took over many characteristics from the Near-Eastern goddess Astarte and her cult. But this does not imply that her name is of Near-Eastern origin. Attempts to derive it from Semitic roots such as *prt* 'dove' or *prd* 'be fruitful' (see the literature in Burkert 1985: 408 n. 18) are unconvincing. In the case of complete borrowing, the Greeks would most certainly have taken over a name like

The only IE etymology for Ἀφροδίτη that could make sense has been proposed by Witczak (1993). He suggested that the name is originally an epithet of the planet Venus. As the brightest object in the morning or evening sky, this heavenly body is closely associated with Dawn, and it is the single most important aspect of Aphrodite's Near-Eastern and Egyptian counterparts.[795] Once the identification with Astarte had been made, Aphrodite's cult on Cyprus could be influenced by that of her counterpart.

However, Witczak's reconstruction of "a Proto-Indo-European epithet **Ab^{h}ro-dītā*, **Ab^{h}or-dītā*" cannot be correct. The variation between his **ab^{h}ro-* and **ab^{h}or-* 'very' cannot be explained in PIE terms, and only masks the problem posed by the Cretan (and the Pamphylian) form.[796] But this problem could be mended if one reconstructs a PIE adverb **$h_2$eb^h-r̥* 'quickly, very' on the basis of the Celtic, Germanic, and Greek forms cited by Witczak.[797] The Early Greek name **Ap^{h}r̥-dītā* would then mean 'sehr glänzend' (Witczak) or even 'who appears soon' (i.e. after sunset). The possibility of this etymology obviously depends on the question whether **-dītā-* can belong to δέατο 'appeared'. Its root can be reconstructed as **dih$_2$-* and compared with Ved. *dīdā́ya* 'shines, radiates'. The compound in **-dītā-* could be compared with Ved. *su-dītí-* 'shining beautifully', and within Greek perhaps with ἀρίζηλος 'very bright' (7x Hom.).[798]

But an alternative possibility deserves consideration. It is not impossible that the variation attested in Pamphylian Αφορδισιυς ~ Φορδισιυς is due to substrate origin. In fact, Pamphylian attests the so-called "α-aphaeresis" only in the theonyms Athena, Aphrodite and Apollo (see Brixhe 1976: 43 for attestations), never in appellatives or in other proper names. This possibility is not mentioned by Beekes (*EDG* s.v.), but it would make excellent sense in the framework of his idea that the "prothetic α" in variants like ἀστραπή ~ Arc. στορπα is due to substrate influence. It could be assumed that the α-less forms are genuine dialectal Pamphylian, and that the forms with α-prothesis were influenced by another Greek dialect.

Whatever the ultimate origin of Aphrodite, how could a pre-form **Ap^{h}r̥dītā* turn up as Ἀφροδίτη in Epic Greek? An Aeolic origin is merely a theoretical possibility, because this does not explain the scansion of the form in Epic Greek.[799] Another possibility, given the importance of her cult on Cyprus, would be that a Cyprian outcome Ἀφροδίτα < **Ap^{h}r̥dītā* was eventually substituted for the Epic form which had retained **r̥* for some time. But structural influence of Cyprian on Ionic Epic is hard to substantiate. Again, by far the most natural scenario is a regular vocalization of Epic **r̥* to -ρο- after a labial consonant. It is quite possible that the precursor of ἑωσφόρος 'morning star' had replaced **Ap^{h}r̥dītā* in spoken Proto-Ionic, which would make **Ap^{h}r̥dītā* a poetic relic form. Indeed, in its only Homeric

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Astarte or Ishtar. The discussion in Beekes ("As the goddess seems to be of oriental origin, the name probably comes from the East too", *EDG* s.v.) is inconclusive.

[795] Astarte is called Queen of Heaven in Near Eastern traditions, and etymologically means 'star'. Egyptian Hathor, often depicted as the goddess that carries the sun, is also the morning or evening star. The Greeks were well-aware of the Near Eastern influence on Aphrodite's cult: cf. [Pl.] *Epinomis* 987b.

[796] He supposes **ab^{h}or-* to underlie both PGm. **abar* 'very' and PCelt. **abor* 'id.', and that **ab^{h}ro-* is found in Thracian names with Αβρα-. With a question mark, he also compares Greek ἄφαρ 'suddenly, swiftly'. Note that the only evidence cited for **ab^{h}ro-* (supposedly contained in Ἀφροδίτη) comes from a language about the historical phonology of which next to nothing is known.

[797] According to Beekes (*EDG* s.v.), ἄφαρ is Pre-Greek.

[798] This adjective qualifies the rays of a star in *Il.* 13.244 and 22.27, and modifies ἀστήρ in its only Pindaric attestation (*Ol.* 2.55). Its inclusion depends on whether one accepts the phonological development known as laryngeal breaking in Greek: cf. Olsen (2009), who argues that the breaking in ἀρίζηλος is due to the unaccented position of **-ih$_2$-*).

[799] Indeed, Sappho uses the name a fair number of times, but this is obviously related to the subject matter of her poems. She also uses Κύπρις on four occasions (always in the vocative), a form which is much less frequent in Homer.

attestation (*Il*. 23.226), ἐωσφόρος is scanned with synizesis of -εω-, which is the expected vernacular outcome of **āwos-* in polysyllabic words (cf. Haug 2002: 122-136).

7.2.8 ῥόδον, ῥοδόεντ- ~ Myc. *wo-do-we*

The simplex ῥόδον 'rose' is mainly attested in poetry, but it does not occur in Homer or Hesiod.[800] The only occurrences of the etymon in Early Greek Epic are the adjective ῥοδόεντ- "having roses in it" (i.e. 'rose-scented') and the compounded epithets ῥοδοδάκτυλος 'with rose-colored fingers' (Hom.+) and ῥοδόπηχυς 'with rose-colored arms' (Hes.). This suggests that the simplex ῥόδον was not alive anymore in the Epic tradition. In the form βρόδον, however, it is found at least three times in the preserved fragments of Sappho (fr. 2.6, 55.2, 96.13, and possibly in 94.13).[801] Like Ionic Epic, Sappho also attests the compounds βροδόπαχυς and βροδοδάκτυλος. Finally, Mycenaean attests *wo-do-we* /wordowen/ or /wr̥dowen/ 'rose-scented'.

The Mycenaean form, which can be directly compared with Hom. ῥοδόεντ-, raises the question whether the original form may have been **wr̥do-*. Lesbian βρόδον could be the regular outcome of **wr̥do-* in that dialect, and Ionic-Attic ῥόδον would have to be an epicism. It is difficult, however, to find independent evidence for or against the assumption that ῥο- < **wro-* derives from Epic **r̥*. Since the word is relatively rare, the metrical evidence from Early Greek Epic cannot decide the issue.[802] Etymological comparanda offer no immediate help either. The etymological dictionaries (Frisk, *DELG* s.v.) compare the Iranian pre-form **wr̥da-* to be reconstructed for e.g. Pers. *gul* 'id.' and the borrowing Arm. *vard* 'id.'.[803] Thus, the word may have been borrowed as **wr̥do-* into Mycenaean from some Near-Eastern source, but this is not quite certain.

The only Homeric attestation of ῥοδόεντ- is |$_{\text{P}}$ ῥοδόεντι δὲ χρῖεν ἐλαίῳ (*Il*. 23.186), after the main caesura. The compound ῥοδοδάκτυλος is exclusively found in the verse-final formula ῥοδοδάκτυλος Ἠώς (27x), which is always preceded by a long syllable except in *Od*. 5.121. Given the metrical behavior of κραδίη (section 6.1), it is interesting that ῥ- is hardly used to generate length by position in this formula: this could be a coincidence, but it is at least compatible with a pre-form **wr̥do-daktulo-*.[804] The compound ῥοδόπηχυς is attested as a traditional epithet of young women in Hesiod's catalogue of Nereids (Ἰππονόη ῥοδόπηχυς *Th*.

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[800] In prose, ῥόδον is attested in Hdt. (twice) and Hp.

[801] The digamma generates length by position in ἀ δ' <ἐ>έρσα κάλα κέχυται τεθά|λαισι δὲ βρόδα κἄπαλ' ἄν|θρυσκα καὶ μελίλωτος ἀνθεμώδης (fr. 96.12-4). On the spelling βρόδον in Sappho, and on the loss of digamma in the Lesbian vernacular, see the extensive discussion in Bowie (1981: 74-87).

[802] If the original form was **wrodo-*, we would expect to find traces of avoidance of *McL* scansion, and a restriction of the available case forms to the biceps. On the other hand, in case of an original **wr̥do-*, one would expect to find that the form is used in all possible case forms, including those of which the ending is long by nature, and which require *McL* scansion. In support of the second option, there are some indications that the Gs. and Gp. were used with *McL* scansion after |$_{\text{T}}$: οἷα φέρουσ' ὦραι, ἕν τε κρόκῳ, ἕν θ' ὑακίνθῳ, ἕν τε ἴῳ θαλέθοντι ῥόδου τ' ἐνὶ ἄνθεϊ καλῳ (*Cypr*. fr. 4.4), and ὄζει ἴων, ὄζει δὲ ῥόδων, ὄζει δ' ὑακίνθου (Hermippus Com. fr. 82.8 Kock, geometric verse), and also in some post-Classical sources. Cf. also the colon στεφάνοισι ῥόδων (Simon. fr. 1.2), which consists of two anapests. Finally, one could point at *h. Dem.* 6 and Thgn. 1.537, where the plural ῥόδα is placed after |$_{\text{P}}$, but ῥ- does not cause length by position. All in all, however, this evidence is too scanty.

[803] The Armenian form cannot be directly compared with Greek **wr̥do-*, because **w-* would yield *g-* in inherited Armenian words. To compare ῥόδον within Greek with ῥαδινός 'supple', of plants, their stalks, spears, a whip, and human feet or hands (poetic, Hom.+) or ῥοδανός (Homeric hapax, qualifying a reed) would be unwarranted, because of the semantic difference and the fact that these forms have no clear etymology of their own.

[804] In this context, the occurrence of χρυσόθρονος Ἠώς (in the same metrical slot only in *Od*. 14.502, where χρ- generates length by position) is interesting. This syntagm further occurs in a repeated verse ending in χρυσόθρονος ἤλυθεν Ἠώς (4x *Od*., χρ- again generates length by position), with a variant χρυσόθρονος ἤρπασεν Ἠώς (*Od*. 15.250). One wonders whether this points to an original distribution between the two traditional epithets **k^{h}rūsot^{h}ronos* (*CC-*) and **wr̥dodaktulos* (*CV-*), where **wr̥dodaktulos* was used to avoid overlength. This would, of course, require a more extensive discussion of the avoidance of overlength in Homer.

246, Εὐνίκη ῥοδόπηχυς *Th*. 251) and in other Hesiodeic fragments (fr. 35.14, 46.13, 251a.1). Again, the fact that ῥοδόπηχυς is always preceded by a long syllable (proper names in -η) is compatible with a pre-form **wr̥do-p$^{(h)}$āk^{h}us*.[805]

The difference between Myc. *wo-do*˚ and the alphabetic forms is usually accounted for by assuming liquid metathesis, but this remains pure speculation. In view of the above, the possibility that ῥόδον contains an artificial Epic reflex of **wr̥do-* deserves serious consideration. The metrical evidence from Early Greek Epic is fully compatible with such an assumption, even if it does not offer any conclusive positive support. In this context, is important that Hom. ῥοδόεντ- and Myc. *wo-do-we* both qualify a fragrant oil, which is a typical item of high culture.[806] This perfect semantic match between Homer and Mycenaean is best explained by assuming that a pre-form /wr̥dowent-/ was borrowed from Mycenaean (or Mycenaean Epic) by the Ionic Epic tradition. The absence of **wr̥do-* in the Proto-Ionic vernacular need not surprise if the word is indeed a Mycenaean borrowing from Near-Eastern luxury culture.[807]

7.3 Other forms with -ρο-

7.3.1 ἀνδροτῆτα

The metrically anomalous line-end |$_{H}$ ἀνδροτῆτα καὶ ἥβην (with trochaeic ἀνδρο- occupying the biceps of the fourth foot) only occurs in the two most important and most elaborate death scenes of the *Iliad*, those of Patroklos (16.856-7) and Hektor (22.362-3):

ψυχὴ δ’ ἐκ ῥεθέων πταμένη Ἄϊδος δὲ βεβήκει
ὃν πότμον γοόωσα λιποῦσ’ ἀνδροτῆτα καὶ ἥβην.

“And his soul flew out of his nostrils and went to Hades, bewailing its fate, having left behind masculine vigor and the force of youth.”

Beside this repeated pair of lines, ἀνδροτῆτα occurs once more in the verse Πατρόκλου ποθέων ἀνδροτῆτά τε καὶ μένος ἠύ “longing for the masculine vigor and good spirit of Patroklos” (*Il*. 24.6), where Achilles mourns over his lost comrade. This is mostly considered a secondary adaptation of the other attestation.[808] Although there is some discussion about the precise meaning of ἀνδροτῆτα, I think that ‘(masculine) vigor’ is the best approximation.[809] On the surface, there are three problems with |$_{H}$ ἀνδροτῆτα καὶ ἥβην in Homeric Epic:

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[805] Leumann (1950: 18 n. 9) thinks that ῥοδόπηχυς was secondarily formed after ῥοδοδάκτυλος, but his reasoning, based on an argument from silence (ῥοδόπηχυς would not have originally referred to a *Naturerscheinung*, as Hom. ῥοδοδάκτυλος does), does not seem cogent to me. On the contrary, the fact that ῥοδόπηχυς is found in both Hesiod and Sappho (βροδόπαχυς) suggests that the epithet is traditional.

[806] After Homer, the stem ῥοδόεντ- only occurs in B. *Dith*. 2.34 and E. *IA*. 1297.

[807] Given that βρόδον, βροδόπαχυς, and βροδοδάκτυλος are all attested in Sappho, and that βρόδο- /wródo-/ would be the regular Lesbian outcome of **wr̥do-*, an alternative explanation of ῥόδον could depart from an Aeolic intermediary. But: (1) the word may have been preserved in the Aeolic and Ionic traditions independently after the collapse of Mycenaean civilization; (2) ῥόδον may be explained within Ionic Epic if we assume that Epic **r̥* developed to -ρο- after labial consonants (including **w*); (3) the assumption of an Aeolic intermediary is impossible or unlikely in most other Epic words with -ρο-.

[808] In *Il*. 24.6, τε καὶ μένος ἠΰ ‘and good spirit’ is clearly used as an equivalent of καὶ ἥβην.

[809] In Latacz’s view (1965), ἀνδροτῆτα means ‘corporeal existence’. *LSJ* translates ‘manhood’ (in the archaic English sense of “the unity of Godhead and manhood in Christ”). This translation is ultimately based on the scholia, where ἀνδροτῆτα is glossed with ἀνθρωπότητα. The scholia expressly state that ἀνδροτῆτα is not the same as ἀνδρεία ‘manliness, courage’. Leaf (ad loc.) assumed only a vague difference in sense between ἠνορέη ‘manliness, courage’ and ἀνδροτής ‘manhood’, “retaining the vaguer sense”. But as Latacz remarks, it is impossible that the sense of ἀνδροτῆτα was vague, because it was pregnantly used on two decisive occasions in the story of the *Iliad*.

A slightly different description of Patroklos’ death is τόν γε λίπῃ ψυχή τε καὶ αἰών “[when] his soul and vital force will leave him” (*Il*. 16.453). In view of this, the meaning of ἀνδροτῆτα can be clarified by juxtaposing

1. ἀνδροτῆτα does not scan properly
2. ἀνδροτῆτα seems to have a non-Ionic vocalization ρο < *$\mathring{r}$
3. the word-formation and meaning of ἀνδροτῆτα are synchronically opaque.

Interpretations of the line-end ἀνδροτῆτα καὶ ἥβην have almost become articles of faith, not only for scholars pleading for Mycenaean origins of the Epic tradition, but also for proponents of the proto-hexameter hypothesis.[810] It is not my aim to discuss all previous explanations of ἀνδροτῆτα, but only to review those arguments relevant to the present discussion. As is well-known, Mühlestein (1958) argued that the scansion of ἀνδροτῆτα can only be explained if the form entered Epic Greek as **anr̥tāt-*. This was subsequently utilized by scholars like Ruijgh and Wathelet as an argument in favor of a pre-Mycenaean origin of epic poetry, in a verse-form much like the dactylic hexameter.[811] This line of reasoning was followed by West (1988) and canonicized in Janko (1992 = *comm. Kirk*, part IV). Many other scholars, however, found the time lapse of seven or eight centuries unlikely.[812] Tichy (1981) argued that ἀνδροτῆτα is not a phonological but a metrical archaism, and used the form to argue for Berg's proto-hexameter theory. She supposes that the lines in question had a trochaeic fourth foot in the proto-hexameter. This view has found a number of adherents in the secondary literature, but it cannot be upheld for a very simple reason. As has recently been stressed, all Tichy's examples for supposedly preserved pherecratian line-ends are also candidates to have contained *$\mathring{r}$ at an earlier stage.[813] The idea can therefore be rejected on the basis of Occam's razor.[814]

Let us start with the morphology of ἀνδροτῆτα. Latacz assumed that the first member of ἀνδροτῆτα always contained the thematic vowel: he thinks that the form was "bewusst für gerade diesen Zusammenhang geprägt" and "fraglos eine Augenblicksbildung" (1965: 69). This is problematic for more than one reason. First of all, it presupposes that a nasal could be omitted from pronunciation or oral recitation ("Auslassung des *N*", Latacz 1965: 66, or "débilité de la nasale en grec", Chantraine 1942: 110), which is difficult to accept. Furthermore, in words that never contained *$\mathring{r}$, *McL* scansion would only be tolerated as an incidental licence. But ἀνδροτῆτα occurs three times, in two different metrical slots, and in verses that are clearly designed to describe a heroic death in a monumental manner. Few scholars would be inclined to accept a recent creation of ἀνδροτῆτα καὶ ἥβην, in view of the central thematic role of the passages involved in the *Iliad* as a whole (the wrath and imminent death of Achilles). A final counterargument against a recent formation is the relic meaning 'vigor', which is perhaps preserved in a compound like ἀγήνωρ, but not in ἀνήρ 'man'.

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passages comparing the fate of the ψυχή with that of the θυμός after death. I would compare especially τόν γ' ἐρυγόντα λίπ' ὀστέα θυμὸς ἀγήνωρ (*Il*. 20.406) and λίπε δ' ὀστέα θυμὸς ἀγήνωρ (*Od*. 12.414). Here, the compound ἀγήνωρ 'vigorous', probably from **aga-* + *-ānōr* 'having great vigor', contains precisely the etymon of ἀνδροτῆτα.

[810] Heubeck's proposal (1972) that *$\mathring{r}$ was retained until the Early Dark Ages has not been taken very seriously thus far. I think, however, that he was essentially right (see below).

[811] In fact, Mühlestein himself notes (1958: 224): "Demnach muss schon vor der Mitte des zweiten Jahrtausends in griechischen Hexametern von Mannheit gesungen und ein Teil des epischen Formelschatzes geprägt worden sein, oder $\mathring{r}$ hätte in der frühen Epik länger gelebt als im Mykenischen der Archive."

[812] In the words of Heubeck (1972: 75): "The accusative **anr̥tāta* shows the prosodical sequence u u – u, which is usable within the metrical structure of the hexameter and fits the formula. But since, according to the current opinion, the vocalization of $\mathring{r}$ is already to be found in Mycenaean times, we should be obliged to date the origin of the formula and at least of a certain part of epic formulaic diction as Pre-Mycenaean. Many scholars, it is true, are inclined to trace the tradition of epic diction back into the Mycenaean period, but are they willing to extend this line backwards into the middle of the second millennium B.C.?"

[813] Barnes (2011: 9-10): "A problem with Tichy's approach to these scansions has always been the implausibility of a scenario whereby not a single example of the phenomenon goes back to a form that would *never* have scanned properly." Cf. also West (2011).

[814] See section 6.2 for other points of criticism of Tichy's approach.

We may therefore depart from a pre-form **anr̥-tā́t-*. But what was the morphological makeup of this form? Barnes (2011: 5) objects to this reconstruction that abstracts in *-tāt-* may, in Greek but also in Indo-Iranian and Latin, in principle only be formed to adjectives.[815] In Greek, however, the stem ἀνδρ- only occurs as a substantive.[816] But this is only a seeming problem, because the possibility must be considered that **anr̥-tāt-* was derived already in PIE from an adjective **h₂ner-* 'vigorous', as has recently been proposed by Pike (2011: 175) on the basis of a consideration of derivatives of **h₂ner-* in Indo-Iranian.[817] Pike also addresses the suffixal accent of ἀνδροτῆτα, which is synchronically unproductive in Homeric Greek.[818] But just like the formation and meaning of ἀνδροτῆτα may be considered archaisms, so can its accentuation: as expected on general grounds, the only full grade of the pre-form **h₂nr̥-téh₂t-* carries the accent.

In conclusion, there is nothing wrong with an inherited formation **h₂nr̥-téh₂t-*. This leaves us with a problem of scansion, to be solved within the framework of the dactylic hexameter. But before we depart from ἀνδροτῆτα, it is necessary to address an editorial problem. A widespread view has it that the v.l. ἀδροτῆτα (with *McL* scansion), rather than the most frequent ms. form ἀνδροτῆτα, was the form sung by Homer.[819] The evidence for the different readings has been treated by Latacz (1965). The most frequent reading in the mss.

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[815] A few remarks on Barnes' recent article on ἀνδροτῆτα. He translates ἀνδροτῆτα as 'the fact of not dying', and then compares the Homeric formula ἀνδροτῆτα καὶ ἥβην with the Avestan pair *amərətāt- hauruuatāt-* 'principle of not-dying and wholeness/health'. The expected corresponding Greek form to Av. *amərətāt-* < *amərətatāt-* < PIE **n-mrto-teh₂t-*, after liquid vocalization, would be **ἀμβροτοτῆτ-*. Barnes then assumes that haplology yielded a Greek form **ἀμ(β)ροτῆτ-*, and reasons that "since Greek nowhere attests derivatives of *ambroto-* in a similar meaning (they always mean 'immortal'), it is easy to see how our formula became incomprehensible at a certain point, and hence in need of further updating (**ἀ(μ)βροτῆτ- → ἀνδροτῆτ-)" (2011: 12). He rejects the traditional reconstruction **h₂nr̥-téh₂t-* > ἀνδροτῆτ-, objecting that its accentuation is unexpected (as opposed to barytone κακότης), and that the unmetrical form ἀνδροτῆτα would have come about too early to be preserved into the *Iliad*. The latter objection rests on the claim that the *d*-epenthesis in ἀνδροτῆτ- was pre-Mycenaean, whereas the *b*-epenthesis in ἄμβροτος is relatively late. As we will see below, however, the former assumption does not follow from the evidence. Barnes' proposal requires us to make several non-trivial assumptions, to say the least. Does it make sense to translate ἀνδροτῆτα as 'the fact of not dying' in any of the Homeric passages? Did ἄμβροτος always mean 'immortal' in Homeric Greek, or was Thieme right when he translated this word and ἀμβρόσιος as "Lebenskraft enthaltend"? In the latter case, there would have been no compelling semantic reason to "update" the formula. Last but not least, the assumed haplology **ἀμβρο(το)τῆτ- > **ἀμβροτῆτ-* is not evident at all. Since the traditional reconstruction of ἀνδροτῆτ- from **h₂ner-* 'vigorous, virile' does not yield any chronological problems, as we will see below, Barnes' construction can be left aside.

[816] This objection has sometimes been answered by pointing at the predicative usage of ἀνήρ, as in Homeric ἀνέρες ἔστε, φίλοι 'Be men, my friends!', i.e. 'be brave!' (cf. Ruijgh 1997: 42). But as Barnes points out, such an inner-Greek derivation from ἀνήρ is problematic because ἀνδροτῆτα does not mean 'courage, bravery'.

[817] Cf. Av. *hunara-* 'art, skill', OP. *uvnr* /ūnara-/ (n.) 'ability', Ved. *sūnára-* 'vigorous, beautiful'. In Pike's view, the Iranian forms are possessive formations, derived from an adjective **h₁su-h₂ner-* by adding **-ó-*. The Vedic adjective would be a thematicized form of the same underlying adjective. Further, Ved. *sū́nr̥ta-* 'in full vigor' and OIr. *nert* 'strength' are taken to point to a PIE **h₂nr-tó-*. Departing from these forms, Pike proposes that OAv. *hunarətāt-* 'skill, talent' < **h₁su-h₂ner-teh₂t-* "could then reflect a relatively old *tāt*-abstract built directly to the adjective stem without any intervening vowel, just like Hom. ἀνδροτῆτα < **h₂nr̥-tāt-*. There is no need to invoke independent haplological developments in the preforms **h₁su-h₂ner-to-tāt-* and **h₂nr̥-to-tāt-*. Instead, *hunarətāt-* and ἀνδροτῆτα could be very old examples of the *tāt*-suffix added directly to a consonant stem. In fact, ἀνδροτῆτα < **h₂nr̥-tāt-* and *hunarətāt-* < **h₁su-h₂ner-tāt-* might be the only *tāt*-abstract word-equation datable to PIE, though showing different root vocalism" (2011: 175) Even if Pike's genetic equation between ἀνδροτῆτα and OAv. *hunarətāt-* is difficult to prove, the idea that ἀνδροτῆτα < **h₂nr̥-teh₂t-* contains a relic use of **h₂ner-* as an adjective 'strong, vigorous' seems attractive to me.

[818] The only other oxytone Greek forms in **-tāt-* are Homeric βραδυτής, ταχυτής, and δηιοτής. It is likely that ταχυτής 'fastness' arose beside τάχος 'speed, fastness' after βραδυτής 'slowness'. The hapax βράδος (X.) is a late nonce formation. For this functional difference between τάχος and βραδυτής, see de Lamberterie (1989). Pike further suggests that the productive barytone accentuation of Greek abstracts in **-tāt-* may have originated in forms derived from thematic stems, such as φιλότης.

[819] E.g. Wackernagel (1969: 1116), Chantraine (1942: 110), and Latacz (1965).

(ubiquitous in the Vulgate and the testimonia) is ἀνδροτῆτα. According to Latacz's count, the two variants ἀδροτῆτα and ἁδροτῆτα are only found in 21 younger mss.[820] Of these, the form ἁδροτῆτα is clearly due to secondary influence of the adjective ἁδρός, which means 'ripe, mature' (e.g. of plants).[821] As for the other two forms, some scholars have assumed that ἀδροτῆτα is an incidental and late metrical correction, and that ἀνδροτῆτα was Homeric.[822] Others think that ἀνδροτῆτα is a trivial normalization of ἀδροτῆτα, and that the latter form was sung by Homer.[823] The questions involved are intricate, and the issue need not be resolved here. Even if the ἀνδροτῆτα of our editions is justified, the early Homeric transmission may well have had ἀδροτῆτα or *ἀνροτῆτα for a certain period of time, before this form was replaced by ἀνδροτῆτα in one authoritative Homeric text early enough to influence almost the entire subsequent tradition.[824]

As we will now see, there is no chronological problem with the assumption that the scansion of an original **anr̥tāt-* lives on in Homeric ἀνδροτῆτα, or even with the assumption that Homer still pronounced [anrotēta]. Most previous treatments of ἀνδροτῆτα have stressed that both the vocalization of **r̥* and the epenthesis of *-d-* in original **-nr-* had already taken place in Mycenaean (e.g. Ruijgh 1995, recently Barnes 2011).[825] The scansion of ἀνδροτῆτα would then have to be a remnant of pre-Mycenaean Epic. Indeed, the *d*-epenthesis appears in Mycenaean in the forms *a-di-ri-ja-te* /andriantei/ (or /-tē/) 'with the image of a man' (Ds. or Is., to be compared with Class. ἀνδρίας 'statue of a man') and PN *a-re-ka-sa-da-ra* /Aleksandrā/. On the other hand, Barnes shows that the epenthesis in inlauting *-mr-* (> -μβρ-) and anlauting *mr-* (> βρ-) postdates our first attestations of many Greek dialects (see section 3.2.2), among others in Naxian μροτοισιν (7th c.). He therefore contrasts the development of

[820] The conjecture *δροτῆτα, found in the older literature, is clearly incorrect and can be discarded (see Latacz 1965: 63f. for discussion). Latacz further remarks that he could not easily determine, on the basis of the editions, which mss. had ἁδρ- and which had ἀδρ- (1965: 62f. n. 2).

[821] See Latacz (1965: 76) and Wathelet (1966: 170 n. 5). The abstract ἁδρότης first occurs in Thphr.

[822] On itself, it is possible to assume that 21 copyists independently corrected the unmetrical form ἀνδροτῆτα into ἀδροτῆτα or ἁδροτῆτα. However, in most of the 21 mss. with ἀδροτῆτα or ἁδροτῆτα, this form occurs only in once place, and the other two places have ἀνδροτῆτα; only two of these mss. have ἀδροτῆτα or ἁδροτῆτα in all three places (Latacz 1965: 62-63). If all individual copyists independently made the metrical correction to ἀδροτῆτα, one would in Latacz's view expect more consistency on their part. One also wonders whether an ἀνδροτῆτα could be changed into the aspirated form ἁδροτῆτα without the intermediary of ἀδροτῆτα, as Tichy supposed (1981: 41 and 46). Barnes (2011: 1) states that the variant ἁδροτῆτα was "designed to heal the problem, and therefore clearly secondary, as all editors have recognized." The last remark is factually incorrect: on the editions which print ἁδροτῆτα, see Latacz (1965: 67 n. 2). The first inference is circular: one might just as well argue (with Latacz) that ἀνδροτῆτα was designed to heal the *lexical* problem presented by ἀδροτῆτα.

[823] In Latacz's view, "Der Grund dafür (…), dass die Hauptmasse der uns überlieferten Hss. dennoch ἀνδροτῆτα *mit* Nasal hat, wird darin zu suchen sein, dass die deutlich empfundene Zugehörigkeit des Wortes zum Stamme **anr̥* auch im Schriftbild unmissverständlich zum Ausdruck gebracht werden sollte." (1965: 66). Ruijgh reasons as follows: "Parfois, on trouve ἁδροτῆτα: certains philologues y ont vu le dérivé de ἁδρός 'solide, robuste'. Si la vulgate fournit la graphie 'étymologique' ἀνδροτῆτα, c'est sans doute pour éviter de telles confusions" (1995: 89 n. 311). If the first fixed text of the *Iliad* had ἀδροτῆτα, one would have to assume that this opaque form was subsequently normalized as ἀνδροτῆτα in most of the tradition (because the mss. of Plato only have this form), but that it also remained alive, be it marginally, in some part of the manuscript tradition. It is difficult to say whether this scenario is viable.

[824] It is sometimes thought that ἀδροτῆτα came into being when epic singers, before the fixation of the Iliadic text, substituted it for the phonologically expected outcome ἀνδροτῆτα under metrical pressure. In the words of Ruijgh (1997: 43): "Les aèdes y ont remédié en omettant la prononciation de la nasale. Les manuscrits du texte homérique présentent en effet la variante ἀδροτῆτα (…)." Two years before, Ruijgh speculated that the pair ἄβροτος : ἄμβροτος may have been a model for the creation of an artificial form ἀδροτῆτα, as well as for ἀβροτάξομεν (1995: 89, following Wathelet 1966). This is unlikely (ἄβροτος is a hapax) and, as we have seen, unnecessary.

[825] Interestingly, Ruijgh recalled the early date for the vocalization in his 1997 article (p. 41, with reference to Risch's theory of an undifferentiated South Greek in the Mycenaean Era).

the epenthetic consonant in *-*mr*- with that in *-*nr*-.[826] This argument is not cogent, because both Mycenaean examples for *d*-epenthesis concern *-*nr*- of intervocalic origin, and because the outcome of *-*n̥r*- in Mycenaean does not show epenthesis, cf. the PN *a-no-qo-ta* < **anr̥-k^{wh}ontā*- and the abstract *a-no-qa-si-ja* (both with /anor-/ or /anr̥-/).[827] Moreover, all examples for μρο- in archaic inscriptions derive from a pre-form with **mr̥*-. This means that both *-*n̥r*- and *-*mr̥*- may have remained intact without an epenthetic consonant in Epic Greek, where **r̥* was retained longer until after the Mycenaean period. In other words, Homer may have preserved not only μροτοῖσιν, μροτῶν, ἀμρόταξομεν, but even *ἀνρακάς, *ἀνρατῆτα καὶ ἤβην, and Ἐνυαλίῳ *ἀνραφόντῃ.[828] There is no reason, then, to separate the scansion of ἀνδροτῆτα from that of ἀβροτάξομεν: the only difference between the two forms found in our editions is that ἀβροτάξομεν was maintained in the ms. tradition, while ἀδροτῆτα was eliminated.[829] Already Wackernagel did not consider the metrical issue to be of too much importance.[830]

We now have to ask how an Epic input form **anr̥tāt*- may have turned up as ἀνδροτῆτα. Upon a mechanical reconstruction, the form could be taken to be an Aeolicism. This is unlikely for three reasons with which we are already familiar (see section 7.2): ἀνδροτῆτα is absent from Lesbian poetry, *McL* scansion is unknown in that genre, and the form has non-recessive accentuation. A Mycenaean origin has been broadly assumed (e.g. Ruijgh, *passim*), but this is hard to reconcile with the result obtained in chapter 2: the regular outcome of **r̥* in Mycenaean was either preserved *r̥* or *-or-* (cf. the compounds with *a-no-* cited above). If Mycenaean did preserve *r̥*, the Epic form **anr̥tāt*- may have originated there. But whether this is true or not is perhaps a secondary question, because the form can also be explained within Ionic Epic. Heubeck's solution (1972: 76) deserves to be quoted in full:

"It seems better to assume an origin of epic poetry in the period of migrations between 1200 and 1000 at the earliest; the formula whose later-developed form is found in Π 857 = X 363 and Ω 6 may have been amongst others to be formed at this time when spoken *r̥* was still preserved. Then, with and after the consolidation of the tribes and ethnic groups in their later habitats, the vocalization of *r̥* may have ensued, besides many other phonetic developments which contributed to the dialectal differentiation of these groups. That it did not result in **anratāta* > *ἀνδρατῆτα may be due to the analogical influence of recent compounds with thematized ἀνδρ-ο- as their first part, like Ἀνδροκλέης (in contrast to the correct Ion.

[826] "… the development (…) happened considerably later in (-)*mr*- sequences. Evidence for a relatively late development of epenthesis in (-)*mr*- sequences contrasts with the complete absence of *any* instances of *-nr*- (where epenthesis was very early)" (Barnes 2011: 10).

[827] In spite of Barnes' tendentious remark (2011: 2) that "no one seriously believes this today", an /anr̥-/ may underlie the Mycenaean forms with *a-no-* (see chapter 2).

[828] I agree with Barnes (2011: 10), who concludes from the inscriptions preserving (-)μρ- that "The eventual development of epenthesis will have been (…) a development properly speaking of the earliest oral and/or written transmission of a relatively fixed text (…)." I disagree, however, with his separate treatment of forms continuing *-*n̥r*-.

[829] It is possible that *d*-epenthesis in intervocalic *-*nr*- was earlier than *b*-epenthesis in intervocalic or prevocalic *(-)mr*- (cf. perhaps Myc. *o-mi-ri-o-i*). It is not possible, however, to tell with certainty whether the epenthesis in Epic *-*nro*- < *-*n̥r*- was earlier than that in Epic *-*mro*- < *-*mr̥*-. On phonetic grounds, to be sure, this could be expected because [n] and [r] are homorganic, [m] and [r] are not. But in any case, the problem of scansion in ἀνδροτῆτα first occurred after (1) the vocalization of Epic **r̥* and (2) the epenthesis in the ensuing sequences *-*mro*- and *-*nro*- (*-*nra*-). It is therefore possible to return to Wackernagel's view (see the next footnote) on the spelling -δρ- and -βρ-.

[830] "Ohne Grund hat man sich über die Kurzmessung der ersten Silbe von ἀνδροτῆτα ereifert; das sicher auf *amr̥t*- beruhende ἀβροτάξομεν *K* 65 zeigt unwiderleglich, dass eine Silbe mit kurzem Vokal, dem ursprünglich Nasal + *r* folgte, bei Homer vor der Silbenfolge u – u kurz gemessen werden konnte. Wie man das in der Schreibung zum Ausdruck bringen soll, ist eine Frage für sich. Wegen ἀβροτάξομεν ist *ἀδροτῆτα das Wahrscheinlichste." (Wackernagel 1909: 58 n. 1). Note that we are dealing with a unique example: the scansion of ἀ(ν)δροτῆτα is the only direct trace of *-*n̥r*- in Alphabetic Greek.

development **anr̥kas* > ἀνδρακάς etc.); but ἀνδροτῆτα could also be a loan-form from Aeolic, where this form would be normal: **anr̥tāta* > **anrotāta* > ἀνδροτῆτα."

Apart from the possibility of a loan from Aeolic, which I consider to be unlikely, I fully agree with Heubeck. In my view, then, ἀνδροτῆτα is an archaism of Ionic Epic that underwent the regular phonological development of Epic **r̥* to -ρα-, and was subsequently influenced by compounds with ἀνδρο-. We may conclude that ἀνδροτῆτα 'vigor' is a semantic, metrical, and morphological archaism. It was fixed in its metrical slot when the form was still **anr̥tāta*. Within the confines of Epic Greek, this form was maintained much longer than is usually assumed.

7.3.2 Ἐνυαλίῳ Ἀνδρεϊφόντῃ

The four-word verse Μηριόνης ἀτάλαντος Ἐνυαλίῳ ἀνδρεϊφόντῃ 'Meriones equal to man-slaying Enualios' is repeated four times in the *Iliad*. As it stands, drastic measures are required to fit this verse into Epic metre, e.g. a combination of epic correption and crasis in -ῳ ἀ-.[831] It is therefore widely agreed that the formula originally looked different.

Since Mühlestein (1958), it is clear that this naming-verse for the Cretan leader Meriones is a survival from Mycenaean times.[832] Not only do the Mycenaean archives contain the name of the war-god *E-nu-wa-ri-jo* /Enūalio-/; the pre-form of ἀνδρεϊφόντῃ was identified by Mühlestein with the Mycenaean PN *A-no-qo-ta*, to be interpreted as /Anork^{wh}ontā-/ or /Anr̥k^{wh}ontā-/. He further noted that names in *-qo-ta* (e.g. *da-i-qo-ta*) are frequent in the tablets. Thus, Ἐνυαλίῳ ἀνδρεϊφόντῃ is best analyzed as a substitution for (the outcome of) **Enūaliōi anr̥k^{wh}ontāi*, a pre-form which would solve all metrical problems in a natural way. The model for the substitution of ἀνδρεϊ- was clearly διακτόρῳ ἀργεϊφόντης, the frequent verse-final naming formula of Hermes. Although the reconstruction and original lexical meaning of ἀργεϊφόντης are contested as well,[833] it is important that this formula is metrically unproblematic.[834]

The pre-form **anr̥k^{wh}ontāi* also solves problems of morphology and lexicon. Whereas a first member ἀνδρεϊ- cannot be accounted for by normal patterns of Greek word formation, the reconstructed form with first member **anr̥-* < **$h_2$nr-* would be paralleled by Ved. *nr̥-hán-* 'man-slaying' < PIE **$h_2$nr-g^{wh}en-*, epithet of the *vadhá-* 'lethal weapon' of the Maruts.[835] In lexical terms, it must be asked why Homer would form another adjective meaning 'man-slaying' if he already disposes of the synonymous ἀνδροφόνος (15x), which suits the demands of the hexameter well. Since the addition of *-tā-* in agent nouns is typical for Mycenaean, it seems likely that ἀνδροφόνος was the form inherited by Ionic Epic, and that **Enūaliōi anr̥k^{wh}ontāi* was borrowed from Mycenaean.[836]

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[831] Emergency solutions that cannot be upheld are: (1) to read Ἐνυάλυῳ, where -λy- would function as a single consonant (thus Tichy 1981: 40), (2) to scan Ἐνυαλίῳ with synizesis of -υα-. Cf. Watkins (1987: 289).

[832] Mühlestein's proposal has been approvingly cited by many scholars, including Wathelet (1966), West (1982), Watkins (1987), Leukart (1994: 51-6), and Ruijgh (most recently 1995: 85-88 and 1997: 41-2). Ruijgh bases his analysis of ἀνδροτῆτα on Ἀνδρεϊφόντῃ because the latter is more ostensibly of Mycenaean origin. Untenable speculations about a recent origin of the line are found in Tichy (1981: 40).

[833] See e.g. de Lamberterie (1990: 326-7), Leukart (1994: 51-6), Watkins (1995: 383-4).

[834] Tichy (1981: 40) states that the replacement of Ἀνδρο- with Ἀνδρεϊ- (after the model of Ἀργεϊφόντῃ) could only take place if original **Ἀνδροφόντῃ* stood in the same metrical slot as Ἀργεϊφόντῃ, i.e. after $|_B$. This objection is not cogent: at best, we can infer that the scansion of the replacing form Ἀνδρεϊφόντῃ must have been modelled on that of Ἀργεϊφόντῃ.

[835] Cf. Schmitt (1967: 124-8), Watkins (1987: 289), Ruijgh (1995: 85).

[836] Beside Ἐνυαλίῳ ἀνδρεϊφόντῃ and ἀργεϊφόντης, compounds in -φόντης are limited to personal names (Βελλερο-, Πολυ-, Κρεσ-, Λυκο-φόντης, from Homer onwards) and to the secondary poetic formations ἀνδροφόντης (A. *Sept*. 572), πατροφόντης (S.), μητροφόντης (E.).

Thus, it cannot be doubted that pre-form of ἀνδρεϊφόντης was a Mycenaean **anr̥k^{wh}ontā-*. It remains to determine when ἀνδρεϊ- was introduced.[837] Ruijgh formulates the following scenario (1995: 87): "Comme dans les tablettes mycéniennes, les traitements *-r̥-* > -ρο- et -νρ- > -νδρ- sont déjà des faits acquis, il faut conclure qu'en mycénien historique, ἀνr̥χ^{w}όντᾱς avait déjà abouti à ἀνδροχ^{w}όντᾱς. À cette époque, la syllabe initiale du composé était donc devenue longue, ce qui a obligé les aèdes à prononcer -ῳ ἀν- comme une seule syllabe. Comme le vers exigeait deux syllabes brèves entre ἀν- et -χ^{w}όν-, ils ont fabriquée la forme artificielle ἀνδρε*hι*χ^{w}όντᾱς sur le modèle de Ἀργε*hι*χ^{w}όντᾱς, épithète d'Hermès."

Ruijgh assumes that both the vocalization of **r̥* and the replacement by ἀνδρεϊφόντη had taken place already before our attestations of Mycenaean.[838] Thus, the irregular verse would have been preserved in its defective form for some seven centuries. This interpretation is widely accepted.[839] However, its logical conclusion is unlikely and has been challenged on chronological grounds by Haug (2002: 62-4). He agrees with Ruijgh that the reshaping to ἀνδρεϊφόντης would have had to take place quickly after the vocalization of **r̥*, which he also dates well before Mycenaean. However, in his view the synizesis of -ῳ ἀ- could not have been tolerated at that time because in **-ōi a-*, the *yod* still functioned as a full-fledged consonant.[840]

But there is another chronological problem with all previous explanations. The assumed change **r̥* > -ρο- for Mycenaean is contradicted by the actually attested Mycenaean form, *A-no-qo-ta*. This shows that Mycenaean had neither the change **r̥* > -ρο-, nor the consonant epenthesis *in this concrete form*. So if the form **anr̥k^{wh}ontāi* originated in Mycenaean, which seems inescapable, there are two options. Either Mycenaean retained *r̥* as an allophone of /r/ between two consonants, or an Achaean Epic tradition existed which preserved **r̥*, much like the later Ionic one. In other words, the *d*-epenthesis had indeed taken place in Mycenaean, but only in intervocalic **-nr-* (as in *A-re-ka-sa-da-ra*), not in **-nr̥-*.

The present framework automatically eliminates all problems: if **r̥* was still present in Mycenaean, the period to be bridged is much smaller. The formula containing **Enūaliōi anr̥k^{wh}ontāi* entered Ionic Epic in the early Dark Ages, and was retained in this form until Epic **r̥* was eliminated, not long before Homer. An intermediate form like *ἀνραφόντη or *ἀνροφόντη may have existed for some time. But after the epenthesis had led to ἀνδροφόντη, some poet felt the necessity to take more drastic measures, and created Ἀνδρεϊφόντη on the model of Ἀργεϊφόντη. It is hard to tell whether the last replacement is due to the poet of the *Iliad*, or whether it belongs to the vicissitudes that occurred in the recitation of the Homeric

[837] Beside the form ἀνδρεϊφόντη printed in our editions, a minor *varia lectio* is ἀνδριφόντη. I do not agree with Latacz, who makes too much of the attestation of ἀδριφόντη (only in one ms. at *Il.* 8.264) when he says: "ἀδριφόντη (…) ist auch hier sicher eine der ursprünglichen Aussprache näherkommende Schreibweise" (1965: 66). There is no indication that there was ever an intermediate stage with -ι-.

[838] In one of his latest publications, Ruijgh has changed his opinion on the early date of the vocalization. He suddenly adheres to Risch's claim that there are no provable distinctions between Ionic-Attic and Achaean around 1200: "(…) ce changement s'est probablement effectué peu de temps avant l'époque des tablettes. En effet, d'après la théorie de Risch (1955), les différences entre le mycénien (…) et l'ionien-attique de l'époque mycénienne (…) étaient encore peu nombreuses: les deux dialectes constituaient ensemble le grec 'méridional' (…). La distinction entre le traitement ionien-attique **r̥* > ρα et le traitement achéen **r̥* > ρο a donc chance d'être relativement récent" (Ruijgh 1997: 41).

[839] See e.g. West (1988: 156f.), Leukart (1994: 54), de Lamberterie (2004: 240-1).

[840] Haug (l.c.) considers the possibility that **r̥* was retained longer in Epic Greek, but only to reject it outright. I would add the following objection to the generally accepted chronology: if the Mycenaean name were indeed to be interpreted as /Anork^{wh}ontā-/, one wonders why we find no trace of it in Homer: it could have been utilized in verse-final position (with metrical lengthening of the initial vowel, as in e.g. |$_{B}$ Ἀπόλλωνος).

text after its first fixation. Note, again, that the *d*-epenthesis in the outcome of **-nr̥-* could theoretically be post-Homeric.[841]

7.3.3 Other Homeric forms with *ἀνδρο-* and *ἀνδρα-*

A reflex of **anr̥-* is found not only in the metrically irregular forms ἀνδροτῆτα and ἀνδρεϊφόντη, but also in Hom. ἀνδρόμεος 'human' and in three forms with ἀνδρα-: the substantives ἀνδράποδον 'slave', ἀνδραφόνος 'murderer' (attested for Solon, beside Hom.+ ἀνδροφόνος 'man-slaying; murderer'), and the adverb ἀνδρακάς 'man by man'. The vocalization -ρα- in the last three forms can only be the product of Epic **r̥*. We therefore have to ask whether the preservation of pre-forms with **anr̥-* in Epic Greek can be motivated.

The clearest example is ἀνδραφόνος 'man-slaying; murderer'. According to Photius' *Lexicon*, this word was regularly used by Solon instead of the Classical form ἀνδροφόνος.[842] Before judging the phonological evidence, it is important to note that ἀνδροφόνος in Homer denotes a warrior who habitually kills men and has adjectival value, 'man-slaying'. In Classical Greek (Pi. *Pyth*. 4.252, Pl., Lys.), on the other hand, ἀνδροφόνος is a technical, high-register legal term for a 'murderer': someone who has *in fact* murdered a fellow human being.[843] When the innovative form ἀνδροκτόνος is attested in the tragedians (4x, including the denom. verb ἀνδροκτονέω A. *Eum*. 602), in Hdt. (4.110), and in B. (*Dith*. 4.23), it has the same adjectival and habitual value that ἀνδροφόνος has in Homer.[844]

Solon's form ἀνδραφόνος is often cited as evidence for the regular reflex of **anr̥-* in Ionic-Attic (e.g. Ruijgh 1995: 87 n. 304). But given that ἀνδροφόνος is a high-register legal term in Classical Attic, it is possible to assume that the form was taken from the language of Epic.[845] Watkins (1995: 390) notes that before the vocalization of **r̥*, the epic form would have been **ānr̥p^{h}ono-*, with metrical lengthening of the first of three consecutive short syllables.[846] This regularly yielded ἀνδραφόνος (epic vocalization followed by Osthoff's Law), which was subsequently replaced by ἀνδροφόνος on the model of other compounds with ἀνδρο-.[847] If Solon did not use the Homeric form ἀνδροφόνος, this could be due to the

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[841] With Haug, I am inclined to think that the replacement ἀνδρεϊφόντη could come into being only after crasis of long vowels had become tolerable – that is, after Homer: "En effet, cette synizèse ne semblerait guère acceptable à l'époque d'Homère, si elle n'était pas *de facto* attestée dans le texte" (2002: 64).

[842] Photius is a 9th c. AD Byzantine author. Lemma 1753 of his *Lexicon* runs: Ἀνδραφόνων· οὕτως Σόλων ἐν τοῖς Ἄξοσιν <ἀντὶ> τῶν ἀνδροφόνων ἀεί φησιν. An interesting discussion of the semantic value of ἀνδροφόνος in Lysias 10 has been given by Watkins (1995: 497-8).

[843] See Watkins (1995: 497-8) and García Ramón (2007a: 117). The unmarked Classical Greek word for 'murderer' was, of course, φονεύς. A similar difference in register is found between the poetic word ἀνδροκτασίη 'manslaughter' (at least when used in the singular, cf. García Ramón 2007: 116) and φόνος 'murder' (normal in the Classical language; in Homer mostly 'slaughter', but 'murder' in *Od*. 4.771). Note that ἀνδροφονίη (first attested in Aristotle) must be an innovation based on ἀνδροφόνος.

[844] In my view, the creation of ἀνδροκτόνος was due to an attempt to avoid ἀνδροφόνος, which had undesired overtones in the Ionic-Attic vernacular. I do not believe, then, that the hapax ἀνδροφόντης (A. *Sept.* 572, epithet of Tydeus) implies that Aeschylus had a copy of Homer which contained this very form: it may also be due to the avoidance of ἀνδροφόνος. Other artificial creations are As. πατροφονῆα (*Od*.), μητροφόντης (only in E. *Or*.) and πατροφόντης (hapax, S. *OT* 1441).

[845] As Watkins (1995) stresses on various occasions, the root allomorph φον- is unproductive. Compare the relic status of compounds in -φόνος with the productivity of compounds in -κτόνος in the tragedians and Hdt. (e.g. πατροκτόνος, μητροκτόνος, αὐτοκτόνος, also with sacrificial victims as a first member).

[846] Schmitt's scenario (1967: 126) that an impracticable **anr̥p^{h}ono-* was replaced early on by a thematicized **anr-o-p^{h}ono-* is impossible, because it leaves the form ἀνδραφόνος in Solon unexplained.

[847] Watkins (1995: 389-90) compares the metrical lengthening to be assumed for **ānr̥p^{h}ono-* with that in ἀνέρε(ς), ἀνέρα (in the same metrical slot in Homer), and with the instrumental and locative plurals, which were realized as Epic **ānr̥p^{h}i*, **ānr̥si* before liquid vocalization. He further suggests that ὑπ' ἀνδροφόνοιο Λυκούργου (*Il*. 6.134, the only Homeric instance of the contracted form of Λυκόοργος 'Lycurgus') recovers an earlier form **[ὑπ'] ἀνδραφόνω Λυκοόργω in the instrumental case, and with the reflex -ρα-. The suggestion is interesting, but ultimately hard to prove or disprove.

fact that Attic was more conservative than Ionic here. It is also possible, but ultimately hard to prove or disprove, that the first Homeric text still had ἀνδραφόνος, and that ἀνδροφόνος was introduced in a later redaction.

Further testimony for the prolonged presence of **anr̥-* in Epic Greek is furnished by ἀνδροκτασίη. Apart from A. *Sept*. 693 (in a lyrical passage) and probably Stes. fr. 22.6, the word is exclusively Epic. It has clearly replaced the form attested in Mycenaean as *a-no-qa-si-ja* /anr̥k^{wh}asiā/ 'manslaughter' (García Ramón 2007a). As Mühlestein (1958) remarked, ἀνδροκτασίη is a metrical replacement for **anr̥k^{wh}asiā*, which would have contained four consecutive short syllables.[848] Apparently, Epic Greek introduced -κτ- from the root of κτείνω in spite of the fact that no ἀνδροκτόνος (or in fact any other compound in -κτόνος or -κτατος) is attested in Homer. This implies that a first member **anar-* was never available, and that the Ionic vernacular introduced **anr-o-* in compounds prior to the vocalization of **r̥*. This neatly confirms our conclusion that the forms with **anr̥-* were retained within Epic Greek after the vocalization of **r̥* in the vernacular.

The explanation of ἀνδραφόνος can be extended to the adjective ἀνδρόμεος 'human, of men', which is attested exclusively in Homer.[849] Its formation is synchronically opaque, but the suffixation can be compared diachronically with Vedic *-máya-*, as in *mr̥n-máya-* 'made of earth, earthen', *go-máya-* 'consisting of cows'. Since ἀνδρόμεος is morphologically isolated within Greek, it probably contains the regular reflex of a PIE pre-form **$h_2$nr̥-meio-* > PGr. **anr̥meio-* (cf. Tichy 1981: 47-8). It cannot be entirely excluded that ἀνδρόμεος is the regular Aeolic reflex of PGr. **anr̥meio-*.[850] But since ἀνδρόμεος is not attested outside of Homer, an alternative scenario within Ionic Epic along the lines just sketched seems preferable. A pre-form **anr̥meio-* (with three consecutive light syllables) would require a metrical lengthening in order to be used in the dactylic hexameter, i.e. **ānr̥meio-*. Upon the elimination of Epic **r̥*, the resulting form was **ān(d)rameo-*, which would undergo Osthoff's Law to yield **andrameo-* (see above on ἄμβροτος). The *o*-coloring was then taken over from the compounds with ἀνδρο- < **anr-o-*, as in ἀνδροφόνος.[851]

The pre-form to be reconstructed for the collective ἀνδράποδα 'slaves' (in Homer only ἀνδραπόδεσσι *Il*. 7.475) would be **anr̥-pod-a*. Again, this form with three consecutive shorts would regularly lengthen its initial ἀ- in a pre-stage of Epic Greek, and after the vocalization of Epic **r̥* would regularly yield the attested ἀνδράποδα. The question remains why the form was not influenced by compounds with ἀνδρο-, as in the two preceding examples. The answer

[848] Mühlestein (1958: 226, *Nachtrag*): "Homer kennt (…) keine athematischen [Formen] mit dem mykenischen Lautwandel *r̥* > ορ. Lehrreich ist auch das aus *a-no-qa-si-ja* erschlossene Abstraktum fürs "Männermorden". Dieses war sowohl in der alten athematischen Form **ἀνr̥φασία (mit vier Kürzen) [al]s auch in der thematischen **ἀνδρ-ο-φασία (mit drei Kürzen) verswidrig, dagegen im [m]ykenischen Fortsetzer der athematischen Form, *a-no-qa-si-ja* = †ἀνορ-φασία (u – u u –) durchaus versgerecht. Gleichwohl kennt das Epos diese Form nicht, sondern hat das Wort durch ἀνδρο-κτασίη ersetzt, und zwar trotzdem von den Adjektiven nur ἀνδροφόνος episch ist, nicht auch ἀνδροκτόνος. Der Weg zur homerischen Sprache geht also nicht durchs Mykenische hindurch, sondern am Mykenischen vorbei." In my view, the final conclusion of Mühlestein's argument is premature. One could also reason in a different way: the emergency solution applied in ἀνδροκτασίη may show that there never was a form **ἀνορφασία*, just like an Ionic form **ἀναρφασία* never existed. Viewed in this way, ἀνδροκτασίη would furnish indirect evidence for the retention of **r̥* in Mycenaean.

[849] In the *Iliad*, we only find the syntagms χροὸς ἀνδρομέοιο (17.571, 20.100, 21.70) and ὅμιλον ἀνδρόμεον (11.538, "eine nach dem übrigen Gebrauch von ἀνδρόμεος auffallende Verbindung", Ameis-Hentze ad loc.).

[850] This would indeed explain the retracted accent. But the different accentuation of Greek may also have another cause.

[851] Of course, the metrical lengthening of the initial vowel in **ān(d)rameo-* may have been analyzed as superfluous, and led to the replacement by ἀνδρόμεο- (with the productive allomorph).

may well be that this influence was annulled by the semantically close τετράποδα 'cattle'. It is also possible that ἀνδράποδα itself was analogically created after τετράποδα.[852]

It remains to explain the adverb ἀνδρακάς. This is attested only in *Od*. 13.14, and after Homer only in A. *Ag*. 1595.[853] We are probably dealing, then, with an epic relic form. The suffix -κάς is a morphological archaism, which is further only found in ἑκάς 'set apart, at a distance' < PGr. **hwe-kas* and its extension ἕκαστος 'each'. It is probably etymologically related to the Indo-Iranian element **-ćás* 'X times', e.g. Skt. *sahasra-śás* 'a thousand times' (RV+), Av. *nauua-sās* 'nine times'.[854]

As opposed to ἀνδροτῆτα, ἀνδρόμεος, and ἀνδροφόνος, the *a*-vocalism of ἀνδρακάς must be considered an archaism, whatever the ultimate rationale behind the retention of -ρα- in this form. The deviating place of the anaptyctic vowel can be explained from a pre-form **anr̥kás* that was restricted to Epic Greek. In the position before a vowel, this tribrach would have undergone metrical lengthening of the first syllable, and the same scenario which explains ἀνδροφόνος and ἀνδρόμεος can be invoked.

The oxytone accent of ἀνδρακάς could suggest that the development of Epic **r̥* took place after Wheeler's Law.[855] However, the Ancient grammarians (e.g. Ap. Dysc.) already remark that all adverbs in -άς are oxytone. Therefore, it cannot be entirely excluded that the accent of ἀνδρακάς is analogical after ἑκάς.

7.3.4 θρόνος

Within Greek, θρόνος 'ornamented chair, throne' (Hom. and Class.) is clearly the same etymon as Mycenaean *to-no* /t^{h}orno-/ or /t^{h}r̥no-/ (PY Ta 707, 708, 714). The tablets in question contain lists about chairs (*to-no*), benches or footstools (*ta-ra-nu-we*) and their embellishments (ivory incrustations, etc.). In the *Odyssey*, θρόνος is the normal word for a (luxurious) chair used in banquets. Beside it, κλισμός must have denoted a kind of couch or sofa.[856]

Let us first consider the evidence for the different attested forms. The Mycenaean simplex is consistently written *to-no*, never $^{++}$*to-ro-no*. As we have seen in section 2.1.1, it is possible that Myc. *to-ro-no-wo-ko* contains the etymon of Hom. θρόνα, which could mean

[852] Thus Frisk: ἀνδράποδα "wurde nach τετράποδα … geschaffen" (q.v., with further references). This explanation, also given by *DELG*, is rejected without any argumentation by Tichy (1981: 47 n. 44).

[853] A substantive ἀνδρακάδ- is attested for Phrynichus (2nd c. AD) and in Nic. *Th*. 643. The Homeric adverb is also quoted for Cratinus.

[854] Based on this correspondence, Klingenschmitt (1975) reconstructs PIE **-ḱas*. His only argument against a reconstruction **-ḱn̥s* is the full grade root of *śáśīyas-*, comparative of *śáśvat-* 'frequent, continuous, uninterrupted'. Since the comparative regularly takes a full grade root, "[ist] eine an sich lautlich mögliche Zurückführung von **śáś-* auf **ćn̥ć-* somit aus morphologischen Gründen ausgeschlossen" (1975: 68): in his view, one would expect $^{++}$*śáṃśīyas-* as a corresponding full grade form. It is true that the comparative *śáśīyas-* is attested already in the *Rigveda*, but the semantics of the adjective do not favor the assumption of an *inherited* comparative. It cannot be excluded, then, that *śáśīyas-* was created secondarily after the vocalization of the nasal in *śáśvat-*. I therefore see no objection to a reconstruction **-ḱn̥s*.

[855] According to Wheeler's Law, an oxytone word becomes paroxytone if it has dactylic shape (e.g. ποικίλος < *ποικιλός, cf. Ved. *peśalá-* 'adorned'). The pre-from **anr̥kás* did not have a dactylic shape yet, which could explain why it escaped Wheeler. Note that ἀνδράσι < **anr̥sí* is not a counterexample, because this may have a generalized columnary accent (ἀνδρός, ἀνδρί, ἀνδρῶν). As far as I have seen, the example ἀνδρακάς has gone unnoticed so far: it is not discussed in Meier-Brügger's treatment (1992) of the relative chronology of accentual developments in Greek.

[856] In post-Homeric Greek, θρόνος belongs to a high register: it is always the throne of a king, the seat of a deity, or the chair of a judge. It hardly occurs in archaic lyric: Pindar only uses it three times in the meaning 'throne' as a symbol of power.

'colored or dyed threads of wool'.[857] I therefore leave this compound out of consideration here. The Mycenaean form *to-no* has further been compared with the gloss θόρναξ· ὑποπόδιον 'footstool' (Hsch.), and with the mountain name Θόρναξ in Laconia (Hdt., Paus.).

How can Hom. θρόνος and Myc. *to-no* be reconciled phonologically? Some scholars have assumed liquid metathesis, in which case either θρόνος or *to-no* could be the original form (e.g. Hajnal-Risch 2006: 102-3 and 202-205). But as we have repeatedly remarked, such an assumption cannot be further substantiated. Given that Homer applies *McL* scansion in various case forms of θρόνος, a pre-form **t^hr̥no-* also deserves serious consideration (thus e.g. Wathelet 1966).[858] Upon this view, Myc. *to-no-* and the gloss θόρναξ would contain the regular Achaean reflex of **r̥*, while Epic θρόνος would be the Aeolic outcome of **t^hr̥no-*.[859] This scenario requires that in post-Homeric Ionic-Attic, θρόνος is an epicism, which seems possible.[860] As with βροτός, however, there are no concrete indications for an Aeolic origin of θρόνος: it is unattested in the Lesbian poets (on Sappho's ποικιλόθρονος, see below), and the evidence for *McL* scansion in Homer is left without an explanation.

Viredaz (1983, followed by de Lamberterie 2004) proposed that Myc. *to-no* /t^{h}órno-/ represents the original form, and that Ion.-Att. θρόνος developed by contamination with the related word θρῆνυς 'footstool'. Indeed, in the tablets Myc. *ta-ra-nu-we* is found in the same contexts as *to-no*, just as θρῆνυς and θρόνος appear together in the same Homeric passages.[861] This scenario may be correct, but alternative explanations cannot be excluded on forehand. In particular, referring as it does to an item of high culture, θρόνος ~ /t^{h}órno-/ may be a loan or a substrate word which was borrowed on two different occasions.

This brings us to the fact that θρόνος has no generally accepted Indo-European etymology.[862] All attempts thus far depart from the PIE root **d^her-* 'support'. Some scholars consider θρόνος to be the oldest form, and assume a derivation in -όνο- from the zero grade of **d^her-*, comparing χρόνος 'time' and κλόνος 'battle din'. This analysis is ultimately unfounded, because a suffix **-ono-* cannot be understood in Indo-European terms.[863] De Saussure already proposed that θορν- (now also attested in Myc. *to-no*) was the oldest form, assuming a *no*-derivative from the *o*-grade root, **d^hór-no-*. Wathelet (1966) and Heubeck (1972), departing from the evidence for *McL* scansion in Homer, assumed a pre-form **d^hr̥-no-*. More recently, de Lamberterie (2004: 246) has argued that θρόνος and Myc. *to-no* can hardly be separated from Hom. θρῆνυς (Myc. *ta-ra-nu*, Att. θρᾶνος). Deriving both words

[857] I therefore disagree with de Lamberterie when he states: "Le seul élément incontestable, et sur lequel tout le monde s'accorde, est que l'alternance de *to-no* et de *to-ro-no*˚ corresponde à celle de θόρναξ et de θρόνος" (2004: 242).

[858] In Wathelet's words (1966: 165), Myc. *to-no* "évoque plutôt la présence d'un *r̥* sans, pour la cause, exclure l'hypothèse d'une métathèse. L'examen des emplois du terme qui nécessitent l'abrègement (…) suggère l'existence de plusieurs formules ou éléments formulaires qui pourraient être anciens".

[859] It has been proposed that the gloss θόρναξ is Cyprian, but this presupposes that the dialect indication Κύπριοι has been transferred to the preceding gloss, which is not evident (see Chantraine 1962: 169 and Latte on Hsch. θ 646-7). In this case, it could contain the regular vocalization to -ορ- in that dialect. Since the Arcadian reflex of **r̥* was probably -ορ-, the mountain name θόρναξ in Laconia could be ascribed to an Achaean dialect. No compelling conclusions can be drawn from this evidence.

[860] This possibility is denied explicitly by Haug (2002: 67) on the ground that θρόνος occurs not only in poetry, but also in prose authors. This objection is not compelling, because θρόνος only occurs in high register prose (Hdt., X. and Pl.). In my view, neither a genuine Ionic-Attic word nor an epicism can be excluded.

[861] From a phonological point of view, this scenario would eliminate the need for assuming a pre-form with **r̥*. De Lamberterie notes that the initial θρ- generates length by position in the majority of Homeric instances of θρόνος, "notablement dans un tour visiblement formulaire comme ἐπὶ θρόνου ἀργυροήλου # (4x)" (2004: 244). In his view, this scansion is hard to reconcile with the idea that θρόνος contains a trace of **r̥*. The metrical evidence from Homer (including the compounds in -θρονος) will be considered in more detail below.

[862] Various earlier suggestions and their problems are summarized by de Lamberterie (2004: 242-3).

[863] The other two examples of this suffix are doubtful, too: the etymology of χρόνος is unknown, and the derivation of κλόνος 'battle din' from κέλομαι 'to spur on' is just a possibility.

from the same root *d^herh_2-, he departs from the respective pre-forms *d^horh_2-*no*- and *d^hrh_2-*no*- (or *d^hrh_2-*nu*-), where the former would lose its laryngeal due to the Saussure Effect.[864]

In my view, all these proposals suffer from the same problem: neither a root *d^herh_2- nor *d^her- 'support' is securely attested in Greek.[865] Furthermore, the proposed *no*-formation would be unparalleled in other IE languages, so that we are ultimately left with a conjectural root etymology. As Heubeck already admitted, "in this case, certainty is not possible" (1972: 78).

7.3.5 The Homeric attestations of θρόνος

Let us now discuss the metrical properties of the Homeric attestations in more detail, in order to see how serious the evidence for a pre-form *$t^hr̥no$- is. The following table contains information about the number of attestations per case form, as well as remarks on their metrical behavior and their presence in *Iliad* and/or *Odyssey*.

Case	**Form**	**##**	**Significant attestations**	**Remarks**
Ns.	θρόνος	1	*Od*. 6.308	With *McL* Only *Od*.
As.	θρόνον	10	Two positions: θρόνον |$_B$ (6x) ἐς θρόνον ἷζε (εἷσεν) |$_T$ (3x).	Never with *McL* Both *Il*. and *Od*.
Gs.	θρόνου	19	ἐπὶ θρόνου ἀργυροήλου (*Il*., *Od*.) μεσσηγὺς κρητῆρος ἰδὲ θρόνου ἀργυροήλου (*Od*. 22.341) ἐπὶ θρόνου ἷζε φαεινοῦ (*Il*.) ἀπὸ θρόνου ὦρτο φαεινοῦ (*Il*.) ἐπὶ θρόνου εἷσε φαεινοῦ (*Od*.)	Never with *McL* Both *Il*. and *Od*. Always before |$_B$.[866]
Ds.	θρόνῳ	4	σείσατο δ' εἰνὶ θρόνῳ |$_P$ (*Il*. 8.199) ἕζετο δ' εἰνὶ θρόνῳ |$_P$ (*Il*. 15.150) |$_T$ θρόνῳ ἔνι (*Il*. 15.142) ἐν θρόνῳ ἰδρύσασα |$_P$ (*Od*. 5.86)	3x with *McL* (*Il*.) Without *McL* (*Od*.)
Np.	θρόνοι	1	*Od*. 7.95	With *McL* Only *Od*.

[864] In my view (formulated in van Beek 2011), the Saussure Effect in Greek may have to be formulated differently. I prefer to explain the loss of laryngeal in πόρνη, τόρμος, στέρνον, and τέρμα as due to the environment *$VLHNV$. If de Lamberterie's proposal to reconstruct *θόρνος as *d^horh_2-*no*- is correct, it would furnish another instance of the same development. The reconstruction *d^horh_2-*no*- is, however, subject to two additional objections. First of all, Indo-Iranian has an *aniṭ* root (Ved. *dhar*- 'to hold, support'). If related, Lith. *derù* (*deréti*) 'to be fitting' (see *LIV*^{2} s.v. with lit.) further confirms the *aniṭ* root. Secondly, in order to reconstruct *d^horh_2-*no*- beside *d^hrh_2-*no*-, de Lamberterie has to assume that Attic θρᾶνος is an older form than Hom. θρῆνυς and Myc. *ta-ra-nu-we*. However, the chronology of the attestations clearly favors the converse view, and it would be much easier to assume that Attic θρᾶνος was influenced by θρόνος. Note that *u*-stem substantives were not a productive category in Greek.

[865] It is uncertain whether θρησκεύω 'to perform religious duties' (Hdt.) contains the root of θρῆνυς 'footstool'. Theoretically, the verb could derive from a noun *θρησκός or *θρησκεύς 'supporter'. García Ramón (1999) recognizes the root *d^her- in Thess. θροσια, but in my view this remains conjectural as well (see section 3.4.2).

[866] Chantraine (1953: 108) remarks that there is no perceptible difference between the use of genitive and dative with ἐπί.

Ap.	θρόνους	11	Formulaic second hemistich (8x) |$_{P}$ κατὰ κλισμούς τε θρόνους τε	With *McL* Only *Od*.
Gp.	θρόνων	2	προπάροιθε |$_{T}$ θρόνων ἐκ δὲ θρόνων	With *McL* Only *Od*.
Dp.	θρόνοισι(ν), θρόνοισ’	5	verse-final: καθῖζον |$_{T}$ ἐπὶ ξεστοῖσι θρόνοισιν καθῖζον |$_{T}$ ἐν ὑψηλοῖσι θρόνοισι after |$_{T}$: θρόνοισ’ ἔνι ῥήγεα καλὰ θρόνοισ’ ἔνι δαιδαλέοισι	With *McL* Only *Od*.

Table 7.3: The pattern of attestation of θρόνος in Homer

The phonological surface structures of θρόνος and βροτός are identical. Since βροτός contained **r̥*, and since *McL* scansion frequently occurs in both words, it seems attractive at first sight to derive θρόνος from a pre-form with **r̥*, too. There are, however, clear differences between the metrical behavior of θρόνος and that of βροτός. In general, *McL* scansion is more widespread with θρόνος than with βροτός. However, for βροτός there is a distribution between case forms that regularly avoid *McL* scansion and case forms that allow *McL* scansion. Such a distribution cannot be indicated for θρόνος.

First of all, there is a difference in frequency. Whereas the Gp. βροτῶν is extremely frequent, θρόνων only occurs twice in Homer, of which only once after \|$_{T}$, the regular position of βροτῶν. And while the frequent Dp. βροτοῖσι is almost exclusively verse-final, only 2 out of 5 attestations of θρόνοισι are verse-final. Both these cases could be secondary: ἐν ὑψηλοῖσι θρόνοισι (*Od*. 8.422) stands beside ἐν ὑψηλοῖσι δόμοισιν (*Il*. 6.503, *Od*. 17.110), and καθῖζον ἐπὶ ξεστοῖσι θρόνοισιν (*Od*. 16.408) may have been modelled on καθῖζον ἐπὶ ξεστοῖσι λίθοισι (*Od*. 8.6).[867]

Thus, it appears that the only case forms of βροτός which regularly undergo *McL* scansion (the Gp. and Dp.) are used in a very different way with θρόνος. A similar difference is found in other case forms. The Np. θρόνοι and the Ns. θρόνος are attested only once (both undergo *McL* scansion), whereas the same case forms of βροτός are frequent and regularly avoid *McL* scansion. By way of contrast, the Ap. βροτούς is attested only once, whereas θρόνους appears with *McL* scansion in the frequent formula \|$_{P}$ κατὰ κλισμούς τε θρόνους τε. Wathelet’s view that this is an old formula is hard to prove.[868]

All forms with *McL* scansion discussed so far (20x: Ns. θρόνος, Np. θρόνοι, Ap. θρόνους, Gp. θρόνων, and Dp. θρόνοισι) are attested exclusively in the *Odyssey*. Generally speaking, θρόνος is more frequent in the *Odyssey* (39x, against 14x in the *Iliad*). Given the much higher frequency of rituals of hospitality in the *Odyssey*, the fact that certain formulae containing θρόνος only occur there and not in the *Iliad* is not necessarily informative. Even so, it is conceivable that the productive extension of *McL* scansions in the *Odyssey* is an

[867] The latter formula also appears in κατ’ ἄρ’ ἕζετ’ ἐπὶ ξεστοῖσι λίθοισιν (*Od*. 3.406), and in a different position in εἵατ’ ἐπὶ ξεστοῖσι λίθοισ’ ἱερῷ ἐνὶ κύκλῳ (*Il*. 18.504). Influence of δόμος on θρόνος may also be assumed in ἔν τε θρόνοισ’ εὐποιήτοισι (*Od*. 20.150) beside δόμοισ’ ἔνι ποιητοῖσιν (*Il*. 5.198, *Od*. 13.106). This leaves us only with \|$_{T}$ θρόνοισ’ ἔνι δαιδαλέοισι (*Od*. 17.32), \|$_{T}$ θρόνοισ’ ἔνι (*Od*. 10.352), both of which occur after the main caesura.

[868] It may be useful to compare other similar syntagms: ἵππους ἡμιόνους τε (*Il*. 24.576 and 690), βόας ἡμιόνους τε (*Il*. 24.782), ἀρνειούς τε τράγους τε (*Od*. 9.239, note the *McL* scansion in the Homeric hapax τράγος), καλούς τε μεγάλους τε (*Od*. 18.68). The *McL* scansion in the Ap. is further attested in θρόνους \|$_{P}$ περικαλλέας (2x, in the repeated verse *Od*. 22.438 = 452) and ἕς ῥα θρόνους ἕζοντο (*Od*. 4.51), which may have been modelled on the singular ἐς θρόνον ἷζε / εἷσεν (3x).

innovation of that epic.[869] Let us therefore restrict ourselves to the case forms that are attested in both *Iliad* and *Odyssey*.

The As. θρόνον (10x) and the Gs. θρόνου (19x) are used only in front of a vowel. This is consistent with the behavior of βροτός, which synchronically avoids *McL* scansion as far as possible. The Ds. θρόνῳ, on the other hand, undergoes *McL* scansion in all of its three occurrences in the *Iliad*. Leaving aside |$_{T}$ θρόνῳ ἔνι (*Il*. 15.142, with *McL* scansion after the caesura), the remaining two attestations of the Ds. have played an important role in previous discussions (see Heubeck 1972: 78):

σείσατο δ’ εἰνὶ θρόνῳ |$_{P}$ (*Il*. 8.199)
ἕζετο δ’ εἰνὶ θρόνῳ |$_{P}$ (*Il*. 15.150)

The simultaneous occurrence of metrical lengthening in the preposition εἰνί and of the *McL* licence in front of θρόνῳ is odd, and asks for an explanation. As ἐν θρόνῳ ἱδρύσασα |$_{P}$ (*Od*. 5.86) shows, the Ds. was in fact used in front of vowel-initial words, again consistent with the use of βροτῷ (4x prevocalic in Hom.). It would have been unproblematic to start a hexameter line with a participial clause like $^{++}$ἐν θρόνῳ ἑζόμενος |$_{P}$. It is also noteworthy that the colon ἐς θρόνον ἷζε (εἶσεν) |$_{T}$ (3x) has no parallel in the dative.

One could be tempted to conclude that εἰνὶ θρόνῳ is an archaism dating from a pre-stage of Epic Greek when prevocalic shortening in the Ds. was not yet admissible, and to reconstruct a noun phrase **eni t^{h}r̥nōi*, with metrical lengthening of the first syllable. This would, however, be premature, because a first hemistich ἕζετο δ’ ἐν κλισμῷ |$_{P}$ “seated himself on a bench” is also found (*Il*. 24.597, *Od*. 4.136).[870] This implies that the hemistich ἕζετο δ’ εἰνὶ θρόνῳ |$_{P}$ can be explained as a late creation by analogy with ἕζετο δ’ ἐν κλισμῷ |$_{P}$. This considerably weakens the argument for the antiquity of the *McL* scansion in εἰνὶ θρόνῳ.[871]

In conclusion, the only remaining indication for an earlier **r̥* is the formula |$_{P}$ κατὰ κλισμούς τε θρόνους τε. But this is only attested in the *Odyssey*, and the rest of the metrical evidence for **r̥* in θρόνος is hard to reconcile with the general picture obtained for βροτός. I therefore agree with de Lamberterie that the *McL* scansion in θρόνος is due to a recent extension of the licence in the *Odyssey* (“ils appartiennent à la catégorie des abrègements récents”, 2004: 244), and that the cases do not provide evidence for a pre-form **t^{h}r̥no-*. On the other hand, I agree with Wathelet and Heubeck that no certainty can be attained about the pre-form of θρόνος.

7.3.6 The compounds in -θρονος

The possessive compounds χρυσόθρονος and ἐΰθρονος occur in traditional Homeric formulae. If they contain θρόνος ‘throne’, as is mostly thought, it would be attractive to look for traces of the older scansion of this etymon. Given that -θρ- closes the final short vowel of the first member in both compounds, a syllabic liquid in θρόνος would be hard to defend.

It is unlikely, however, that the second member is to be etymologically identified with θρόνος. Leaf (ad *Il*. 22.441) already suggested to compare ποικιλόθρονος ‘with varicolored

[869] Thus, I agree with de Lamberterie (2004: 244) when he remarks: “les examples de *correptio*, qui pour la plupart sont attestés dans l’*Odyssée*, ne semblent guère anciens”. The fact that the plural of θρόνος is not used in the *Iliad* could even point to a semantic development: ‘throne’ (*Il*.) > ‘luxurious chair’ (*Od*.). Note that θρόνοι are mainly used by the *plurality* of suitors in the *Odyssey*.

[870] As Perpillou (1981: 228-9) shows, the difference between a κλισμός (a normal seat) and a θρόνος (a honorific chair) was made in both the *Iliad* and the *Odyssey*. The word κλισμός is further found in the Dp. in the second hemistich ἐπὶ κλισμοῖσι καθῖζον (*Il*. 8.436 and 11.623, *Od*. 17.90), in the first hemistich εἶσεν δ’ ἐν κλισμοῖσι |$_{T}$ (*Il*. 9.200), as well as in the formula |$_{P}$ κατὰ κλισμούς τε θρόνους τε (8x *Od*.).

[871] The assumption that εἰνὶ θρόνῳ replaced an older *ἐν θόρνῳ (entertained by de Lamberterie 2004: 244-5, following Hoekstra) seems unnecessary to me from an inner-Epic perspective.

dress', epithet of Aphrodite in Sappho (fr. 1.1),[872] with the phrase ἐν δὲ θρόνα ποικίλ' ἔπασσε "and on it she embroidered varicolored threads" (*Il*. 22.441).[873] This was further elaborated by Lawler (1948), who argued that χρυσόθρονος and ἐΰθρονος are to be analyzed in the same way. She was followed in this analysis by the etymological dictionaries (Frisk, *DELG*), but not by Jouanna (1999), who maintains the traditional identification with θρόνος 'throne'.[874]

In my view, Lawler's idea is proven correct by the formulaic behavior of the compounds in Homer.[875] ἐΰθρονος (6x) is an exclusive epithet of Dawn.[876] χρυσόθρονος occur 15x and qualifies Dawn (10x), Hera (3x),[877] and Artemis (2x). Since Artemis and Hera have different traditional epithets, it is clear that χρυσόθρονος originally qualified Dawn, too.[878] The following system of formulaic epithets can be set up for 'Dawn' in Early Greek Epic:

Ns.	|$_{P}$	χρυσόθρονος (ἤλυθεν) Ἠώς 'golden-threaded Dawn (appeared)'
	(|$_{T}$	φάνη) |$_{H}$ ῥοδοδάκτυλος Ἠώς 'rose-fingered Dawn (appeared)'
As.	|$_{P}$	χρυσόθρονον Ἠῶ (μίμνε/ο-, ἵκε/ο-) '(await, reach) golden-threaded Dawn'
	|$_{T}$	ἐΰθρονον Ἠῶ (μίμνε/ο-, ἵκε/ο-) '(await, reach) beautiful-threaded Dawn'
	|$_{B}$	Ἠῶ δῖαν 'heavenly Dawn'
Gs.	|$_{P}$	(μέσφ') Ἠοῦς ἠριγενείης '(till) early-born Dawn'
Ds.	|$_{P}$	ἅμα δ' Ἠοῖ φαινομένηφι 'when Dawn appeared'
	|$_{T}$	ἅμ' Ἠοῖ φαινομένηφι 'id.'

This system dates from before the contractions of vowels in hiatus due to the loss of **h*.[879]

Let us now consider the semantic interpretation of the compounds in -θρονος more precisely. Since they originally appeared in formulae with Ἠώς, the connection with θρόνα is much more attractive than that with θρόνος: cf. Ἠώς … κροκόπεπλος 'with saffron-colored dress' (3x *Il*.) and probably ποικιλόθρον' ἀθανάτ' Ἀφρόδιτα 'immortal Aphrodite with varicolored threads' (Sapph. 1.1). The image of the sisters Dawn and Night wearing resplendent clothes is also widespread in Vedic poetry, and may well have been inherited from PIE poetry. Most other compounds with a first member χρυσο- denote attributes that are

[872] The reading ποικιλόθρον' is certainly to be preferred over ποικιλόφρον, since it is the *lectio difficilior* and is better attested in the ms. tradition (cf. Jouanna 1999: 101-3). The most widely accepted translation is 'on richly-worked throne' (*LSJ*), adopted e.g. by Page (1955: 4).

[873] For reasons that are unclear to me, Risch (1972, followed by Nordheider *LfgrE* s.v. ἐΰθρονος, θρόνα) wants to derive θρόνα secondarily from a misunderstood compound ποικιλόθρονος. This is problematic because ποικιλόθρονος is unattested in Homer. Jouanna (1999) and Wartelle (2000) contain no new insights.

[874] The traditional interpretation is found in e.g. *LSJ* (s.v. ποικιλόθρονος) and in Page's commentary on Sappho (1950). The *LfgrE* (s.v. χρυσόθρονος) does not make a decision, and gives both 'mit goldenem Thron' and 'mit goldenem Gewand / Verzierungen' as possible interpretations. Intermediate positions, deriving some of the θρονος-compounds from θρόνος and others from θρόνα, have also been defended (cf. the literature in Jouanna 1999: 103).

[875] For the sake of uniformity, I have chosen to write Ἠώς (etc.) rather than ἠώς.

[876] In Pindar, ἐΰθρονος is also an epithet of the Horai, the Charites, Kleo, and Aphrodite.

[877] Only χρυσόθρονος Ἥρη (*Il*. 1.611), Ἥρη … χρυσόθρονος (*Il*. 14.153), and gen. παρὰ χρυσοθρόνου Ἥρης (*Il*. 15.5). Two further examples are found in the hymns.

[878] The formulaic nominatives of Hera are (θεὰ) \|$_{H}$ λευκώλενος Ἥρη (*Il*., very frequent), and (βοῶπις) \|$_{B}$ πότνια Ἥρη (*Il*., also very frequent); both remain current in Hesiod and the hymns. For Artemis, among others, the verse-final Ns. Ἄρτεμις ἰοχέαιρα (9x Hom., 2x hymn.), and Ἄρτεμις ἀγνή 'virgin Artemis' (3x *Od*.).

[879] Only the Ns. Ἠώς can be verse-final, while it does not occur in this position in the other case forms (Ἠῶ, Ἠοῦς, Ἠοῖ). This can only be understood if the entire system developed before the aforementioned contraction took place. This is confirmed by the formula \|$_{B}$ Ἠῶ δῖαν < **āwoha diwjan* (< **ahwoha*): as is well-known, this must have been created when the fifth foot was not yet spondaeic.

worn on the body, both by masculine and feminine figures.[880] The precise meaning of θρόνα may be debated, but in my view (see section 2.1.1), 'threads colored by dying', whence 'embroideries', is the most likely. Note that χρυσόθρονος 'golden-threaded' and ῥοδοδάκτυλος 'rose-fingered' can both be understood to refer to the emerging rays of the new-born sun.

It cannot be denied, on the other hand, that χρυσόθρονος synchronically means 'golden-throned' when it qualifies Hera.[881] However, this may a recent creation made possible by a reinterpretation of its meaning. Against the view that 'golden-throned' is the original meaning, Lawler (1949: 82) already argued that χρυσόθρονος is an exclusively feminine epithet, whereas the throne was originally a symbol of masculine power and authority.[882] Thus, I agree with West when he states: "it is conceivable that [χρυσόθρονος] originally meant 'gold-patterned' (from θρόνα), referring to Dawn's robe, and that after reinterpretation as 'gold-throned', the epithet was then extended to other goddesses, such as Hera." (2007: 219ff., 221 n. 90). We may conclude that the compounds in -θρονος have no bearing on the reconstruction of θρόνος 'chair'.

7.3.7 Κρόνος

Kronos, the father and predecessor of Zeus, has no convincing IE etymology, nor any cognates within Greek itself.[883] This would be a sufficient reason to exclude the name from the present discussion, if it were not for the *McL* scansion which Κρονίων and some case-forms of Κρόνος undergo in Epic Greek. The frequent nominative Κρονίων 'Zeus' always has a long ῑ in Homer, so that its Κρ- regularly counts as tautosyllabic for metrical purposes. Moreover, the Gs. of Κρόνος itself (in the form Κρόνοιο) and the Ds. Κρόνῳ may also undergo *McL* scansion. Although these facts are suggestive of a pre-form with syllabic liquid, the case of θρόνος has taught us that no conclusions can be drawn before we have analyzed the metrical evidence more thoroughly.

In the following table, the evidence for Κρόνος from Homer and Hesiod is treated simultaneously, because the name has a high relative frequency in the *Theogony*. The numbers for Hesiod (in brackets) follow those for Homer.[884]

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[880] χρυσ-άμπυξ 'with golden headband', χρυσο-πήληξ 'with golden helmet', χρυσό-ζωνος 'with golden girdle', χρυσο-κόμης 'with golden hair', χρυσο-πέδιλος 'with golden sandals', χρυσο-πλόκαμος 'with golden braids', χρυσο-στέφανος 'with golden wreath', etc. (all Hom.+).

[881] Hera is the spouse par excellence, especially the spouse of Zeus, sitting beside him. When we encounter the image of Zeus sleeping beside χρυσόθρονος Hera (*Il.* 1.611 and 15.5), it is not really clear whether this epithet refers to her sitting on a throne. This image is found, however, in σείσατο δ' εἰνὶ θρόνῳ, ἐλέλιξε δὲ μακρὸν Ὄλυμπον (*Il.* 8.199), where angry Hera is shaken while sitting on her throne; similarly ἕζετο δ' εἰνὶ θρόνῳ (*Il.* 15.150). Zeus, too, sits down on a 'throne of gold': αὐτὸς δὲ χρύσειον ἐπὶ θρόνον εὐρύοπα Ζεὺς ἕζετο (*Il.* 8.442-3). When Hera asks Hypnos to lull Zeus asleep, she offers him a golden chair: δῶρα δέ τοι δώσω καλὸν θρόνον ἄφθιτον αἰεὶ χρύσεον (*Il.* 14.238-9). For a discussion of this argument, see Jouanna (1999: 114). It cannot be denied, then, that χρυσόθρονος had already been reinterpreted as 'having a golden throne' in the two passages about Hera. Even so, the fact that χρυσόθρονος was originally an epithet of Dawn proves that its reanalysis as 'having a golden throne' was relatively recent.

[882] Jouanna remarks (1999: 114) that female deities are represented as seated on thrones in Epic and later Greek poetry. Indeed, the image of throning females has clearly spread in ὑψιθρόνων … Νηρεΐδων (Pi. *Nem.* 4.65) 'of the high-seated Nereids', ὁμοθρόνου Ἥρας (Pi. *Nem.* 11.2) 'of Hera who shares a throne' (i.e. with Zeus). But this does not invalidate Lawler's point that none of the compounds in -θρονος ever qualifies a masculine deity. In Homer, the two cases where χρυσόθρονος qualifies Hera are the only evidence for the meaning '-throned'.

[883] My main objection to Janda's recent proposal (2010: 50-1) to reconstruct **kr-ono-* 'cutter' is morphological. There is hardly any evidence that a Greek suffix *-ono-* could be added to a zero grade root (see above on θρόνος), and the suffix is unclear in terms of IE morphonology.

[884] In the figures for Hesiod, I include only the *Theogony* and the *Works and Days*, without making any claims about Hesiod's authorship of other works and fragments. I have not included the *Homeric hymns*, because this would not change the picture in a substantial way, as the reader can check for himself.

Case	Form	##	Formulaic material	Remarks
Ns.	Κρόνος	2 (5)	|$_{H}$ Κρόνος ἀγκυλομήτης (1x *Il.*, 4x *Th.*), preceded by τέκετο or γένετο, or the extended form |$_{T}$ μέγας Κρόνος ἀγκυλομήτης (*Th.* 168, 473, 495).	*McL* scansion avoided, except *Il.* 8.479.[885]
Gs.	Κρόνοιο	4 (0)	Ἥρη πρέσβα θεὰ θύγατερ μεγάλοιο Κρόνοιο Ἥρη πρέσβα θεὰ θυγάτηρ μεγάλοιο Κρόνοιο[886]	*McL* scansion Only *Il.*
	Κρόνου	15 (7)	|$_{T}$ Κρόνου πάϊς |$_{B}$ ἀγκυλομήτεω (7x *Il.*, 1x *Od.*) |$_{T}$ Κρόνου πάϊς |$_{B}$ … (5x *Il.*) In Hesiod, Κρόνου (mostly before |$_{B}$) is always followed by a vowel. In Homer, this happens only in |$_{T}$ δύω Κρόνου υἷε κραταιώ (*Il.* 13.345)	
Ds.	Κρόνῳ	0 (3)	Prevocalic (*Th.* 634), |$_{T}$ Κρόνῳ (*Th.* 453), *McL* scansion ἀμφὶ Κρόνῳ βασιλῆϊ (*Th.* 476)	Not in Hom.
As.	Κρόνον	3 (3)	|$_{T}$ θεοὶ Κρόνον ἀμφὶς ἐόντες (2x *Il.*, 1x *Th.*)	Always before |$_{B}$.

Table 7.4: The pattern of attestation of the name Κρόνος in Homer and Hesiod

There are some noteworthy similarities between Homer's and Hesiod's use of Κρόνος. Both authors use the formulae \|$_{T}$ θεοὶ Κρόνον ἀμφὶς ἐόντες 'the gods [of the netherworld] that surround Kronos' and \|$_{H}$ Κρόνος ἀγκυλομήτης 'Kronos of crooked plans' (Homer only N., Hesiod also A.), which are probably old. Κρόνος prefers the prevocalic position before \|$_{B}$ not only in these formulae, but also more generally. With the sole exception of Ἰάπετός τε Κρόνος τε (*Il.* 8.479), all attestations of the N. and A. occupy this position, and the same holds for the G. in -ου in Hesiod.

There are also some remarkable differences between Homer and Hesiod. The verse of address for Hera and the colon \|$_{T}$ Κρόνου πάϊς \|$_{B}$ (without following ἀγκυλομήτεω) are found only in the *Iliad*. The frequent formula \|$_{T}$ Κρόνου πάϊς ἀγκυλομήτεω (Ns. of 'Zeus', also once in *Od.*) is also absent from Hesiod. That the D. Κρόνῳ is unattested in Homer may be due to chance, because Kronos does not play a thematic role in the Homeric poems. Similarly, Homer uses the G. Κρόνου, Κρόνοιο only in constructions describing descent from Kronos, while Hesiod also uses the G. in other constructions. The single instance of *McL* scansion for the D. in Hesiod (ἀμφὶ Κρόνῳ βασιλῆϊ, *Th.* 476, beside two other instances of Κρόνῳ) may be ascribed to an incidental application of the licence.

In the specifically Homeric \|$_{T}$ Κρόνου πάϊς ἀγκυλομήτεω, the use of Κρόνου before a following consonant is made possible by the preceding caesura.[887] The combination of quantitative metathesis in ἀγκυλομήτεω and the irresolvably contracted Gs. in Κρόνου ensures that this formula is a recent creation, based on a conflation of the colon \|$_{T}$ Κρόνου πάϊς and the formula \|$_{H}$ Κρόνος ἀγκυλομήτης.[888] Since it is unlikely that \|$_{T}$ Κρόνου πάϊς ἀγκυλομήτεω is absent from Hesiod by chance, Homer probably innovated here.

[885] Only in Ἰάπετός τε Κρόνος τε (*Il.* 8.479), which may be due to an incidental application of the licence.
[886] The nominative verse (*Il.* 5.721 and 8.383) is clearly a transformation of the older vocative verse (*Il.* 14.194 and 243), because πρέσβα 'Venerable Lady' is best explained as a vocative which developed on the basis of πότνα 'Lady'. After that, πρέσβα was used as a nominative in πρέσβα Διὸς θυγάτηρ Ἄτη (*Il.* 19.91) and πρέσβα Κλυμένοιο θυγατρῶν (*Od.* 3.452, with a different meaning 'most venerable').
[887] Cf. also \|$_{T}$ Κρόνου πολυώνυμος υἱός (2x *h. Cer.*), referring to Hades.
[888] Except for *Il.* 16.431, \|$_{T}$ Κρόνου πάϊς ἀγκυλομήτεω is preceded by a κ-aorist in all its attestations. This may corroborate a recent productivity of the formula.

We are therefore left only with |P θύγατερ μεγάλοιο Κρόνοιο as a candidate to contain a relic scansion of *$\breve{r}$. In view of the repeated Gs. ending -οιο in verse-final position, the verse has an archaic appearance. But how serious is this evidence? The motional vocative πρέσβα is not necessarily old, because it may have been influenced by πότνα (see above). I propose that |P θύγατερ μεγάλοιο Κρόνοιο was formed after |T Κρόνου πάϊς ἀγκυλομήτεω, which is structurally identical: if Zeus is regularly called 'child of Kronos', his spouse could be called 'daughter of Kronos'. The motive for creating a new formula was the different caesura after Ἥρη πρέσβα θεά.[889] In doing so, Homer permitted himself an incidental use of the *McL* licence. The subsequent iterability of the verse-end μεγάλοιο Κρόνοιο, apparent from the transformation of the line into a nominative, was probably promoted by verse-final Κρονίων (on which see below). The epithet μεγάλοιο may have been taken over from |T μέγας Κρόνος ἀγκυλομήτης (3x Hes., also once |T μέγας Κρόνος |B without following ἀγκυλομήτης), the extended and oldest form of the formula. In other words, both |T Κρόνου πάϊς ἀγκυλομήτεω and |P θύγατερ μεγάλοιο Κρόνοιο presuppose the prior existence of |T μέγας Κρόνος ἀγκυλομήτης.

7.3.8 Κρονίων

The theonym Κρονίων 'son of Kronos', which is used as a metrical alternative for Ζεύς, is commonly analyzed as a patronymic formation in -ίων. Its attestations are as follows:

Case	Form	##	Formulaic material	Remarks
Ns.	Κρονίων	42 (3)	Some combinations occur more than once: (|H κατέ-)|Bνεῦσε Κρονίων (3x *Il.*) |H ἐτέλεσσε Κρονίων (2x *Od.*) |H ἐτάνυσσε Κρονίων (2x *Il.*) |T ἐπεκραίαινε Κρονίων (2x *Il.*), etc.	Verse-final (except 1x *Il.*, 3x *Od.*). Mostly unaccompanied by Ζεύς.
Gs.	Κρονίωνος	3 (1)	|T ἐρισθενέος Κρονίωνος (1x *Il.*, 1x *Od.*)	Verse-final except *Il.* 21.230.
	Κρονίονος	2 (0)	*Il.* 14.247, *Od.* 11.620. Both after |T and with preceding G. Ζηνός.	Cf. Μολίονε in the same position.
Ds.	Κρονίωνι	16 (3)	|T Διὶ Κρονίωνι μάχεσθαι (2x *Il.*) |T ὑπερμενέι Κρονίωνι (4x *Il.*, 1x *Th.*) |T κελαινεφέϊ Κρονίωνι (3x *Il.*) |T Διὶ Κρονίωνι ἄνακτι (4x *Il.*, 1x *Op.*)	Never in *Od.*
As.	Κρονίωνα	10 (0)	|T Δία Κρονίωνα + verb (3x *Il.*, 1x *Od.*) |T ὑπερμενέα Κρονίωνα (2x *Il.*) |T κελαινεφέα Κρονίωνα (1x *Il.*) |T Δία Κρονίωνα ἄνακτα (1x *Il.*)	Only twice in *Od.*

Table 7.5: The pattern of attestation of Κρονίων in Homer and Hesiod

Some of the accusative formulae must be transformations of dative formulae, but that is irrelevant for present purposes.[890] Leaving aside the genitive form Κρονίονος, which is

[889] If |P θύγατερ μεγάλοιο Κρόνοιο were the older formula of the two, one would expect a T_2-formula $^{++}$πάϊς μεγάλοιο Κρόνοιο, rather than Κρόνου πάϊς ἀγκυλομήτεω.

[890] For instance, |T Δία Κρονίωνα ἄνακτα and |T Δία Κρονίωνα + verb form contain the historically more recent As. form Δία (further only 6x Hom., 3x Hes.), replacing older Ζῆν(α) (10x Hom., 5x Hes.).

probably a secondary creation on the basis of verse-final Κρονίων,[891] we are left with a remarkable distribution N. Κρονίων (with long ῑ) beside Κρονίων- (with short ι) in the other case forms. Parallel to this distribution, *McL* scansion is applied only in Κρονίων, not in any of the other forms.

The long ῑ of the N. Κρονίων is usually explained as a metrical lengthening.[892] This assumption is quite problematic in itself, because there was no clear motive: Κρονίων with short -ῐ- is anapestic, and therefore eminently suited for use in the dactylic hexameter. Other verse-final cases like Στυγὸς ὕδωρ (only *Il*. 14.271) or αἰόλον ὄφιν (only *Il*. 12.208), which have been explained by Ancient commentators as στίχοι μείουροι, are merely incidental; moreover, verse-final Στυγὸς ὕδωρ may be due to a dislocation of |ᵖ Στυγὸς ὕδωρ (*Il*. 15.37, *Od*. 5.185), which itself is probably due to declension of |ᵖ Στυγὸς ὕδατος (*Il*. 2.755, 8.369, *Od*. 10.514) with metrical lengthening in a tribrach. Finally, if verse-final Κρονίων arose by metrical lengthening, this would entail that a metrical irregularity (*McL* scansion) was introduced at the same time. Given the large number of attestations of verse-final Κρονίων, this scenario is unacceptable.[893]

In view of these problems, one can hardly avoid the conclusion that the Ns. Κρονίων and the other case forms with Κρονίων- originally belonged to two different paradigms.[894] This conclusion may come as a surprise, but it is reinforced by various other considerations. First of all, Pindar, the only non-epic author to use Κρονίων, only attests the nominative form.[895] Beside this form, Pindar uses Κρονίδας, the only form current in non-epic poetry. Secondly, it must be asked what happened to the nominative with short -ῐ- belonging to the other case forms of Κρονίων-. It is not difficult to find the answer: it was replaced by Κρονίδης, which has the productive suffix and occurs 37x in Homer. The same goes for the vocative Κρονίδη (in Homer, verse-final Κρονίων is never used as a vocative).[896] The weak cases of Κρονίδης, on the other hand, are only marginally attested in Homer (D. 3x, G. does not occur). These distributions can be explained if we assume that the N. Κρονίων (with long ῑ) is an archaic name of Zeus, which was drawn into the orbit of the patronymic Κρονίων- relatively recently.[897]

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[891] This is proven by the fact that both instances of the form are preceded by the analogical form Ζηνός earlier in the verse. By contrast, the N. Κρονίων is regularly used without a preceding Ζεύς, as we will see below.

[892] This is indeed assumed by Ruijgh (1968: 146), referring to Chantraine (1942, I: 104) for metrical lengthening in the sixth foot ("allongement métrique du 6^{e} temps fort").

[893] Thus, a metrical lengthening could only be reconciled with a pre-form **Kr̥niōn*. But as we have just seen, there is no compelling evidence to reconstruct Κρόνος as **Kr̥no-*.

[894] It is commonly agreed that the Ns. Κρονίων is a patronymic in -ίων, and a relic form beside the metrical alternative Κρονίδης. But the status of Κρονίων- as a patronymic cannot be easily confirmed by parallel cases. Within Homer, Risch (1974: 57) compares Βουκολίων beside Βουκολίδης, Δευκαλίων beside Δευκαλίδης, Ἰασίων beside Ἰασίδης, and Ἰφιτίων beside Ἰφιτίδης. Note, however, that in none of these pairs the form in -ίων is a genuine patronymic. For instance, Δευκαλίδης refers to Ἰδομενεύς, the son of Δευκαλίων (PN); Ἰασίδης means 'son of Ἴασος', but Ἰασίων (PN) is not a patronymic synchronically. The two remaining examples of patronymics in -ίων are Ἀτρεΐων beside Ἀτρεΐδης 'Agamemnon' and Πηλεΐων beside Πηληϊάδης 'Achilles', where Πηλεΐων is old, and Ἀτρεΐων clearly secondary. In view of its problematic short -ε-, the precise derivational history of Πηλεΐων is debated.

[895] In Κρονίων, the -ι- is scanned long in *Pyth*. 1.71, *Nem*. 9.19, but short in *Pyth*. 3.57, 4.23, *Nem*. 1.16, 9.28, and 10.76. It is also noteworthy that the non-nominative forms are rare in the *Odyssey*, which has 20x N. Κρονίων (against *Il*. 22x), but only 3x the other three case forms taken together (against *Il*. 26x).

[896] But Pindar does have a vocative Κρονίων (*Pyth*. 1.71, *Nem*. 9.28, 10.76).

[897] The formulaic character of Κρονίων is shown not so much by its localization property (see section 6.7.6 on τράπεζα), as by the frequency of a preceding 3s. aor. in -ε (28x). Of the 38 verse-final cases, the Ns. Ζεύς does not occur earlier in the same verse, with only one exception (*Od*. 21.102). On the other hand, in three of the four non-verse-final instances, Κρονίων is preceded by Ζεύς (*Od*. 17.424 = 19.80, 20.273; without Ζεύς in *Il*. 17.269). This shows that Κρονίων was restricted to verse-final position earlier in the tradition, and was originally used without a preceding Ζεύς (thus always in the *Iliad*).

Among the Homeric names in -ίων, there are two synchronically distinct types: (1) the patronymic in -ίων, which maintains the long -ω- of the nominative in the other case forms; (2) forms in -ίων which have a long -ī- throughout and which display suffixal ablaut (Gs. -ίονος). As Ruijgh (1968) shows, this difference cannot be due to metrical lengthening, because the two types have different etymological origins. The patronymic type was historically derived from the adjectives of appurtenance in -ιος (type στράβων : στραβός), which has corresponding Mycenaean forms in *-i-jo*. The second type contains the suffix **-īwon-*, attested in Mycenaean as *-i-wo* in the PNs *a-ri-wo* /Arīwōn/ (= Hom. Ἀρίων) and *a-ki-wo-ni-jo* /Alkīwonios/.[898] In Homer, this type is residual, and (beside Κρονίων) attested only in a few names (Ἀρίων, Ἀμφίων, Ἰξιόνιος, Μολίονε, Ὑπερίων) and in the invective κυλλοποδίων 'lame-foot' (nickname of Hephaistos).[899] Note that both κυλλοποδίων and Κρονίων occur in verse-final position. These names are not patronymics, but sobriquets; in most cases, they were derived from truncated stems in -ι-.[900]

The metrical behavior of the N. Κρονίων confirms that the form contains original **-ī-*. I therefore submit that it belongs to the second type in **-īwon-*, whereas Κρονίων- belongs to the patronymic type in *-iōn-*. The N. Κρονίων was originally not a patronymic, but a sobriquet derived from a form starting with **kr̥n-* or **kr̥ni-*, possibly a compound. Its etymology, however, must remain uncertain.[901] This analysis allows us to explain the *McL* scansion of the N. Κρονίων by the earlier presence of **r̥*. When Epic **r̥* was eliminated, **Kr̥nīwōn* vocalized as *Κρανίων, but this form was reshaped to Κρονίων because the name was identified with the patronymic Κρονίων- 'son of Kronos', which never contained a syllabic liquid. This scenario may look overly complicated, but I feel that the metrical evidence asks for such a drastic solution.

7.3.9 κροαίνω

In Homer, the verb κροαίνω is attested only in the formula |$_P$ θείῃ πεδίοιο κροαίνων '(when a horse) runs κροαίνων across the plain' (*Il*. 6.507, in a simile 506-11 which is repeated in its entirety at *Il*. 15.263-8). After Homer, the word is taken up only by Oppian (κροαίνοντες πεδίοιο *Cyn*. 1.279, clearly built on the Homeric phrase). The precise meaning of κροαίνων cannot be derived from the context of the simile, a fact which is illustrated by the diverging opinions of Ancient scholiasts and grammarians. Some of them connect κροαίνων with κρούω 'to stamp' or with κροτέω 'to stamp the feet', and take πεδίοιο as a *genitivus loci* with θείῃ. Others interpret πεδίοιο as a complement of κροαίνων, and translate this syntagm as 'longing (ἐπιθυμῶν) for the plain'.

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[898] The origin of the suffix **-īwon-* must be identical to that of **-āwon-*, which is more frequently attested, e.g. in Myc. Ds. *o-qa-wo-ni*, Hom. ὀπάων 'member of the retinue', PNs Myc. *a-mu-ta-wo* = Hom. Ἀμυθάων, cf. Ἀπισάων. The **-āwon-* type derives personal names from *ā*-stems, and makes sobriquets, invectives, and appellatives belonging to social terminology (ὀπάων). An original suffix **-won-* which lengthened a preceding vowel (in IE terms, **-Huon-*) was added to forms ending in **-ā̆-* and **-i-*. Subsequently, **-īwon-* was reanalyzed as an independent suffix which created sobriquets and invectives. The ablaut of types (1) and (2) is meticulously kept distinct in Homeric Greek – that is, with the sole apparent exception of Κρονίων. As Ruijgh notes concerning the names in -ῑον-, "… on observe que tous ces noms appartiennent aux récits mythologiques, et que 9 d'entre eux figurent déjà chez Homère. Ceci prouve que les noms en -ῑον-, eux aussi, appartiennent à la vieille tradition épique, représentant une formation qui n'est plus productive à l'époque classique" (1968: 145).

[899] Perhaps also in βραχίων 'upper arm' if this was originally an invective "shorty" (see section 6.8.4).

[900] For instance, Ἰξίων is thought to derive from a verbal governing compound with first member **hiksi-* (ἱκέτης 'supplicant': the mythological figure Ἰξίων was the first one to supplicate Zeus), Ἀρίων from a compound with first member ἀρι-, and Ἀμφίων from a prepositional compound.

[901] From a phonological perspective, there is of course one perspicuous candidate: the IE word **kr̥no-* 'horn', attested in Germanic, Celtic, and Italic. An original meaning 'horny' would excellently fit the adulterous character of Zeus, but this idea must remain pure speculation, because the semantic development found in English 'horny' may well be highly specific.

The status of κροαίνων as evidence for *McL* scansions is problematic: it is unclear what the pre-form was, we are dealing with a quasi-hapax, and the meaning is not entirely certain. Still, there are some indications that the hemistich is traditional and contains a relic scansion due to **r̥*. The *genitivus loci* πεδίοιο 'across the plain' is frequent in Homer, but disappears afterwards (Chantraine 1953: 58f.). In terms of formulaic language, we have to compare it with |P πολέος πεδίοιο θέοντος (*Il.* 23.521) and |P πολέος πεδίοιο θέουσαι (*Il.* 4.244), where a participle form of θέω takes the place of κροαίνων. Finally, the use of the long vowel stem-form in the subjunctive θείῃ is odd, although several explanations are theoretically possible.[902]

The etymology of κροαίνω, however, is problematic. It is mostly thought to be related within Greek to κρούω 'to beat, stamp'. Frisk (s.v. κρούω) suggests that all Greek forms may derive from a PIE root **krous*-, and points at possible Slavic cognates (e.g. Ru. *krušit'* 'to stamp, pound', *kroxa* 'crumble'). This reconstruction leads into trouble, because the Homeric form would have undergone prevocalic shortening **krō̯(w)an̯ie/o*- > **kroaine/o*-, whereas the vernacular form κρούω always keeps (i.e. restores) the prevocalic diphthong in later Ionic-Attic. In order to save the connection with κρούω, one would have to assume that the unrestored outcome of prevocalic shortening, **kroaine/o*-, was taken by Homer from his contemporary vernacular. However, it would be difficult to productively add the suffix -αίνω in the Ionic vernacular. Its appearance can only be explained within Epic Greek, where a few verbs in -αίνω with similar semantics are found: μενεαίνω 'to rage', βλεμεαίνω 'to exult', κραδαίνω 'to brandish'. In sum, I have no explanation for the scansion of κροαίνων if |H πεδίοιο κροαίνων is indeed an old formula.

7.4 Conclusions

We may conclude with confidence that the regular reflex of Epic **r̥* after a labial consonant was -ρο-. The main pieces of evidence are βροτός < **mr̥tó*- and related forms (Dp. βροτοῖσι, ἀσπίδος ἀμφιβρότης, ἄμβροτος, ἀμβρόσιος, νὺξ ἀβρότη), ἤμβροτον < **āmr̥ton* (and ἀβροτάξομεν), πρός < **pr̥ti̯*- (and πρόσ- as a preverb, πρόσω, πρόσωπον), προκείμενα < **pr̥-keimena* in the formulaic verse in which it occurs, Ἀφροδίτη < **Ap*^{h}*r̥dītā*, and ῥοδόεντι < **wr̥dowent*-. This development was probably not paralleled in the Proto-Ionic vernacular: in spite of the *o*-vocalism of πόρσω, forms like μάρναμαι and ἁμαρτεῖν prove that *a*-coloring was regular also after a labial consonant. The remaining instances of -ρο- in combination with *McL* scansion can be explained in various ways. The old Epic word ἀνδροτῆτα may have

[902] It is unlikely that θείῃ continues an aorist subjunctive form **t*^{h}*ews-e/o*-, because no other aorist forms of θέω are attested in Greek (except for a very late instance): δραμεῖν is the normal synchronic aorist to θέω, both in Homer and in Hdt., see Kölligan 2007), and the Vedic cognate *dhāvati* does not form an old aorist either. It has been assumed that θείω is an alternative present formation **d*^{h}*eu-ie/o*- beside **d*^{h}*eu-e/o*- (e.g. *LIV*^{2}). Kölligan (2007: 195) prefers to derive θείω from a Narten present **d*^{h}*ēu-e/o*-. Before either conclusion is drawn, however, we have to try and explain θείω within Epic Greek. Out of 8 attestations of θείω, 7 are found after the trochaeic caesura. A theoretically possible interpretation of this distribution is that θείω originated from the expected form θέω in a T_2-formula, that was utilized after a P_1-formula. But another explanation is more likely in my view: 6 attestations of θείω concern the pres. inf. θείειν, which always occurs in front of a consonant, the root syllable θει- occupying the biceps. For this idea, cf. already Chantraine (1942: 346 and 492). The attestations are |P θείειν ταχὺς ἠδὲ μαχητής (3x Hom. in Ns. and As.), on which are based βάρδιστοι θείειν |P (1x *Il.*), ἐλαφρότατοι |P θείειν (1x *Od.*), and |P θείειν δ' ἀνέμοισιν ὁμοῖοι (1x *Il.*), all of which qualify the racing qualities of a horse. This infinitive may be reconstructed as **t*^{h}*ewehen*, where the ending -εεν was retained within Epic Greek after the contraction to -*ē̯n* in the vernacular. After the subsequent contraction of -*ewe*- to <-ει->, the ensuing form **t*^{h}*ē̯en* (then written ΘΕΕΝ) was replaced with *t*^{h}*ē̯ē̯n*, which was eventually written θείειν. This leaves us only with the subjunctive form θείῃ, in our present verse, as evidence for the stem θει-. It may either be an archaism or, if the author of the *Iliad* already sung /t^{h}ē̯ē̯n/, θείῃ may have been based on the artificial form θείειν. In that case, the hemistich as a whole would be recent, but nevertheless, the smaller chunk |H πεδίοιο κροαίνων could be traditional: compare πολέος πεδίοιο δίενται (*Il.* 23.475, also of horses).

replaced an intermediate form with ἀνδρα-. The metrical behavior of θρόνος in the *Odyssey* may be due to a secondary development, and the pre-form probably did not contain **r̥*. Κρονίων may be a conflation of two etymologically distinct words, where the etymon with **ro* may have influenced that with **r̥*.

In my view, Heubeck (1972) was right in assuming **r̥* for Mycenaean, but for a different reason. In chapter 2, it was concluded that the regular Mycenaean reflex of **r̥* cannot have been *-ro-*. On the basis of the Mycenaean material alone, it is impossible to decide whether the spelling <*Co*-> (as in e.g. *to-pe-za* and *wo-ze*) represents *-or-* or *-r̥-*. If we suppose that the regular outcome is *-or-*, it would follow that no Mycenaean scansions can be found in Epic Greek, because there are no Epic forms with -ορ- from **r̥*. On the other hand, if we assume that **-r̥-* remained intact in Mycenaean, the following lexical isoglosses with Epic Greek would receive a natural explanation: τράπεζα ~ Myc. *to-pe-za*, ἀνδρεϊφόντης ~ Myc. PN *a-no-qo-ta*, ῥοδόεντ- ~ Myc. *wo-do-we*, as well as ἀβροτάξομεν with its guttural suffix. The divergent vowel slot of these forms with -ρα- and -ρο- can be accounted for as the development of Epic **r̥*. At the same time, this explains the aberrant scansion of τράπεζα, ἀνδρεϊφόντης, and ἀβροτάξομεν.

8. The reflexes -αρ- and -ρα- in the thematic aorist

8.1 Introduction

Most Greek thematic aorists derive from a late PIE or Proto-Greek thematic formation with zero grade root, e.g. λιπεῖν < **lik^{w}-e/o-*, δρακεῖν < **dr̥ḱ-e/o-*. The following thematic aorists with a root structure *CraC-* are attested in Homer (in alphabetical order of the root):[903]

Homeric thematic aorist with -ρα-	**Other attested formations**
ἔβραχε ‘resounded’	no clear cognates
κατέδραθον ‘went to sleep’	Att. pres. καταδαρθάνω, aor. κατέδαρθον
ἔδρακον ‘beheld, looked’	pres. δέρκομαι, pf. δέδορκα ‘to look’
ἔδραμον ‘ran, shot’	pf. ἀνα-, ἐπι-δέδρομε ‘runs up / over’
ἀνέκραγον ‘spoke up’	post-Hom. pf. κέκραγε ‘shrieks’
ἔπραθον ‘pillaged’	pres. πέρθω ‘to pillage, destroy’
ἔτραπον (tr.), -όμην (intr.) ‘turned’	pres. τρέπω ‘to direct’, pf. mid. τέτραπται
ἔτραφον ‘was raised, grew up’	pres. τρέφω ‘to nourish’, pf. τέτροφα

Besides, the following thematic aorists (either in Homer or in Classical Attic) have a root structure *CarC-* (in alphabetical order of the root):

Thematic aorist with -αρ-	**Other attested formations**
Hom. ἄμαρτε ‘failed, missed’	pres. ἁμαρτάνω; cf. νημερτής ‘unfailing’
Attic κατέδαρθον ‘slept’	Att. pres. καταδαρθάνω
Attic ἔπαρδον ‘farted’	pres. πέρδομαι
Hom. ταρπώμεθα ‘let us satisfy ourselves’	pres. τέρπομαι ‘to enjoy oneself’

We first have to eliminate the forms which have no relevance for the outcome of **r̥*. The Homeric hapax ἀνέκραγον (*Od.* 14.467) contains a secondary zero grade, beside the full grade *CRāC-* in the pf. κέκρηγα.[904] Since ἔβραχε does not have a convincing etymology, it is uncertain whether its pre-form ever contained **r̥*; it could be a loanword with **-a-*. This leaves us with six Homeric thematic aorists with a root of the structure *CraC-* for which a zero grade pre-form **Cr̥C-e/o-* is etymologically ascertained. For ἔδραμον, ἔτραπον, and ἔτραφον, the existence of a full grade of the type *CreC-* or *CroC-* may explain the vowel slot

[903] To this list, one could add the reduplicated aorist πεφραδεῖν (Hom.+), and from Pindar the ptc. δραπών ‘reaping’. However, the root φραδ- ‘to perceive, think’ has no etymology, and the zero grade reflex of δραπών may have been influenced by δρέπω. On ἔπραδες (only attested in Sophron), see below. The Homeric aorist ἔχραον ‘dashed, attacked’ is probably cognate with χραύω ‘to glance off’, in which case it does not continue a form with **r̥*. For the Homeric 1p. subj. aor. τραπείομεν < **tr̥pē-o-men* (intr. aor. of τέρπομαι ‘to enjoy oneself’), with the reflex -ρα- of Epic **r̥*, see section 6.7.5. The intr. aor. 3p. βλάβεν may contain the regular reflex of **l̥*, but it may also have introduced the reflex of a vocalized nasal from the present βλάβομαι (see section 10.3.1).

[904] The unprefixed aorist is frequent in Aristophanes, but only in the reduplicated stem κεκραγ-. The present κράζω ‘screak’ occurs once in Ar. and is probably a late formation; the compounded verb ἀνακράζω occurs only in the them. aor. (Hom., Pi., X., Ar., Aesop.). For secondary vocalism in a thematic aorist, cf. also διέτμαγον ‘I crossed’, διέτμαγεν ‘they separated’, beside pres. (ἀπο-)τμήγω, aor. (δια-)τμῆξαι. The aorist τραγεῖν ‘to eat’ occurs only a few times in the comedians (Ar., Phrynichus, Pherecrates, Theopompus), mostly with prefix, but its relation to the present τρώγω ‘to gnaw, chew, eat’ cannot be understood in Indo-European terms. If the comparison with Toch. B *treṣṣäṃ* ‘chews’ is taken to imply a PIE root **trh$_3$g-* (*LIV*^{2}, following Hackstein 1995), the *a*-vocalism of τραγεῖν must be secondary. It could be assumed that τραγεῖν was influenced by φαγεῖν; the same root shape is also found in τράγος ‘he-goat’.

of the zero grade (δέδρομε, τρέπω, and τρέφω, respectively). Likewise, among the forms with -αρ-, the vocalization of Att. ἔπαρδον and Hom. ταρπώμεθα can be ascribed to the full grade presents πέρδομαι and τέρπομαι. In ἔδραθον, ἔδρακον, and ἔπραθον, on the other hand, we seem to be dealing with the regular reflex of *$\mathring{r}$: ἔδραθον has no cognates with a full grade root within Greek, and ἔδρακον, ἔπραθον have cognates with a full grade of the structure *CerC*-. These three forms seem to contradict our hypothesis that -αρ- is the regular Proto-Ionic reflex.

There are, however, serious reasons to doubt that -ρα- is the regular vernacular outcome of *$\mathring{r}$ in these three thematic aorists. First of all, it is difficult to give a convincing analogical explanation for the reflex -αρ- in Attic κατέδαρθον and ἤμαρτον (Hom. ἄμαρτε). It is also conspicuous that ἔδραθον, ἔδρακον, and ἔπραθον are typical Homeric forms, and unattested in Classical prose. We therefore have to consider the possibility that these forms contain the reflex of Epic *$\mathring{r}$, within the framework elaborated in chapter 6.[905] I will first argue that the forms with -αρ- contain the regular reflex of *$\mathring{r}$ in Proto-Ionic (section 8.2), then discuss the actual evidence for -ρα- < *$\mathring{r}$ in the type ἔδραθον (section 8.3), and finally explain how such forms came into being within Epic Greek (section 8.4).

8.2 The regular development *$\mathring{r}$ > -αρ- in the thematic aorist

8.2.1 ἔδραθον, κατέδαρθον, and καταδαρθάνω

In Homer, the thematic aorist ἔδραθον 'went to sleep, slept' is attested once as a simplex (*Od*. 20.143), but otherwise only with preverb: κατέδραθον (5x), παρέδραθον 'lay down beside' (2x).[906] After Homer, the aorist stem δραθ- is found only in Epic poetry (Antimachus), and later reappears in Hellenistic poetry (Theoc., Call.). The only genuine Attic form, on the other hand, is κατέδαρθον 'slept, fell asleep' (both in prose authors and in Aristophanes; it is unattested in Ionic prose). Thus, there is a perfect distribution in genre between Epic -δραθε/ο- and the prose form -δαρθε/ο-.

Let us first consider the possibilities to explain the different vocalizations by influence of a full grade of the root. Taken at face value, κατέδαρθον / κατέδραθον is a primary thematic aorist without further direct cognates, neither in Greek nor in other languages. It could be an inherited formation in view of the similar IE roots **drem*- (Lat. *dormiō* 'to sleep', CS *drěmati* 'to doze, slumber') and **dreH*- (Skt. opt. 3s. *ni-drāyā́t* 'to sleep, slumber').[907] Thus, the Greek verb could be derived from a root extension *$d\mathring{r}d^h$-, or perhaps rather *$d\mathring{r}$-d^hh_1- (cf. below on πέρθω).[908]

Is it possible to determine the full grade slot of this root? In the *LIV*^{2}, Kümmel mechanically reconstructs a root *$derd^h$-, with the argument: "für Vollstufe I spricht die analogische R(z) gr. att. δαρθ-." But while the Homeric attestation is older, it does not necessarily contain the regular vernacular reflex of *$\mathring{r}$. In fact, given the full grade II in the root variants **drem*- and **dreH*-, one could also argue that the full grade was *$dred^h$-, and that Attic ἔδαρθον has the regular outcome of *$d\mathring{r}d^h$-*e/o*-.

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[905] Hirt already remarked: "Man muss im Griechischen natürlich auch mit dem Einfluss verwandter Bildungen rechnen. (…) Auch hier kann die Sache nur an einzelnen Kategorien klar werden" (1897: 157). He distinguishes, among others, the thematic aorists ("zeigen fast durchweg ρα") and the *u*-stem adjectives ("zeigen meistens ρα").

[906] For the Homeric semantics, see the discussion in Kölligan (2007: 173-9), especially his remark that "der … Bedeutungsansatz 'einschlafen' lässt sich bei Homer nicht belegen. ἔδραθον bedeutet entweder 'sich schlafen legen' oder fungiert als komplexiver Aorist zu εὕδω und bedeutet dann '(eine Zeit lang) schlafen'." (o.c. 174). In my view, the simplex ἔδραθον *Od*. 20.143 could be analyzed as in tmesis with the preceding ἐν ἀδεψήτῳ βοέῃ καὶ κώεσιν οἰῶν (line 142), cf. χλαῖναν … καὶ κώεα, τοῖσιν ἐνεῦδεν (*Od*. 20.95), and also *Od*. 3.349-51, *Od*. 10.11-12.

[907] CS *drěmati* derives from a lengthened grade formation **drēm*-, see Derksen (*EDSIL*, q.v.).

[908] Note that the Attic form with -δαρθ- excludes a reconstruction *$dr\mathring{m}$-d^h- for Hom. ἔδραθον.

In any case, it is unwarranted to invoke the influence of an ablauting full grade form, because the only old formation within Greek is the thematic aorist *$d_{\text{o}}rd^h$-*e/o*-. The outcome of this aorist is used in suppletion with the pres. εὕδω (in Homer) or καθεύδω (in Classical Greek), which has stative semantics. As Kölligan remarks (2007: 172ff.), the first author to attest the paradigm καταδαρθάνω : κατέδαρθον 'to fall asleep' is Plato, who uses the new present form to specifically refer to catching sleep as an ongoing process.[909] Since a suppletive pair καθεύδω : κατέδαρθον 'to sleep' (ingressive or complexive aorist) was in use throughout the classical period, it is unlikely that earlier stages of Greek required a separate present form καταδαρθάνω. The intransitive aorist -δαρθῆναι is a late formation, too.

Thus, the only reconstructible form for Proto-Ionic is the thematic aorist. Even if the form κατέδαρθον does not occur before the fifth century, there is no reason to doubt that it contains the regular vernacular reflex of PGr. *-$d_{\text{o}}rt^h$-*e/o*-.[910] It remains, then, to explain ἔδραθον within Epic Greek.

8.2.2 ἁμαρτάνω, aor. ἥμαρτον, ἤμβροτον

The present ἁμαρτάνω and the thematic aorist ἥμαρτον, ἁμαρτεῖν are attested in Homer and Classical Ionic-Attic alike. Beside these forms, Homer also has ἤμβροτον and the hapax ἀβροτάξομεν, which have the reflex -ρο- and cannot have originated in the Proto-Ionic vernacular. Of these, ἀβροτάξομεν has already been discussed in chapter 7, and will be left out of further consideration here.

Most previous scholars have tried to explain the vowel slot of ἥμαρτον as analogical. However, analogy with the full grade attested in νημερτής 'unfailing' is an emergency solution, because this compound is only attested in Early Greek Epic and three times in Aeschylus. But a relic form cannot be expected to have influenced the shape of the verbal stem in the vernacular, and an analogical explanation would be feasible only if full grade forms of the verb were still in use when *$r̥$ vocalized in Proto-Ionic. Such a scenario has been proposed by Ruijgh (1992: 91). Being unable to explain the vocalization of δαρθάνω, he assumed that the zero grade root of the present is secondary for *δερθάνω. The model for the introduction of the zero grade would have been the aorist ἔδραθον, which is supposed to have had a zero grade root all along.[911] In a similar vein, Ruijgh claims that ἁμαρτάνω must be secondary for *ἀμερτάνω after a hypothetical *ἄμ(β)ρατον.[912]

This explanation cannot be upheld. As we have just seen, the present καταδαρθάνω is a late creation based on the aorist κατέδαρθον. Similarly, ἁμαρτάνω looks like a relatively recent present formation beside ἥμαρτον, according to a productive pattern. Beside this general objection, Ruijgh's scenario has other serious drawbacks. First of all, a full grade root is completely out of place in an inherited nasal present: wherever such a full grade nasal present is attested, it must be secondary after the aorist (cf. δείκνυμι 'to point out' beside ἔδειξα, περνημι 'to sell' beside ἐπέρασα).[913] Moreover, the assumed combination of

[909] See Kölligan (2007: 181-2): "Gegenüber dem homerischen Zustand, in dem εὕδω und ἔδραθον sowohl in der Bedeutung 'schlafen' als auch 'sich schlafen legen' belegt sind, findet sich seit klassischer Zeit bei ἔδραθον [sic; but the only classical form is ἔδαρθον] zusätzlich die Bedeutung 'einschlafen'."

[910] For this reason, O'Neil (1971: 19) is mistaken when he asserts that the Attic aorist -δαρθεῖν may have replaced the older form -δραθεῖν after the present -δαρθάνω.

[911] "Noter qu'une forme comme δαρθάνω 'je m'endors' doit avoir pris la place d'un plus ancien *δερθάνω: le vocalisme α a été tiré de l'aoriste ἔδραθον (Hom.; ρα < $r̥$)." Ruijgh explains the distribution between thematic nasal presents in -άνω (e.g. ληθάνω) and -νω (e.g. δάκνω) by the Sievers effect. In his view, this effect remained productive well into Alphabetic Greek.

[912] "De même, att. ἁμαρτάνω doit s'être substitué à *ἀμερτάνω d'après aor. *ἄμ(β)ρατον (cf. lesb. ἄμβροτον), forme remplacée plus tard par ἥμαρτον d'après ἁμαρτάνω."

[913] Except for the two verbs κευθάνω and ληθάνω, all thematic nasal presents cited by Ruijgh have a zero grade root. In fact, both ληθάνει (hapax, verse-initial in *Od.* 7.221) and ἐκεύθανον (hapax, after |$_{\text{T}}$ in *Il.* 3.453) look like artificial extensions of λήθω and κεύθω, respectively.

analogical influences is unlikely. As a first step, the zero grade must have spread from the hypothetical aorist **āmrat-e/o-* into the present, but with a different vowel slot (ἁμαρτάνω). Then, the vowel slot of the present must have been introduced into the thematic aorist. Apparently, Ruijgh devised this construction only because he believed that the reflex -αρ- in ἁμαρτεῖν had to be secondary. In reality, the only straightforward way to explain both δαρθάνω and ἁμαρτάνω is to assume that these presents were created beside the thematic aorists *after* the vocalization **r̥* > -αρ- had taken place in Proto-Ionic. The vernacular form ἁμαρτάνω was created early enough to be introduced into Epic Greek.

It remains to explain the alternative Epic aorist form ἤμβροτον. It is generally assumed that ἤμβροτον is of Lesbian origin, because an infinitive αμβροτην is attested in epigraphic Lesbian (section 3.4.2). Indeed, the combination of -ρο- < **r̥* and psilosis in ἤμβροτον could hitherto only be explained in this way. But in section 7.2.4, I have suggested that ἤμβροτον is better analyzed as the Epic reflex of an augmented pre-form **āmr̥ton*. We may depart from the following scenario. When the vocalization to -αρ- took place in the vernacular, the augmented pre-form **āmr̥ton* was retained in Epic Greek. The non-etymological aspiration was then added to the vernacular outcome ἤμαρτον and to the derived present ἁμαρτάνω in spoken Ionic-Attic, and these vernacular forms were introduced into Epic Greek.[914] When Epic **r̥* regularly developed to -ρο- after a labial consonant, the ensuing form **ām̄roton* > ἤμβροτον did not look like an Ionic form, so that there was no reason to introduce the aspiration.

Thus, the similarity between Epic ἤμβροτον and Lesbian ἄμβροτε, αμβροτην is purely accidental.[915] It appears that ἤμαρτον : ἤμβροτον is another case where the Ionic vernacular outcome and the artificial Epic form appear side by side in Homer, as in καρδίη : κραδίη, τέταρτος : τέτρατος, ταρπῆναι : τραπείομεν, and καρτερός : κρατερός.

8.2.3 Hom. ταρπώμεθα

As we have noted above, the reflex -αρ- in Hom. ταρπώμεθα 'let us satisfy ourselves' can be ascribed to the full grade slot of τέρπομαι. Although it is not strictly necessary, then, to discuss ταρπώμεθα any longer in the present context, its origin turns out to be extremely interesting for the prehistory of the synonymous τραπείομεν (see chapters 6 and 11). A fundamental discussion of the semantics of τέρπομαι and its aorist forms is found in Latacz (1966: 174ff.).[916] No less than five different aorist formations are attested in Homer:

ἐτάρπην, together with the relic 1p. subj. τραπείομεν (*Il.* and *Od.*)
ἐτάρφθην, ἐτέρφθην (only *Od.*)
ptc. τερψάμενος (hapax, *Od.*)
τετάρπετο, τεταρπώμεσθα, τεταρπόμενος (*Il.* and *Od.*)
ταρπώμεθα (*Il.* and *Od.*)

It is clear that these formations cannot all be old, and that some of them must be artificial creations of Epic Greek. The intransitive aorist ἐτάρπην is certainly old, but τερψάμενος (after pres. ptc. τερπόμενος, Beckwith 1996: 70) and ἐτάρφθην, ἐτέρφθην are clearly secondary.[917]

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[914] Although it is difficult to indicate a convincing origin of the aspiration, it was probably secondarily adopted from a different lexeme. At any rate, the relic adjective νημερτής 'unfailing' rules out that the aspiration is old (cf. Beekes 1969: 109).

[915] Note that the scenario proposed here explains quite naturally why only augmented forms of ἤμβροτον are attested in Homer, and why the augmented initial vowel turns up as ἠ- rather than ἀ-.

[916] The transitive active τέρπω 'to delight' is a secondary causative to the intransitive middle τέρπομαι 'to enjoy', cf. πείθω 'to persuade' beside middle πείθομαι 'to give ear to, obey' (Latacz 1966: 174, Beckwith 1996: 70, *LIV*[2] s.v. **terp-* 'sich sättigen').

[917] As Beckwith (l.c.) remarks, ἐτάρπην < **tr̥p-ē-* is probably the only old formation, because the θη-forms first occur in the *Odyssey*. Moreover, the only Classical Greek form is ἐτέρφθην, which implies that ἐτάρπην is an archaism.

The antiquity of the reduplicated thematic aorist τετάρπετο and the thematic aorist (only attested as 1p. subj. ταρπώμεθα) is debated. Note that the only form attested after Homer is ἐτέρφθην, while ἐτάρπην (only attested in dual and plural forms), τετάρπετο, and ταρπώμεθα never occur after Homer.

The reduplicated forms (τετάρπετο, τεταρπώμεσθα, and τεταρπόμενος) only occur in the position after |T, and ταρπώμεθα only occurs after |P in one single formula (see below). As Beckwith (1996) remarks, this fixed localization is compatible both with an archaism and with an innovation.[918]

The pre-form of τετάρπετο cannot have existed in Epic Greek before the vocalization of *$\mathring{r}$ in Proto-Ionic, because of its four consecutive light syllables. Therefore, τετάρπετο was either introduced from the vernacular after the vocalization *$\mathring{r}$ > -αρ- (as in ἁμαρτεῖν), or due to an inner-Epic analogical process. From a morphological perspective, there is only one obvious comparandum for τετάρπετο: the Homeric reduplicated aorist 3p. κεχάροντο 'cheered', 3s. opt. κεχάροιτο. Thus, τετάρπετο could be analogical within Epic Greek, the model being X : ἐτάρπην = κεχαρε/ο- : ἐχάρην. Alternatively, τετάρπετο was introduced from the vernacular, and κεχάροντο is an analogical Epic creation. It is hard to decide between both scenarios.

Given the fixed metrical slot of unreduplicated ταρπώμεθα, its pre-form with *$\mathring{r}$ is not likely to have existed either, because it had a different metrical structure. In my view, ταρπώμεθα must be explained by an artificial process.[919] Its origin becomes clear when we consider its exclusive attestation, the formulaic verse ὕπνῳ ὕπο γλυκερῷ |P ταρπώμεθα κοιμηθέντες, literally "(so that) we, having gone to rest under the cover of sweet sleep, may find satisfaction [i.e. of our desire to sleep]" (*Il*. 24.636, *Od*. 4.295 and 23.255). This verse must be compared to (ἐν) φιλότητι |T τραπείομεν εὐνηθέντε, literally "let us go to bed in love and satisfy ourselves" (2x *Il*.).[920] At first sight, satisfaction of sexual desire and replenishment of one's physical reserves are two rather different events, but in his extensive discussion of the semantics, Latacz (1966) shows that the aorists of τέρπομαι always denote the agreeable satisfaction which arises when some urgent, mostly physical need has been met. Thus, we find these aorists in the meaning 'to still one's hunger' (by eating), 'to let out one's grief' (by wailing), 'to rest' (by sleeping), and 'to find satisfaction' (by having sex). In fact, lovemaking and sleep are mentioned together as causes of satisfaction in εὐνῆς ἧς ἀλόχου ταρπήμεναι ἠδὲ καὶ ὕπνου "[that Odysseus' heart] had had its fill of his wife's bed and of sleep" (*Od*. 23.346).[921]

As appears from the last example and from cases like τεταρπώμεσθα γόοιο, the aorists of τέρπομαι normally require a genitive complement. Latacz therefore concludes that the

[918] Beckwith's idea that τετάρπετο replaced an older *ἐτάρπετο for metrical reasons cannot be correct for at least two reasons. He departs from a pre-form **e-tr̥p-onto*, and inspired by his analysis of πεπύθοιτο as secondary for ἐπύθοντο, he argues that a reduplicated **tetr̥poito* could have been based on **etr̥ponto*. After the vocalization of *$\mathring{r}$ to -αρ-, the ensuing form *τετάρποντο was metrically awkward in the dactylic hexameter. Beckwith assumes that it subsequently came to be used with different endings and in different metrical slots. This assumption is difficult for at least two reasons. First, the example of τραπείομεν suggests that the metrical problem could have been avoided in Epic Greek by preserving a form with *$\mathring{r}$ (⁺⁺τετράποντο, with *McL* scansion). Second, artificial forms do not easily change their localization, precisely because they were created for a specific metrical slot.

[919] Pace *LIV*^{2} s.v. **terp*- 'sich sättigen', which takes the side-by-side of Ved. *átr̥pam* (AV) and Hom. ταρπώμεθα to prove the existence of an older root aorist. Cardona's idea (quoted by Beckwith) that ταρπώμεθα was created as a metrical alternative beside the more frequent reduplicated stem τεταρπε/ο- is also hard to substantiate.

[920] A more prosaic translation of this formula would be "Let us go to bed and have sex". In my view, it is conceivable that εὐνηθῆναι on itself means 'to have sex' and that εὐνή is an old word for the vagina, but this is hard to prove. As remarked by Latacz (1966: 185), in *Od*. 8.292, the innovative use of |T τραπείομεν εὐνηθέντε without the preceding φιλότητι is clearly secondary with respect to the two Iliadic passages.

[921] Cf. also ὕπνου τε γλυκεροῦ ταρπήμεναι (*Il*. 24.3), with an identical first hemistich to the formula under discussion.

locative (ἐν) φιλότητι, in the above formula, is a complement to εὐνηθέντε, not to τραπείομεν. Indeed, Homer repeats the same construction on two different occasions: ἐν φιλότητι λιλαίεαι εὐνηθῆναι "you desire to go to bed in love" (*Il.* 14.331), ἐν φιλότητι παρήπαφεν εὐνηθῆναι "she deceived him into going to bed in love" (*Il.* 14.360). Therefore, the prepositional phrase ὕπνῳ ὕπο γλυκερῷ, literally "covered by sweet sleep", must be analyzed as a complement to κοιμηθέντες. In view of the syntactic parallels with hyperbaton, there can be no doubt that the hemistich |$_{P}$ ταρπώμεθα κοιμηθέντες was created on the basis of |$_{T}$ τραπείομεν εὐνηθέντε (or its predecessor with *$\mathring{r}$), and that both had the basic meaning "Let us go to bed and satisfy ourselves".[922] In view of its metrical trace of *$\mathring{r}$, φιλότητι |$_{T}$ τραπείομεν εὐνηθέντε is obviously the older variant. A model for the creation of ταρπώμεθα may have been the pres. subj. 1p. τερπώμεθα (*Od.* 1.369, 15.399), which appears in the same metrical slot.[923]

Thus, the thematic aorist ταρπώμεθα is artificial, and there is no reason to assume the existence of an older indicative form *ἐτάρπετο. Once again, it appears that the artificial creation of a by-form with -αρ- could only take place if a concrete analogical model existed.

8.3 The pattern of attestation of the thematic aorists with -ρα-

Having seen that -αρ- must be the regular outcome of *$\mathring{r}$ in ἔδαρθον and ἤμαρτον, let us now discuss the attestations and genre distributions of the thematic aorists with -ρα-, and determine their oldest reconstructible paradigm within Greek. For obvious reasons, we will focus on the potential counterevidence, which consists of those forms with -ρα- that cannot be explained by a simple analogy: ἔδρακον, ἔδραθον, ἔπραθον, and the hapax ἔπραδες 'you broke wind'.

Of the thematic aorists where -ρα- is expected by analogy, both ἔδραμον and ἔτραπον must have been present in Proto-Ionic. They regularly occur in Classical prose: in the latter form, the transitive active ἔτραπον was replaced by ἔτρεψα, but the middle ἐτραπόμην remained the current intransitive form. On the other hand, ἔτραφον 'grew up, was nourished' is probably an artificial form of Epic Greek, because the form is attested only there, and because the normal vernacular form ἐτράφην was hard to use in the Epic hexameter.[924] We do find ἐτράφην in Epic Greek, but only in front of a vowel in the 3p. τράφεν, ἔτραφεν and the 3s. τράφη.[925] The poet of the *Odyssey* seems to have extended the use of thematic ἔτραφον, given that he used it to replace the vernacular 3p. ind. form in the formula τράφεν ἠδ'

[922] It is to be noted, however, that κοιμάομαι never refers to sexual activities, but always means 'to go to sleep'. On the other hand, εὐνάομαι, εὐνάζομαι may either mean 'to go to sleep' (only *Od.*), or refer to the sexual act. Thus, the motivation for creating ταρπώμεθα may have been semantic as well as metrical. The specific sexual associations of εὐνάω might also explain why the alternative formula was not created by transforming |$_{T}$ τραπείομεν εὐνηθέντε into |$_{P}$ $^{++}$ταρπείομεν εὐνηθέντε.

[923] A concrete four part analogy would be pres. τρεπώμεθα 'let us turn' : aor. τραπώμεθα = τερπώμεθα 'let us enjoy' : X, which was solved by X = ταρπώμεθα.

[924] A similar picture is shown by the intransitive aorist of βλάπτω, which is most frequently ἐβλάβην in Classical Ionic-Attic, but ἐβλάφθην in Homer (with the exception, again, of the 3p. βλάβεν, ἔβλαβεν). Perhaps, the θη-form was avoided in the case of τρέφω because it was too ambiguous (ἐτράφθην, ἐτρέφθην could also be thought to belong to τρέπω, and τραφθῆναι is indeed used in this way, though only at *Od.* 15.80). In the case of βλάπτω, on the other hand, a thematic aorist may have been avoided because of possible confusion with the middle present βλάβομαι.

[925] There is one possible instance of ἐτράφημεν (*Il.* 23.84, with *McL* scansion), which is given by a number of mss. and papyri and accepted by some editors. However, the reading of the text is quite unclear: the vulgate has ὡς ἐτράφην περ, and a quotation in Aeschines (who also has two additional lines in front 84) has ὡς ὁμοῦ ἐτράφεμέν περ |$_{T}$. Other editors have therefore preferred ὡς τράφομέν περ, suggested by La Roche on the basis of a comparison between the various readings. It is remarkable that a few lines later, the transitive semantics of the 3s. ἔτραφε (*Il.* 23.90) deviate from the intransitive semantics of all other attestations of this thematic aorist. For this reason, the v.l. ἔτρεφε may have to be preferred (cf. the variation between ἔτρεφε and ἔτραφε at *Il.* 6.282, and the use of the imperfect ἔτρεφε at *Il.* 22.421).

ἐγένοντο (*Il*. 1.251) → τράφον ἠδ’ ἐγένοντο (3x *Od*.).[926] We may therefore leave ἔτραφον out of further consideration.

8.3.1 δέρκομαι, ἔδρακον, pf. δέδορκα

It is customary to translate this Homeric verb with ‘to look, see’, but the situation is actually much more complex. Let us therefore consider the attestations and their semantics more closely. In Homer, the following stems are attested: pres. δέρκομαι, aor. ἔδρακον, pf. δέδορκα. The aorist only appears in combination with the preverbs ἀνα-, ἐσ-, and δια- and means ‘to look (at, up, towards, through); to behold’.[927] This meaning is also attested for the present δέρκομαι ‘to look or gaze at, behold’, either with or without preverb.

On a number of occasions, the present and perfect are used with a special adverbial construction, in the meaning ‘to look like, have a conspicuous appearance’: σμερδαλέον δὲ δέδορκεν ἑλισσόμενος περὶ χειῇ (*Il*. 22.95) “and he glares terribly as he crawls around in his lair” (of a snake), or δεινὸν δερκομένη (*Il*. 11.37, cf. 3.342 and 23.815) “glaring terribly, with a fearsome gaze” (of warriors).[928] The stative semantics of these aspectual stems is a clear archaism. There is a complementary distribution between Epic Greek and Classical Greek: δέρκομαι occurs in Epic Greek and occasionally in later poetry, whereas Classical Attic uses βλέπω in the meanings ‘to look, behold’ as well as ‘to gaze; look like’ (see Kölligan 2007: 273-4). Clearly, βλέπω, which has no good etymology, replaced δέρκομαι, δέδορκα in the latter meaning.

Let us now consider the six attestations of the aorist. An ingressive aorist based on the meaning ‘to gaze’ of the present δέρκομαι is attested in ἀνέδρακον ‘looked up again’ (*Il*. 14.436, of Hektor who has just regained his conscience). This use seems old: ὁράω / εἶδον is unattested in combination with ἀνα-, and Classical Greek uses ἀναβλέπω.[929] Moreover, when Eurykleia tries to make eye contact with Penelope, Homer uses ἐσέδρακον ὀφθαλμοῖσι, πεφραδέειν ἐθέλουσα (*Od*. 19.476-7), which again looks like an ingressive use of δέρκομαι.

On the other hand, there are clear indications that ἔδρακον was used in the same meaning as εἶδον. Kölligan (2007: 264-5) gives two probative examples: 1. ἐσέδρακον ἄντην ‘looked [him] in the eyes’ (*Il*. 24.223) beside ἄντην εἰσιδέειν (*Il*. 19.15), 2. καπνὸν … ἔδρακον ὀφθαλμοῖσι (*Od*. 10.197) with καπνὸν … ὁρῶμεν (*Od*. 10.99) and ἐπεὶ ἴδον αἴθοπα καπνόν (*Od*. 10.152). In the second example, the first hemistich ἔδρακον ὀφθαλμοῖσι is a clear transformation of the second, formulaic hemistich |$_{T}$ ἀνέδρακον ὀφθαλμοῖσι, |$_{T}$ ἐσέδρακον ὀφθαλμοῖσι. On the other hand, 1. ἐσέδρακον ἄντην seems to be an ingressive aorist of the same type as ἀνέδρακον. Moreover, the use of the suppletive pair ἐσοράω, εἰσιδέειν in the meaning ‘to look at’ cannot be old because ὁράω etymologically means ‘to observe, oversee’. Thus, ἄντην εἰσιδέειν is more recent than ἐσέδρακον ἄντην.

It is attractive to think that **dr̥ke/o-* was originally used as an ingressive aorist beside the stative present δέρκομαι ‘to gaze, look’. It would mostly be used with preverbs, as in

[926] This reduction leaves us with only three attestations of the thematic aorist indicative (ἐτραφέτην *Il*. 5.555, τράφ’ *Il*. 2.661, ἔτραφ’ 21.279), plus the infinitive τραφέμεν (in the repeated hemistich γενέσθαι τε τραφέμεν τε *Il*. 7.199, 18.436 and *Od*. 3.28).

[927] A seeming exception is ἔδρακον *Od*. 10.197, which stands in tmesis with following δία and means ‘discerned’.

[928] This use of the perfect is also found after Homer, e.g. τὸ δὲ κλέος τηλόθεν δέδορκε τᾶν Ὀλυμπιάδων ἐν δρόμοις Πέλοπος (Pi. *Ol*. 1.93-5), “The fame of Pelops shines from afar in the races of the Olympic festivals (…)”, which can be compared with e.g. λάμπει δέ οἱ κλέος (Pi. *Ol*. 1.23). Cf. also τίν γε μέν … Νεμέας Ἐπιδαυρόθεν τ’ ἄπο καὶ Μεγάρων δέδορκεν φάος (Pi. *Nem*. 3.83-4) “For you … a light shines from Nemea, Epidauros and Megara”, and πᾶσα γὰρ Τροία δέδορκεν Ἕκτορος τύχης διαί (A. *fr*. 296 Radt) “For all of Troy shines due to the luck of Hektor”.

[929] See Kölligan (2007: 264-5).

ἀνέδρακον ‘looked up’, ἐσέδρακον ‘gazed at’, διαδράκοι ‘would discern’.[930] Note that the instrumental dative ὀφθαλμοῖσι is not redundant in these cases, as it mostly is when preceded by ἴδον.[931] The use of δέρκομαι, ἔδρακον as a metrical alternative for ὁράω, εἶδον originated in cases like ἐσέδρακον ~ εἰσιδέειν and προσ-, ποτιδέρκομαι ~ εἰσορόων, εἰσοράασθαι. Generally speaking, forms of δέρκομαι, ἔδρακον were only retained if the corresponding forms of ὁράω, εἶδον would have been metrically problematic. This explains why we find only a few remnants of this verb in Homer. Finally, καπνὸν ἔδρακον must be due to a secondary extension of the perceived equivalence ἔδρακον = εἶδον.

After Homer, ἔδρακον remains rare: there is only one attestation in Pindar (κατέδρακεν ‘looked down’ *Nem*. 4.23, again with preverb), one in Stesichorus (δ]ρακοῖσα fr. S135.9), and a small number in Aeschylus and Euripides.[932] On itself, the paucity of attestations in post-Homeric Greek already suggests that we are dealing with an epicism. In addition, it is remarkable that two alternative aorist formations are found. Pindar attests the participle δρακέντ-, to be analyzed synchronically as an intransitive aorist. Furthermore, ἐδέρχθη ‘looked at’ is attested seven times in Sophocles and the author of the *Prometheus Vinctus*.[933] While the latter form is clearly an innovation on the basis of δέρκομαι, the Pindaric form δρακέντ- has played a prominent part in reconstructions of the PIE paradigm. Since Forssman (1964), it is usually analyzed as deriving from an archaic PIE root aorist ptc. **drḱ-ént*-. As I will argue below, however, δρακέντ- must be explained as a formation of inner-Greek origin.

For now, we may conclude that ἔδρακον is a rare Epic form which is typically found in combination with a preverb. It remains rare after Homer, and is unattested in prose.

8.3.2 ἔπαρδον, ἔπραδες

The normal Attic aorist form of πέρδομαι ‘to fart’ was ἔπαρδον, which is attested mostly with preverb, and mainly in Aristophanes (but already in Cratinus, fr. 25-26.2 Kock). The *LIV*^{2} reconstructs a PIE root aorist **perd*- / **pr̥d*- on the basis of YAv. *pərədən* and the Greek thematic aorist ἔπαρδον.[934] Whether this is correct or not, it is plausible that ἔπαρδον continues a thematic aorist **pr̥d-e/o*- of considerable antiquity within Greek. But since ἔπαρδον may have adopted the vowel slot of πέρδομαι, it is of no further importance in the present discussion.

It remains to briefly discuss the 2s. aor. ind. ἔπραδες. This is attested only in Sophron (fr. 144 Kaibel), a 5th c. author from Syracuse who wrote mimes in some form of literary Doric.[935] It would be unwarranted to base any conclusions regarding the regular Ionic vocalization of **r̥* on this single attestation of ἔπραδες in a non-Ionic, literary dialect.

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[930] Cf. also the present stems ποτιδέρκομαι ‘to look at, behold’ (*Il*. 16.10, *Od*. 17.518, 20.385), διεδέρκετο ‘discerned’ (*Cypr*. fr. 11.3).

[931] It also seems attractive to assume that a metrically avoided ptc. δρακών underlies ἰδών whenever this means ‘looking’, rather than ‘having seen’.

[932] Only six times: τούτου φέγγος ἥδιον δρακεῖν (A. *Ag*. 602), δεινὰ δ’ ὀφθαλμοῖς δρακεῖν (A. *Eum*. 34), γᾶς <τ’> ὀμφαλὸν προσδρακεῖν (A. *Eum*. 166), ἄφυκτον ὄμμα προσδράκοι ([A.] *PV* 903b), ἄλλος εἰς ἄλλον δρακών (E. *Herc*. 951), ἔδρακον (E. *Or*. 1456). The meaning is ‘to behold’, always of spectacular or horrid sights, or of eye-contact. Sophocles does not have δρακεῖν but uses δερχθῆναι instead.

[933] δέρχθητ(ε) ([A.] *PV* 93 and 141), ἐδέρχθης (ibid. 547), δέρχθη (S. *Aj*. 425), δερχθέντες (S. *fr*. 387.2), and two with preverb, προσδερχθῇ ([A.] *PV* 53), καταδερχθῆναι (S. *Tr*. 999). Again, note that Sophocles only uses δερχθῆναι, and that Euripides and Aeschylus only use δρακεῖν (except for the *Prometheus Vinctus*, of which Aeschylus was probably not the author).

[934] For further cognates, see *LIV*^{2} (s.v. **perd*-). It is remarked there that Kellens analyzed the Avestan form as a present; cf. also the doubts of Allan (2003: 209 n. 362) concerning the reconstruction of the PIE aorist.

[935] Sophron’s fragment is known from Hesychius, ν 734. Further, the Suda has: Ἀπέπαρδε· καὶ Ἀποπαρδεῖν. Ἐπράδειν δὲ, προτεταγμένου τοῦ ρ, and Ἐπράδει· ἀπέπαρδε. καὶ ἀποπαρδεῖν λέγεται. ἐπράδειν δὲ

8.3.3 πέρθω, ἔπραθον

As Forssman (1997) remarks, πέρθω 'to raze, pillage' is a relic of Epic Greek and poetry, and is not attested in Classical prose.[936] The normal verb derived from this root in Classical Attic is πορθέω, with the same meaning as πέρθω. Since its meaning is typical for the thematics of heroic poetry, πέρθω is probably an epicism in authors like Pindar.[937] We may therefore concentrate on the Homeric forms.[938]

The most frequent formations in Homer are the thematic aorist πραθε/ο- (9x, including prefixed forms) and especially the sigmatic stem περσ(α)- (35x, including prefixed forms). The only genuine attestation of the present stem is the dual πέρθοντε (*Il*. 18.342), a precious archaism.[939] As in Classical prose and poetry, the productive present formation was πορθέω already in Homer (5x, including prefixed forms): the contracted 3p. impf. ἐπόρθουν (*Il*. 4.308) was preferred over *ἐπέρθον.[940]

Thus, the oldest paradigm was clearly pres. περθε/ο- : aor. πραθε/ο- : fut. περσε/ο-. The productive aorist stem περσα- is an innovation beside πέρθω and the future πέρσω.[941] For present purposes, it is important that πραθε/ο- < *$p^{(h)}_{\text{ə}}rt^h$-*e/o*- occurs without preverb only in |P πόλιν ἔπραθον (2x), and that the other attestations have the preverbs δια- (6x) or ἐξ- (1x). The use of ἐκπέρθω, semantically undistinguishable from the simplex πέρθω, is typical for Epic Greek and may ultimately have a metrical explanation.[942] Beside πέρθω, we may therefore have to reckon with an old prefixed verb διαπέρθω.[943]

The etymology of πέρθω is unclear. Janda (2000: 229-40) reconstructed *b^her-d^hh_1- "*Beute machen*" > *erbeuten* (i.e. 'to seize, capture', of a town), where *b^her- would be the root continued in φέρω 'to carry'. Such an analysis is formally possible because several other Greek aorists may continue a "Funktionsverb" extension in *-d^hh_1-.[944] There are, however, no

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προτεταγμένου τοῦ ρ. Note the odd combination of augment and primary endings, which makes the value of these attestations unclear.

[936] "auch nach Homer nur dichtersprachlich überliefert" (1997: 42).

[937] *LSJ* translates "*waste, ravage, sack*, in Homer only of cities". Janda's proposal (2000: 229-40) to translate πέρθω with '*erbeuten*', i.e. 'to capture, seize' (a citadel) cannot be upheld: see below.

[938] The them. aorist πραθε/ο- occurs 4x in Pindar, alongside the *s*-aorist περσα- (also 4x) and the pres. ptc. περθόμενοι (1x). The tragedians only use the sigmatic stem περσ-.

[939] There are only three forms of the thematic stem περθε/ο-: πέρθοντε, πέρθετο, περθομένη, the latter two with passive meaning. Meillet speculated that πέρθετο and περθομένη recover older thematic aorists *πάρθετο, *παρθομένη (see Chantraine 1942: 384 and 389-90, with further references), but this cannot be further substantiated. Forssman (1997) agrees that the hapax πέρθετο is an aorist formation, and suggests an interesting scenario for its artificial creation. In addition, he argues that the aor. inf. πέρθαι is an artificial form. περθομένη was probably an aorist, too, because it only occurs in conjunction with the aorist ptc. ἁλοῦσα. This leaves us with πέρθοντε as the only attestation of the present πέρθω.

[940] πορθέω may be an old iterative verb, but it could also be a denominative derived from the old compound πτολίπορθος 'destroying cities' (frequent in poetry from Hom. onwards).

[941] As for the motive and model for the creation of the aorist stem περσ(α)-, it is conceivable that a ptc. πέρσαντες was created as an alternative for metrically problematic πραθόντες on the basis of the fut. πέρσω.

[942] Note that ἐκπέρθω only occurs in the *Iliad*, not in the *Odyssey*. After Homer, both prefixed forms are rare. ἐκπέρθω occurs only 7x in the tragedians, of which 6x in a Homeric form or construction (aorist inf. or ptc.). In 8 out of 15 cases of a sigmatic stem form of ἐκπέρθω in Homer, this verb is placed between the first foot and the caesura and is preceded by the As. or Gs. of Ἴλιος (e.g. 4x Ἴλιον ἐκπέρσαντ- |P). In my view, it is likely that ἐκ- in ἐκπέρθω was taken from the relic verb ἐξαλαπάζω, because Ἰλίου ἐκπέρσαντες |T ἐϋκτίμενον πτολίεθρον looks like an inflected form of Ἰλίου ἐξαλαπάξαι |T ἐϋκτίμενον πτολίεθρον (*Il*. 4.33, 8.288). A new infinitive verse Ἰλίου ἐκπέρσαι |P εὖ ναιόμενον πτολίεθρον (only *Il*. 2.133) was the last to be created.

[943] The preverb δια- also occurs in the *s*-aorist διαπέρσα (7x Hom.), but after Homer it is found only in διέπερσεν Ἰλίου πόλ[ιν (Pi. fr. 52f.104) and διεπέρσατε Δύμιον ἄστυ (Antimachus fr. 28.2).

[944] Cf. μαθεῖν 'to learn' < *mn-d^hh_1-*e/o*-, αἰσθέσθαι 'to perceive' < *h_2euis-d^hh_1-*e/o*-. In view of the old ablaut in λαθεῖν 'to escape notice' < *lh_2-d^hh_1-*e/o*- beside pres. λήθω, pf. λέληθα 'to be hidden', it is possible that both the present stem περθ- and the thematic aorist πραθε/ο- were inherited.

directly comparable formations in other IE languages that could confirm this idea.[945] Moreover, Janda's semantic analysis is imprecise: the object of πέρθω is always a city, never the booty contained in it, and the synchronic Homeric meaning is simply 'to raze, pillage'.[946] That this meaning is old is strongly suggested by a number of post-Homeric attestations, especially κεφαλάν ἔπραθε φασγάνου ἀκμᾷ "[when] he cut off the head with the edge of his sword" (Pi. *Pyth*. 9.80-81), and καί μοι γενείου πέρθε λευκήρη τρίχα "cut the white hairs of my chin" (A. *Pers*. 1056). For the semantic development, compare κείρω 'to cut off, shave', which is also used in the secondary meaning 'to raze, pillage a country' (e.g. in Hdt., Th.). In my view, it is conceivable that PIE had a verbal root **b^{h}erd^h-* in the meaning 'to shear, lop' (hairs, crops, foliage).[947] But whatever the concrete etymology of ἔπραθον 'razed, pillaged', we may conclude that its reconstruction as a thematic aorist PGr. **pr̥t^h-e/o-* is ascertained, and that the older meaning was probably 'sheared, lopped'.

8.3.4 Conclusion

The form ἔπραδες is attested only in literary Doric, and therefore not directly relevant for the Ionic reflex of **r̥*. It is noteworthy that the three deviant Homeric forms with -ρα- are limited to the poetry, and rarely attested outside of Early Greek Epic: ἔδραθον is exclusively Epic, ἔπραθον occurs only four times in Pindar and once in Corinna, and ἔδρακον is attested once in Pindar and a few times in the tragedians, where it has competition from other forms.[948] We may therefore conclude that the forms are epicisms.

8.4 Epic **r̥* in the thematic aorist

In view of the prose forms Attic ἔδαρθον and Ionic-Attic ἤμαρτον, we have to consider the possibility that the reflex -ρα- in the Epic words ἔδραθον, ἔδρακον, and ἔπραθον is artificial, and that their pre-forms contained Epic **r̥* (i.e. **r̥* which was not subject to the Proto-Ionic vernacular vocalization to -αρ-). This idea is corroborated by the distribution between κατέδαρθον (Attic prose) and κατέδραθον, παρέδραθον (only Epic). Moreover, ἤμαρτον must have been introduced into Epic Greek from the Ionic vernacular, while ἤμβροτον can be analyzed as the regular outcome of a pre-form with Epic **r̥*.

As we have seen in chapter 6, it is legitimate to assume Epic **r̥* in a specific form if its absence from the vernacular at the time when **r̥* > -αρ- took place can be made probable (cf. κραταιός). If the vernacular form with -αρ- did exist, we may also assume forms with Epic **r̥* if we can indicate why the introduction of the vernacular form was avoided (cf. the near-absence of καρδίη from Homer). Since there would have been no motive for avoiding forms like κατέδαρθον,[949] we have to assume that the precursors of ἔδραθον, ἔδρακον, and ἔπραθον were absent from the vernacular when **r̥* > -αρ- took place. This is unproblematic for ἔδρακον and ἔπραθον inasfar as these are clear Epic forms. More problematic is the existence

[945] Janda's comparison (2000: 240) between ἠὲ φέροιεν ἤ κεν ἄγοιεν (*Il*. 5.484) and τὴν δὲ διεπράθομέν τε καὶ ἤγομεν ἐνθάδε πάντα (*Il*. 1.367) does not prove anything, because the object of διεπράθομεν is a city which is stripped of all its valuables, that of ἤγομεν the possessions contained in it. The single attestation of *bháre dhā-* in the *Rigveda* (Janda 2000: 241) does not prove anything either.

[946] Note that ἐκπέρθω and ἐξαλαπάζω govern an accusative object, which shows that the preverb ἐκ- has no local value. The only possible attestation of ἐκπέρθω with a genitive is *Il*. 1.125 τὰ μὲν πολίων ἐξεπράθομεν "the things we pillaged from citadels", perhaps better read as τὰ μὲν πολίων ἔξ ἐπράθομεν. But in my view, Janda puts too much emphasis on this single instance.

[947] Possibly a *Funktionsverb* extension of the root **b^{h}er-* found in e.g. Lat. *feriō* 'to strike'. The regional Northern European word **b^{h}ord^h-éh$_2$-* 'beard', reflected in e.g. OPr. *bordus*, Lith. *barzdà*, Ru. *borodá*, OHG *bart*, could also be explained from this root if its original meaning was '(hair)cut'. Note, however, that Lat. *barba* 'beard' complicates the reconstruction of this etymon in view of its word-initial *b-* and *a*-vocalism.

[948] After the Classical period, these thematic aorists are restricted to Hellenistic poetry: δραθε/ο- (Theoc. 18.9, Call. *Hecale* 63), δρακε/ο- (Theoc. 25.233, 30.7, Call. fr. 186.7, A. R. *passim*, Nic.), πραθε/ο- (unattested).

[949] Quite on the contrary: forms with preverb like **katedr̥t^{h}on* were excluded in Epic verse.

of vernacular Att. κατέδαρθον beside Hom. ἔδραθον. The Ionic vernacular, however, does not preserve any traces of this form: Herodotus and the Hippocratic Corpus use the aorist κατεκοιμήθην, a form also attested in Homer but absent from Attic prose. It is therefore possible that the late Proto-Ionic vernaculars in which the Epic tradition flourished had already lost κατέδαρθον. In what follows, I will therefore depart from pre-forms *$d\underset{\circ}{r}t^he/o$-, *$d\underset{\circ}{r}ke/o$-, and *$p\underset{\circ}{r}t^he/o$- that were initially retained in Epic Greek after the vernacular development *$\underset{\circ}{r}$ > -αρ-.

8.4.1 The metrical behavior of thematic aorists with -ρα-

Before sketching a more precise scenario for the development that led to ἔδραθον, ἔδρακον, and ἔπραθον, it is necessary to address two metrical problems with the assumption of Epic *$\underset{\circ}{r}$ in these forms.

(1) There are no traces of *McL* scansion in the active thematic aorists with -ρα-.[950] Forms which would have required *McL* scansion, such as the 3p. subj. δράθωσι or the ptc. δρακών, are completely unattested. Given the large number of attestations (85x), this is unlikely to be due to chance, and it seems attractive to assume that such forms were regularly avoided in Epic Greek. But then, the difference with the regular *McL* scansion in traditional Epic forms like δράκων ‘snake’ and βροτοῖσι requires an explanation: if δράκων was tolerated, why were δρακών and structurally identical participle forms disallowed?

(2) In all thematic aorists with -ρα-, Homer gratefully uses the opportunity to create length by position, i.e. to use Cρα- after a syllable-final short vowel in the arsis. This is, of course, especially frequent in forms with augment and/or preverb such as κατέδραθον, διαδράκοι, and also in the middle aorist ἐτράπετ(ο). The same applies to κρατερός, which regularly generates length by position, and at the same time seems to derive from a pre-form with Epic *$\underset{\circ}{r}$. On the other hand, κραδίη < *$k\underset{\circ}{r}di\bar{a}$- was not used at all to generate length by position, and βροτός < *$m\underset{\circ}{r}to$- very rarely.[951] Again, the large number of attestations of κραδίη and κρατερός seems to exclude a coincidence.

Both problems point in the same direction, and may be rephrased as follows: why do aorists like ἔδρακον behave metrically as if they are *not* the regular outcome of pre-forms with Epic *$\underset{\circ}{r}$? A related question is: why is *McL* scansion tolerated, among thematic aorists with -ρα-, only in the middle form τραπέσθαι?

Let us first consider κραδίη and κρατερός. Given their high number of attestations, the difference in their metrical behavior cannot be due to chance. I propose that the precursor of κραδίη was retained unaltered in the form *$k\underset{\circ}{r}di\bar{a}$- until the sound change Epic *$\underset{\circ}{r}$ > -ρα-, and that κρατερός was influenced at a much earlier date by κρατύς. As we have seen in chapter 5, κρατύς had acquired -ρα- already in Proto-Ionic by inner-paradigmatic leveling, well before the vocalization of Epic *$\underset{\circ}{r}$. The fact that Epic κρατερός has taken over some of the meanings to be posited for κρατύς suggests that the two functioned as metrical alternatives at some pre-stage of Epic Greek. The introduction of the root shape κρατ- into *$k\underset{\circ}{r}ter\acute{o}$- was highly attractive, because this enabled Epic poets to use words ending in a short vowel in front of the new creation κρατερός.

The peculiar metrical behavior of the type ἔδρακον can be explained in a similar vein, provided that we are able to indicate a model and a motive for the early introduction of -ρα- into these thematic aorists.

[950] Such traces are found only in the middle aorist τραπέσθαι, as discussed in section 6.7.9.
[951] See section 6.7.2 and section 7.2.1, respectively.

8.4.2 The origin of -ρα- in ἔδρακον, ἔδραθον, ἔπραθον

Most of the approximately 60 active thematic aorists have a light root syllable, as can be expected for zero grade formations.[952] The structure of the stem in these cases is *VCVC-e/o-*, *CVC-e/o-*, or *CCVC-e/o-*. Only the last two types are of interest here: forms like **dr̥k-e/o-* had the structure *CVC-e/o-*, while the Homeric outcome δρακε/ο- had the structure *CCVC-e/o-*. As we will see, the elimination of Epic **r̥* in the thematic aorists changed the possibilities to use these stems in the Epic hexameter in an important way.

Let us consider the token frequency of the relevant thematic aorist forms, as summarized in the table below. I have not included forms of ἔτραφον (a recent, analogical formation: see above), nor those of τραπέσθαι which undergo *McL* scansion (and have their root syllable in the 2nd part of the biceps). Thus, all included forms have their root syllable in the 1st part of the biceps. This yields a total of 85 instances:

Stem placed in:	**4th biceps**		**5th biceps**	**Elsewhere**		**Total**
	+ preverb	– preverb		+ preverb	– preverb	
δραθε/ο-	6			1	1	8
δρακε/ο-	4		1		1	6
πραθε/ο-	3	2		4		9
δραμε/ο-	20		2	5	2	29
τραπε/ο-	3	6	3			12
ἐτράπετο[953]	6	4	7		4	21
Total	**42**	**12**	**13**	**10**	**8**	**85**

Table 8.1: The pattern of attestation of Homeric thematic aorists of the type CraCe/o-

In 62 instances (72.9%), the stem is identical to the corresponding vernacular form: δραμε/ο-, τραπε/ο- (active and middle).[954] In these two frequent stems, -ρα- is expected as the analogically restored reflex of **r̥* in Proto-Ionic. On the other hand, the stem of only 23 instances (27.1%) does not appear in the vernacular (δρακε/ο-, πραθε/ο-), or in a different shape (δραθε/ο-).[955]

I have separately indicated the attestations of forms with preverb, because they are frequent in Homer: note that only four instances of δρακε/ο-, πραθε/ο-, and δραθε/ο- are uncompounded, and only four cases of δραμε/ο-.[956] The high relative frequency of occurrences in the fourth foot (54x, or 63.5%) is mainly due to forms with preverb (42x, or 49.4%): forms like |T κατέδραθον |B fit exactly in this slot, and could hardly be used in other

[952] I gathered the material from Risch (1974: 238ff.). The only synchronic exceptions are ἦλφον, ἤλθον (beside ἤλυθον), εὗρον, ἔχραισμε, ἔειπον, ἐπαυρεῖν, ὄλισθε(ν), ἔνεικα, and ἄμαρτε. The only middle thematic aorist taken into consideration here is τράπετο 'turned'. This is an exceptional case: whereas active thematic aorists normally have intransitive meaning, τράπε has a transitive meaning 'turned, changed the direction of', where the object is e.g. a horse or an enemy. There are no other middle thematic aorists of the same metrical structure.

[953] Mostly ἐτράπετ'; the unelided middle ἐτράπετο occurs only 4x.

[954] I have counted both the active and middle forms of the thematic aorist τραπε/ο-, but excluded the middle forms with *McL* scansion that were discussed in section 6.7.9. The opposition between an active τραπέειν and a middle τραπέσθαι is unique among the six thematic aorists under discussion, as are the transitive semantics of τραπέειν.

[955] Further, compare ἤμβροτον (10x), occurs within Homer beside ἡμάρτανον (3x), ἄμαρτον (24x).

[956] ἔπραθον occurs only in the syntagm |P πόλιν ἔπραθον (2x), ἔδραθον only in ἔδραθ' ἐνὶ προδόμῳ |P (*Od*. 20.143, never again in later Greek), and ἔδρακον only in ἔδρακον ὀφθαλμοῖσι |T (*Od*. 10.197). Note that ἔδρακον stands in tmesis with δία in the second hemistich, and that the first hemistich is based on |T ἀνέδρακον ὀφθαλμοῖσι, |T ἐσέδρακον ὀφθαλμοῖσι. Furthermore, ἔδραθ' may stand in tmesis with ἐν in the preceding line (see above), and all three Homeric instances of ἔδραμον are in tmesis. This leaves us only with one instance of πόλιν ἔπραθον (against 6x δια-πραθε/ο-).

places.[957] The relatively rare dactylic forms (ἔδραμον with tmesis, simplex ἔτραπον) naturally occupy the 1st, 4th or 5th foot.[958] Thus, the localization of the forms follows directly from their synchronic metrical structure.

The interesting question is, however, how the prehistoric forms with **r̥* would have been used in Epic verse. As we have seen, it is likely that **-dr̥t^{h}e*, **-dr̥ke*, and **-dr̥me* were originally used with preverb only; **tr̥k^{w}e* and **pr̥t^{h}e* were also frequently used with preverb. However, forms like **anedr̥ke* or **epedr̥me*, with their sequence of four light syllables, could not have been used at this stage of Epic Greek. At first sight, it seems that this problem could be mended by means of metrical lengthening of the second of four consecutive light syllables.[959] But this cannot have been the case, because there are no traces of a metrically lengthened augment in other roots of the structure **CVC-*.[960] Quite on the contrary, there are indications that such metrical lengthening was avoided: Epic Greek has dactylic forms of the thematic aorist indicative which were artificially formed with the apocopated preverb κατ- or ἐκ-. Thus, κάλλιπε, κάββαλε, and κάππεσε have the same meanings as Class. ἔλιπε, ἔβαλε, ἔπεσε, and ἔκφυγε (when it governs the accusative, not the genitive) has the same meaning as φύγε 'escaped'.[961]

If forms like **anedr̥ke* were disallowed in Epic Greek before the roots in question had acquired -ρα-, how were the prefixed thematic aorist indicatives formed? It is instructive to compare the thematic aorist stem θορε/ο- 'to jump', because this is almost exclusively attested with preverb,[962] and is semantically close to δραμε/ο-. Its indicative is formed in two basic ways:

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[957] In view of Hermann's bridge, prefixed forms are hardly used in the fifth foot. An exception is |$_H$ καὶ ἐσέδρακον ἄντην (*Il*. 24.223), which is made possible by the prepositive conjunction καί in front of a vowel-initial preverb. Another factor favoring the occurrence of these thematic aorists in the fourth foot is the general preference for using verbal forms in the fourth foot, to which Parry (1971: 41) already pointed.

[958] For instance, out of three attestations of the simplex ἔδραμον, two occur in the 5th foot, and one in the 1st foot. A similar distribution is found for ἔχραον 'attacked'. The 3s. ind. ἔχραε is found only three times after |$_B$ and once in verse-initial position, but prefixed ἐπέχραον 'id.' only three times in front of |$_B$. This has an obvious explanation: the use of ἐπέχραον after the fourth trochee is precluded by Hermann's bridge (word-end in this position is avoided).

[959] One preposition has an old variant ending in a diphthong: παραί beside παρά, παρ- 'beside'. As a preverb, this variant appears in the verbal forms παραιπεπιθοῦσα, παραιφάμενος and the derivative παραίφασις. The form with -αι- then spread from παραι- to καταιβαταί (only *Od*. 13.110), and after Homer to e.g. διαι-. It is theoretically possible, then, to assume that παρέδραθεν (*Od*. 20.88) and παραδραθέειν (*Il*. 14.163) recover an older form **parai-dr̥t^{h}e*. However, the prefixed forms of δρακ- (ἀνέδρακον, διαδράκοι, ἐσέδρακον) and πραθ- (ἐξεπράθομεν, διαπραθέειν) never occur with παρα-, and cannot be explained in this way. Therefore, this scenario leads nowhere.

[960] The only such case attested in Homer is perhaps ἔμμαθεν 'he learned' (*Od*. 17.226), ἔμμαθες (*Od*. 18.362) as against μάθον (*Il*. 6.444). In Early Greek Epic after Homer, a non-etymological geminated root-initial liquid is found only in ἔλλαχε 'he obtained' (*h. Cer*. 86 and 87). However, the forms ἔμμαθε and ἔλλαχε must both be recent. Homer only attests ἔλαχον or λάχον without a metrical geminate, and the traditional Epic aorist in the meaning 'to learn' is δαῆναι, not ἔμαθον. In fact, the use of ἔμμαθε stands in marked contrast with the metrical behavior of λιπε/ο- 'to leave', where root-initial λ- generally counts as a single consonant: the only exception on 73 instances of λιπε/ο- with a light second syllable is ἐνὶ πτόλεϊ λίπετ' ἀνήρ (*Il*. 24.707). Note, finally, that -λλ- in ἔλλαβον 'took' is the reflex of etymological **-hl-*, and that εὔαδε reflects **e-hwad-e*. Of course, word-initial resonants could be geminated for metrical purposes even if there was no etymological **s-* (see Chantraine 1942: 176-7), but this did not apply to all lexemes, as the behavior of λιπε/ο- shows. As Chantraine remarks, "grand nombre de mots ne présentent jamais l'allongement devant la sonante initiale." Further research is necessary to establish the concrete distributions and the analogical mechanisms which could lead to the spread of resonant doubling.

[961] This explains why Homer could use unaugmented κάτθανε (*Il*. 9.320) as a gnomic aorist, instead of unmetrical ἔθανε (for the problem, see already Meister 1921: 35, in whose view κάτθανε stands for κατέθανε). There are only 3 augmented forms of the aorist ind. ἔθανον, against 14x unaugmented θάνον and 2x κάτθανε.

[962] The only exception is χαμᾶζε θορών (*Il*. 10.528), in the *Doloneia*.

1. with preverb, e.g. ὑπέρθορον (*Il*. 9.476), |P ὃ δ’ ἄρ’ ἔσθορε φαίδιμος Ἕκτωρ (*Il*. 12.462), |T ὃ δ’ ἔσθορε δαίμονι ἶσος (*Il*. 21.18), |B ἔνθορε μέσσῳ (*Il*. 21.233), |B ἔνθορ’ ὁμίλῳ (*Il*. 15.623), |B ἔκθορε δίφρου (*Il*. 16.427)

2. in tmesis, e.g. κὰδ δ’ ἔθορ’ ἐς μέσσον (*Il*. 4.79), ἐκ δ’ ἔθορε προμάχων (*Il*. 15.573), ἐκ δ’ ἔθορε κλῆρος κυνέης (*Il*. 7.182), ἐκ δὲ |P κλῆρος θόρε (*Il*. 23.353), ἐκ δ’ ἔθορε κλῆρος (*Od*. 10.207), ἐκ δίφροιο χαμαὶ θόρε (*Il*. 8.320 = 23.509).

Thus, when **r̥* was still around in the thematic aorists in question, one would find dactylic forms of the type **katdr̥t^{h}e*, **andr̥ke*, and also forms with tmesis such as **ana … dr̥me* or **an d’ edr̥me*. At first sight, it seems problematic that there is no evidence for such forms among the roots πραθ-, δρακ-, and δραθ-, apart from one instance of the 3du. καδδραθέτην (*Od*. 15.494). But this lack of attestations is clearly due to the metrical convenience of augmented forms with -ρα- of the type ἀνέδρακον.[963]

For a model for the introduction of -ρα- into **-dr̥ke/o-*, **-dr̥t^{h}e/o-*, and **pr̥t^{h}e/o-*, we have to turn to the forms ἔτραπε and -έδραμε. Given the higher metrical convenience of these vernacular forms with -ρα-, we may expect that they replaced the traditional forms with **r̥* in Epic Greek once they became available. Note that -έδραμε is not only the most frequent form with -ρα-, but also that it was exclusively used with preverb (ἀνα-, δια-, ἐπι-, ὑπο-, etc.). For most of these preverbs, apocope was metrically (δια-) or phonotactically (ἐπι-, ὑπο-) excluded. This means that a pre-form **dr̥me/o-*, used mainly with tmesis, was replaced by |T ἀνέδραμε(ν), |T διέδραμε(ν), and so on. The same holds for the replacement of **epi … tr̥k^{w}e* with e.g. ἐπέτραπε(ν). We may now suppose that the two frequent stems -δραμε/ο- and τραπε/ο- dragged the other three forms **-dr̥ke/o-*, **-dr̥t^{h}e/o-*, and **pr̥t^{h}e/o-* along with them. That is, when the forms -έδραμε and ἔτραπε were in the process of replacing the pre-forms **-dr̥me* and **(e)tr̥k^{w}e*, the forms -έδραθε, -έδρακε, and -έπραθε could be created as metrical alternatives for the inconvenient **-dr̥ke*, **-dr̥t^{h}e*, and **-pr̥t^{h}e*, thus greatly facilitating the use of preverbs.

However, the introduction of -ρα- also generated a problem that has already been discussed in the previous section. In their newly-introduced vernacular form, the aorists -έδραμον and ἔτραπον could not form participle or modal forms[964]: at this stage, well before the vocalization of Epic **r̥*, *McL* scansion was still out of the question. Likewise, the introduction of -ρα- into **-dr̥ke/o-*, **-dr̥t^{h}e/o-*, and **pr̥t^{h}e/o-* entailed that the participle and modal forms of these verbs could no longer be used. But this was probably not detrimental. Before the replacement, only the simplex participle forms **dr̥kont-*, **dr̥t^{h}ont-*, **pr̥t^{h}ont-* could be used anyway, and the obligatory or frequently occurring preverb had to be placed in tmesis. It is therefore likely that alternative traditional forms or phrases had been coined already before the introduction of -ρα-. Relics of this situation are indeed attested in Homer. The ptc. (ἐκ)πέρσαντ- may have provided an early alternative for **pr̥t^{h}ont-*, and ἰδών in the meaning ‘looking, glancing (at)’ is traditional in the well-known formula τὸν δὲ ὑπόδρα ἰδών, where the adverb ὑπόδρα suggests that ἰδών is used as an equivalent of earlier **dr̥kōn*. Similarly, the relic middle root aorists μετάλμενος, ἐπάλμενος ‘jumping among/at’ are used to solve the problem of unmetrical *μεταθορών, *ἐπιθορών (see above).

It remains to explain why the replacement of Epic **r̥* by -ρα- was not carried through in the thematic aorist ἤμβροτον. The reasons are simple: its augmented pre-form **āmr̥te* already had a dactylic structure, so that there was no motive for introducing -ρα-. Moreover,

[963] Note that apocope was not an available option for the pre-forms with **r̥* of διέπραθον, διέδρακον, διέδραμον, περίδραμον, nor for those of ἐπέδραμον, ἀπέδραμον or a putative *ἐπέδρακον (cf. ἐπιδέρκομαι). For these pre-forms, tmesis would have been the only option. In the case of ἐπιθρώσκω, there are no cases of ἐπί … θορε/ο- in tmesis: the poets preferred to resort to the archaism ἐπᾶλτο ‘jumped onto’, ἐπάλμενος.

[964] With ‘modal forms’, I am referring to all subjunctive and optative forms except for the 1s. subj. in -ω, the 3s. in -ῃ, and the 3s. opt. in -οι, all of which could of course be used in front of a vowel.

the root structure of **amr̥t-* was different from that of **dr̥m-*, so that there was no clear model. After the vernacular vocalization to -αρ-, the introduction of ἄμαρτε furnished a convenient metrical alternative to **āmr̥te*, which was preserved as such and, much later, joined the regular vocalization of Epic **r̥*.

8.5 Pindaric δρακέντ-

It remains to explain the reflex -ρα- in the Pindaric participle δρακέντ-.[965] Traditionally (e.g. *LSJ* s.v. δέρκομαι), this form has been interpreted as what it appears to be from a synchronic perspective, namely an intransitive aorist of the type ἐφάνην 'appeared', ptc. φανέντ-. But in a brief and highly influential contribution, Forssman (1964) argued that δρακέντ- continues an older athematic root aorist ptc. **drḱ-ént-*. In his view, the participle survived as a relic form only in Pindar, whereas the indicative had already been thematicized already in Homer. Following Hoffmann's remarks (1960) on Sanskrit *ádarśam*, which he analyzes as an inherited root aorist, Forssman concludes: "Für das Griechische ergibt sich daraus die Folgerung, dass die thematische Flexion ἔδρακον, -ες usw. sekundär aus der athematischen entstanden sein muss." (1964: 17).

This analysis has found broad acceptance among Indo-Europeanists. If it is correct, δρακέντ- would have to directly continue PIE **drḱ-ént-* in non-Epic Greek, and constitute a counterexample to the regular vernacular vocalization to -αρ- defended here. For this reason, I will subject Forssman's argumentation to close scrutiny. Is it really necessary, on the basis of the inner-Greek facts, to reject the traditional interpretation of δρακέντ- as an intransitive aorist?[966] Forssman's first argument is that δρακέντ- takes an accusative object in all three attestations. These are the following:[967]

> τὰς δὲ Θεοξένου ἀκτῖνας πρὸς ὄσσων
> μαρμαρυζοίσας δρακείς
> ὃς μὴ πόθῳ κυμαίνεται, ἐξ ἀδάμαντος
> ἢ σιδάρου κεχάλκευται μέλαιναν καρδίαν
> ψυχρᾷ φλογί. (Pi. *fr*. 123.2-6)

"but whoever has seen those rays flashing from Theoxenos' eyes and is not flooded with desire, has a black heart forged from adamant or steel with a cold flame."

> Ἐλείθυια, πάρεδρε Μοιρᾶν βαθυφρόνων,
> παῖ μεγαλοσθενέος, ἄκου-
> σον, Ἥρας, γενέτειρα τέκνων· ἄνευ σέθεν
> οὐ φάος, οὐ μέλαιναν δρακέντες εὐφρόναν
> τεὰν ἀδελφεὰν ἐλάχομεν ἀγλαόγυιον Ἥβαν. (Pi. *Nem*. 7.1-4)

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[965] The isolated εὐδρακής 'seeing well' (only S. *Phil*. 846) is a deverbal compound derived from δρακεῖν (cf. Meissner 2006: 216). It is distinguished in both form and meaning from old compounds like εὐδερκής 'well visible', and clearly secondary.

[966] There are other reasons to doubt the preservation of an inherited root aorist in Pindar. First, this would presuppose that the thematicization took place at a fairly recent date, but it is not so easy to indicate parallels. Forssman compares κτίζω 'to colonize', where only κτίμενος '(good) to live' is preserved in Homer, whereas Mycenaean still has the athem. ind. *ki-ti-e-si* /ktiensi/. But the parallel does not work, because there is no thematicized variant of κτίμενος. In fact, κτίζω must have been created on the basis of the factitive *s*-aorist κτίσαι, the only stem of this root to attest finite verbal forms in Homer. Second, there are good reasons to doubt the antiquity of the root aorist in Vedic: the *Rigveda* only attests the 1s. *darśam*. In my view, the reconstruction of the defective verbal paradigm of **derḱ-* in PIE could benefit from a fresh treatment on the basis of the Greek evidence. But since this is not strictly relevant for present purposes, I will refrain from pursuing this matter here.

[967] The translations are by Race (1997).

"Eleithuia, enthroned beside the deep-thinking Fates, daughter of mighty Hera, hear me, giver of birth to children. Without you we behold neither light nor the darkness of night, nor are we allotted your sister, splendid-limbed Hebe."

σὲ δ', ὦ Δεινομένειε παῖ, Ζεφυρία πρὸ δόμων
Λοκρὶς παρθένος ἀπύει,
πολεμίων καμάτων ἐξ ἀμαχάνων
διὰ τεὰν δύναμιν δρακεῖσ' ἀσφαλές· (Pi. *Pyth*. 2.18-20)

"But you, O son of Deinomenes, the maiden of Western Lokroi invokes in front of her house, for after desperate toils of war she has a look of security in her eyes thanks to your power."

The first two attestations are grammatically clear: the accusatives ἀκτῖνας πρὸς ὄσσων μαρμαρυζοίσας and φάος, μέλαιναν … εὐφρόναν are the direct objects of δρακείς and δρακέντες, respectively. Moreover, both uses of δρακέντ- agree semantically: the grammatical object does not refer to a physical object, but to a source of light. In the third passage, however, δρακέντ- does not govern a direct object, but the adverb ἀσφαλές. Forssman refers to Farnell's commentary (ad Pi. *Pyth*. 2.20), who says about ἀσφαλές: "I take the neut. adjective here as a noun, a direct accusative after the verb = "having seen safety" (...)." Consequently, Farnell translates: "having, thanks to thy might, beheld the light of safety after desperate straits of war." But this can hardly be correct, because the substantive for 'safety' would be ἀσφαλεῖα also in Pindar.

The real issue is how to interpret the construction δέρκομαι + adverb. Both in Homer and in Pindar, there are clear parallels for this construction, e.g. δεινὸν δερκόμενος "having a fearsome appearance" (*Il*. 3.342, 11.37, and 23.815) or ὄμματι δέρκομαι λαμπρόν "my eye shines brightly" (Pi. *Nem*. 7.66). Farnell rejects this comparison since, in his view, the aorist speaks against a "steady gaze".[968] But the aorist in *Pyth*. 2.20 is ingressive: it refers to the renewed possibility for the Locrian maiden to confront the things around her, and to look strangers in the eyes again. For such an ingressive aorist, a Homeric parallel is ὃ δ' ἀμπνύνθη καὶ ἀνέδρακεν ὀφθαλμοῖσιν (*Il*. 14.436), where wounded Hektor "regained his conscience and looked up [again]".[969]

A second argument for Forssman to doubt that δρακέντ- is an intransitive aorist is that the indicative $^{++}$ἐδράκην is not attested anywhere else in Greek. Against this *argumentum e silentio*, it may be remarked that δέρκομαι has a low overall frequency in Greek. It cannot be excluded that the single attestation of the thematic aorist indicative δρακε/ο- in Pindar is a Homerism.[970]

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[968] In the latter instance, Slater's translation "with secure gaze" (s.v. δέρκω) seems to be factually correct, even if the English sounds somewhat artificial to my non-native ears.

[969] See above. The root meaning of δερκ- can be set up as "avoir telle ou telle expression dans le regard" (Chantraine 1927: 11), or "einen bestimmten Blick, Gesichtsausdruck haben" (Kölligan 2007: 260). Apart from that, I think that we have to assume a more basic meaning 'to radiate, shine', as attested for the perfect δέδορκε in a number of passages in Pindar (*Ol*. 1.93, *Nem*. 3.84, *Nem*. 9.41) and in Aeschylus (*fr*. 296 Radt). Note also the construction with adverb or internal accusative, in the meaning 'to look like, have a conspicuous appearance' in Homer (*Il*. 22.95) and in Aeschylus (*Sept*. 53, *Pers*. 1007).

[970] φίλοισι γὰρ φίλος ἐλθών ξένιον ἄστυ κατέδρακεν Ἡρακλέος ὀλβίαν πρὸς αὐλάν (*Nem*. 4.22-4). Note that an Epic form κατέδρακεν may have been preserved because it could not be replaced by unmetrical **katewiden* or **katwiden*. The interpretation of these Pindaric lines continues to present problems, a fact which is reflected in the wide range of proposed translations. Willcock (1995: 97) even remarks that "the expression is awkward". Taking ξένιον ἄστυ with κατέδρακεν and ὀλβίαν πρὸς αὐλάν with ἐλθών requires quite a heavy hyperbaton. In my view, the emendation of αὐλάν to a Gp. αὐλᾶν is worthy of consideration, because this yields a natural interpretation of πρός: "For coming as a friend to friends, he looked down upon a hospitable city *from* the blessed halls of Herakles."

As Forssman remarks (1964: 17), from the side-by-side of δρακέντ- and ἔδρακον "lässt sich zunächst entweder der Schluss ziehen, dass δρακέντ- eine altertümliche Form, oder dass es nach irgendeinem Muster aus dem normalen δρακόντ- umgebildet ist".[971] Let us consider whether a reshaping of δρακόντ- is likely. Another intransitive aorist of δέρκομαι is ἐδέρχθη, attested seven times in the tragedians (see above), and always in the indicative in the meaning 'to look at, behold'. In five of these cases, ἐδέρχθη governs a direct object.[972] Formally, it is clearly an innovation on the basis of the present δέρκομαι. Its creation may be explained by Allan's observation (2003: 159) that δέρκομαι is non-volitional in Classical Greek. For this reason, its aorist (ἐδέρχθην) could be aligned with other "mental process middles" that formed an intransitive aorist in Classical Greek, such as ἐφράσθην 'I observed' to φράζομαι. In order to explain Pindaric δρακέντ- as a secondary creation, Allan compares the replacement of ἔτραφον 'I grew up' (Hom.) with ἐτράφην (Hom.+), which is the only aorist of τρέφομαι attested in Pindar.[973] Although we have seen that ἔτραφον is probably an artificial Homeric form, the possibility exists that Pindar conceived of Homeric ἔδρακον in a similar way, that is, as a typical Homeric thematic aorist where an intransitive aorist would be expected. Note, too, that δρακέντ- is semantically very close to φανέντ-, and that the same replacement seems to have occurred in the ptc. ἐριπών 'collapsing' (Hom.) → ἐριπέντ- (Pi.).[974] Finally, the creation of a novel ptc. δρακέντ- in Pindar on the basis of the Homeric indicative ἔδρακον (also attested once in Pindar) may have been favored by the absence of the participle δρακόντ- in Homer.[975]

8.6 Conclusions

In thematic aorist forms, Classical prose has *$\mathring{r}$ > -αρ- in κατέδαρθον 'went to sleep' (only Attic), ἔπαρδον 'broke wind' (only Attic), and ἥμαρτον 'committed a mistake' (Att., Hom., Hdt.). While ἔπαρδον may be analogical after πέρδομαι, this explanation is not available for κατέδαρθον and ἥμαρτον, which both are primary thematic aorists from an inner-Greek perspective. I therefore conclude that κατέδαρθον and ἥμαρτον contain the regular (Ionic-)Attic outcome of *$\mathring{r}$. The vowel slot of ἔδραμον 'ran' must be due to the perfect δέδρομε (Hom.) or to δρόμος 'track', and that of ἐτραπόμην 'turned' due to τρέπω. We have also seen that Homeric ἔτραφον and ταρπώμεθα are artificial formations.

As for -ρα- in ἔδραθον, ἔδρακον, and ἔπραθον, I have shown that these forms are all but restricted to Epic Greek, and typically occur with preverbs. There are sufficient reasons to assume that corresponding forms with -αρ- were not available anymore to Epic poets in late Proto-Ionic, which means that they initially kept the forms with *$\mathring{r}$. However, in combination with preverbs, these forms were metrically inconvenient. On the other hand, the vernacular forms δραμε/ο- and τραπε/ο- did facilitate the use of preverbs, and were quickly introduced into Epic Greek after the Proto-Ionic vocalization. I therefore assume that ἔδραθον, ἔδρακον, and ἔπραθον were influenced within Epic Greek by ἔδραμον and ἔτραπον. This explains why

[971] Forssman speaks of the normal form δρακών, but in reality, there are only two attestations of this form in all of Archaic and Classical Greek up till Plato: δ]ρακοῖσα (Stes. S135.9) and δρακών (E. *Herc*. 951).
[972] E.g. ὡς τρισόλβιοι κεῖνοι βροτῶν, οἳ ταῦτα δερχθέντες τέλη μόλωσ' ἐς Ἄιδου (S. *fr*. 387).
[973] With Slater, τράφε (*Nem*. 3.53) may be analyzed as an imperfect.
[974] Forssman (1964: 18 n. 6) remarks: "δρακέντ- ist also nicht mit ἐριπέντι (dat.) 'stürzend, fallend' Pi. Ol. II 43 aud eine Stufe zu stellen (…), das gegenüber hom. ἐριπών (zu ἤριπε) auf ἐριπείς weist: Hier handelt es sich um ein intransitives Verbum. Überdies wäre die Frage zu stellen, ob nicht auch ἤριπε einen alten Wurzelaorist fortsetzen kann." But there is no reason why δρακέντ- and ἐριπέντ-, attested more than two centuries after Homer, could not be replacements of older thematic aorist forms.
[975] Henry (2005: 33) suggests that "Pindar may have used δρακείς (etc.) rather than δρακών (etc.) in order to avoid confusion with forms of the substantive δράκων, indistinguishable in strophic song from those of δρακών. There was no danger of such a confusion outside the participle." But I fail to understand how δρακών and δράκων, with their opposite accents, could ever be confused in Classical Greek (except in some case forms, e.g. Gp. δρακόντων), let alone why the category "strophic song" would be relevant here.

we find no traces of *McL* scansion among these forms, and why the root-initial cluster is regularly used to create length by position. A similar explanation can be given for the different metrical behavior of κρατερός as opposed to κραδίη.

9. Remaning evidence for αρ and ρα

The preceding chapters have provided us with a framework in which the remaining evidence for *$\mathring{r}$ in Ionic-Attic can be discussed. I have distinguished three groups of potential counterevidence to a Proto-Ionic vocalization *$\mathring{r}$ > -αρ-: words with -ρα- that are candidates to contain the outcome of *$\mathring{r}$ in front of -σ- (section 9.1), verbal forms with a root *CraC*- (section 9.2), and words with word-final *-$\mathring{r}$ > -ρα (section 9.3). After that, I will discuss evidence that can be left aside for various reasons (section 9.4), discuss the evidence for *-$\mathring{r}n$- (section 9.5) and give an overview of the remaining evidence for -αρ- in isolated nominal formations (section 9.6).

9.1 The development of *-$\mathring{r}s$- in Ionic-Attic

Some words with etymological *-$\mathring{r}s$- have -ρα- as the outcome in front of -σ-. The reason to treat these words together are the problems surrounding the adjective θρασύς 'bold', which have been discussed in section 4.5. There are two basic options for explaining θρασύς:

(1) a conditioned sound change *$\mathring{r}$ > -ρα- | _*s* (θρασύς the regular Proto-Ionic form)
(2) an unconditioned change *$\mathring{r}$ > -αρ- (θρασύς an artificial Epic creation).

Let us briefly repeat the arguments for considering θρασύς an artificial creation of Epic Greek. Since θρασύς is attested also in Ionic-Attic prose, it seems to be an important piece of counterevidence against a Proto-Ionic vernacular change *$\mathring{r}$ > -αρ-. However, given the levelings described in section 4.4, the expected outcome of an ablauting Proto-Greek *u*-stem paradigm would have been Proto-Ionic *θαρσύς. I have argued that an earlier *θαρσύς is indeed presupposed by the spread of *a*-vocalism through the derivational system of θάρσος, θαρσέω, θαρσύνω, etc. Moreover, the adjective θαρσαλέος (attested both in Epic Greek and Ionic-Attic prose) seems to have replaced this *θαρσύς, because it is θαρσαλέος, not θρασύς, that stands in a derivational relation with the Caland forms with θαρσ-.

The regular Epic outcome of non-ablauting *$t^h\mathring{r}su$- is found in personal names and compounds with θρασυ-. Moreover, the Homeric formula θρασειάων ἀπὸ χειρῶν may contain the Epic reflex of the weak stem *$t^h\mathring{r}sew$- of the originally ablauting adjective (section 6.7.8). I have suggested that the Homeric As. θρασύν was artificially created on the twofold basis of θρασειάων and the compounds with θρασυ-. The new adjective θρασύς, with its martial meaning 'bold, daring, reckless', may then have been borrowed from Epic Greek into the Ionic-Attic vernacular.

Two problems with scenario (1) must be stressed in particular. First of all, θρασύς would not be the expected Proto-Ionic outcome of an ablauting paradigm *t^h*ersu*-, *$t^h\mathring{r}sew$-. Secondly, the conditioned phonological development would require a phonetic underpinning. Since a decision concerning the regular development of *-$\mathring{r}s$- should not be based merely on θρασύς, we have to review the other evidence for pre-forms with *-$\mathring{r}s$- in the vernacular.[976]

[976] The evaluation of PNs with a first member Θαρσ- or Θρασ- is complicated by the fact that they are so frequent throughout alphabetic Greek, and appear in inscriptions from almost every dialect. A priori, it is possible that names with Θρασυ- contain the reflex of Epic *$\mathring{r}$, and that those with Θαρσυ-, Θαρρυ-contain the Ionic-Attic vernacular outcome, or that of some West Greek dialect. However, since names with Θαρσυ- may always have been influenced by forms like θάρσος or θαρσαλέος, I will not base my argument on them. On Crete, θορσυς is attested twice as a PN in Polyrrhenia (*IC* II 23, 37 and 53), but the *o*-vocalism of this form would be enigmatic in a genuine Cretan word. One could ascribe this name to an Achaean substrate on Crete, cf. the discussion in Leukart (1994: 191). The Myc. PN *To-si-ta* is generally interpreted as /T^{h}orsītās/, a hypocoristic

Before this can be done, it is necessary to resolve a preliminary issue. If *s underwent an early intervocalic lenition to *h in Greek, why wasn't the group *-ṛsV- (underlying θρασύς) affected? This question can be answered after a consideration of the lenition *s > h | N̥_, as in δαῆναι 'to learn' as opposed to δασύς 'dense'.

9.1.1 The development of *-N̥sV-

The main problem is the retention of -σ- in δασύς 'hairy, densely grown', which is odd in view of the outcomes of the PIE root *dens- in Greek.[977] The verbal root is represented by the reduplicated pres. διδάσκω 'to teach' (whence secondary aor. διδάξαι), Hom. δαῆναι 'to learn' (intr. aor.), δέδαε 'taught' (red. aor.), and in nominal formations by the relic first member of δαΐφρων 'prudent'.[978] The verb has secure cognate formations in Iranian.[979] Since the -s- was not preserved in any of the Greek forms just cited, it cannot be doubted that *-N̥sV- underwent a regular lenition to *-N̥hV-, independent of the accent.

But how to explain δασύς? Its most obvious cognate Lat. *dēnsus* 'thick, dense' may continue *dn̥s-ó- or *dens-o-, because *dn̥s-u- would be expected to yield an *i*-stem ++*dēnsuis*. Nevertheless, δασύς looks like an inherited *u*-stem adjective, because a stem *dn̥s-u- is also presupposed by the semantically identical δαυλός (δαῦλος) 'dense, hairy, shaggy' < *dn̥s-u-ló-.[980] Thus, δαυλός points in the same direction as δαῆναι and δέδαε: *-N̥sV- was regularly lenited to *-N̥sV-. This makes the the retention of -σ- in δασύς an even more urgent problem. It has previously been ascribed to expressive gemination (Szemerényi 1954: 261) or to a "double treatment" of *-N̥sV- (*DELG* s.v. δαυλός), but neither of these proposals offers a satisfactory solution.[981]

The retention of -σ- can be easily explained, however, if we suppose that δασύς continues an ablauting paradigm *dén-s-u-, *dn̥s-éw-, and that the lenition *s > *h in intervocalic position took place before the first stages of the first compensatory lengthening started to affect intervocalic -Ns-. This means that *dn̥h-ew- could be restored to *dn̥s-ew- on the basis of the strong stem *dens-u-. In δαυλός, the -s- was not restored because the paradigm had no ablaut. Thus, the pair δασύς beside δαυλός provides clear-cut evidence that the *u*-stem adjectives retained paradigmatic ablaut in Proto-Greek at least.[982]

By way of excursion, let us consider Hittite *daššu-* 'strong, powerful; heavy, well-fed; difficult, important', which points to a pre-form *dens-u- with full grade root (cf. Kloekhorst, *EDHIL* q.v.). The identity of *daššu-* and δασύς is often implicitly rejected when scholars speak of two homonymous roots. However, it deserves attention that one of the meanings of Hitt. *daššu-* is 'heavy, well-fed', from which one could derive the meaning 'dense' via 'thick, fat'. Indeed, one of the meanings of Lat. *dēnsus* is 'thick', and the semantic development is

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derived from a compounded name with first member *d^hṛsi-. On this idea, and the comparison with Θερσίτης (Hom.+), see section 2.3.1.

[977] For a more complete overview of the evidence, see Manolessou & Pantelidis (2011). In my view, there is no sufficient reason to assume, as they do, that the accent influenced the development of *-N̥sV-. After completion of this chapter, the recent book by Nikolaev (2010) came to my attention. He gives (2010: 238-39, 241) the same explanation for δασύς proposed here, with references to earlier literature (Seldeslachts, *Studia Indogermanica Lodziensia* II (1998), 57-69 was not available to me).

[978] I do not believe that δαΐ- in δαΐφρων was originally the word for 'battle', as some scholars admit.

[979] For διδάσκω, cf. OAv. 1s. pres. mid. *dīdaiŋhē* 'I learn', 3s. inj. pres. act. *didąs* 'teaches'. Note the identical causative meaning of the (active) reduplicated formations in Greek and Avestan. The Vedic caus. *daṃsáya-* is probably secondary.

[980] On the accentuation, see Radt (1982 and 1994). For the reconstruction, see de Lamberterie (l.c.), Schwyzer (1939: 307), Frisk and *DELG* (s.v. δαυλός).

[981] Szemerényi accepts Meillet's view "that -σ-, earlier -σσ-, is due to expressivity", while deriving δαυλός from *dn̥sulo-. This view is accepted by de Lamberterie (1990: 702).

[982] Further evidence for the preservation of PD ablaut in *u*-stem adjectives has been provided in section 4.1.

common (cf. section 4.3.1 on ταρφύς). In Greek, the meaning ‘dense’ was apparently restricted to animal hairs and to the foliage of trees.

In my view, the verbal root **dens-* ‘to be learned, (tr.) to teach’ and the root contained in the adjective **dens-u-* ‘dense’ are etymologically indentical. Although a semantic development from ‘dense’ to ‘experienced’ may seem odd at first sight, a good parallel is attested in Greek. Beside πυκνός, πυκινός ‘hairy, dense’ and πύκα ‘frequently’, πυκιμήδης literally means “with dense plans”, πυκινόφρων “with dense mind”. Another possible instance is the Homeric formula λάσιον κῆρ ‘wily heart’, beside the normal meaning ‘hairy, densely grown’ of λάσιος.

Given these parallels, we may now tentatively reconstruct what happened. The original meaning of the root **dens-* is ‘dense, thick’, as presupposed by the Hittite, Greek and Latin adjectives. The verbal root then underwent a semantic development to ‘wily, complicated’ (of the mind), hence ‘experienced’.[983] The Caland first member **dn̥s-i-* contained in δαΐφρων corresponds to Vedic *dasrá-* and Av. *daŋra-* ‘wise, capable’ < **dn̥s-ró-*. These were relatively late derivations from the verbal root, created after the precursor of δασύς had become semantically isolated.[984] As for Hittite *daššu-*, it might show the intermediate stage of the semantic development in its meaning ‘difficult’.

No matter whether this identification of the root of δασύς and δαυλός with that of δαῆναι is correct, it appears that the retention of -σ- in δασύς can be explained from an ablauting adjectival paradigm.

9.1.2 Retained -σ- from **-r̥s-*: regular or analogical?

In a number of Greek words, a surfacing intervocalic -σ- seems to derive from a pre-form containing a sequence **-r̥s-* (e.g. θρασύς). Manolessou & Pantelidis (2011) have recently discussed all the alleged examples.[985] The following examples are candidates to have retained **-s-*:

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[983] A possible semantic motivation could be that the words of a wily person are ‘impenetrable’, an intricately woven web that is complicated to understand. The *LfgrE* (s.v. δαῆναι) points at the use of adjectives like ποικίλον ‘complicated’ (*Od*. 8.448), παντοίην ‘manifold’ (*Od*. 6.223) to qualify the object of learning. Note, in this context, Av. *hizuuō daŋhah-* ‘power of the tongue’. On the other hand, someone whose stories can be straightforwardly unraveled (and whose mind can be easily penetrated by others) would be considered foolish.

[984] A further instance of the intermediary root meaning ‘complicated’ is perhaps the neuter plural δήνεα ‘plans, ruses’, whose etymological identity with Ved. *dáṃsas-* ‘ability’, Av. *hizuuō daŋhah-* ‘power of the tongue’ cannot be doubted. However, from a PIE **dens-os-* one would expect an Ionic outcome *++δείνεα*, and there is some evidence to suggest that the pre-form of δήνεα had **ā*. Hackstein (2002: 185f.) accounts for δήνεα as follows: “in einem ablautenden Paradigma **dens-os, dn̥s-es-h₂* wurde die Schwundstufe (**dn̥s-* >) urgr. **das-* zu **da-n-s-* re-na[s]al[is]iert nach *e*-stufigem **dens-*, eine Möglichkeit die (…) sich (…) auf unzweideutige Parallelfälle berufen kann.” If such an ablauting *s*-stem paradigm could be reconstructed, the retention of intervocalic *-s-* in the pre-form **daseha* < **dn̥s-es-h₂* could indeed be explained by inner-paradigmatic leveling with the singular form. It is problematic, however, that there is generally no evidence for root ablaut in Greek *s*-stems (see section 4.1.6). For the “renasalization” of the root, Hackstein refers to θάμβος ‘amazement’, but this word has no clear etymology, and there is no evidence for the full grade root *θεμβ- assumed by Hackstein. According to the handbooks, **dens-os* was reshaped to **dans-os* by influence of the *a* < **n̥* in the verbal paradigm of δαῆναι. This view is rejected by Hackstein (l.c.). In my view, the reshaping could perhaps be accounted for if the derivationally related *u*-stem adjective had a strong stem **dans-u-* << **dens-u-* at some point. This would be paralleled by the replacement in forms like κρέτος >> κράτος, which started from the adjective κρατύς (see section 4.2.1).

[985] Most handbooks and historical grammars, e.g. Lejeune (1972), Rix (1992), or Sihler (1995), do not discuss the issue. The problem is only briefly mentioned in Schwyzer (1939: 307, with marginal references to older literature), who remarks that in **-r̥sV-* “σ wenigstens zunächst erhalten zu sein [scheint]”. What he means by “zunächst” is unclear: if *-s-* was retained in this position when the intervocalic lenition took place, there is no reason to assume that it was lenited afterwards. In my view, there is no reason to doubt that the development of intervocalic **-Ls-* was accent-conditioned, as Wackernagel originally proposed: **-Ls-* was preserved only when the accent was on the immediately preceding syllable, and otherwise developed to *-L-* with compensatory

1. θρασύς ‘bold’ (θάρσος ‘courage’)
2. τρασιά ‘hurdle for drying figs’ (ταρσός ‘hurdle for drying cheese; sole of the foot’)
3. πράσον ‘leek’
4. γράσος ‘smell of a goat’ (γράω ‘to eat’)
5. the Dp. in -Cράσι of *r*-stem substantives, such as πατράσι, θυγατράσι, ἀνδράσι.

Two explanations for the retention of -σ- are conceivable. First, it is possible that *-*s*- regularly underwent lenition also after **r̥*, and that instances of retained -σ- were analogically restored after cognate forms with a full-grade root (basically, the same explanation required for δασύς beside δαῆναι).[986] Thus, the pre-form of θρασύς may have reintroduced -σ- from the strong stem of the adjective **t*^{h}*érs-u-*, where we have seen that the lenition did not take place, or even from a different cognate formation like *θέρσος ‘courage’ (>> Ion.-Att. θάρσος).[987]

As a second possibility, **-r̥s-* may have escaped the lenition of intervocalic **s* because **r̥* did not behave like a full vowel. It is phonetically conceivable that **s* had a retroflex realization after **r̥*: compare the distribution found in Avestan, where **s* was lenited to *h* in intervocalic position, whereas in **-r̥sV-*, its allophonic realization -š- escaped the lenition. This is, of course, due to a late-PIE (Balto-Slavic, Indo-Iranian) phenomenon known as the *ruki*-rule. Even if there is no concrete indication that such an effect was operative in an early form of Greek, it is difficult to exclude this scenario on forehand.[988]

There are two potential pieces of evidence in favor of a regular lenition **-r̥sV-* > **-r̥hV-*. First, de Lamberterie (1990: 701-3, taking up a suggestion by Wackernagel) argued that τραυλός ‘lisping, stammering’ continues a pre-form **tr̥s-u-ló-*, a derivative in *-ló-* derived from the weak stem of the PIE *u*-stem adjective **tr̥s-ú-* ‘dry’ (see section 10.4.4 on γλαφυρός). For the semantics, he points at ἰσχνόφωνος ‘stammering’, which literally means “with a dried up voice”, and which appears in conjunction with τραυλός in Hdt. 4.155. Secondly, one could derive γράω ‘to eat’ from a zero grade thematic formation **gr̥s-e/o-*, to be compared with the Vedic root *gras-* ‘to devour’ if this contained a full grade root **gres-*. As we will see below, however, this second example is dubious.

If the lenition of **s* took place early enough, it would be possible to ascribe its retention in **tr̥s-ó-* (in τρασιά, ταρσός), θρασύς, and in the Dp. in **-r̥si* (ἀνδράσι, πατράσι) to analogical levelling. Thus, the issue depends on the evaluation of τραυλός as an example in favor of lenition, and of πράσον and γράσος as counterexamples.[989] Let us therefore turn to a discussion of the Greek forms which contain -ρασ- or -αρσ-. The individual examples are treated in alphabetical order.

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lengthening of the preceding vowel. The evidence from sigmatic aorists is rather complicated, but it can be reconciled with Wackernagel’s idea (cf. Miller 1976). As Miller observes, the middle τέρσομαι ‘to become dry’ is a strong example against Forbes’s assumption (1958: 249ff.) that **-Ls-* was regularly reduced to *-L-* with compensatory lengthening. Forbes assumes that *-s-* was regularly retained in **-r̥sV-*, but she does so merely because this enables her to explain cases of retained intervocalic *-Ls-* by analogy (e.g. θέρσος beside θρασύς).

[986] Thus de Lamberterie (1990: 701ff.).

[987] Manolessou & Pantelidis posit the same rule for **-N̥sV-* and for *-r̥sV-*: retention of *-s-* only when the accent follows, lenition in other cases. In my view, the evidence does not warrant such a drastic solution. Note that their rule for **-r̥sV-* predicts exactly the opposite of Wackernagel’s rule for intervocalic **-Ls-* (1888), where only a directly *preceding* accented syllable causes the *-s-* to be preserved.

[988] Another case where **r̥* did not function like a full vowel is the development of **-tw-* in the position before **r̥*. As I have argued in section 2.5, **-tw-* was reduced to **-t-* when directly followed by **r̥*, whereas intervocalic **-tw-* was preserved as such at that time.

[989] De Lamberterie (l.c.) discusses only ταρσός and θρασύς, for which he assumes analogical restoration of *-s-* under influence of τέρσομαι and θαρσ- / θερσ-, but does not give his opinion on πράσον and γράσος.

9.1.3 The Dp. in -Cράσι

In the dative plural of *r*-stems, Homer only has ἀνδράσι, ἀστράσι. After Homer, the only frequent Dp. form remains ἀνδράσι, but we also find θυγατράσι (first Hes. *fr*. 165.7, Hdt., B., X., Pl.) and πατράσι, μητράσι (both rare), γαστράσι (1x). We may conclude that at least ἀνδράσι and θυγατράσι were normal vernacular forms, all the more so since Homer only uses θυγατέρεσσι.[990] The Mycenaean form *tu-ka-ṭọ-ṣị* or *tu-ka-ṭạ-ṣị* (MY Oe 112.2) is badly readible; the latter reading is preferred by the majority of scholars, but it would be imprudent, as Haug remarks (2002: 59), to base any theory upon this form.[991]

It is possible that Hom. ἀστράσι and ἀνδράσι show the regular development of a pre-form with Epic **r̥*, in view of their respective dactylic pre-forms **astr̥si* and metrically lengthened **ānr̥si* for tribrachic **anr̥si* (see chapter 7). In the vernacular, forms like ἀνδράσι and θυγατράσι are hardly probative for the development of **r̥* either, because the other case forms of the plural (apart from the Np.) inherited a zero grade of the suffix (cf. Ap. ἄνδρας, θύγατρας, Gp. ἀνδρῶν, θυγάτρων). It is therefore likely in any case that an outcome -αρ- would have been replaced with -ρα-, so as to avoid stem-final alternations.

For the same reasons, no conclusions can be based on the Dp. of 'four'. Classical Attic has τέτταρσι, and Ionic and the Koine have τέσσερσι; both forms may have been analogically influenced by the Np. τέτταρες or τέσσερες, respectively. Besides, a relic form τέτρασι is attested in Early Greek Epic (Hes. fr. 294.2, Aegimus fr. 5.2) and in Pindar. This form must be the outcome of Proto-Greek **k^{w}etwr̥si* > **k^{w}etr̥si* (see section 2.5), with Epic **r̥*. Since the vocalization to -αρ- was posterior to the loss of **-w-* in front of **r̥*, the Attic Dp. τέτταρσι cannot be the regular outcome of **k^{w}etwr̥si*. It is possible, however, that the reduced Dp. form **k^{w}etr̥si* first yielded **k^{w}etarsi* in the Proto-Ionic vernacular, and that **-ts-* was subsequently introduced from the Ns. **k^{w}etseres* < **k^{w}etweres*. If Att. τέτταρες generalized the vocalism of the Dp., this could explain the difference with the Ionic and Koine form τέσσερες.[992] It is hard to exclude, however, that the vocalization **k^{w}etr̥si* > **k^{w}etarsi* was influenced by forms with a full grade, notably the **k^{w}etwer-* underlying τέσσερες.

9.1.4 γράσος and γράω

It has been proposed that the substantive γράσος 'smell of a he-goat' (Eupolis, Ar., etc., mostly with sexual connotations) derives from the same root as γράω 'to eat' (cf. *DELG* s.v. γράσος). For the semantics, it is noted that the formally comparable τράγος 'he-goat' (*Od*.+) is also attested in the meaning 'smell of the he-goat'. Since this word is usually analyzed as a zero grade **tr̥g-o-* to τρώγω 'to eat, gnaw, devour', γράσος is supposed to continue an earlier **gr̥s-o-* 'grazing', lexicalized as 'he-goat'.

It must be stressed, however, that the precise reconstruction of the ablaut between τρώγω and τράγος remains unclear (see section 9.4.1). This casts doubts on the reconstruction

[990] Note that the Dp. forms in -Cράσι cannot be used as evidence for an accent-conditioned development of **r̥*. At first sight, one could think that ἀνδράσι and ἀστράσι preserve the PIE accent, in view of Vedic *pitŕ̥bhyas* (RV), *pitŕ̥ṣu* (AV) and *nŕ̥ṣu*. But this is not certain, because the accent of the Greek forms could theoretically also be due to Wheeler's Law (retraction to the penultimate in a word of dactylic metrical structure), in which case the development would be PGr. **patr̥sí* (with the normal accentuation on the Lp. ending) > **patrasí* > πατράσι. Columnization of the accent after the other case forms (cf. πατέρες, πατρῶν) cannot be excluded either, neither in Greek nor in Vedic. Cf. the discussion in Meier-Brügger (1992b), which does not lead to a clear result.

[991] Meier-Brügger (1992b: 388), Hackstein (2002: 6) and Manolessou & Pantelidis (2011: 370) base their arguments on the Mycenaean form. But since there is no further reliable evidence for *-ar-* as a Mycenaean reflex of **r̥* (see section 2.1), the form is best left aside.

[992] See Stüber (1996: 117-8). With McCone (1993: 54), she assumes that the suffix allomorph -αρ- in τέσσαρες originated in the dative. But neither of them explains why we find the outcome -σσ-, -ττ- < **-tw-* in this form, rather than the expected reduction **-tw-* > *-t-*.

of *$\mathring{r}$ in τράγος, and thence also on the former presence of *$\mathring{r}$ in γράσος.[993] Moreover, the assumed semantic development is possible, but by no means compelling, and the word belongs to a peculiar register. Finally, an important question is whether γράω can be derived from a zero grade *$g\mathring{r}s$-*e/o*- at all. In order to answer this, a brief discussion of its attestations is necessary.

The impv. 2s. γράσθι is only attested as *ka-ra-si-ti* in the Cyprian syllabary. The inscription where this form occurs (Masson, *ICS*^{2} 264) starts with *ka-i-re-te* : *ka-ra-si-ti* : [*wa*]-*na-xe* : *ka-po-ti*, which Masson interprets as follows: Χαίρετε. Γράσθι, [ϝά]ναξ, κὰ(ς) πῶθι, "Hail! Eat, Lord, and drink!".[994] Furthermore, the gloss γρᾶ· φάγε. Κύπριοι (Hsch.) deserves to be taken seriously, because it again points in the direction of Cyprus.[995] Finally, ἔγραε is attested in Call. *fr*. 551 (Pfeiffer), καὶ γόνος αἰζηῶν ἔγραε κηδεμόνα. This form is traditionally analyzed as an imperfect, but in view of the absence of further context, a thematic aorist cannot be excluded. Note that γρᾶ· φάγε is glossed as an aorist, and that γράσθι also seems to be an aorist in view of the conjunction with the root aorist /pōt^{h}i/.[996]

The verbal root also underlies γαστήρ, Gs. γαστρός, secondarily also -έρος (*Il*.+) 'belly'. The pre-form underwent dissimilatory *r*-loss, probably in forms with γραστρ-, with a zero grade suffix (Vine 2011). The non-epic paradigm is N. γαστήρ, A. γαστέρα, G. γαστρός, D. γαστρί, which is the expected outcome of a PIE hysterodynamic paradigm of the type πατήρ.[997] Such a preservation of PIE ablaut is rare in Greek: it was leveled out in the types σωτήρ, σωτῆρα and ποιμήν, ποιμένα. This suggests that γαστήρ is an inherited word;[998] it is commonly reconstructed as PIE *$g\mathring{r}s$-*tḗr*, G. *$g\mathring{r}s$-*tr-ós*.[999] The etymological appurtenance of γράστις 'green fodder' (pap. 3rd c. BC) to the above forms is doubtful.[1000]

Thus, the Cyprian imperative forms, the Callimachean indicative, and the substantive γαστήρ can be reconciled with a verbal root *gras-C-*, **grah-V-*. Since both Cypr. γράσθι and γαστήρ preserve archaic morphology, an IE origin of this root should be seriously considered. How should we reconstruct the Proto-Greek form? There are no clear instances of *-ra-* < *$\mathring{r}$ in Cyprian, but we do have a few reasonable instances of *-ro-* or *-or-* < *$\mathring{r}$ (section 3.5). Therefore, a reconstruction PGr. *$g\mathring{r}s$- is at least questionable. Since the existence of a

[993] Hackstein (1995: 180) reconstructs the root as *trh_3g-, but the laryngeal seems to be based only on the Greek present τρώγω. If this is correct, the Greek them. aorist τραγεῖν would have to be an innovation. Was τραγεῖν (beside pres. τρώγω) influenced by the older thematic aorist φαγεῖν?

[994] Similar zero grade imperative forms are φάθι 'speak!' < *$b^{h}h_2$-$d^{h}i$, ἴσθι 'know!' < **uid*-$d^{h}i$, and especially ἴσθι 'be!' beside Av. *zdī* < PIE *h_1s-$d^{h}i$. And note also the imperative *h_1*(e)d*-$d^{h}i$ 'eat!' presupposed by ἐσθίω.

[995] On the other hand, the formation and dialectal origin of γραίνειν· ἐσθίειν (Hsch.) remain unclear. It is perhaps conceivable that the present γραίνω arose in Cyprian beside the contracted aorist form ἔγρᾱ, by analogy with pres. βαίνω : aor. ἔβᾱ (for the semantics, not that cattle either walks or grazes). Another possible formal comparandum is δραίνω, a by-form of the normal present δράω 'to do, perform'.

[996] The thematic imperative γρᾶ < **gra(h)e* could be a replacement of the older form γράσθι on the basis of the indicative ἔγραε. However, the dialectal origin of ἔγραε cannot be ascertained.

[997] The Gs. γαστέρος occurs only once in Homer, the Ds. γαστέρι only 6x in Homer, 1x Hes., 1x E. These by-forms were clearly devised for metrical reasons. Note that the As. γαστέρα is frequent in the fifth foot (κατὰ γαστέρα τύψε *Il*. 17.313, βάλε γαστέρα μέσσην *Il*. 13.506), like the Ds. γαστέρι (μέσῃ δ' ἐν γαστέρι πῆξε(ν) *Il*. 13.372 = 398).

[998] Beekes' objection to this etymology that "a belly does not eat" (*EDG* s.v. γαστήρ) is not to the point: the Greek evidence, starting with Homer, shows that a γαστήρ is often a gluttonous or craving stomach, and typically envisaged as something on which a man may become dependent (hunger, gluttony). Szemerényi's suggestion to connect the Callimachean word γέντα 'sacrificial meat, innards' (retained as an alternative to the traditional etymology by Beekes, *EDG* s.v. γαστήρ) does not explain the formation of γαστήρ (agent noun), and is therefore best discarded.

[999] But if the reconstruction of γράω as *$\acute{g}r\mathring{n}s$- is correct (see below), γαστήρ must be reconstructed as *$\acute{g}r\mathring{n}s$-*tēr*.

[1000] The oldest attestations of this word present a by-form κράστις (Ar.). Frisk (s.v. γράω) suggests that κρ- may be folk-etymological after an unknown word, but this assumption is gratuitous (see *DELG* s.v. γράω, with further discussion). The fact that κράστις has the older attestations rather suggests that γράστις was due to folk-etymological connection with γράω.

phoneme **a* in PIE is also doubtful (Lubotsky 1989), the only remaining option is to reconstruct the pre-form of Greek *gras*- as PIE **ǵr̥ns*-.[1001]

This suggestion seems to be confirmed by the etymological comparanda of γράω. The only serious candidate is Ved. *gras*- 'to devour, digest', attested in *grásetām* (3du. impv. pres. mid.), *jagrasāná*- (ptc. pf. mid.), *grasitá*- (*ta*-ptc.), *grásiṣṭha*- (superlative, 'devouring most').[1002] It is remarkable, first of all, that the root is non-ablauting. From a root **ǵres*-, Sanskrit would normally form a middle perfect $^{++}$*jāgr̥sāná*- and a *ta*-ptc. $^{++}$*gr̥ṣṭá*-, with zero grade root. Thus, Vedic points in the same direction as Greek: a root **ǵr̥ns*- which only occurred in the zero grade.[1003] In an ideal situation, the primary aspect of this verbal root would provide information about the origin of the zero grade, but unfortunately the primary formations are difficult to reconstruct.[1004]

Given that a non-ablauting Proto-Greek root **gr̥ns*- (or **gras*-) is the most likely option, it appears impossible to explain the retention of intervocalic -*s*- in γράσος, as opposed to its lenition in ἔγραε and γρᾶ· φάγε. Therefore, neither γράω nor γράσος, whatever its exact origin, can be used in the present discussion.

9.1.5 ταρσός and τρασιά, ταρσιή

The verb τέρσομαι 'to become dry' is rare in Greek, being attested only in Homer, together with an intr. aor. inf. τερσῆναι, τερσήμεναι (both 1x). This aorist must be a recent reshaping in view of its full grade root.[1005] The normal verb in Classical Greek is ξηραίνω 'to dry'. The question is, now, what weight should be attached to the following forms with -αρ- or -ρα-.

Ion. ταρσός (m.), Att. ταρρός has a wide range of concrete meanings, which can be divided into two general categories: 1. '(plaited) rack for dehydrating and drying cheese, etc.' (*Od*. 9.219, Theoc.), 'plaited tube, mat of rushes, kind of flat basket' (Hdt., Th., Ar.), 'entangled roots forming a network' (Thphr.). 2. 'sole of the foot' (*Il*. 11.377 and 388, Hdt., Hp.), thence a designation of all kinds of flat objects like 'blade, rudder, row of oars' (Hdt., Th., E.+). The appurtenance of all these words to the root **ters*- is clear: in meaning 1. ταρσός could refer to any kind of object made of dried materials, especially to plaited wickerwork,

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[1001] The present argument does not change if one does wish to reconstruct the root as PIE **gras*- (e.g. Sihler 1995: 153). It is perhaps better to reconstruct a root-initial palatovelar **ǵ*-, which underwent depalatalization in front of *r* in Indo-Iranian.

[1002] The material is discussed by Kümmel (2000: 166), as well as in the *LIV*^{2} (s.v. **gres*-). The later Skt. causative *grāsaya*- (Br.+) is an innovation with productive *ā*-vocalism of the root. Chantraine (*DELG* s.v.) speaks of a "vieux mot populaire", which he reconstructs as **gras*-, including also Lat. *grāmen* 'grass'. However, the concept of "mots populaires" is questionable, and the reconstruction of PIE **a* is doubtful as well (see above). As an alternative, Lat. *grāmen* could also be compared with the Germanic verb PGm. **grōan*- 'to grow' (de Vaan, *EDL* s.v. *grāmen*). The reconstruction *γρά-jω assumed by Manolessou & Pantelidis (2011: 369) is unmotivated.

[1003] Kümmel (*LIV*^{2} s.v. **gres*-) remarks that "Gegen Nasal spricht jedoch *grásiṣṭha*-", but one wonders whether this superlative is an old formation. It is impossible to explain the Vedic evidence by "Narten" ablaut (i.e. an upgrade of the normal PIE ablaut scheme **e* / Ø to **ē* / *e*), because the Greek *a*-vocalism would remain unexplained.

[1004] The coexistence of middle present and middle perfect forms in Vedic could point to an older intransitive verb meaning 'to devour, digest grass'. This would harmonize with Gr. γαστήρ, as an organ that habitually digests. However, Cypr. γράσθι seems to be the 2s. impv. **ǵr̥ns-d^{h}i* of a root aorist, with the zero grade of the root expected in such a formation. As for other roots in the same lexical field, the regular PIE present in the meaning 'to eat' was clearly **h$_1$ed-mi*. The normal Greek aorist φαγεῖν 'to eat' had a different meaning in PIE (cf. Ved. *bhájati* 'to share, apportion'). However, if one wishes to assume that **ǵrns*- formed a primary aorist in the meaning 'to eat up, consume, devour', it must be taken into account that there are other root aorists with this meaning: Ved. *ághas*, 3p. *ákṣan* (< **g^{wh}es*-, but only attested in Indo-Iranian) and PIE **g^{w}erh$_3$*- 'devour'. There may have been semantic nuances that can no longer be recovered.

[1005] The intransitive verbal semantics match the *u*-stem adjective attested in other IE languages (Ved. *tr̥ṣú*- 'greedy', Av. *taršu*- 'dry', Goth. *þaursus* 'dry', G. *dürr*).

and meaning 2. ‘sole of the foot’ is in my view best derived from ‘callous skin’, rather than from ‘flat object’ (as assumed by Frisk and *DELG*, q.v.).[1006] The zero grade formation **tr̥s-ó-* looks archaic, which is confirmed by its wide semantic range in Greek.[1007] The same IE verbal root served as a basis for Arm. *t‘ar* ‘stick for drying grapes etc.’ < **tr̥s-* and OHG. *darra* ‘rack for drying fruit or grains’ < **tors-eh₂-*.

A second etymon containing the zero grade root is the rare word τρασιά (Eup., Ar., S.), ταρσιή (Semon.) ‘hurdle for drying figs, dried figs; place for drying cereals’.[1008] The oxytone suffix -ιά (see Chantraine 1933: 82, Risch 1974: 116-7) creates substantives which refer to a collection of objects, or to a place where they are collected.[1009] Both semantic interpretations are possible for τρασιά: its base form **tr̥só-* may have referred either to the dried aliments themselves (figs, grains, etc.), or to the baskets or items of wickerwork that were kept in a storage place (cf. ταρσός, meaning 1).

Although τρασιά is attested only in poetic authors in the Classical period, it looks like an Attic vernacular word because it is attested in comedians. It seems attractive, then, to assume that τρασιά is the regular outcome of **tr̥s-iā́-*, and that ταρσιή had its vowel slot restored after the verbal root. The same analogical restoration would then have taken place in ταρσός. It must be objected, however, that τέρσομαι is not a productive verb anymore in Ionic-Attic, where it had been replaced by ξηραίνω. Moreover, the meaning of ταρσός ‘sole of the foot, blade, rudder’ was without a doubt hard to connect with that of τέρσομαι ‘to dry’ already for speakers of Proto-Ionic, while τρασιά is still semantically and morphologically perspicuous as a “place for dry storage”.[1010] In other words, given the semantic isolation of ταρσός, it is problematic to assume that a pre-form *τρασός was influenced by τέρσομαι, and that τρασιά escaped this influence.[1011]

The possibility may therefore be envisaged that τρασιά, which in the Classical period is attested in poetic authors only, is originally an Epic word which was superficially Atticized only in its suffix -ιά. Note that Homer attests a large number of nouns in -ιή (Risch, l.c.), and that this formation yielded convenient dactylic forms if the root ended in a short vowel plus a single consonant. There would be a clear motivation for retaining **tr̥siā́-*: just like καρδίη, the vernacular form ταρσιή would have been ill-suited to the metrical demands of dactylic poetry. Drying hurdles are mentioned in Epic Greek, as becomes clear from the appearance of ταρσός in the Cyclops-episode of the *Odyssey*.

Thus, there are two possible ways out of the dilemma sketched above. If one accepts that -ρα- was the conditioned outcome of **r̥* in front of **s*, on account of τρασιά, then it must

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[1006] “Die auffallende Bedeutungsverschiebung zu ‘Fussblatt usw.’ ist von der flachen Gestalt der betreffenden Gegenstände ausgegangen. Sie wurde dadurch erleichtert, dass das primäre Verb der poetischen Sprache vorbehalten blieb und in der Prosa von anderen Ausdrücken für ‘trocken’, z.B. ξηραίνω, ersetzt wurde” (Frisk, s.v. ταρσός).

[1007] For the zero grade **tr̥s-ó-*, cf. other inherited formations like ζυγόν ‘yoke’, καρπός ‘harvest’. In the present context, it is interesting that τέρσομαι itself has lost all traces of ablaut: the intr. aor. is τερσῆναι ‘dry up’, and the aorist τέρσηνε (*Il.* 17.529) was, as a factitive formation in -αίνω, clearly built on the middle present τέρσομαι (semantically close is θέρμετο ‘became warm’ : θερμαίνω ‘to heat’, and cf. also ὑδραίνω, αὐαίνω, ξηραίνω). This supports a relatively high antiquity of the zero grade derivative **tr̥s-ó-*.

[1008] Aelius Herodianus also has θαρριά· τρασιά, which must be due to a folk-etymological connection with θάρρος ‘endurance’. The gloss ταρσῆται· ἀγγεῖα, ἐν οἷς οἱ τυροὶ ψύχονται ‘vessels for keeping cheese cool’ (Hsch.) seems to presuppose an agent noun ταρσήτης “dryer”.

[1009] In Homer, a collective meaning is found in πρασιή ‘garden bed with leeks’, λοφιή ‘back bristles of a boar’, ἀχυρμιαί ‘heap of chaff’, σποδιή ‘heap of ashes’, ἀνθρακιή ‘heap of glowing coals’. Other forms refer to a location, e.g. σκοπιή ‘lookout place’, ἐσχατιή ‘boundary, extremity’.

[1010] “Die auffallende Bedeutungsverschiebung (…) wurde dadurch erleichtert, dass das primäre Verb der poetischen Sprache vorbehalten blieb und in der Prosa von anderen Ausdrücken für ‘trocken’, z.B. ξηραίνω, ersetzt wurde” (Frisk, s.v. ταρσός).

[1011] It is futile to discard the reconstruction **tr̥só-* in favor of a different pre-form like **tr̥su̯-ó-*, as is done by Forbes (1958).

be accepted that ταρσός contains the restored outcome of *$\underset{\circ}{r}$. This is problematic in view of the various lexicalized meanings of ταρσός. On the other hand, if one accepts that the poetic word τρασιά could be of Epic origin, then ταρσός may simply contain the regular outcome -αρ- < *$\underset{\circ}{r}$, also in front of *s. I prefer the second option.

9.1.6 τρήρων

The noun τρήρων means 'timorous, shy, easily frightened' in Ar. *Pax* 1067, where it is an epithet of κέπφοι, a species of waterbirds. In Homer, it only occurs in combination with πέλεια or πελειάς 'pigeon' (τρήρωνα πέλειαν *Il*. 22.140, 23.853, 855 and 874, *Od*. 20.243, πέλειαι τρήρωνες *Od*. 12.62-3, τρήρωσι πελειάσιν *Il*. 5.778). At first sight, it seems that τρήρων is an adjective, but this would be morphologically difficult because barytone nouns in -ων- refer to individuals with a characteristic adjectival property (cf. the overview in Risch 1974: 56). Moreover, the existence of a substantive τρήρων 'pigeon' is implied by πολυτρήρων (*Il*.) 'rich in pigeons'. It is therefore likely that the simplex τρήρων was the original word for 'dove, pigeon', and that πέλεια is an old feminine of the adjective for 'grey' (thus also Frisk, s.v. πέλεια) which had taken over the function of τρήρων 'pigeon' already before Homer.

It is clear that τρήρων derives from the root of τρέω 'to flee from, be afraid of, shy away' (cf. Ved. *trásanti* 'they tremble, quiver') as *$\underset{\circ}{t}$*rs-ró-* 'frightened, timorous' > **trasró-* > **trāró-*.[1012] Note that *ró*-adjectives could be derived from intransitive verbal roots. From **trāró-*, a derivative **trā́rōn* 'shy guy' could be productively derived (cf. e.g. στραβός 'squinting' → στράβων 'squinter'). The reconstruction **trāró-* is confirmed by the glosses τρηρόν· ἐλαφρόν, δειλόν, ταχύ, πλοῖον μικρόν "nimble, weak, quick, a small vessel", τραρόν· τ<ρ>αχύ, and ταρόν· ταχύ (all Hsch.). The latter two prove the etymological *-*ā*-.[1013]

Since -αρ- was the normal, regular outcome of *$\underset{\circ}{r}$, it may be wondered whether *-*ra*- in **trahró-* < **trasró-* is due to a conditioned development, in front of either *s or *h. This depends on one's opinion about the first compensatory lengthening affecting original *-*Rs*- and *-*sR*-: did it pass through an intermediate stage with *-*hR*-, or was there only an intermediate stage with geminates? This difficult issue cannot be treated in detail here, but a special development *$\underset{\circ}{r}$ > -ρα- in front of *h would be phonetically conceivable, and paralleled by τραυλός 'stammering', if this indeed continues PGr. **t$\underset{\circ}{r}$s-u-ló-*.

For purposes of relative chronology, it is interesting that τρηρός < **trasró-* took part in the first compensatory lengthening. This could imply that the vocalization of *$\underset{\circ}{r}$ took place before the completion of this sound change, at least in this environment but perhaps also more generally. If there was an intermediate stage with *-*hr*-, the vocalization of *$\underset{\circ}{r}$ would have to pre-date the elimination of -*h*- in this position. However, we have to be careful not to draw any rash conclusions, because a pre-form **t$\underset{\circ}{r}$hro-* would contain a highly specific phonetic environment where a vocalization to *-ar*- (yielding **tarro-*?) would hardly have been an option. Furthermore, the present **trehō* > Hom. τρέω 'to be scared, flee' may have influenced the place of the vowel. Finally, it must be asked what the pre-form of Hom. ἀρνειός 'ram' (Att. ἀρνεώς) was. If this form derives from **w$\underset{\circ}{r}$sn-ē$\underset{\frown}{i}$-ó-*, as seems probable in view of Ved. *v$\underset{\circ}{r}$ṣṇí-* 'ram', this would show that the pre-form **w$\underset{\circ}{r}$hnē$\underset{\frown}{i}$ó-* regularly developed to

[1012] Cf. *LSJ* (s.v. τρήρων), Beekes (*EDG* s.v. τρήρων).

[1013] In τραρόν· τ<ρ>αχύ, the form τραχύ found in the ms. may be due to contamination with the definiendum τραρόν. On the other hand, ταρόν· ταχύ may be a case of dissimilation. In view of these glosses as well as the etymological analysis, the occurrence of τρήρων in Ar. *Pax* 1067 (with -η- even after ρ in Attic) must be an epicism. This is confirmed by the fact that Aristophanes uses Homeric phraseology in τρήρωνι πελείῃ (*Av.* 575), with the Epic Ds. fem. in -είῃ.

**war(h)nēi̯ó-*, and that in **tr̥hro-* > **trahro-* the vowel slot was indeed influenced by the verbal root **treh-*.[1014]

9.1.7 Uncertain and irrelevant evidence for -αρσ- and -ρασ-

The reconstruction of ἄρσην ~ ἔρσην is only of minor importance for determining the development of **-r̥s-*. In inscriptions, ἔρσην is attested in Lesbian, Kos, Gortyn, Messenian, Epidauros, Cyrene, and Elis.[1015] Herodotus has ἔρσην, but since Eastern Ionic inscriptions otherwise have ἄρσην, this form could be ascribed to the influence of neighboring Doric dialects (Kos, Rhodos) on the Ionic of Halikarnassos. The form ἄρσην is found in Homer, literary and epigraphic Attic, Koine, and dialectally in Arcadian and Ionic inscriptions (Miletus, Thasos). It seems, then, that Proto-Ionic had ἄρσην.

Since a zero grade reflex ορσεν is attested in Thessalian (García Ramón 2007c) beside ἔρσην in Lesbian, and since West Greek has ἔρσην, the ablaut must have been preserved into Proto-Aeolic (and, a fortiori, in Proto-North Greek after the split with South Greek). This means that Proto-Ionic may have had ablaut, too. No matter what the regular outcome of **-r̥s-* was, Proto-Ionic ἄρσην may have been influenced by the full grade form.

Traditionally, the side-by-side of Ved. *vr̥ṣabhá-* and *r̥ṣabhá-* has been taken to point to two etymologically distinct *n*-stems **urs-n-* and **$h_1$rs-n-* (cf. Peters 1993b). But recently, Pronk (2009: 179) has convincingly argued that PIE had just one adjective: "Ns. **uersēn*, As. **ursen-m*, Gs. **urs-n-os* 'male of an animal' (…) This word also occurred as the second part of the compound **g^wh_3u-ursēn* 'bull' (or perhaps, with a full grade, **g^weh_3u-ursēn*), which is preserved in Tocharian and Germanic. In Greek, Indo-Iranian and Armenian, the second part of the compound was wrongly analyzed as **-rs-ēn* and started to lead an independent life". Pronk's idea allows us to explain all Greek forms from one basic ablauting paradigm without initial digamma.

For the adjective ἐπικάρσιος 'transverse, crosswise', which contains -σι- < **-ti-*, see section 9.4.

Although πράσον 'leek' does not occur in Homer, its derivative πρασιή is attested in the *Odyssey* in the meaning 'garden bed' (i.e. "place where leeks or similar plants are grown").[1016] Itself, πράσον first occurs in Attic comedy (e.g. Ar., further in Hp., Thphr.). The plant πράσον is often mentioned together with γήθυον, γήτειον 'onion', which is a clear substrate word in view of the variation in the dental stop and the suffix (Beekes, *EDG* s.v.).[1017] On the basis of Greek πράσον and Lat. *porrum* 'leek', a pre-form **pr̥so-* could be reconstructed.[1018] The etymological dictionaries (Frisk, *DELG*, *EDG* q.v.) doubt the value of this etymology, in view of the possibility that the word was borrowed in the Mediterranean, together with the plant. I will therefore not use πράσον as evidence.

An interesting new perspective on πράσον has recently been opened by Wachter's etymology for Persephone.[1019] Wachter remarked that the oldest Attic form of Persephone is probably Περροφαττα, which is attestated on Attic vases (see Wachter 2006: 139-40). He

[1014] I leave aside the problem of the lacking reflex of initial digamma in Homer, which may be solved either by assuming that ἀρνειός was introduced from the Ionic vernacular (see Frisk s.v.), or by assuming influence of ἄρσην.

[1015] Though see the doubts on the dialectal authenticity of this form in Minon 2007: 200-201.

[1016] Πρασιαί also occurs as a toponym in Laconia and is the name of an Attic deme. Oxytone nouns in -ιή are frequent in Homer; other examples are given by Risch (1974: 116-7).

[1017] It is not certain, in my view, that 'leek' was the original meaning: πράσον may perhaps have denoted a different species of culture plant. Similarly, MoE. *leek* is related to G. *Lauch*, Du. *look*, which originally denote any kind of plant that can be peeled (cf. *Knoblauch*, *knoflook*).

[1018] The original accentuation cannot be reconstructed, because Greek neuters regularly bear recessive accent.

[1019] See Wachter (2006), and also the email discussion on:
http://klaphil.unibas.ch/fileadmin/klaphil/user_upload/redaktion/idg/Persophatta.pdf.

derives this form from PGr. **perso-k^{wh}ŗ̥t-i̯a*, which would mean 'threshing ears of grain'. The phraseology contained in this name is matched exactly in Indo-Iranian (Ved. *parṣáṅ práti hanmi* "I crush [my enemies] in heaps", RV 10.48.7, Av. *paršanąm nijatəm hiiāṯ* "when someone threshes ears of corn" (see the discussion in *EWAia* s.v. *parṣá-*). Greek Περροφαττα now seems to prove that the syntagm **persó- *g^{wh}en-* is of PIE origin. As Wachter shows, the original meaning of **g^{wh}en-*, at least with agricultural products as an object, may well have been 'to strike repeatedly, thresh'. In Greek, a further trace of this meaning is preserved in μυληφάτου ἀλφίτου ἀκτῆς "mill-crushed grain of barley" (*Od.* 2.355).

The question remains, however, what the original meaning of **persó-* is. Wachter follows a suggestion by Weiss to compare **persó-* with the neuter **pr̥so-* that is allegedly reflected in Lat. *porrum*, Gr. πράσον 'leek'. Although a number of interesting observations have been made by the contributors to Wachter's email discussion, it seems unlikely that the leek was cultivated early enough outside of the Near East to justify an Indo-European etymology. If πράσον is a loanword, we do not know whether it was borrowed in the form **pr̥so-* or **praso-* (after the lenition of intervocalic *s* to *h*).[1020] For the latter option, we may compare κέρασος 'cherry', another culture word ending in -ασο- that cannot be reconstructed for PIE.

The neuter φάρσος 'quarter, part of a city' (Hdt. 1.180f. and 186, said of Babylon, which is divided in two parts by the Euphrates) is found in various other meanings in later authors ("any piece cut off or severed", *LSJ*). Beekes (*EDG*, q.v.) accepts the comparison with Hitt. *parši-$^{a(ri)}$*, *parš-$^{a(ri)}$* 'to break', *parša-* 'morsel, fragment' which is cited with some hesitation by Kloekhorst (*EDHIL*, q.v.).[1021] But in my view, this etymology is too uncertain, and I prefer to consider φάρσος a loanword.

9.1.8 Conclusions on **-r̥s-*

There is not much evidence for regular **r̥* > -ρα- in front of a sibilant in the Proto-Ionic vernacular. No conclusion can be based on Dp. forms like τέτρασι, ἀνδράσι, ἀστράσι, where we may either assume analogy after the Ap. and Gp., or a pre-form with Epic **r̥*. The forms πράσον, γράσος, φάρσος cannot be relied upon, and ἄρσην may have an analogical vowel slot. The only two suggestive cases for **r̥* > -ρα- in front of -σ- are θρασύς and τρασιά.

From the point of view of lexical semantics, however, ταρσός is a much better candidate to contain the unrestored outcome of **r̥* than τρασιή. To assume that the lexically completely isolated form ταρσός underwent an analogy with τέρσομαι 'to dry', and that the perspicuous derivative τρασιά 'drying place' did not undergo this analogy, stretches the imagination. It is more probable, in my view, that Ion.-Att. ταρσός and Ion. ταρσιή contain the regular outcome of **-r̥s-*, and that the rare poetic word τρασιά was taken from the Epic tradition. If one is inclined to defend a conditioned reflex **r̥* > -ρα- in front of -σ- on the mere basis of τρασιά and θρασύς, a phonetic motivation for the different treatment would have to be supplied.

If we suppose that the derivation of τραυλός 'stammering' from **tr̥s-u-ló-* 'dried up' is correct, it is the only compelling piece of evidence for the participation of **-r̥sV-* in the early Greek lenition of intervocalic **-s-*. The evidence for retained **-r̥s-* can indeed be explained by analogy (e.g. PGr. **t^{h}r̥su-* restored after **t^{h}ersu-*), or by assuming lexical borrowings (e.g. πράσον). Furthermore, since the lenition of intervocalic **-s-* was certainly older than the

[1020] Ringe (1989: 142-43) suggests that πράσον was borrowed into Greek in the form **pr̥so-* after the lenition of intervocalic **s*.

[1021] "The most promising etymology (…) is a connection with Hitt. *parši-$^{a(ri)}$*, *parš-$^{a(ri)}$* 'to break', *parša-* 'morsel, fragment', if we assume that in a zero grade **b^{h}rs-o-*, the *-s-* was preserved between vocalic resonant and vowel. The Hitt. word is compared with the Gm. group of ON *bresta*, OHG *brestan*, OE *berstan* 'to burst'. Within Greek, we find a verbal form φάρσαι = σχίσαι (*EM*)" (Beekes, *EDG* s.v. φάρσος).

vocalization of *$r̥$, and since the full grade root was *ters-, ταυλός would prove a conditioned vocalization *$r̥$ > -ρα- in front of *-h-. Although I find de Lamberterie's etymology of ταυλός promising, it must be stressed that a number of issues depend on this single example, and that it would be the only reason to assume a conditioned development *-$r̥$hV- > *-rahV-. Since we cannot exactly determine the phonetic situation of Proto-Ionic, it is hard either to exclude or bolster this specific change with phonetic or typological arguments.

9.1.9 Excusus: Attic πόρρω

As was remarked in section 1.3.1, the only potentially promising example of a vernacular reflex -ορ- in Attic is πόρρω 'further' (X., com., Pl.), πόρσω (Pi., trag., Th.).[1022] A denominative verb πορσύνω, πορσαίνω 'to prepare, provide for, arrange, etc.' is attested in poetry (Hom.+, Pi., trag.).[1023] Homer has πρόσω 'forward, further' (5x, also in Hdt.) and πρόσσω (13x), but does not attest πόρσω (except indirectly in πορσύνω, πορσαίνω). Class. πόρρω (πόρσω) and Hom. πρόσ(σ)ω must be the same word in origin (cf. *DELG* s.v. πόρσω, *pace* Frisk), as is shown by their complementary dialectal distribution and identical semantics. In fifth century Greek, πρόσω is regular in Ionic (Herodotus, Hippocratic corpus), whereas Attic only has it in the tragedians and in Xenophon. Therefore, πόρρω was without a doubt the Attic vernacular form.[1024]

It has been proposed that the variation between Attic πόρρω and Ionic πρόσω is due to liquid metathesis (e.g. *DELG* s.v. πρόσω), but this remains pure speculation (see section 1.4.2). It is also difficult to explain the vocalism of πόρσω from an *o*-grade.[1025] Since Hom. πρόσω is always used in front of a consonant (with *McL* scansion), the word is a good candidate to derive from a pre-form *$pr̥t̂iō$.[1026] We therefore have to ask whether the vernacular form πόρρω (πόρσω) may also derive from *$pr̥t̂iō$.[1027] If this is indeed the case, the only feasible conditioning factor for the *o*-vocalism of πόρρω would be the preceding labial consonant.

[1022] Pindar also uses πόρσιον 'farther', πόρσιστα 'farthest', recently created grades of comparison of the adverb.

[1023] The verb is not attested in comedy, nor in prose, except for the usual suspects of high-register vocabulary (Herodotus, Xenophon). In Epic Greek, ἀρτύνω, ἐντύνω, ἀλεγύνω and πορσύνω all share the basic meaning 'to arrange, prepare'. Since there is no derivational motivation for the suffix -ύνω in πορσύνω, it was clearly influenced by this small group. The same has been proposed for ἀλεγύνω (*DELG* s.v. ἀλέγω); ἀρτύνω also seems secondary beside the expected formation ἀρτύω. This means that πορσαίνω (fut. πορσανέουσα *Il.* 3.411, v.l. πόρσαινε for πόρσυνε *Od.* 7.347) must be the older form of the verb.

[1024] Thucydides uses πόρσω, never πρόσω. The form πόρσω is found in Pindar, Euripides, and Sophocles, but not in Aeschylus. All these authors also attest πρόσω. While both πρόσω and πόρσω are used in poetry, it is further noteworthy that the latter is restricted to lyric poetry. This could suggest that πρόσω originated in Epic Greek, and that πόρσω originated in the parallel lyric tradition.

[1025] In the meaning 'forward' PIE had *$pr̥$ and *pro, but not *por-. Moreover, to assume an *o*-grade *por- would entail that Proto-Greek had two formations for what is clearly the same word.

[1026] For further argumentation in favor of this conclusion, see section 9.1.9. Forssman (1980) has shown that the development of PGr. intervocalic *-rt̯- in Hom. ἔρρω 'to get lost' < *$wert̂iō$ was different from that of PGr. intervocalic *-rs- (preserved in Homer as -ρσ-). This implies that the form πόρσω (as attested e.g. in Pindar) cannot be derived from *$port̂iō$. On the other hand, if πόρσω derives from *$pr̥t̂iō$, we may assume that *-$r̥t̯$- behaved differently from intervocalic *-rt̯-. This is not contradicted by literary Doric κάρρων < *$kr̥t̯iōn$, because the precise dialectal origin of this form is unclear, and it could stem from a dialect in which -ρρ- and -ρσ- had merged. Thus, unless one is prepared to assume a liquid metathesis, the form πόρσω itself points to a pre-form *$pr̥t̂iō$, or else its origin must remain unclear.

[1027] The comparison of Att. πόρρω with Lat. *porrō* (e.g. Frisk s.v.) is probably illusory, because it does not explain the other Greek forms. An alternative explanation for *porrō* has been proposed by Nussbaum (cited in de Vaan *EDL* s.v. *por-*).

It is very unlikely, however, that -ορ- was regular after any labial consonant: in that case ἁμαρτεῖν, μάρναμαι, βραδύς, and βραχύς could not be explained in a regular way.[1028] In order to save the idea, we have to restrict the conditioning environment to the position after a bilabial stop (**p* or **p*^{h}). In that case, all potential counterexamples could be explained away. The Homeric aorist ἔπραθον (beside πέρθω) must have the reflex of Epic **r̥* anyway (plus introduction of the normal *a*-vocalism in the aorist; see chapter 8). For Hom. πραπίδες, one could argue that Balles' derivation from **pr̥ku̯-íd-* 'rib cage' is not quite certain (see section 9.4.1). Finally, πράσον might be a borrowing (see 9.1.7 above).

However, to assume such a specific condition would be an emergency solution from a phonetic point of view. Why would bilabial stops have a different effect on the anaptyctic vowel as compared to labiovelar stops or the bilabial nasal *m*? Since there is no further compelling evidence for an *o*-colored reflex in Ionic-Attic, it is better to leave πόρρω without a definitive explanation.

9.2 Verbs with a non-ablauting root *CLaC-*

A number of Greek verbs have a non-ablauting root of the structure *CLaC-*. A simple thematic present is attested in βλάβομαι 'to falter', γλάφω 'to dig a hole', γράφω 'to scratch, write', and γράω 'to devour'.[1029] A *yod*-present is found in βλάπτω 'to hinder, obstruct', δράσσομαι 'to clutch at, grasp with the hand', πλάσσω 'to knead, form', and φράσσω 'to fence in, fortify'.[1030] The forms with -λα- will be treated in chapter 10. Since γράω has been shown to derive from **gr̥n̥s-e/o-* in section 9.1, it remains to explain the reflex -ρα- in γράφω, δράσσομαι, and φράσσω.

9.2.1 δράσσομαι and δραχμή

The verb δράσσομαι 'to grasp with the hand, clutch at' is quite rare in Classical Greek, and mainly attested in poetry. Forms with preverb are unattested before the end of the Classical period. Homer only has the formulaic verse βεβρυχὼς κόνιος δεδραγμένος αἱματοέσσης "moaning aloud and clutching at the bloody dust" (*Il.* 13.393, 16.486).[1031] Since this middle perfect has presentic meaning, it looks like an Epic replacement of the metrically somewhat inconvenient form δρασσόμενος.[1032] Further derivatives like δράγμα 'sheaf, bundle' and δραγμός were productively formed from the verbal root.[1033]

[1028] For the uncertain etymology of βραχίων, see section 6.8.4. One could theoretically assume that βραδύς and βραχύς followed a productive pattern of *u*-stem adjectives where *a*-vocalism was the norm (cf. κρατύς, πλατύς, θρασύς). One would also have to assume that the *a*-vocalism of ἁμαρτεῖν was taken over from other thematic aorists. But this is not a viable track, because the isolated form μάρναμαι < **mr̥na-* proves that *a*-vocalism was regular in Ionic-Attic also after *m*.

[1029] There are also the so-called Doric presents στράφω, τράφω, τράχω, τράπω (corresponding to Class. στρέφω, τρέφω, τρέχω, τρέπω). On these forms, see section 3.2.

[1030] And also ῥάπτω 'to sew, stitch together', which has no etymology.

[1031] When the object is a mass noun like sand, salt, or silver, δράσσομαι governs the (partitive) genitive.

[1032] Sophocles and Euripides also use the middle perfect with presential meaning: τῆς ἐλπίδος γὰρ ἔρχομαι δεδραγμένος "for I come clinging to the hope (that I will suffer nothing but what is fated)" (S. *Ant.* 235); τί μου δέδραξαι χερσὶ κἀντέχῃ πέπλων "Why do you cling to me with your hands and hold fast to my clothing" (E. *Troi.* 750); cf. also E. *Or.* 1413. If such cases are to be analyzed as Homerisms, this could explain the rarity of the present stem (only 1x Hdt., 1x Ar. *Ran.* 545, apparently slang).

[1033] It is uncertain whether δρακτόν 'small vase' (inscr.) belongs here. Also attested are δάρκες· δέσμοι 'sheaves' (Hsch.) and δράξ, -κός 'handful' (*LXX*, Hsch.), but these forms are late, and the dialectal origin of the glosses in Hsch. is unclear. Besides, the root-final -κ- is at variance with the etymological evidence, which points to **-g*^{h}-. Both irregularities of δάρκες may be explained if the gloss is of Cretan origin: this dialect did not have a sign <χ>, and has -αρ- as the regular outcome of **r̥*.

An etymological connection with the Avestan root *dranj-* 'to hold; fix', YAv. pres. *dražaite* 'holds' makes good sense.[1034] Just like δράσσομαι, the Avestan verb is a deponent and can be derived from PIE **drn̥g^h-i̯e/o-*.[1035] A nasal present may also be continued in OIr. *dringid* 'climbs, clambers, advances', MW. *dringo*, but this is less certain because the meaning is somwhat different. The Slavic cognate OCS *drьžati*, Ru. *deržat'* 'to hold' points to a nasalless root **dreg^h-*. Thus, the -α- in δράσσομαι may be the reflex of a syllabic nasal (**drn̥g^h-i̯e/o-*) rather than of **r̥* (**dr̥g^h-i̯e/o-*), as was already suggested by Haug (2002: 61).

The etymology of δραχμή, the weight and monetary unit, is not quite clear, and the word need not have a Greek etymology.[1036] Since a δραχμή originally had the weight of six obols or obeliskoi (cf. *DELG* s.v. δράττομαι, *Der kleine Pauly* s.v. *Drachme*), the meaning of δράγματα 'sheaves, bundles' suggests that a δραχμή originally denoted a "bundle" of six obols. Let us suppose, for the sake of the argument, that this etymology is correct. Given that the Proto-Greek root was **dr̥k^h-*, there is a natural explanation for the difference between -γμ- and -χμ-. The cluster -χμ- did not undergo regressive assimilation (in δραχμή), except across a synchronic morpheme boundary (in productive formations like δράγμα, δεδραγμένος), where -γμ- is the result of assimilation.[1037]

But how can we explain the difference between δραχμή and the dialectal forms δαρχμα (Elis, Arcadian, Boeotian, Cretan: Knossos) and δαρχνα (Elis, Cretan: Gortyn)?[1038] The Cretan form δαρχνα has been explained away with a specific dialectal assimilation -κμ- > -κν- (Schwyzer 1939: 215), but this idea is not supported by any evidence, and it does not explain why the form also occurs in Elis. Is it possible that a pre-form **dr̥k^{h}mnā-* would be preserved as such until Proto-West-Greek? On forehand, one expects an early reduction of **-mnā-* to either **-mā-* or **-nā-*, except when the group was directly preceded by a short vowel (cf. βέλεμνα, ἀπάλαμνος, ἀτέραμνος). It is difficult to cite clear parallels for the environment found in **dr̥k^{h}mnā-*, because most other examples of **-mnā-* were preceded by a vowel or diphthong. If it is accepted that **dr̥k^{h}mnā-* would be retained until Proto-West Greek, we may assume that the vocalization to -ρα- in Class. δραχμή was influenced by the present δράσσομαι. The West Greek forms with -αρ- might then contain the regular vocalization in the respective dialects (Elis, Cretan), while Arcadian and Boeotian δαρχμα would have to be koine forms. It must be stressed, however, that there is no unambiguous further evidence for **r̥* > -αρ- in Elis. Moreover, it cannot be entirely excluded that this word was a borrowing. There is no reason, then, to insist that -ρα- in δραχμή is the regular outcome of **r̥*.

[1034] The present is attested as YAv. *dražaite* 'holds' (*ąxnå dražaite vāšahe* "holds the reins of the wagon", Yt. 5.11), ptc. *dražəmna-*. Cf. also OAv. 2p. desid. *dīdraγžō.duiie* (Y. 48.7).

[1035] This connection is accepted in the *LIV*^{2} (s.v. **dreg^h-*). Although it cannot be entirely excluded that the Avestan present was originally a thematic root middle PIE **dreg^h-e/o-* extended with *-ya-* (cf. *LIV*^{2}, l.c.), it is attractive to directly equate the Greek and Avestan formations. The older comparison of δράσσομαι with Arm. *trcʿak* "Reisigbündel" (see Frisk, *DELG* s.v. δράσσομαι) leads nowhere: Arm. *-cʿ-* may be derived from **-Ḱs-*, but the formation is not matched in Greek.

[1036] Beekes (*EDG* q.v.) considers δραχμή to be Pre-Greek in view of the dialectal forms with δαρχ-. In my view, this is hard to substantiate, because the dialectal forms may also contain the regular outcome of **r̥*.

[1037] It has been suggested (cf. *DELG* s.v. δράσσομαι) that the suffix of δραχμή started with *-s-*, as e.g. in πλοχμός 'braid' < **plok-smo-*. But since the assumption of a suffix **-smo-* does not have a clear motivation, and since -μ- may have to be derived from earlier **-mn-* (see below), it seems more promising to assume that -χ- is the regular outcome of the root-final stop of **dr̥k^{h}mnā-*. That the assimilation to -γμ- only occurred when the group contained a morpheme boundary is shown by synchronically unanalyzable forms like ἀκμή, λικμάω. On these issues, cf. Slings (1979).

[1038] The Cretan form δαρχνα is now also attested in Olympia (see *DELG*, Supp. p. 1289), and δαρχμα is also found in Thespiae (Roesch, *IThesp*. 38 and 39 [both ca. 386 BC]) cf. Haug (2002: 61).

. The appurtenance of Myc. *do-ka-ma* is highly uncertain, see section 2.3.2.

9.2.2 γράφω

The present γράφω 'to scratch; write' is the primary formation within Greek, because the aorist γράψαι carries an additional and productive suffix *-s-* (cf. *LIV*^{2} s.v. **gerb*^{h}-). The present is, however, barely attested in pre-Classical Greek.[1039] This can be explained by the semantic development form 'scratch' to 'write', by which the root ceased to have inherent presentic aspect (indicating an iterated action), and acquired an inherent telic aspect.[1040]

Etymologically, γράφω probably derives from a PIE root **gerb*^{h}-, continued in the Germanic group of OE *ceorfan* 'to carve, engrave' and also in a Baltic verb meaning 'to speak, honor': OPr. *gērbt* 'to speak', *gīrbin* 'number', Lith. *gerbiù* 'I honor', inf. *gerb̃ti*.[1041] It is normally assumed that γράφω derives from a zero grade thematic present **gr̥b*^{h}-*e/o*- or rather from an ablauting athematic root present PIE **gerb*^{h}- / **gr̥b*^{h}-.[1042] However, the Greek verb is attested as γράφω in all dialects, including those where **r̥* normally develops an *o*-colored reflex. Thus, on Lesbos we only find evidence for γραφω, and no forms with γροφ- are attested.[1043] The same is true of Arcadian (cf. the discussion in Haug 2002: 61). In Cretan, γραφω is also the normal form, even if the expected reflex of **r̥* is -αρ- in this dialect (see section 3.2).[1044] Although γραφ- might theoretically be due to Koine influence in some of these dialects, the uniform attestation of γράφω throughout Greek, also in *o*-coloring dialects, casts grave doubts on the suggestion that this verb continues a pre-form PGr. **gr̥p*^{h}-*e/o*-.

There are, however, a couple of nominal forms with γροφ- scattered across inscriptions from various dialects. Chantraine (*DELG*, s.v. γράφω) ascribes these forms to different dialectal vocalizations of **r̥*.[1045] However, the forms with *o*-vocalism are found mainly in West Greek dialects (Delphi, Peloponnesos) which do not normally show an *o*-colored reflex of **r̥*. Let us consider these forms in more detail:[1046]

[1039] Only A. *Choe*. 450, Xenophanes fr. 15 DK. In Homer, only the aorist (ἐπι-)γράψαι is found (7x). In all instances but one, this aorist carries the meaning 'to graze, scratch the surface' (of the skin or a helmet), where the aoristic aspect conveys the idea of one single scratch. As is noted by *DELG* (s.v. γράφω), this earlier meaning is also found in the derivatives γραπτύς 'scratching' (*Od*. 24.229) and ἐπιγράβδην 'scratching the surface' (*Il*. 21.166). In the one remaining attestation, Homer refers to writing: σήματα λυγρὰ γράψας ἐν πίνακι πτυκτῷ "writing/scratching baneful signs on a folded tablet" (*Il*. 6.168-9). It is not entirely clear to what kind of writing the passage refers, and on what kind of material (cf. Kirk 1990 ad loc.).

[1040] In other words, the aorist is complexive and denotes the completion of a document or inscription; the present denotes the habitual or repeated action of making an inscription, but it must more originally have denoted the iterative action of scratching. In this way, the semantics harmonize with the formal analysis, which requires that the (complexive) *s*-aorist is a younger formation than the (originally iterative) present γράφω.

[1041] A reconstruction **ǵerb*^{h}- would also be possible, given that in Baltic depalatalization of **ǵ* may have taken place in front of **r̥* in the zero grade forms. The semantic development underlying the Baltic forms may have been 'number' < 'carved number', 'honor' < 'honor by engraving'. Even if alphabetic writing seems to be comparatively recent in Northern Europe, the use of carvings for counting may well be much older. Therefore, the Baltic words could be reconciled with the Germanic and Greek evidence if we depart from an older meaning 'to carve, engrave'.

[1042] Thus Frisk, *DELG*, *EDG*, *LIV*^{2}.

[1043] In Balbilla, γροππατα is probably a hyper-Aeolism (cf. the discussion in Slings 1979: 251-52 n. 37).

[1044] The oldest attested forms in Cretan are γεγραπτ[αι] (Eleutherna, *IC* II, 13.7, 6th c.), δ' εγραπεν (Eleutherna 4: 3, 6th c., or perhaps rather δε γραπεν?), and εγραμενα (*Lex Gortyn* I.55). Later on, forms with γροφ- are found beside forms with γραφ-, sometimes in one and the same inscription (in Knossos, among others). Bile thinks that the original Cretan form is γροφ-, even if this form is only found in later attestations: "C'est peut-être uniquement aux lacunes de la documentation qu'il faut attribuer la situation surprenante du crétois" (1988: 124). It seems more likely to me that the root γραφ- was present throughout the verbal paradigm in Cretan, as in many other dialects, at an early date. The form εγιρτται (*IC* IV 41, I.11, Gortyn) is entirely unclear and must be left aside for obvious reasons.

[1045] "Plutôt que d'un vocalisme *o* alternant, il s'agit d'un flottement dans le timbre en grec même, cf. στρότος."

[1046] I have gathered the material from Bechtel (1921-24, II: 114), and checked it against the searchable database of Greek inscriptions at the Packard Humanities Institute.

- γροφευς 'secretary, registrar' is widespread on the Peloponnesus (Argos, Mycenae, Epidaurus, Sicyon, Arcadia, Elis) and its colonies (Cyrene).[1047]
- The following forms are found only in Argolic: γροφα 'painting, scratching', γροφις 'stylus for writing on wax tablets', γροφευω 'to be γροφευς', αγγροφα 'register, inscription', εγγροφα 'registration, act of inscription'.
- συγγροφος (f.) 'engraved list' (Argolic, Delphi).
- ανεπιγροφος 'on which there is no inscription' (1x in the Heraclean Tables, against many instances of γραφ-).
- αντιγροφον 'copy', εγγροφος 'register, registration list' (Crete, post-classical; but all earlier forms on Crete have γραφ-).
- γροπhον (Melos, *IG* XII.3.1075) is most probably a proper name.[1048]

Clearly, the forms with -o- are concentrated on the Peloponnesos. The only form found in more than two different dialects is γροφευς, and most instances of the root allomorph γροφ- are found in prepositional compounds in -γροφος (of the type class. ἄγραφος 'not written' with recessive accent and passive meaning of the second member). The only dialect where γροφ- is found beyond these two categories is Argolic.

In Elis, γροφευς is attested at an early date (6th c.), but it stands alone against numerous attestations of γραφ- (see Minon 2007).[1049] In her dialectal grammar of the inscriptions from Elis, Minon suggests that the stem γροφ- originated in this agent noun, which is of the same type as φονεύς.[1050] This is an attractive solution, but it is unlikely that this innovation would occur several times independently. Since agent nouns in -εύς were productive in Mycenaean, and since γροφευς is attested mainly on the Peloponnesos and on Crete, the form could well be a relic from the Mycenaean period. Of course, scribes existed in the Mycenaean period, but we do not have the Mycenaean term for writing. The prepositional compounds in -γροφος, which are also widespread, may then have been influenced by the agent noun in -εύς.[1051]

It does not follow from γροφευς that a more original form of the verb was *γρέφω (as assumed by Bile 1988: 124, and earlier e.g. Bechtel 1921-24 l.c.). This would conflict with the Baltic and Germanic comparanda, which have a full grade I **gerb^h-*. Nor does it follow that the forms with γροφ- continue an *o*-grade PGr. **gorp^h-* which was remodelled after the vocalized zero grade γραφ-, as assumed by Frisk (q.v.). In my view, the entire evidence for this root could be explained if we assume that the pre-form of γράφω was PGr. **gr̥p^h-e/o-*, a thematicized nasal infix present. It is true that no cognate nasal present formations are attested, but the reconstruction of PGr. **gr̥p^h-e/o-* seems to be the only way to explain the Greek dialectal evidence, and it is paralleled by the same type of formation in βλάβομαι (beside athematic Av. 3p. *mərəṇcaite*, see section 10.3.1), δράσσομαι (see the previous

[1047] Perhaps also in Delphi (*FD* III, 1:578, l. 27: γροφευ[). The same official is called γραμματεύς at Athens.

[1048] It was interpreted by Bechtel (l.c.) as /grop^{h}ōn/, the ptc. of a verb γρόφω. However, it is most probably a proper name, because the same name appears on a stone found in Olympia and signed by a Melian called Γρόφων (Γροφον εποιε Μαλιος, *IvO* 272 = *Del.*^{3} 209). The only other sign of a verb γρόφω is in Gortyn (απογροφονσι *IC* IV, 174 A.52), but the attestation of this verb is late (2nd c. BC), and stands against many older attestations of γράφω in the same dialect.

[1049] The forms καταλοβει and καταλοβευσι, from the root λαβ- 'to take, seize', are found in the dialect of Epidaurus (*IG* 1485), which is a variety of Argolic. Again, a secondary *o*-grade is found in an agent noun in -εύς in Argolic, and nowhere else in Greece.

[1050] "… on peut supposer que, pour le nom d'agent, le choix de la résonance vocalique de **r* a été influencé par le vocalisme *o* radical, soit des plus anciens substantifs en -εύς, soit des noms d'agents thématiques, dont certains forment couple avec un nom d'agent en -εύς avec le même vocalisme radical, ainsi φόνος 'tueur', avec φονεύς." (2007: 301).

[1051] Beside the various different forms with γροφ-, Argolic also attests γραθματα (with a special development of the colliding labials in **grap^h-ma*). This could corroborate that γροφ- is a relic from the Mycenaean period.

section), and the semantically close Indo-Iranian present Ved. *kr̥ntáti*, Av. *kərəṇtaiti* 'to cut'.[1052] This assumption would perhaps even allow us to explain the forms with γροφ- as due to the vocalization of a syllabic nasal in a labial environment (as perhaps in Mycenaean, section 1.3.2). But this remains highly speculative, and as we have seen, γροφευς may also be explained by the influence of other agent nouns of the same type.

9.2.3 φράσσω

According to the etymological dictionaries, φράσσω 'to fence off, block, defend' has no ascertained etymology. Frisk (*GEW* s.v. φράσσω) only mentions the comparison with Latin *farciō* 'to stuff' and *frequēns* 'stuffed, frequent'.[1053] But the semantics of this connection are weak (cf. Chantraine, *DELG* q.v.), because the action referred to by φράσσω always has the aim of preventing the (undesired) penetration through a passage or into a protected area.[1054] In Homer, φράσσω clearly has military connotations and means 'to fence off, fortify'.[1055] While this meaning remains in use after Homer, the most frequent meaning in Classical Greek is 'to bar, obstruct, block, clog', especially of roads and passages.[1056] As Taillardat has shown (1965), the middle may have a special nautical meaning 'to raise the deckboards'.[1057]

Beekes recently proposed that φράσσω is of Pre-Greek substrate origin, not only because of πύργος and φύρκος, but also in view of the interchange between φραξ- and φαρξ- (on which see below). This suggestion, which is hard to test in any case, loses much of its viability in view of Puhvel's proposal (1999) to derive φράσσω from the PIE root *$b^herǵ^h$- 'to rise'.[1058] Puhvel argues that the Greek meaning is inherited in view of his proposal to translate *parkiia-* as 'to fence off, put beyond reach' on the Neo-Hittite Bronze Tablet. From the semantic and formal match between φράσσω and Hitt. *parkiia-*, he concludes that they continue the same inherited present formation *$b^hr̥ǵ^h$-*ie/o-*. Within Greek, the *s*-aorist φράξαι would have been formed secondarily on the basis of φράσσω.[1059] If this is correct, φράσσω < *$b^hr̥ǵ^h$-*ie/o-* would be good evidence for *$r̥$ > -ρα-.

[1052] An early pre-form of γράφω may still have been athematic: 3s. *gr-n-$éb^h$-ti*, 3p. *gr-n-b^h-$énti$*.

[1053] "… eine überzeugende aussergriech. Entsprechung fehlt. Seit alters wird damit lat. *farciō* 'stopfen, vollstopfen, mästen' und *frequēns* 'gedrängt, voll, häufig' verbunden (…)".

[1054] Instead, Chantraine draws attention to the glosses φρύκες· χάρακες 'pointed stakes, palissaded camp' and φύρκος· τεῖχος (Hsch.), and concludes that the root underlying φράσσω was *$b^hr̥k$-. However, the aberrant υ-vocalism of φρύκες and φύρκος beside φράσσω cannot be explained in an inherited Greek word, and rather calls to mind cases like τύμβος 'mound, tomb' and πύργος 'bulwark, defensive wall'. The latter word is often thought to be a borrowing from an Indo-European substrate language, in view of the semantically attractive comparison with derivatives from PIE *$b^herǵ^h$- 'to rise', e.g. G. *Burg* 'fortress', Av. *bərəz-* 'elevation'. On the other hand, since chance resemblances can never be excluded, πύργος and φύρκος could also be Pre-Greek words, with a typical fluctuation in the stops (thus Beekes *EDG* s.v.). Therefore, these glosses are better left aside from our evaluation of φράσσω.

[1055] Cf. φράξαντο δὲ νῆας ἔρκεϊ χαλκείῳ "they fortified the ships with a wall of bronze" (*Il*. 15.566).

[1056] *LSJ* (s.v. φράσσω): I. *Fence in, hedge round*, hence with the collat. notion of defence, *secure, fortify* (…), *strengthen one's fortifications*; *to be embanked* (of the Nile); πεφραγμένος *armed, prepared for defence*; II. To put up as a fence, III. *Stop up, block* a road, etc., (…) *bar*.

[1057] This nautical meaning is found already in Homer (φράξε δέ μιν ῥίπεσσι διαμπερὲς οἰσυΐνῃσι, κύματος εἶλαρ ἔμεν, *Od*. 5.256-7), and also in Alc. fr. 6.7 (on which see below) and A. *Sept*. 62-4 and 795-8.

[1058] In Puhvel's words, the root "expresses strength combined with elevation, as in the root noun itself which yields Avestan *bərz*, Farsi *burz*, Old Irish *brī*, OHG *burg* 'hilltop, stronghold, fortress'. (…) Beside natural fastnesses, there is reference to man-made raised defenses. Skt. *brṁháti* means 'fasten, strengthen', German *bergen* is 'shelter, salvage', Russian *béreg* is 'embankment, barrier, shore', even as we speak of 'shoring up defenses'."

[1059] This account is followed, with some hesitation, by the *LIV*^{2}. The absence of traces of Grassmann's Law in Greek is not surprising, because the root is followed by another consonant in all attested formations (ἄφρακτος, πεφραγμένος, etc.). Therefore, the root-final consonant may have been subject to regressive assimilation prior to the operation of Grassmann, cf. θράσσω from *$d^hreh_2g^h$- 'to irritate' beside the Homeric perfect τέτρηχα.

Although I find Puhvel's root etymology very attractive, I disagree with him about the exact derivation of the Greek verb. Let us first discuss the likelyhood of an inherited PIE present *b^hr̥ǵ^h-i̯e/o-. The primary root meaning of PIE *b^herǵ^h- seems to have been telic and intransitive 'to rise', as reflected in the Hitt. middle impv. *parktaru* 'may it rise up!' and Toch. B *pärk-*$^{\bar{a}}$ 'to rise' (of celestial bodies).[1060] Hitt. *parki̯a-* 'to raise' can be analyzed as a factitive beside the primary formation *parktaru*.[1061] As we will see below, φράσσω is also a factitive verb, and the origin of its formation (and that of the *s*-aorist φράξαι) can be explained accordingly. Thus, neither φράσσω nor Hitt. *parki̯a-* need be an old formation.

Further suspicion arises when we consider the attestations of φράσσω. The present stem is unattested in Homer, and remains rare afterwards. This general rareness is obviously connected with its factitive semantics. In fact, Ionic φράσσω is attested only once in Herodotus,[1062] and Attic φράττω first appears in Xenophon and Plato. On the other hand, Thucydides, Sophocles and Aristophanes do not use φράσσω, but only attest φράγνυμι as a present.[1063] The earlier date of these authors implies that the older form of the present stem in Attic was φράγνυμι. Thus, nothing speaks in favor of the view that the *formation* of φράσσω is inherited, as Puhvel assumed.

It is now necessary to consider the Greek attestations more closely. Combining the Ionic evidence from Homer and Herodotus, we arrive at a regular paradigm pres. φράσσω, aor. φράξαι, aor. pass. φραχθῆναι, pf. mid. πέφρακται. However, it is difficult to use any of these forms as evidence for *r̥ > -ρα-, because a considerable number of forms with -αρ- is attested in Attic and other dialects. The evidence from literary sources is as follows:

- φαρξώμεθ' (Alc. fr. 6.7 = *POxy*. 1789)[1064]
- πεφαργμένος ἀντὶ τοῦ πεφραγμένος καὶ ἐφάρξαντο ἀντὶ τοῦ ἐφράξαντο καὶ φαρκτὸν φρακτόν (*EM* 667.22, referring to the treatise περὶ παθῶν ascribed to Herodian)
- ἄφαρκτος· ἀφύλακτος 'unguarded, undefended' (Hsch. α 8564)
- φάργμα· φραγμός 'fence' (Hsch. φ 164)
- φάρκτου· φυλακὴν σκεύαζε 'prepare the guard' (Hsch. φ 176)

Forms with -αρ- are also well-attested epigraphically, in temple building records from the late fifth century onwards:

[1060] The creation of various adjectival formations like Hitt. *parku-*, Arm. *barjr* 'high' < *b^hérǵ^h-u-, *b^hr̥ǵ^h-éu-, Toch. B *pärkare* 'long' < *b^hr̥ǵ^h-ró- can be understood if the verbal root was originally intransitive. Ved. *bṛhánt-* 'elevated, lofty, strong' < PIE *b^hr̥ǵ^h-ént- (cf. OIr. *Brigit*, OHG *Purgunt*) may then represent a more archaic formation, if it was coined when the participle suffix *-ént-* when this still had non-agentive meaning.

[1061] As for Hittite, cf. Kloekhorst (*EDHIL* s.v. *parki̯e/a-*^{zi}): "Alt[h]ough the bulk of the attestations inflect according to the *-i̯e/a*-class, there are a few unextended forms. In the oldest texts (OH/MS), we find 3s. pret. act. *parki̯at* vs. 3s. impv. mid. *parktaru*. These forms point to an original situation in which the stem *parki̯e/a-* is used in the active only and the unextended stem *park-* in the middle (…)".

[1062] In the specialized meaning 'to reinforce a dyke': ὁ ἀγκὼν οὗτος τοῦ Νείλου (…) ἐν φυλακῇσι μεγάλῃσι ἔχεται, φρασσόμενος ἀνὰ πᾶν ἔτος (Hdt. 2.99).

[1063] εὖ γε στοχάζῃ κἀποφράγνυσαι κύκλῳ τὸ πρᾶγμα. (S. *Ant*. 241), αἱ γυναῖκες τὴν δορίαλλον φράγνυνται 'the women bar their vagina' (Ar. fr. 367 Edmonds), τάς τε ὁδοὺς … ἀπεφράγνυσαν 'they blocked the roads' (Th. 7.74.2). Note that there are no attestations of the present φράσσω in these authors. It is possible that φράγνυμι was analogically formed after semantically close verbs like πήγνυμι (aor. πῆξαι) 'to fix, attach', or especially the opposite ῥήγνυμι 'to break through' (in Hdt. also of a dam). However, φράττω was certainly of secondary origin in Attic (analogical, or due to influence of Ionic?), and there is no reason either to consider Ionic φράσσω (as attested in Hdt.) archaic.

[1064] The form is discussed by Bowie (1981: 126-27). In his analysis of aorist subjunctive forms in the two Lesbian poets, he concludes that the long vowel subjunctive is a strong indicator of Ionic or Epic origin. This allows us to explain the aberrant reflex -αρ- < *r̥ in a Lesbian word. The question then remains whether φαρξ- is an old form in comparison with Homeric φραξ-.

- φαρχσαι το βαθρον τοιν αγαλματοιν και τας θυρας “to provide with a fence the steps of the statues, and the doors” (Attic, *IG* I^2 371.20, 421/0-416/5 BC)
- διαφαρχσαντι τα μετακιονια τετταρα οντα τα προς το πανδροσειο κομονι (Attic, *IG* I^2 373.251, 409/8-407/6 BC).
- φαρξις ναου (*IG* IV^2(1) 102.75, building records from Epidauros, 4th c. BC) glossed as “Vergitterung (des Tempels)” by the *IG* editor.
- φαρχματα (same inscr., 253)
- φαργμα (*Del.*^{3} 89.8, Argos, 3rd c. BC)
- διαφαργματων (Epidauros, *IAEpid*. 52, A.10).

Thus, there is independent evidence for the vocalization *$\mathring{r}$ > -αρ- in three dialects: Attic, Argolic, and the Ionic variety from which Alcaeus borrowed φαρξώμεθ’. Especially the epigraphic evidence deserves to be taken seriously.

The question then remains how the forms with -ρα- can be explained, especially since all manuscript evidence, in Ionic-Attic prose and poetry alike and beginning with Homer, has forms with -ρα-. It is interesting that many editions of the tragedians and of Thucydides print forms with -αρ-, based on the observation that Attic inscriptions start to show forms with -ρα- only in the fourth century.[1065] While emendating the unanimous evidence of manuscripts is a rather debatable editorial practice, the fact remains that the two oldest epigraphic attestations of the verb in Attic have the aorist φαρχσαι.

The traditional approach to this problem has been to regard -αρ- as old in the aorist, and to assume that -ρα- is old in the present φράσσω. Indeed, among the epigraphic evidence for -αρ-, there is no single instance of the present stem. Moreover, it is remarkable that Herodian (as quoted by the *EM*, see above) mentions the middle perfect πεφαργμένος, the aorist ἐφάρξαντο, and the participle φαρκτόν, but no present form with -αρ-. For these reasons, Meisterhans & Schwyzer (1900: 181) set up the following distribution: “φράττω bildet im Altattischen den Aorist ἔφαρξα; später in Übereinstimmung mit dem Präsensstamme: ἔφραξα”.[1066]

But is it likely that -ρα- was introduced from the present into the other stems? Such influence of the present stem is not very common in Greek generally. Moreover, the aorist was much more widely used, in agreement with the factitive semantics of the root. A final, chronological problem is that the spead of -ρα- would have to have taken place much earlier in the variety of Ionic underlying Homer, where all instances already have -ρα-. This is not very attractive if one accepts that φαρξώμεθα in Alcaeus was a borrowing from pre-classical Ionic or from Epic Greek. In this connection, it is important that -ρα- is not metrically secured in any of the five Homeric attestations (-αρ- may be substituted without metrical damage). The same holds for the only attestation in Pindar,[1067] and for all instances in the tragedians. Thus, the situation is at least consistent with the view that -ρα- was introduced into the manuscript traditions of these authors at some point. The same assumption may then be made for Thucydides.

If one still wishes, in spite of these problems, to retain the doctrine that the allomorph with -ρα- was generalized from the present stem, it must be asked how the difference between the present φράττω or φράγνυμι and the oldest aorist form φάρξαι came into being. Let me stress again that this distribution would be left unexplained if we follow Puhvel’s view that

[1065] Already for 19th century editors like Dindorf, it was common practice to restore forms like ἄφαρκτος for attested ἄφρακτος. Cf. the comment in *LSJ* (s.v. ἄφρακτος): “ἄφρακτος, Old Attic ἄφαρκτος (although this form has generally been altered by the copyists)”.

[1066] This explanation was retained in Threatte (1980: 477). However, note that the oldest Attic present was not φράττω, but φράγνυμι (see above).

[1067] ἔρνεσι φράξαι (Pi. *Isthm.* 1.66), where ἔρνεσι scans as a dactyl.

Proto-Greek had a present *$b^h\underset{\circ}{r}g^h$-$\underset{\wedge}{i}e/o$- beside an aorist *$b^h\underset{\circ}{r}g^h$-*s*-.[1068] The only conceivable phonological solution seems to be that the present stem contained a vocalized nasal, i.e. that the underlying formation was PIE *$b^hr\underset{\circ}{n}g^h$-*e/o*-.[1069] However, such a reconstruction is not without problems. If *$b^hr\underset{\circ}{n}g^h$-*e/o*- > PGr. *$p^hrak^he/o$- was reshaped, why wasn't the new formation based on the productive and more frequent aorist stem *$p^h\underset{\circ}{r}ks$-? Furthermore, the nasal presents built on this root in other IE languages are unlikely to be old. Armenian has a nasal present *barṙnam* 'raises', but this was probably secondarily formed beside the aorists *ebarj* 'raised', *barjaw* 'rose'.[1070] And Ved. *pári bṛṃhati* 'fortifies' (ŚB+) is likely to have replaced the older causative present *barháyati* 'strengthens' (RV+) under influence of *dṛṃhati* 'fixes' (RV+).[1071]

Thus, it seems better to analyze both φράγνυμι and φράσσω as formations of inner-Greek origin. This may be confirmed by the derivational prehistory of the entire verbal paradigm, which in my view was based on compounded forms like PGr. *$\underset{\circ}{n}$-$p^h\underset{\circ}{r}k^h$-*to*-.[1072] Such a scenario is paralleled by the origin of other factitive verbs. First of all, Tucker (1990: 297-306, esp. 305) has shown that denominative verbs in -όω that were derived from substantives belong to the "instrumentative type": πυργόω = 'to provide with a πύργος'.[1073] Like φράσσω, such verbs are rare in the present stem and often occur as an aorist (with factitive meaning) or a middle perfect indicative or participle ('provided with walls'). Moreover, they often pair with negated adjectives (Hom. ἀπύργωτος 'without fortifications'). Tucker concludes that the type πυργόω originated as a factitive denominative based on pairs of the type πεπυργωμένος : ἀπύργωτος.

This type of pairing is widespread within Greek (see Meillet 1929), and already attested in Mycenaean.[1074] From Homer onwards, we find pairs like τετελεσμένος : ἀτέλεστος and κεχαρισμένος : ἀχάριστος which have an archaic appearance. A nice example is found in Hdt. 5.6: τὸ μὲν ἐστίχθαι εὐγενὲς κέκριται, τὸ δὲ ἄστικτον ἀγεννές, "to be tattooed is considered a sign of nobility, to be without a tattoo of baseness." Many such pairs may have served as a basis for the creation of a denominative factitive (cf. χαρίζομαι 'to do someone a favor' = "to provide with χάρις", στίζω 'to tattoo' = "provide with a brandmark").[1075] In a similar way, φράσσω 'to fortify, strengthen one's defenses' may be viewed as a denominative factitive based on the pair πεφραγμένος 'fortified, with raised defenses' beside ἄφρακτος 'without fortifications, unarmed'.

Since the "instrumentative" factitives in -όω were derived from a substantival base form, it is attractive to assume that *-$b^h\underset{\circ}{r}g^h$-*to*- was based on the root noun PIE *b^herg^h-,

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[1068] The assumption that -αρ- was regular only in front of a stop plus -*s*- (O'Neil 1971) is phonetically unmotivated and completely *ad hoc*.

[1069] One could theoretically assume that the original paradigm had an aorist stem *φερξ- beside a present or middle pf. stem with φραK-, and a subsequent leveling to φαρξ- : φραK-, then to φραξ- : φραK-. But this seems rather far-fetched, and the zero grade aorist is better explained as an innovation of Greek: see below.

[1070] See the discussion in *LIV*^{2} (s.v. *b^herg^h-).

[1071] See Gotō (1987: 215).

[1072] Other such compounds in Classical Greek are ναύφρακτος 'ship-fenced' (on which see Taillardat 1965), κατάφρακτος 'with raised deckboards', and probably, with *r*-dissimilation, δρύφακτος 'latticed fence in a lawcourt'.

[1073] πυργόω 'to provide with fortifications' has almost the same meaning as φράσσω in Homer.

[1074] Cf. *ka-ko de-de-me-no* /k^{h}alkōi dedemeno-/ 'bound with copper' : *ka-ko-de-to* /k^{h}alko-deto-/ 'id.', *a-ra-ro-mo-te-me-na* /ararmotmena/ 'fit together' : *a-na-mo-to* /anarmosto-/ 'unassembled'. The opposition with negated *to*-adjectives is found not only with middle perfects, but also with middle aorist participles in examples of archaic appearance, e.g. περίκλυτος 'known all around' : κλύμενος 'famous', ἄφθιτος 'unwaning' : φθίμενος 'dead'.

[1075] ἁρμόζω 'to join' and τελέω 'to fulfil' may originally have been factitive verbs, too, but this would require a more detailed argumentation than can be given here.

*b^hŗg^h- ‘elevation, stronghold’.[1076] In other words, *-b^hŗg^h-*to*- would be of the type Lat. *barbātus* ‘bearded’, rather than an original verbal adjective. The antiquity of *-b^hŗg^h-*to*- seems corroborated by Lat. *fortis* ‘strong’, which could be derived from the same pre-form in view of OLat. *forctus* (attested in Festus).[1077] Moreover, the same formation is attested in Vedic. The only Vedic verbal forms with the meaning ‘to strengthen’ are the hapax *pári* … *babṛhāṇá*- ‘strengthened, fortified’, of rock (*ádri*-) functioning as a stronghold (RV 5.41.12), and *pári bṛṃhati* ‘fortifies’, *pari-bṛḍhá*- ‘fortified’ (both ŚB).[1078] Like πεφραγμένος and ἄφρακτος in Greek, they point to pre-forms *b^he-b^hŗg^h-mh_1no- and *-b^hŗg^h-*to*-, and the semantic match is perfect.

Thus, a compounded adjective *n̥-b^hŗg^h-*to*- of PIE origin formed the basis of a factitive verb meaning ‘to fortify’. In Proto-Greek, this verb formed an aorist *p^hŗk^h-*s*- (> Att. φάρξαι) and a middle perfect ptc. *p^he-p^hŗk^h-*méno*-.[1079] Disregarding their problematic -ρα-, the presents φράγνυμι and φράσσω may have been added to the paradigm following productive patterns. This derivational scenario not only elucidates why φράσσω has factitive semantics, but also explains why all stems contain a zero grade root allomorph, and why no primary verbal formations are attested.

Thus, I do not think that the present stem (whether φράγνυμι or φράσσω) may have caused the introduction of -ρα- in the rest of the paradigm. Let us therefore consider a second possible way to explain the variation between -αρ- and -ρα-. As we have seen, Homer only attests forms with -ρα-. Is it possible to assume that the Homeric forms contain the reflex of Epic *ŗ, and that the early Ionic and Attic vernaculars had -αρ- throughout the paradigm? The introduction of -ρα- in the Koine would then have to be due to Homeric influence, and the elimination of -αρ- in the manuscript tradition of Classical authors could be due to Koine influence.

Problematic for such an assumption, however, is that the reconstructed early Ionic vernacular forms with -αρ- were not introduced into Epic Greek, as one would expect on the basis of the scenario proposed in chapter 6. Still, a possible motive for the retention of forms with Epic *ŗ would exist if there was an original semantic difference with the vernacular forms. Indeed, the Epic forms have a specialized military or nautical meaning (‘to fortify, strengthen one’s defenses’, ‘to provide with deckboards’), whereas the normal and most frequent meaning in Classical Greek is ‘to block, bar’. One would then have to assume that the use of φράξαι in the meaning ‘to fortify, raise one’s defenses’ in Classical authors is an epicism. A parallel case of an epicism with a restricted military meaning is στρατός ‘army’ (section 6.7.7).

But although it is conceivable that a semantic difference was perceived between the Epic and vernacular forms, this assumption is not evident at all. Without a doubt, the nautical meaning ‘to provide with deckboards’ belongs to a technical jargon of spoken Ionic, but whereas Alcaeus attests the form with -αρ-, Homer did not replace φράξε in the same

[1076] There is ample evidence for a PIE root noun *b^herg^h-, *b^hŗg^h-: Av. *barš* ‘mountain’ (Ns., either zero grade or full grade), MIr. *brí* ‘hill’, Goth. *baurgs* ‘town’, OHG *burg* ‘stronghold’ < *b^hŗg^h-, ON *bjarg*, OHG *berg* ‘hill, mountain’ < *b^herg^h-. Thus, *n̥-b^hŗg^h-*to*- ‘without fortification’ may have been formed already within PIE, or within Greek as long as the continuant of the root noun *b^herg^h-, *b^hŗg^h- was still around.

[1077] Although the meaning of *fortis* in Classical Latin is generally ‘strong, brave’, especially of men, it is quite conceivable that the older meaning was ‘strong, well-defended’. The comparison with Skt. -*bṛḍhá*- was already suggested by Brugmann on several occasions. I do not understand de Vaan’s comment (*EDL* s.v.) that this etymology “does not explain the meaning of *fortis*”.

[1078] The Indo-Aryan root *barh*- ‘to strengthen’ is certainly derived from ‘to be high’, because formations like *bṛhánt*- may mean either ‘high, lofty’ or ‘strong, well-defended’. The verbal forms mostly occur in combination with the preverbs *ní*- or *upá*-, in which case they mean ‘to lay low’ or ‘to put underneath’, respectively.

[1079] Note the use of an instrumental dative in cases like Hdt. 7.142, ἡ γὰρ ἀκρόπολις τὸ πάλαι τῶν Ἀθηναίων ῥηχῷ ἐπέφρακτο “the Athenian acropolis used to be fortified with a palissade”. ‘to enclose, defend (with fortifications)’.

meaning at *Od*. 5.256. Moreover, the meaning ‘to provide with a fence’, attested in the epigraphic Attic forms with -αρ-, is very close to Homer’s φράξαντο ‘provided with a defense wall’ (*Il*. 15.566). A final objection is that the expected outcome of Epic **r̥* after a labial consonant is -ρο-. This problem could perhaps be mended by assuming that the vernacular α-vocalism was generalized, but then it remains unclear why the vernacular form with -αρ- was not introduced.

In conclusion, I propose that the verbal paradigm of φράσσω, with its factitive semantics, originated as a denominative beside compounded *to*-adjectives like **n̥-p^{h}r̥k^{h}-to-* ‘un-walled, without defense’. The creation of **p^{h}e-p^{h}r̥k^{h}-méno-* ‘fortified’ and an aorist **p^{h}r̥k^{h}-s-* ‘to provide with a defence wall’ followed productive patterns in early Proto-Greek. The regular outcome of **p^{h}r̥k^{h}-s-* is preserved in Old Attic, Alcaeus, and Argolic as φαρξ-, but its stem was replaced in later Attic and the Koine with φραξ-. Although the precise origin of this latter form remains unclear, influence of the present φράγνυμι or φράσσω on all the other forms seems highly unlikely to me.

9.2.4 Conclusion

The three verbs with a non-ablauting root *CraC*- treated in this section cannot be used as evidence in favor of **r̥* > -ρα-. From a phonological perspective, it is possible to analyze δράσσομαι and γράφω as older nasal infix presents. Note that βλάβομαι (chapter 10) and γράω (section 9.1) favor the idea of a regular vocalization **CLn̥C* > *CLaC*. The reconstruction **drn̥g^{h}-i̯e/o-* of δράσσομαι is favored by the Avestan cognate *dražaite* ‘holds’, and in the case of γράφω, **grn̥b^{h}-e/o-* is the most obvious way to explain the appearance of γραφ- in dialects with *o*-colored reflexes of **r̥*. Finally, even if the origin of -ρα- in φράσσω remains unclear, an older form with **r̥* > -αρ- is probably retained in the Attic aorist φάρξαι.

From a morphological perspective, it may be asked whether it is legitimate to assume an older nasal infix present in γράφω, because there is no obvious cognate formation. In Greek, there are hardly any nasal presents of the type Ved. *yunákti* (athematic), Lat. *iungō* (thematic), but there is one probable instance: λάμπω ‘to glow, shine’. A nasalless root **leh$_2$p-* is attested in Hitt. *lāpta* ‘flashed’ < **leh$_2$p-t*, Lith. *lópė* ‘light’, OPr. *lopis* ‘flame’, and perhaps in OIr. *lassar* ‘flame’, W. *llachar* ‘shining, brilliant’ < PCelt. **lapsaro-*. Greek may have preserved the outcome of the nasal infix formation **lh$_2$np-* because the root had been reanalyzed as atelic λαμπ-: cf. the presence of the nasal λαμπρός ‘brilliant’ which replaces the outcome of an older **lh$_2$p-ró-*.

9.3 Word-final **-r̥*

As we have seen in section 1.2.3, it has been proposed that a Proto-Greek word-final **-r̥* developed to -αρ at an early date in all Greek dialects, including Aeolic, Arcado-Cyprian, and Mycenaean. In the traditional framework, this development to -αρ was noteworthy because it differed from the regular word-internal outcome -ρα-. In combination with the parallels from Indo-Iranian and Celtic, this different development led to the idea that **-r̥* > -αρ was chronologically prior to word-internal **-r̥-* > -ρα-. But given the evidence for word-internal **r̥* > -αρ- in Ionic-Attic, the chronological argument ceases to be cogent. In this section, I will therefore focus on the following two questions:

(1) did all dialect groups undergo a change **-r̥* > -αρ, with *a*-vocalism?
(2) Is there any evidence for the chronological priority of the word-final vocalization?

Let us start with the evidence from dialects with an *o*-coloring word-internal reflex. In chapter 3, we have seen that Lesbian poetry, just like Ionic-Attic, only attests forms in -αρ, -ατος. However, it is hard to exclude in general that literary Lesbian forms are epicisms, so that their

probative value is reduced considerably. Moreover, -αρ, -ατος could be due to a leveling of *-ορ, -ατος.

In section 1.3.2, we have discussed Ruijgh's opinion that the regular Mycenaean development was *-*r̥* > -ορ. Ruijgh made this assumption mainly in order to explain the cases of *o*-vocalism in Mycenaean neuter *n*-stems and heteroclitics. But his scenario appeared to be rather doubtful, and it must be stressed that there is no direct evidence for heteroclitics in /-or/ in Mycenaean. In fact, García Ramón (1985: 212-16) has collected a number of Arcado-Cyprian and Mycenaean cases of word-final *-ar* < *-*r̥*, of which the following are quite suggestive:[1080]

- Arcadian παρ 'by' < PIE **pr̥*
- Myc. *a-mo-ra-ma* /āmōr-āmar/ 'day by day', Cypr. *āmar* 'day'
- Cypr. *autar* (= Hom. αὐτάρ)
- Myc. *A-RE-PA* /aleip^{h}ar/ 'unguent'.[1081]

Even if we leave aside the two heteroclitics *āmar* and *A-RE-PA*, Arc. παρ and Cypr. *autar* still seem to speak in favor of an early word-final outcome *-ar* in the Achaean dialects.[1082] I am therefore inclined to agree with García Ramón on this point, but some caution is necessary in view of the limited amount of evidence.

There is, however, one potential problem with a pan-Greek outcome *-*r̥* > -αρ: the Homeric neuters ἦτορ 'heart' and ἄορ 'sword'.[1083] Theoretically, these words could be vestiges of a dialect which had an *o*-colored reflex of word-final *-*r̥* – but which dialect? If a change *-*r̥* > *-ar* in Achaean dialects is accepted on account of the forms cited by García Ramón, one would have to assume that ἦτορ and ἄορ originated in an Aeolic dialect. But does -ορ in these forms really derive from *-*r̥* in the first place?

9.3.1 ἄορ and ἦτορ

In Homer, ἄορ is attested in the NAs. (10x) and the Ds. ἄορι (12x, mostly as a dactyl with metrical lengthening).[1084] In most instances, the NAs. ἄορ is followed by another consonant, so that we could envisage to assume an older form *ἄωρ (cf. τέκμωρ). However, the colon ἄορ ὀξύ (3x) shows that the short suffixal vowel in the NAs. is real.

The etymology of ἄορ is unclear. The traditional derivation from ἀειρω as 'hanger' (Frisk, q.v.) is formally unattractive: a neuter zero grade root noun, with the semantics of an agent noun, would be unparalleled. Moreover, a pre-form with *-w-* is phonologically impossible if the Mycenaean PN *a-o-ri-me-ne* /ahori-menēs/ is related. The reconstruction *ǫ̥ns-r̥, based on the comparison with Lat. *ēnsis* 'sword', Skt. *así-* 'knife', and Palaic *ḫasira-*

[1080] García Ramón (o.c. 215) actually speaks of a "morphonological shift", and assumes a rather complicated scenario involving sandhi phenomena. But whatever the underlying phonological processes, it seems clear that word-end was a conditioning factor for the outcome *-ar*.

[1081] In principle, *āmar* and the form /aleip^{h}ar/ underlying *A-RE-PA* could owe their *-ar* to a generalization of the *a*-vowel in the oblique cases of neuter heteroclitics. But it should be taken into account that *A-RE-PA* (with underlying Ns. form) is a ligature, which probably came into being at a rather early date (García Ramón 1985: 212 with n. 62). It is therefore possible, though not certain, that *A-RE-PA* contains *-ar* as the regular outcome of *-*r̥*.

[1082] Thus, it is incorrect that the only examples for the development of word-final *-*r̥* are found among heteroclitic neuters of the type ἦμαρ, -ατος, as stated by Haug (2002: 51). If we derive Arc. παρ from **pr̥* by an early word-final vocalization, we have to assume that the preverb remained **pr̥-* for a longer time, in view of Hom. προκείμενα < **pr̥-keimena* (see section 7.2.6).

[1083] See e.g. Ruijgh (1961, 1985). García Ramón (1985: 214) suggests that their vocalism is secondary after the compounds in -ήτωρ, -άωρ. I doubt whether this can be correct, because the supposed analogy would have led to the introduction of a novel type (neuters in -αρ were a well-established category).

[1084] The hapax Ap. ἄορας (*Od*. 17.222), which is irreconcilable with an old neuter, must be a later deformation.

'dagger', is not much better: the different suffixation of the Greek word would remain unexplained, and the Sanskrit and Anatolian words remain problematic on their own account.[1085] Ruijgh's (1985: 153ff.) morphosemantic analysis of this pre-form *$*ǫ̯ns-ṛ$* as 'life-saver', from the root of νέομαι 'to return', seems rather far-fetched. Since we are dealing with an item of material culture, a borrowing seems the most likely possibility. This could at the same time explain the aberrant morphology and inflection of ἄορ. For these reasons, I will refrain from using ἄορ in this discussion.

This leaves us with the isolated ἦτορ, which only occurs in the NAs. in Homer (95x, mostly verse-final).[1086] Both the Classical prose form ἦτρον 'abdomen' < *$*ētr̥-o-$* and the outer-Greek cognates OIr. *inathar* 'entrails, bowels', OHG. *ādara* (f.) 'vein' contain the *r*-suffix, and point to a PIE stem *$*h₁eh₁t-r-$*. It is reasonable, then, to assume that the Epic form ἦτορ continues a pre-form PGr. *$*ētr̥$*. However, given that Epic forms with -ρο- like βροτός need no longer be explained as Aeolicisms (see chapter 7), I do not consider an Aeolic origin of ἦτορ to be very likely. Since we are dealing with a unique example for the alleged development *$*-ṛ$* > -ορ, I will not base any conclusions on ἦτορ.

The *a*-coloring of Cypr. *autar*, Arc. παρ, and possibly Myc. *āmōr-āmar*, *A-RE-PA* is opposed to the evidence for *o*-vocalism (or lack of evidence for *a*-vocalism) in word-internal position in these dialects. It therefore seems to follow that the vocalization in word-final position was earlier in this dialect group.

9.3.2 *$*-ṛ$* > -αρ in Ionic: chronology

Let us now turn to our second, chronological question: is it possible to assume that the vocalization of *$*-ṛ$* was a Pan-Greek development? As we have seen (section 1.2.3), García Ramón (1985: 212-3) argued that ἔαρ (Gs. ἔαρος) 'spring' < PGr. *$*wesṛ$* proves the chronological priority of *$*-ṛ$* > -αρ over the intervocalic lenition *-*s*- > -*h*-. But Haug (2002: 51) rightly remarked that a development PGr. *$*wesṛ$* > *$*wehṛ$*, with a later vocalization of *$*-ṛ$*, cannot be excluded. The example does prove that *$*-ṛ$* vocalized before the loss of intervocalic **h*. But if τραυλός does indeed derive from *$*trahuló-$* < *$*tṛsuló-$* (see section 9.1), this conclusion does not help us to chronologically distinguish the word-final and word-internal developments of *$*ṛ$*.

Let us now consider the Homeric reflexes of the etymon *$*wesṛ$*. In fact, the evidence seems to presuppose that -αρ- had been generalized in the oblique cases at a rather early date. It is usually assumed that the PIE ancestor of ἔαρ was a heteroclitic neuter *$*ues-r$*, *$*ues-n-$*, but no individual IE language attests such a paradigm. Ved. *vasar˚* (in *vasarhá-*, of unclear meaning) and *básri* 'in the morning', *vāsará-* 'matutinal', Av. *vaŋri* 'in spring', Lat. *vēr*, ON *vár*, Arm. *garown*, all 'spring', simply point to a plain *r*-stem. An *-n*- is attested only in Slavic (e.g. OCS *vesna* 'spring'),[1087] but given that the *-r*- also appears in Lith. *vãsara* 'summer', one might rather assume that the Slavic *-n*- was taken from another lexeme, e.g. 'autumn' (OCS *esenь*, OPr. *assanis*). In my view, the pervasiveness of the *-r*- in derivatives, especially the locatives Ved. *básri*, Av. *vaŋri*, as opposed to e.g. Ved. *áhani* to *áhar* 'day', forbids us to reconstruct an oblique stem with *-*n*-. This leads to the following reconstruction of an acrostatic neuter *r*-stem in PIE:

Ns. *$*ués-r$* (ἔαρ, ON *vár*, Ved. *vasar˚*)[1088]
Ls. *$*ués-r-i$* 'in spring' (Ved. *básri*, Av. *vaŋri*)
→ *$*uesri-nó-$* 'spring-' (Lat. *vernus*, Hom. εἰαρινός).[1089]

[1085] For criticism, see de Vaan (*EDL* s.v. *ēnsis*, with refs.).
[1086] The Ds. ἤτορι is found only once in Pindar (fr. 52f.12) and is clearly secondary.
[1087] Ved. *vasantá-* 'spring' contains a different suffix.
[1088] For the derivation of ON *vár* from PIE *$*ués-r$*, see Gąsiorowski (2012).

The appearance of εἰαρινός in Homer shows that the generalization of -αρ- was early: there is no trace of the expected outcome $^{++}$εἰρινός in Epic Greek, even if a putative |$_B$ $^{++}$εἰρινὸς ὥρη 'spring season' would have yielded a convenient formula. Instead, we find |$_B$ εἴαρο[ς ὥρῃ 'in spring' (Hes. fr. 70.13), |$_B$ ἦαρος ὥρῃ (*h. Dem.* 174), and Homer only uses the first hemistich ὥρῃ ἐν εἰαρινῇ (4x), probably replacing earlier *ὥρῃ (Ϝ)εἰαρινῇ (cf. Chantraine 1942: 128). All these formulae show a metrically lengthened form of the root. It seems to follow that *εἰρινός did not exist even in the earliest stages of the Epic tradition, and that **wehar*, **weharinó-* had been generalized already before Proto-Ionic. In view of the ample evidence for the prolonged retention of word-internal **r̥* in Epic Greek when this sound vocalized in the Proto-Ionic vernacular, this suggests that the vocalization of word-final **r̥* preceded that of word-internal **r̥*.

Most of the further Homeric evidence for word-final -αρ consists of neuter heteroclitics, such as ὄνειαρ 'boon, refreshment', plur. ὀνείατα. In such paradigms, the ending -αρ may theoretically have introduced the vowel of the oblique suffix -ατ-. But in a number of other neuters which are only attested in the NAs. in -αρ, it is less easy to assume such analogical influence: εἶλαρ 'defense wall' < **wel-wr̥*, ἄλκαρ 'defense', ὕπαρ 'waking vision', πῖαρ 'fat', ὄναρ 'bad dream'.[1090] It is not evident that all these forms were originally heteroclitic, or that their heteroclitic inflection was preserved long enough to influence the outcome -αρ. While ὕπαρ and ὄναρ remain in use in Classical prose, the forms εἶλαρ, ἄλκαρ, and πῖαρ are poetic and quite possibly Epic words. In Homer, εἶλαρ is formulaic, and a substitution of Epic **r̥* for -αρ is metrically impossible in any of its five instances. There is no trace of the supposed heteroclitic inflection in θέναρ 'palm of the hand' (in Homer only Gs. θέναρος *Il.* 5.339; the NAs. is attested in Pindar).[1091] Thus, these forms confirm the conclusion drawn on the basis of ἔαρ, ἔαρος: the vocalization to -αρ seems to have been earlier than that in word-internal position.

Finally, it deserves attention that the following adverbs or particles in -αρ are attested in Homer, and uncommon in later poetry:

εἶθαρ 'straightaway, forthwith' < PGr. **i̯eut^h-r̥* (only 9x *Il.*, always with -αρ in the arsis in front of δέ).[1092]

ἄφαρ 'straightaway, forthwith; suddenly, swiftly' (34x, often in front of δέ).[1093]

αὐτάρ (particle) 'on the other hand' < PGr. **au-tr̥*.

Their rarity in post-Homeric Greek suggests that these particles were traditionally limited to Epic Greek. However, there is no trace of Epic **r̥* in word-final position in these particles. This again suggests that the word-final vocalization **r̥* > -αρ had already taken place when Epic **r̥* arose as a consequence of the vernacular vocalization of word-internal **r̥*.

9.3.3 ὑπόδρα and other instances of -ρα

Let us now return to Hoenigswald's idea (section 1.2.3) that ἄρουρα, τόφρα, and ὑπόδρα have the regular outcome of **-r̥* after a light syllable.[1094] Hoenigswald (1988: 201-02) noted that

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[1089] The Class. form ἠρινός is a contraction of *ἐαρινός.

[1090] Note, however, that ὄναρ has a plural ὀνείρατα, traditionally interpreted as a contamination between ὄνειρος and earlier *ὄνατα (Chantraine 1933: 218; Frisk, q.v.).

[1091] Cf. Risch (1974: 62). The word has to be compared primarily with OHG *tenar* 'id.'. But if Lat. *femur, -inis* 'thigh' is related, the word was originally a heteroclitic. A stem in -αρ- was also generalized in post-Homeric κύαρ, -αρος 'eye of a needle, orifice' (Hp.+).

[1092] For the etymology, see Willi (2002).

[1093] Nothing can be based on the derivative ἀφάρτερος 'swifter', of horses (*Il.* 23.311), which looks like a nonce formation.

[1094] Forssman (1980: 192 n. 63) speculated that δεῦρο 'hither, here' could be reconstructed as **de-wr̥t* "*hergewendet*, turned hither". For the formation, he compares Avestan *fraorəṯ* 'willing' (< "turned forward"),

most instances of word-final -αρ have a heavy penultimate syllable, e.g. ἦμαρ 'day', φρεῖαρ 'source', ὄνειαρ 'benefit' (all Hom.+) < PGr. **āmr̥*, **p^{h}rēwr̥*, **onāwr̥*. He remarked that all such examples have the heteroclitic suffix **-wr̥*, and proposed that ἄρουρα 'farmland' also originally contained this suffix. Thus, ἄρουρα would derive from a PGr. neuter **aro-wr̥* (with the root of ἄροτρον 'plow', ἀρόω), and is supposed to show a conditioned development **-r̥* > -ρα after a light syllable.[1095] Hoenigswald adduced two other examples for this rule: ὑπόδρα '(looking) sternly' < PIE **upo-dr̥ḱ*, and τόφρα 'up to that point, that long', which was reconstructed by Hamp (1983) as PIE **to-b^{h}r̥-t*, literally "carrying that".[1096]

We have already remarked that nothing can be based on Hoenigswald's scenario for ἄρουρα 'cultivated land', the reconstruction of which is much-debated. The Old Irish Ns. *arbar*, Gs. *arbe* 'grain, corn' < PCelt. **arawr̥*, **arwens* does indeed presuppose an original heteroclitic paradigm, but the most commonly accepted reconstruction of ἄρουρα is **h$_2$rh$_3$-ur-ih$_2$*.[1097] Finally, if one assumes that ἄρουρα is an older collective, a thematicized derivative PGr. **aro-wr-o-* cannot be excluded.[1098]

Concerning τόφρα as the direct outcome of PGr. **top^{h}r̥*: Hamp's reconstruction PIE **to-b^{h}r̥t* is merely a possibility. Even if it is correct, one could assume that the final -α was taken over from another temporal adverb or conjunction after the loss of **-t*, for instance from ἔνθα 'then; when', μίνυνθα 'a short while' or ἔπειτα 'then'. Alternatively, τόφρα could be the old neuter plural of a thematic formation **to-b^{h}r-o-*. Finally, a regular -ρα < **-r̥* in τόφρα would be at odds with the reflex -αρ in adverbs like ἄφαρ and ἀτάρ.

This leaves us only with ὑπόδρα: its reflex -ρα must be accounted for. Hoenigswald's explanation for the different treatment of ὑπόδρα and φρεῖαρ is ingenious, but it can hardly be correct. First of all, his scenario does not adequately explain the outcomes of word-internal **r̥* (see section 1.4.4). A further problem is the existence of counterexamples. Hoenigswald assumes that ἔαρ 'spring' < PIE **wes-r̥* introduced -αρ from other heteroclitic neuters. But as we have just seen, ἔαρ does not have heteroclitic inflection in Greek, and even the existence of a heteroclitic PIE avatar is doubtful.[1099] There are more counterexamples: the particles ἄφαρ and ἀτάρ (assuming that they derive from a pre-form in **-r̥*), and notably δέλεαρ 'bait' (E., X., Pl.) < PGr. **g^{w}éle-wr̥* 'pierced (piece of meat)'.[1100] This word is synchronically isolated: it preserves the old meaning 'to pierce' of the PIE root **g^{w}elh$_1$-* continued in βάλλω 'to throw, hit', and for this reason did not restore the labiovelar outcome δε- (as opposed to β- in βέλος, βέλεμνα).

Let us now consider the actual attestations of ὑπόδρα. It only occurs in one single Epic formula ὑπόδρα ἰδών |$_{\text{P}}$ 'looking sternly' (26x Hom., further only ὑπόδρα ἰδοῦσ' *Scut*. 445),

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Vedic adverbs in *-vr̥t* (*án-apā-vr̥t*), and Proto-Celtic **writ-* 'against' < **wrt-(V)*. But since δεῦρο is also a normal Ionic-Attic prose word, I do not think that the *o*-colored outcome of **r̥* can be accounted for.

[1095] With a secondary transition to the feminine gender.

[1096] The *-t*-extension in composition was a regular addition to roots ending in a resonant or glide already in PIE: see the Vedic compounds in *-kŕ̥t-*, *-vŕ̥t-*, and especially *bhāra-bhŕ̥t* 'carrying a burden'.

[1097] Cf. Peters (1980: 143ff. and 198ff., following Solmsen), and see Widmer (2004: 45f.) on the semantic difference between Celtic 'grain' and Greek 'cultivated land'.

[1098] Beside Hom. ἀλείατα, Arm. *aliwr* 'flour' < **alēwr̥* < PIE **h$_2$leh$_1$-ur*, we find ἄλευρον, plur. ἄλευρα 'flour' < **aleur-o-*, as well as Myc. *me-re-u-ro* 'id.' < **mele-wr-o-* "ground stuff". For such a thematicization, cf. νεῦρον, νευρά 'sinew, bowstring' < PIE **sneh$_1$-ur-o-m*, **-eh$_2$-*, where Greek does not preserve the older heteroclitic found in Av. *snāuuarə* < PIE **sneh$_1$-ur-*.

[1099] Moreover, if ἔαρ were an original heteroclitic, it would remain unclear, in Hoenigswald's scenario, why its treatment was different from that of ἄρουρα. An alternative suggestion of Hoenigswald's is a pre-form **wēs-r̥* (l.c., n. 15), but it would be *ad hoc* to assume a lengthened grade formation on the sole basis of Greek, given that the Homeric forms with εἰαρ- can be adequately explained by metrical lengthening in a tribrachic sequence.

[1100] Of course, it cannot be excluded that δέλεαρ was re-created beside the oblique stem δελέατ-. However, the fact that the oblique δελέατ- is first attested in post-Classical times does not render this option very attractive.

which recovers **upodra widōn*.[1101] Since all other forms with etymological word-final **-r̥* ended up with -αρ already in Homer, it would be attractive to ascribe the different outcome in ὑπόδρα to the lost word-final consonant. It is impossible, however, to insert the original word-final stop **-k* in this formula. For this reason, I propose that ὑπόδρα is the product of a form with Epic **r̥* in word-final position: **upodr̥k* did not join the early vocalization of **-r̥*, then developed to **upodr̥*, and preserved in this form until it entered Epic Greek as part of the syntactic unit **upodr̥ widōn*. This means that we have to assume the following chronology:

1. word-final vocalization **-r̥* > -αρ (**upodr̥k*)
2. loss of word-final consonants (**upodr̥*)
3. creation of the Epic formula (**upodr̥ widōn*)[1102]
4. vocalization of all remaining **r̥* > αρ in the vernacular, but preservation of the formula **upodr̥ widōn* with Epic **r̥*
5. vocalization of Epic **r̥* (ὑπόδρα (Ϝ)ἰδών)

There is one complication with the reconstructed colon **upodr̥ widōn* |P: with its sequence of four light syllables, it would not fit the Epic hexameter. This means that we have to assume an old metrical lengthening. This may seem like an *ad hoc* assumption, but in fact, a rather similar case is provided by the pair ἀπειρέσιος ~ ἀπερείσιος 'countless, unlimited'. Both forms are adaptations of a pre-form **n̥-per-eto-* "which cannot be traversed"[1103], which did not fit in the hexameter:

- ἀπειρέσιος 4x, of which 3x before |P
- ἀπερείσιος 13x, only |H ἀπερείσι' ἄποινα and |H ἀπερείσια ἕδνα 'immense dowry'.

It is true that ἀπειρέσιος |P is one single word, whereas ὑπόδρα ἰδών |P is a syntagm, but metrical lengthening could be applied to syntagms too: in Στυγὸς ὕδατος, Στυγὸς ὕδωρ (used between |P and |B), the forms ὕδωρ and ὕδατος would not require metrical lengthening on their own account. If we accept that **upodr̥ widōn* could be treated as a single unit for metrical purposes, metrical lengthening of the second syllable was the only way to use this syntagm in the Epic hexameter. Apart from ἀπειρέσιος, we could then compare other cases of seemingly old metrical lengthening in the second arsis:

- ἠγάθεος |P (11x, always in this position, traditional epithet of Pylos)
- ὥρῃ ἐν εἰαρινῇ |P (4x, beside 2x verse-final |B εἰαρινῇσιν, -οῖσιν)
- νύκτα δι' ἀμβροσίην |P (5x, but also frequent in other positions, see section 7.2.3).

Thus, I tentatively suggest to explain ὑπόδρα ἰδών as containing the reflex of Epic **r̥* in a syntagm.[1104] As far as I am able to see, this is the only way to account for the outcome -ρα < **-r̥T* in ὑπόδρα, as opposed to -αρ < **-r̥* in all other examples (and word-internal -αρ- in the vernacular). The loss of word-final stops was very early (it has left no prosodic or

[1101] The Hellenistic poets Callimachus and Nicander attest the secondary reshaping ὑποδράξ 'id.'.

[1102] For semantic reasons, one could assume that the original shape of the formula was **upodr̥ dr̥kōn* (see section 8.3.1 on the semantics of the root δερκ-).

[1103] For this semantic interpretation and the deverbal derivation of ἀπειρέσιος, ἀπερείσιος, see Vine (1998: 26ff.).

[1104] It is not possible to explain τόφρα in the same way as ὑπόδρα. Given that the adverb is almost exclusively verse-initial in Homer, a supposed **top^{h}r̥* would scan regularly in an acephalic verse, as attested for verse-initial ἐπεί (*Il*. 23.2, *Od*. 4.13, 8.452, 21.25, 24.482, in all these cases followed by δή). But the acephalic use of ἐπεί (745x) is clearly incidental, whereas τόφρα is exclusively verse-initial. Moreover, we expect the outcome of Epic **r̥* to be colored by a preceding labial stop (cf. πρόσω, Ἀφροδίτη). It is better to regard the etymology and precise reconstruction of τόφρα as uncertain.

phonological traces in Epic Greek),[1105] and if the above scenario for ὑπόδρα is accepted, it furnishes a strong piece of evidence for a still earlier, Pan-Greek vocalization of word-final *-*r̥*.[1106] It also seems likely that initial digamma was still in place when Epic **r̥* vocalized: one would expect a **upodr̥ idōn* to have vocalized as ++ὑπόδαρ ἰδών. This part of the chronology is corroborated by the *o*-coloring of Epic **r̥* in Hom. ῥοδόεντ- < **wr̥dowent-*.

9.4 Uncertain evidence for -αρ- and -ρα-

The forms in this section can be left aside from the compelling evidence for the development of **r̥*. In most cases, previous authors have proposed a pre-form with **r̥*. Etymologies with an obvious weakness are not discussed separately;[1107] neither are forms which can be due to secondary ablaut.[1108] I will first discuss forms that are too ambiguous to serve as evidence, and then discuss etymologies that are in my view untenable. The material is treated in alphabetical order.

9.4.1 Ambiguous or uncompelling evidence

Vine (1998: 81-2) has derived the nominal form **ἅρπαξ** 'rapacity; rapacious, robber' (Hes.+) and the denominative verb ἁρπάζω 'to rob, seize, plunder' (*Il*.+, plus further derivatives) from a compound **sr̥-ph$_2$g-*. He proposes (o.c. 48-9) to connect **sr̥-* with αἱρέω 'to take, seize', which in his view can be reconstructed as **sr̥-i̯e/o-* which was influenced by ἀγρέω 'to seize'.[1109] But since Vine leaves open the analysis of the second element *-*ph$_2$g-* of this compound, we have to exclude ἅρπαξ from the evidence.

The substantive **ἀτραπός ~ ἀταρπός** 'trail, footpath' has no clear etymology. Chantraine (*DELG* s.v. ἀτραπός) remarks that the connection with τρέπω 'to direct, turn towards', ἀτραπός denoting a "chemin qui ne tourne pas", is folk-etymological. Both Frisk and *DELG* (s.v. ἀτραπός) assume that the word consists of copulative ἀ- and the root of τραπέω 'to tread grapes', in which case the original meaning would be "trodden path". It is problematic, however, that copulative ἀ- is normally used to form possessive compounds of the type ἄλοχος 'spouse' < *"having the same bed". Apart from this, the passive meaning 'trodden' would require a formation in *-*tr̥p-tó-*, because τραπέω is a transitive verb. Beekes (*EDG* s.v. ἀτραπός) suggests that the variation ἀτραπός ~ ἀταρπός is a substrate phenomenon, but his comparison of Ru. *tropá* 'path' is nothing more than a guess.

Previous treatments of this word have left the variation -ρα- ~ -αρ- unexplained. The prose form was clearly ἀτραπός (25x up to Plato in the online *TLG*), while the variant ἀταρπός (even less common: 5x) is limited to poetic authors.[1110] With one exception, ἀταρπός

[1105] It has been supposed that the adverbs in -δαπός contain a trace of of word-final stops (cf. Beekes *EDG* s.v. ἀλλοδαπός), assuming that -δ- would have originated in the neuter pronoun PGr. **al̥i̯od*. But as long as the origin of the suffix -δαπός itself remains obscure, the idea remains unprovable.

[1106] On the basis of ὑπόδρα, Barnes (2011: 2 with n. 6) recently claimed that the word-internal development **r̥* > -ρα- pre-dated the loss of word-final stops: "the resolution of syllabic *r̥* is quite early within the relative chronology of Common Greek sound changes: it must precede, for example, the loss of final consonants, which have disappeared without any prosodic trace." But this argument depends on two crucial premises: (1) that the word-internal development was **r̥* > -ρα-, and (2) that word-final *-*r̥* > -αρ is part of the same development. Both assumptions are incorrect.

[1107] I mean words such as (1) πάρνοψ 'grasshopper', Lesb. Boeot. πόρνοψ. This word clearly belongs to the substrate in view of its suffix, its meaning, and because of the variants with initial κ- (cf. Beekes *EDG* s.v.). This means that -αρ- / -ορ- is not necessarily due to a different vocalization of a syllabic liquid. Cf. further: (2) ῥάβδος 'wand, staff', which can hardly have an IE etymology in view of its suffixal -δ-; (3) ῥάδαμνος 'branch' (LXX), which has a variant ὀρόδαμνος (Thphr., Call., Nic.).

[1108] Such as δαρτός beside δέρω 'to flay', σπαρτός beside σπείρω 'to sow', etc.

[1109] Itself, ἀγρέω can be analyzed as a denominative verb which was derived from compounds in *-*agro-* 'seizing', from the root of ἀγείρω 'to gather' (cf. Tucker 1990: 168).

[1110] Hom. (*Il*. 17.743, *Od*. 14.1), Alcm. (fr. 102), Parm. (fr. 2) and Empedocles (fr. 112).

is found in verse-final position of a hexameter. The same variation appears in ἀταρπιτός 'id.' (only *Il*. 18.565, *Od*. 17.234, *h. Ap*. 227, Parm. fr. 20) beside ἀτραπιτός (only *Od*. 13.395). These forms are based on the more usual word ἁμαξιτός (adj.) 'traversible by wagons', (subst.) 'carriage-road' (*Il*.+, qualifies ὁδός in Pi. *Nem*. 6.54, X. *Anab*. 1.2.22). Again, the normal epic form has -αρ-, while the hapax ἀτραπιτός can be considered a nonce formation, created under the influence of the vernacular form ἀτραπός. If ἀτραπός contained the older vocalization, it is not evident why it would be shunned by hexameter poets. *DELG* remarks that ἀταρπός is preferred for metrical reasons, but a dactylic form ἀτραπός would not be inconvenient by definition. We may therefore conclude that ἀταρπός is the older Ionic form. But if so, how did ἀτραπός come into being?

I propose that ἀτραπός was originally an adjective of the type ἄγραφος 'unwritten' with privative ἀ-, and to reconstruct a pre-form **n̥-tr̥p-o-* 'untrodden' where **tr̥p-* would be the old zero grade of τραπέω 'to tread (grapes)'. Departing from collocations like ἄτραπος ὁδός or ἄτραπος κέλευθος 'untrodden path', the oxytone accent of ἀτραπός can be ascribed to its substantivization. The meaning 'untrodden' excellently suits the attestations of the word. In Herodotus and Thucydides, ἀτραπός exclusively refers to the shortcut at Thermopylae by means of which the Persians take the corridor. This ἀτραπός was probably more like a trail than a path. In Homer, we find κατὰ παιπαλόεσσαν ἀταρπόν 'along a rugged path' and τρηχεῖαν ἀταρπόν 'rough path'. The Epic forms ἀταρπός and ἀταρπιτός would then contain the regular Proto-Ionic development of a pre-form **n̥-tr̥p-o-*, whereas the prose form ἀτραπός would have to be due to influence of the verb τραπέω.[1111] In τραπέω itself, -ρα- would have to be due to an unattested full grade **trep-*. It must be admitted, however, that the assumed influence of τραπέω on the lexicalized item ἀταρπός remains rather hypothetical. It is therefore better not to base any conclusions on ἀτραπός ~ ἀταρπός.

The root vowel slot of **εἵμαρτο** 'obtained by lot or fate' (Hom.+) could in principle be secondary after μείρομαι and ἔμμορε 'id.' (both Hom.).[1112] The same analogy can be invoked for the Aeolic pendant ἐμμόρμενον (Alc.), which may be a replacement of the regular Aeolic reflex with -μ(β)ρο-, or a more direct reshaping of the active ἔμμορε. But it would be attractive, in view of the reflex of compensatory lengthening and the initial aspiration in εἵμαρτο, to assume that this form represents the regular outcome of **hehmr̥to*.

In lexicographical sources, two variants with a sequence -μβρα- are attested: ἐμβραμένα· εἱμαρμένα (*EM* 334.10 = Sophr. fr. 119) and ἔμβραται· εἵμαρται (Hsch.).[1113] Both are quoted as Doric in Frisk, because they are ascribed to Sophron, a writer of prose dialogues in a Sicilian Doric dialect (Syracuse, a colony of Corinth). The independent evidence of two glosses cannot be lightly dismissed. However, since they are of non-Ionic origin, they are of no consequence for the present thesis that the Ionic outcome is -αρ-. It is not easy to evaluate the evidence of the Doric dialects of Magna Graeca generally: there is some evidence for both -ρα- and -αρ- (see section 3.3).

καρπός 'wrist' (Hom.+) has been etymologically connected with the Germanic strong verb **hwerban-* 'to turn' (Goth. *ƕairban* 'to move around, dwell', ON *hverfa* 'to turn around; disappear', OE *hweorfan* 'to turn, travel, move around, change', etc.).[1114] The phonological side of this equation is unproblematic (**k*^{w} … *p* dissimilated to κ … π in Greek, whether **k*^{w} derives from PIE **k*^{w}- or from **ḱu̯-*),[1115] but the semantic connection is not extremely

[1111] In poetry, ἀτραπός is attested in Semonides (fr. 14), Pindar (fr. 52k about a shaded, dark path), Empedocles (fr. 24), and in Aristophanes (5x). Furthermore, a denominative verb ἀτραπίζω occurs once in Pherecrates (fr. 26 Kock).

[1112] In Hom. εἵμαρτο occurs 3x in an almost identical line: νῦν δέ με λευγαλέῳ θανάτῳ εἵμαρτο ἁλῶναι (*Il*., *Od*.), and νῦν δ' ἄρα σ' οἰκτίστῳ θανάτῳ εἵμαρτο ἁλῶναι (*Od*.)

[1113] The gloss βεβραμένων, cited in the etymological dictionaries, is not retained in Latte's edition of Hsch.

[1114] For the connection, see Pokorny s.v.

[1115] See section 10.4.4 and Schwyzer (1939: 302) for the evidence.

compelling. For this reason, καρπός ‘wrist’ is at best a possible example of the vocalization to -αρ-.

The Epic adjective **καρπάλιμος** ‘agile, swift’ contains a suffix -άλιμος which, like -αλέος, is synchronically one of the secondary Caland suffixes (see Risch 1974: 105).[1116] Even if the origin of -άλιμος is unclear, it could be suspected that Epic Greek once had an adjective **k^{w}érp-u-*, **k^{w}r̥p-éw-*, to be compared with ON *hverfr* ‘quick’. While the connection is semantically plausible, the lack of a direct formal counterpart suffices to eliminate καρπάλιμος from our compelling evidence. Moreover, the vowel slot of the reconstructed root **k^{w}erp-* is identical to that of καρπάλιμος, so that the reflex -αρ- may have been analogically restored in the assumed ablauting *u*-stem adjective (see section 4.1.1).

The present **κάρφω** ‘to dry up, wither, wrinkle’, especially of the skin, is first found in Hesiod (*Op*. 7 and 575); its sigmatic stems are attested in the *Odyssey* (13.398 and 430), and the verb remains current only in poetry. Derivatives are κάρφος (n.) ‘arid stalk, twig, chip of wood, halm, hay’ (Ion.-Att.), καρφηρός ‘made of dry straws’ (E. *Ion* 172), κάρφη ‘hay’ (X.), and notably καρφαλέος ‘arid’ (*Il*. 13.409, *Od*. 5.369) which clearly influenced αὐαλέος and ἀυσταλέος ‘id.’.[1117] Chantraine (1933: 253f.) suggests that καρφαλέος was derived from κάρφος, but given the concrete lexicalized meanings of κάρφος, this is not evident. One might therefore speculate that καρφαλέος replaces an older *u*-stem adjective, which could also underlie the gloss καρφύνεσθαι· ξηραίνεσθαι, φθείρεσθαι ‘to dry up, wither’ (Hsch.).

Letoublon & de Lamberterie (1980) compare κάρφω with Lith. *skrẽbinti* (tr.) ‘to dry, parch’ (and many other meanings like ‘to crackle’), *skrèbti* (intr.) ‘to dry up, become parched or roasted, develop a crust’.[1118] This comparison is excellent both semantically and formally, except that it would entail, in their reconstruction **kreb^{h}-*, a PIE root with a voiceless and an aspirated stop. Given that the root has *s*-mobile, this problem may be solved by positing **(s)g^{h}reb^{h}-*, with Grassmann’s Law in Greek. Clear cognates of the Baltic verbs are found in Germanic: ON *skarpr* ‘shriveled’ and *skorpinn* ‘wrinkled’, from a root which acquired its *-p-* by degemination from **-pp-*, which developed from **-b^{h}n-* by Kluge’s Law. In his recent study of the Germanic *n*-stems, Kroonen (2011: 108) compares Lith. 1s. *skrembù* directly with OE *scrimman* ‘to shrivel’, MHG *schrimpfen*, *schrumpfen* ‘to shrink’ < **skremb-*, **skrump^{p}-*, and reconstructs a nasal present **skrm̥b^{h}-n(é)h$_2$-*.

Since the reconstructed root **(s)g^{h}reb^{h}-* would have a full grade II, this etymology could furnish additional evidence for a regular vocalization **r̥* > -αρ- in Ionic. There are, however, several problems of detail. First of all, the etymology would entail the reconstruction of a zero grade thematic present **ǵ^{h}r̥b^{h}-e/o-*, for which there is only limited evidence in Greek.[1119] Furthermore, if we reconstruct an older *u*-stem adjective *καρφύς, this

[1116] In Homer mostly adverbial καρπαλίμως, which often accompanies verbs denoting an action involving the hands or feet. The adjective only occurs in the Dp. with ποσί or πόδεσσι.

[1117] The neuter καρφος is also attested in Cyrenaean, a descendant of Laconian. See section 3.3.1 for further possible evidence for αρ < **r̥* in this dialect.

[1118] “lit. *skrèbti* (*skrembù*, *skrebaũ*) ‘eine dünne Kruste ansetzen, sich mit einer solchen überziehen; steif werden, gefrieren; (von Braten, Gebackenem) geröstet, braun werden, sich bräunen, anbrennen, brenzlig werden’ *skrẽbinti* ‘trocknen, dörren; bräunen, rösten; zum Knistern, Rascheln, Klappern bringen; (intr.) rasseln, klappern, rascheln, knistern’ *skrebìnis* ‘etwas Raschelndes’ (…)”, Fraenkel (*LEW* s.v. *skrebéti*, ‘rauschen, rasseln, knistern’). Further possible relatives are Lith. *skir̃bti*, 1s. *skirbstù* ‘to become sour, shrink, become lean’ and *skur̃bti*, 1s. *skurbstù* ‘to become poor, become lean, shrink’.

[1119] According to Letoublon & de Lamberterie (1980: 323), κάρφω, γράφω, and Dor. φθαίρω (beside analogical Att. φθείρω) are examples of old zero grade thematic presents in Greek. They also compare the so-called “Doric presents” of the type τράφω ‘to feed’. In their view, Ionic-Attic innovated by introducing the *e*-vocalism of the sigmatic aorist in τρέφω, as also happened in cases like δείκνυμι (beside δεῖξαι, cf. Cret. δικνυμι), ἔρδω (beside ἔρξαι, cf. Myc. *wo-ze*). It can be objected, however, that there is not much evidence for the so-called *tudáti*-type in Greek, and that a case like τρέχω ‘to run’ cannot have taken its vocalism from the aorist. See the discussion in section 3.2.

can hardly be the outcome of a **ǵʰrébʰ-u-*, **ǵʰr̥bʰ-éu-* because such a paradigm would be expected to yield ++κραφύς after leveling of the full grade slot (see section 4.4). Perhaps, then, the reconstructed *καρφύς is best derived from the intransitive middle κάρφομαι 'to dry up' (Archil.+), in which case the active κάρφω would be a secondary oppositional transitive. Since the oldest Greek situation is hard to reconstruct, it is better not to base any conclusions on κάρφω and καρφαλέος.

The neuter **κράνος** 'helmet' (Hdt., Att.) is the usual word for 'helmet' in Classical Greek, where it replaced the various Homeric terms (see *DELG* s.v.). Beekes (*EDG* s.v., cf. also *DELG* s.v.) remarks that κράνος "must be connected with the group of words for 'head, horn', but cannot contain a laryngeal". Nussbaum (1986: 9) mentions the word as a possible **ḱr̥-n-es-* or **ḱr̥-ne-s-* *'horn' > *'crest' > 'helmet'.[1120] In my view, this reconstruction is too mechanical. There are no clear outer-Greek comparanda, and the formation would be strange for an IE word (zero grade root, double suffix *-n-es-*). In combination with the absence from Homer, all details point in the direction of a borrowing.

κρήνη 'source, well' (non-Ionic κράνα) has no clear outer-Greek comparanda. Within Greek, κρήνη could be connected with the poetic word κρουνός 'source, stream', but only if we depart from pre-forms **kr̥snā-* > **krahnā* > κρήνη and **krosno-* > κρουνός (both with 1st Compensatory Lengthening).[1121] The form κρουνός could then be compared with a Germanic word for 'wave, flood', ON *hrǫnn*, OE *hræn* < PGm. **hraznṓ-* (see Frisk s.v.). However, Lobeck (see *DELG* s.v. κρουνός) already pointed at the possibility that κρήνη reflects a pre-form **krāhnā* < **ḱrh₂s-n-* 'head'. For the semantics, he compared Lat. *caput fontis* and Gr. κεφαλή in the meaning 'fountain'. Indeed, Hesychius also attests a gloss κράνα· κεφαλή. Although Lobeck's proposal would preclude the connection with κρουνός, it could well be correct.[1122]

The PIE root **perḱ-* furnishes a case of -ρα- in the gloss **πρακνόν**· μέλανα (Hsch.). The full grade of the root is found in περκνός 'speckled' (Arist.), name of a bird of prey (*Il*. 24.316), also ἐπίπερκνος (X. *Cyneg*. 5.22). The underlying formation can be compared with Ved. *pŕ̥śni-* 'speckled' and OHG *forh(a)na* 'trout', both of which continue PIE **pr̥ḱ-n-*, and it seems attractive to reconstruct πρακνόν as **pr̥ḱ-nó-*. Within Greek, a full grade is found in πέρκος (m.) 'a kind of eagle', περκή 'a kind of fish, *perca fluviatilis*', περκάζω 'to color dark, ripen', and it was probably introduced in περκνός. It would be rash, however, to conclude that πρακνόν proves a regular outcome -ρα- < **r̥* in the Ionic-Attic vernacular, because the origin of the gloss is unknown. It is possible, for instance, that πρακνόν was taken from a West-Greek dialect which had -ρα- as the regular reflex. Furthermore, the full grade II attested in another gloss, πρεκνόν· ποικιλόχροον. ἐλαφρόν (Hsch., perhaps to be corrected to ἔλαφον 'deer'), deserves to be mentioned.

We further have to discuss the somewhat more obscure gloss **πράκες**· (…) ἔλαφοι 'deer' (Hsch.). Schindler (1972: 34, 36) compared πράκες with the rare word πρόξ, -κός 'deer' and reconstructed an ablauting root noun **porḱ-*, **pr̥ḱ-* that would have been leveled,

[1120] Nussbaum also discusses the gloss κάρνος· φθείρ 'louse', βόσκημα, πρόβατον 'piece of cattle' (Hsch.), which may derive from **ḱr̥-no-* and offers a much more likely continuant of the 'horn'-word. Its formation can be reconciled with the *n*-stems attested elsewhere, and the meaning 'cattle' fits quite well (cf. OHG *hrind* 'cow'). Still, as a gloss, this cannot be included among the primary evidence either.

[1121] This reconstruction is compatible with the Aeolic form κράννα (Alcaeus *fr*. 150.5 LP), but the interpretation of the context is unclear, so that the meaning of κράννα cannot be ascertained. Moreover, κράννα is also compatible with a pre-form PGr. **krāhnā*.

[1122] If κρήνη indeed derives from **krahnā* < **kr̥snā-*, it could provide further evidence for an early, pan-Greek vocalization of the syllabic liquids before a tautosyllabic consonant. In this connection, note the following remark by Beekes (*EDG* s.v. κρήνη) about the reconstructed pre-form **kr̥snā-*: "but note that all dialects have the vocalization **-ra-*, so the etymon probably did not have vocalic **r̥*. Therefore, the explanation remains uncertain."

after the vocalization of the weak stem, to **prok-*, **prak-*, and later to non-ablauting πρόξ. However, the assumed analogy is questionable: one wonders why the vocalized weak stem **prak-* was not leveled to **park-* on the model of the strong stem **pork-*. If we consider the attestations more closely, it appears that before the end of the Classical period, πρόξ is a hapax in Homer (ἠδὲ πρόκας ἠδὲ λαγωούς 'deer and hares', *Od*. 17.295), and the same applies to the derivative ἀδ-stem προκάς, which only appears in προκάδων ἀκόρητοι 'whose desire for deer cannot be satisfied' (*h. Aphr*. 71). It is attractive to assume that both πρόξ and προκάδ- are the regular outcomes of pre-forms with **pr̥k-* in Epic Greek, with -ρο- conditioned by the preceding labial stop. The retention of Epic **r̥* in **pr̥k-* can be motivated, because the normal word for 'deer' in Ionic-Attic was ἔλαφος. Within this framework, the origin of πράκες must remain obscure, but again, it cannot be excluded that the word is of non-Ionic-Attic origin. Similarly, the gloss πόρκας· ἐλάφους (Hsch.) does not prove the presence of *o*-vocalism in the root noun, because it may stem from an Achaean or Aeolic dialect (from the latter if we assume analogical leveling of the full grade slot).

πραπίδες 'midriff', whence 'heart, soul' is attested in Homeric formulae like |T ἰδυίῃσι πραπίδεσσι and ἦπαρ ὑπὸ πραπίδων |P. The word remained without an etymology for a long time,[1123] but a recent proposal by Balles (2002) deserves close consideration. She starts from a comparison with φρένες, for which she accepts an original meaning 'midriff'. Like φρένες, πραπίδες also denotes the seat of human thoughts and emotions and is clearly used as a poetic equivalent of the former. Balles proposes that πραπίδες continues an inherited formation originally meaning 'rib-cage, chest', which became closely associated with φρένες (and was partly conflated with it) in the epic tradition.

How does this etymology work formally? Balles derives πραπίδες from an early collective *πραπό- 'rib-cage' with the suffix -ίδ-. The function of this suffix was to derive "lexikalisierte Konkreta" (e.g. νυκτερίδ- 'bat', "nightly creature" ← νύκτερος 'of the night', νεβρίδ- 'fawnskin' ← νεβρός 'fawn', or παρηΐδ- 'cheekpiece' ← παρειαί 'cheeks'). Therefore, a singular *πραπίς would have to denote an individual, concrete item pertaining to (made from, located in) the rib-cage. Balles' further argument is too complicated to be repeated here in sufficient detail. In my view, the simplest scenario would be that the singular *πραπίς denoted some specific organ located in the chest, the identity of which cannot be recovered anymore. The πραπίδες may have denoted the collection of such organs, and thence also the 'chest' or 'rib-cage' as a whole.

This *πραπό- can be compared to Ved. *párśu-* 'rib, sickle' (AV+), *pārśvá-* 'flank or side of an animal' (RV+, cf. Oss. *fars* 'side, flank'), Av. *pərəsu.masah-* 'having the size of a rib', *parəsui-* 'rib; area of the ribs', which presuppose a PIE substantive **perḱ-u-*. A derivative **prḱ-u-ó-* 'consisting of ribs' (cf. the Vedic *vr̥ddhi*-derivation *pārśvá-*) would now immediately yield the required pre-form *πραπό-, provided that **-ḱu̯-* resulted in a non-geminated -π-. As Balles points out, there is only one relatively secure instance of the geminate treatment -ππ-: ἵππος 'horse' < **h₁eḱuo-*. But in view of the well-known problems with ἵππος (e.g. the *i*-vocalism, dialectal forms with -κκ-), she argues that the outcome of intervocalic **-ḱu̯-* in Greek may have been -π- after all. Alternatively, she suggests that a pre-form *πραππό- may have been reduced to *πραπό- as a result of dissimilation.

Although Balles' attempts to solve the problem of -π- < **-ḱu̯-* are in my view not entirely satisfactory, her etymology is semantically attractive and has to be taken seriously. As an alternative solution, one could think that **-ku̯-* was retained longer intervocalically (in

[1123] Cf. Frisk's judgment (q.v.): "Bildung auf -ίς (…) von einem unbekannten Grundwort"; *DELG* (q.v.) simply leaves it at "Pas d'étymologie". A connection with πρέπω 'to be conspicuous, stick out' is semantically weak. Against the connection with words for 'shape, body' (OE *hrif* 'womb', Lat. *corpus* 'body, mass', Ved. *kŕ̥p-* 'shape, appearance'), if these derive from a pre-form **k^{w}rep-* at all, it may be objected that a labiovelar dissimilation **k^{w}…p-* > **k…p-* would be expected in first millennium Greek (see Schwyzer 1939: 302).

ἵππος) than after *$r̥$ (in πραπίδες). There are more environments where *$r̥$ did not behave like a normal vowel (cf. the reduction of *-*tw*- to -*t*- only before *$r̥$, section 2.5). Thus, it would be conceivable that a pre-form PIE *$pr̥k̂u$-*ó*- 'consisting of ribs, rib-cage' would yield pre-alphabetic *$pr̥k^{w}$*ó*-, whence *$pr̥k^{w}$*íd-es*. Since πραπίδες only occurs in poetry and in particular in Epic Greek, a pre-form with Epic *$r̥$ could be considered. It is problematic, however, that we do not find an *o*-colored outcome of Epic *$r̥$ after a labial consonant (see chapter 7). It is also somewhat problematic that πραπίδες generates a heavy scansion of a preceding short vowel when it is preceded by a preposition (ὑπὸ πραπίδων, ἀπὸ πραπίδων). Thus, in view of the large number of problems involved, it is better not to base any conclusions on πραπίδες.

The verb τρώγω 'to gnaw, graze, eat' has an aorist **τραγεῖν** which is attested only a few times in Attic comedians, mostly as a prefixed form (ἔντραγε, also with παρα-, δια-, κατα-). The relation between the vocalism of present and aorist stem cannot be understood in Indo-European terms. We could assume that τραγεῖν was influenced by the aorist φαγεῖν 'to eat', which also occurs with prefix κατα- and is an inherited formation (Ved. *bhaj*- 'to distribute, share food').[1124] The relation between τραγεῖν and τράγος 'he-goat' is unclear.

9.4.2 Irrelevant words; untenable and doubtful etymologies

The etymology of στεροπή, **ἀστραπή** 'lightning', ἀστράπτω 'to flash' and related forms has been discussed by Beekes (1987). He reaches the conclusion that the word cannot be Indo-European, in view of the interchange ἀ- ~ Ø, which cannot be explained in Indo-European terms. It is found in ἀστεροπή ~ στεροπή (both Hom.) and more marginally in ἀστράπτω (general Ion.-Att.) ~ στράπτω (only S., A. R.). Beekes convincingly argues against the earlier reconstruction as PIE *h_2*ster-*h_3*ok^{w}$*-eh_2$ 'star-eye', which is semantically not evident and leads to phonological problems.

Even if the word is a borrowing from e.g. Pre-Greek, one could think that it was borrowed in a form with *$r̥$. In that case, (ἀ)στεροπή may be left aside, and the following dialectal forms may be compared: ἀστραπή, the glosses στροπά· ἀστραπή. Πάφιοι (Hsch., Ael. Herod.), στορπάν· τὴν ἀστραπήν (Hsch., Ael. Herod., without dialect indication), and epigraphic Arcadian Gs. Διος Στορπαο (*IG* V(2) 64, 5th c.). But this remains mere speculation.

It has been assumed that **ἄτρακτος** 'spindle; arrow' (general Ion.-Att.) contains the reflex of a zero grade root *$tr̥k$-, which is also supposed to underlie ἀτρεκής 'precise' (Hom.+), see Frisk s.v. ἄτρακτος. Apart from the fact that such a root is not attested anywhere (as Frisk admits), it cannot be used as evidence here for various reasons. First, there is no good outer-Greek comparandum for ἄτρακτος. The comparison with Skt. *tarku*- 'spindle' mentioned by the etymological dictionaries can be discarded, because this form derives from the verbal root *tark*- 'to turn' < PIE *$terk^{w}$*-, which contained a labiovelar.[1125] Secondly, there is a variant ἄδρακτος (Hsch.), which could point to Pre-Greek origin (thus Beekes, *EDG* s.v. ἄτρακτος). Finally, the word-formation is unclear: copulative ἀ- makes no sense. Given that the word denotes a concrete object, for which the various IE languages have different names, a substrate word seems most probable.

Since Prellwitz, the gloss **βράκανα** 'wild herbs or vegetables' (Pherecr., Hsch.) has been compared with Germanic and Slavic words for 'root, carrot' (OHG *moraha*, G. *Möhre* < PGm. **murh*-, PSl. **mъrky*). Note, however, that the Greek meaning is quite different from that of both Northern European words, that the formation of βράκανα is different, and that it is very weakly attested. If the comparison is correct at all, we could be dealing with a European substrate word. Beekes further mentions Furnée's (1972: 330) assumption of a Pre-

[1124] The *LIV*^{2} reconstructs a PIE root a root *trh_3g- 'zernagen' on the basis of Hackstein's (1995) comparison with Toch. B *treṣṣäṃ* 'chews'.
[1125] Chantraine (1933: 301, cf. also *DELG* s.v.) rightly judges the etymology to be "douteux".

Greek word (he compared βάκανον 'cabbage'), and *DELG* (s.v.) only remarks that there is no established etymology.

The adjective **ἐπικάρσιος** 'transverse, crosswise, at a right angle' (*Od*. 9.70, of ships; further Hdt.+) can hardly be derived from a phrase ἐπὶ καρσί (as per Bechtel 1914: s.v.). As stated by *DELG* (s.v. ἐπικάρσιος), it is better derived from the root **ker(t)*- 'to cut'. The semantic motivation is obvious: cutting is done at a transverse angle with regard to the object to be cut. Semantic parallels derived from the same root are Lith. *skeřsas* 'crosswise', Ru. *čérez* 'across'. Since the suffix -ιος must be a later addition, ἐπικάρσιος implies the existence of a pre-form *-καρτ(ο)- < **-kr̥t-(o-)* or **-kr̥-t(o)*-. The verbal root κερ- is attested in Greek (κείρω 'to shave', διακέρσαι 'to cross'). It is therefore possible that -αρ- contains the restored vowel slot of the verb, so that ἐπικάρσιος cannot be used as evidence for the regular development.

Although the formation of **εὐτράπελος** 'witty' is not entirely perspicuous (cf. a similar suffix in εὐπέμπελος and εὐτρόχαλος), the semantic interpretation as "sich leicht wendend" (Frisk, based on the German translation 'gewandt') and the derivation from the thematic aorist stem τραπε/ο- 'to turn, direct' (Chantraine 1933: 243) are acceptable. Therefore, the form does not provide direct evidence for the regular outcome of **r̥*.

The adjective **καθαρός** frequently means 'pure, clean, proper'. It has a dialectal variant κοθαρός, attested in Lesbian (Alc. fr. 38) and in various West Greek dialects.[1126] Trying to revive Brugmann's old connection with Vedic *śithirá*- 'loose', Peters (1993a: 95-101) reconstructs a PIE pre-form **ḱr̥th$_2$r̥-ó*- (sic, with prevocalic *r̥*).[1127] He further assumes an inherited present **ḱroth$_2$r̥-i̯é/ó*- on the basis of a comparison between the hapax *śratharyáti* (RV 10.77.4, of the earth) and Gr. καθαίρω 'to purify, clean'. He explains the Lesbian and West Greek variant κοθαρός from a different pre-form PGr. **ḱroth$_2$-ro*- > Pan-Greek κοθαρός, with "vowel assimilation" to καθαρός in Ionic-Attic (o.c. 98). The *o*-vocalism of PGr. **ḱroth$_2$-ro*- is supposed to have been introduced from the *yod*-present.

I have severe problems with almost every assumption made by Peters. Let me first address some issues of reconstruction. First, a pre-form **ḱr̥th$_2$r̥-ó*-, which according to Peters (o.c. 97) was built on an abstract noun **ḱr̥th$_2$r̥* 'Lösung', is untenable: PIE did not have a separate phoneme **r̥*, and certainly not in prevocalic position.[1128] The hapax *śratharyáti*, the only reason to reconstruct an inherited *yod*-present, occurs right after *vithuryáti* 'totters, shakes' in the previous *pāda* and is therefore best analyzed as a nonce formation. Vowel assimilations are never a real solution for phonological problems in Greek, and mostly boil down to an *ad hoc* hypothesis.[1129]

On the other hand, there are grave semantic objections. Peters assumes that 'loose', 'to loosen' are the original meanings of καθαρός and καθαίρω, leading via 'to dissolve' to 'to clean, rinse'. For this shift of meaning, he compares Hom. λῦμα 'dirt', which is supposed to be related to λύω 'to loosen'. However, Homer uses καθαρός three times as a substantive in the meaning 'open or cleared space'.[1130] For example, *Il*. 8.490-1:

νόσφι νεῶν ἀγαγὼν ποταμῷ ἔπι δινήεντι,

[1126] The variant κοθαρος is attested epigraphically in κοθάρσι τελείαι 'with complete purification' (Olympia, *IvO* 7.2), ἔρχομαι ἐκ κοθαρ<ῶν> κοθαρά (*IG* XIV 641, Thurii, 4th c. BC), χοὶ μεστὼς τὼς χοῦς κριθᾶς κοθαρᾶς δοκίμας, hοίας κα hα γᾶ φέρει (*Tab. Heracl.* [= *IG* XIV 645] I, 103) and ἀνκοθαρίοντι (ibid. I, 132).

[1127] Mayrhofer (*KEWA*) rejects the comparison with καθαρός, but in *EWAia* retains the comparison with Gmc. **hreddan*- 'save' (OE *hreddan*, G. *retten*) as a possibility.

[1128] It would be much more natural to assume a pre-form **ḱr̥th$_2$-ró*-, which would be a *ró*-adjective with zero grade root derived from an intransitive verb. Peters, however, wants the laryngeal to be prevocalic because this allows him to explain the aspirated stop -θ-. In his view, **-th$_2$V*- would yield -θV-, while **-th$_2$C*- would result in -ταC-.

[1129] See van Beek (2011a) for a discussion of a number of frequently cited examples of the phenomenon.

[1130] "clear of objects, free", "open space" (*LSJ*, mg. 3, suggesting that the omitted head noun was τόπος).

ἐν καθαρῷ ὅθι δὴ νεκύων διεφαίνετο χῶρος
"[Then did glorious Hector make an assembly of the Trojans,] leading them away from the ships beside the eddying river, in an open space where the ground showed clear of dead." (Wyatt).

As *DELG* remarks, 'clearing, open space' is the only meaning attested in the *Iliad*. Surprisingly, this crucial fact is completely ignored not only by Peters, but also by Frisk and most other previous treatments of the word. This specific meaning continues to be found after Homer, e.g. in Pindar, in a passage which treats the foundation of the Olympian games by Heracles (*Ol*. 10.43-49):

ὁ δ' ἄρ' ἐν Πίσᾳ ἔλσαις ὅλον τε στρατόν
λᾴαν τε πᾶσαν Διὸς ἄλκιμος
υἱὸς σταθμᾶτο ζάθεον ἄλσος πατρὶ μεγίστῳ·
περὶ δὲ πάξαις Ἄλτιν μὲν ὅγ' ἐν καθαρῷ
διέκρινε, τὸ δὲ κύκλῳ πέδον
ἔθηκε δόρπου λύσιν,
τιμάσαις πόρον Ἀλφεοῦ
μετὰ δώδεκ' ἀνάκτων θεῶν

"Thereupon, Zeus' valiant son gathered the entire army and all the booty at Pisa, and measured out a sacred precinct for his father most mighty. He fenced in the Altis and set it apart in the open (ἐν καθαρῷ διέκρινε), and he made the surrounding plain a resting-place for banqueting, and honored the stream of Alpheos along with the twelve ruling gods." (transl. Race).

A surprising number of uses of καθαρός is clarified once we depart from an original meaning 'cleared, open': κελεύθῳ τ' ἐν καθαρᾷ, κέλευθον ἂν καθαράν (Pi.) denotes a 'clear path' (without obstacles) or a 'cleared path' (not overgrown). *LSJ* also points at ἐν καθαρῷ βῆναι 'to leave the way clear' (S. *OC* 1575). Herodotus attests ἐς χῶρον καθαρὸν ἀγαγὼν τὸ κτῆνος 'having led the cattle to a clearing' (1.132), and reports that one of the arms of the river Araxis ῥέει διὰ καθαροῦ, 'flows through open land', to the Caspian sea (1.202). Last but not least, this meaning is found in the Heraclean Tables, where ἀνκοθαρίοντι … τὰ πὰρ τὰ αὐτῶν χωρία ῥέοντα means 'to clear [of rubbish] the gullies beside their own plots of land', in order to avoid inundations.[1131]

We may conclude that the original meaning of καθαρός was not 'loose', but 'cleared'. Peters' idea can therefore be safely rejected. In view of the problems to reconstruct a proto-Greek form, Beekes (*EDG* s.v.) has recently assumed that the interchange καθαρός ~ κοθαρός points to a substrate word. As long as good alternatives are lacking, this seems the best option by comparison.

The epic verb **μάρπτω** 'to grab, catch' is typically used of predators, hunters, warriors, Harpies, snakes, Gorgons (etc.) trying to reach their victim in pursuit. Its opposite is often ἀλέομαι, ἀλύξαι 'to escape (from)'. An indication that -αρ- reflects *$r̥$ has been seen in the isolated forms μεμάποιεν (*Scut*. 252) and μαπέειν (*Scut*. 231, 304), which would contain a metrical reflex of this phoneme (see Beckwith 1996: 105-6). Before this speculative possibility is further investigated, the problems with the reconstruction and etymology of μάρπτω must be addressed.

[1131] *IG* XIV 645, I, 130-33: τὰς δὲ τράφως τὰς διὰ τῶν χώρων ῥεώσας καὶ τὼς ῥόως οὐ κατασκαψόντι οὐδὲ διασκαψόντι τῶι hύδατι οὐδὲ ἐφερξόντι τὸ hύδωρ οὐδ' ἀφερξόντι, ἀνκοθαρίοντι δὲ hοσσάκις κα δεώνται τὰ πὰρ τὰ αὐτῶν χωρία ῥέοντα οὐδὲ τὰς hοδὼς τὰς ἀποδεδειγμένας ἀρασόντι οὐδὲ συνhερξόντι οὐδὲ κωλυσόντι πορεύεσθαι· (…).

The dialectal origin of μάρπτω is not clear. The aorist ἔμαρψεν is ascribed to Cyprian by the *glôssai kata poleis* (cf. Ruijgh 1957: 166), and a gloss κάμμαρψις· μέτρον σιτικόν, τὸ ἡμιμέδιμνον, Αἰολεῖς is found in Hesychius. Moreover, the following glosses are attested in Hesychius without dialect identification:

βράψαι· συλλαβεῖν. ἀναλῶσαι. κρύψαι. θηρεῦσαι.
βράπτειν· ἐσθίειν. κρύπτειν, ἀφανίζειν. τῷ στόματι ἕλκειν. ἢ στενάζειν.
ἔβραψεν· ἔκρυψεν. ἔπιεν. κατέφαγεν.
ἔβραπτεν· ἔκρυπτεν. ἐλάφυξεν.

It is not easy to obtain a clear picture from these glosses. From the interpretation of βράψαι as συλλαβεῖν 'to grasp', θηρεῦσαι 'to hunt down', a relation between this gloss and μάρπτω 'to catch' could be tentatively assumed. But in that case, the connection with other glossed meanings like κρύπτειν or ἀφανίζειν remains unclear. It is suspicious, too, that another root shape βρακ- is attested in the glosses βρακεῖν· συνιέναι and βράξαι· συλλαβεῖν, δακεῖν, καταπιεῖν (both Hsch.). The interchange of root-final velar with labiovelar could point in the direction of substrate origin (Beekes, *EDG*, *Introd*. section 5.6). Yet another gloss has βρόξαι in the meaning ῥοφῆσαι 'to slurp, gulp down' (Hsch.), a verb which is attested with preverbs in similar meanings already in Homer.[1132] Again, the variation in root vowel between βρόξαι and βράξαι may point to Pre-Greek origin (thus Beekes *EDG* s.v.). This could be further confirmed by βρόγχος 'windpipe, throat' (if this has the typical Pre-Greek pre-nasalization) or by βρόχθος 'id.' (if due to different adaptations of a cluster of stops). The variation in root vocalism is perhaps also found in βράγχος (m.) 'hoarseness, angina' beside βρόγχος (see Beekes *EDG* s.vv.). In view of the numerous problems with the reconstruction of μάρπτω and the lack of a good etymology, it is completely uncertain whether this verb ever contained a syllabic liquid. The situation may be compared to ἀστραπή beside Arc. στορπαο (see above).

The substantive **μάρτυς**, Gs. μάρτυρος 'witness' has no good etymology. The main problem is posed by its morphological analysis: the surface form of the suffix *-(t)ur-* is unparalleled in Greek. Frisk proposes to depart from an abstract noun **már-tu-* 'testimony', which he recognizes as the original form in As. μάρτυν (Simon. *fr*. 11.1), Dp. μάρτυσι. This abstract then would have secondarily changed its stem to attested *mártur-* under influence of **mártu-ro-*, perhaps starting from the Gp. μαρτύρων. Several steps in this reasoning need special pleading, as is stressed both by *DELG* and by Beekes (*EDG*, assuming a substrate word following Furnée 1972: 296).[1133] The connection with a root **smer-* 'to remember', which is further attested only in Indo-Iranian, is difficult for this reason.

Traditionally, **παρθένος** 'maiden' is a beloved object of etymological speculation. A fair number of scholars have embraced the etymology proposed by Klingenschmitt (1974): **pr̥-steno-* "with protruding breasts", "die Brüste hervor habend". However, apart from being rather sexist, this proposal does not explain the vocalization of *r̥* as -αρ-.[1134] Klingenschmitt has to assume that the preposition παρ- was reintroduced in the compound in view of the accent-conditioned development of **r̥* that he defends. In my view, the reconstructed starting point is semantically too uncertain. Alternatively, Hamp (1972) assumed a PIE formation **b^{h}r̥ǵ^{h}-uen-* 'having height' comparable to **b^{h}r̥ǵ^{h}-ént-* (Ved. *bṛhánt-* 'elevated') and **b^{h}r̥ǵ^{h}-nt-ih$_2$* (OIr. *Brigit*, Ved. *bṛhatī-*, epithet of Uṣas). This form would have been remodeled to PGr. **p^{h}r̥k^{h}-wen-ó-* 'the Elevated one', which then developed to **p^{h}r̥k^{wh}enó-* > παρθένος (accent retraction by Wheeler's Law). Semantically, this etymology is attractive because **b^{h}r̥ǵ^{h}-nt-ih$_2$* was the main epithet of the mythical maiden *par excellence*, PIE **h$_2$eus-os-*

[1132] καταβρόξειε (*Od*. 4.222), ἀναβρόξειε (*Od*. 12.240).
[1133] But I do not agree with Beekes that in **smrtu-* would have to vocalize as $^{++}$*smratu-*.
[1134] On Klingenschmitt's account, **r̥* in an unaccented initial syllable would have to yield -ρα-.

‘Dawn’. However, the lack of good parallels for a suffix *-*wen*- in Greek renders it quite uncertain. No conclusions can therefore be based on this etymon.

For **πράμος**, a hapax in Aristophanes (*Thesm*. 50), Frisk thinks of a “Schwundstufige Form von πρόμος”. But the etymology is doubtful (“wenn überhaupt richtig überliefert”, Frisk adds). Hom. πρόμος ‘warrior who fights in the front ranks’ itself may well be a shortened form of πρόμαχος ‘id.’.

The adjective **ῥαδινός** ‘slender, tapeable’, mostly of branches (Hom.+), Sapph. βράδινος ‘id.’, Hom. hapax ῥοδανός ‘id.’ (of reeds).[1135] The suffixation -ινός reminds of Caland formations like πυκινός ‘dense’, ἀδινός ‘thick, full, rich’ (*sh_2d-). However, the difference between ῥαδινός and ῥοδανός is difficult to explain within Greek. Even if ῥοδ- may be the Aeolic root shape, the difference in suffixation between both forms persists. Moreover, the root ῥαδ- has no clear-cut etymology, the connection with the Vedic hapax *avradanta* ‘were weakened’ (mentioned by Mayrhofer s.v. *VRAD*) being uncertain. Beekes (*EDG* s.v. ῥαδινός) interprets the variation between ῥαδινός and ῥοδανός as pointing to Pre-Greek origin.

The neuter **ῥάκος** ‘shred, rented garment; (pl.) rags’ (*Od*.+) contains a root **wrak*- if we follow the evidence of glosses with βρακ- (Hsch.). In view of its different meaning ‘long-robed women’s garment’, the appurtenance of βράκεα (Sapph. 57.3) is somewhat uncertain. The connection with ῥήγνυμι is untenable, not only because of the *a*-vocalism of ῥάκος, but also in view of the voiceless root-final stop. The connection with Ved. *vṛścánti* ‘they hew, cut off’ (defended by Mayrhofer s.v. *VRAŚC*) seems highly uncertain. Unless one wishes to follow the speculations discussed by Frisk (s.v. ῥάκος), there is no indication that the word is inherited.

The group of **στραβός** ‘squinting’, στρεβλός ‘bent, twisted, curled, shrewd’ (cf. στράβηλος ‘wild olive tree’) must primarily be compared with στρόβος ‘whirl’, στρόμβος ‘id.’. Since the root has pre-nasalization, the etymon is most probably Pre-Greek (cf. Beekes *EDG*).

A gloss **τετάρπετο**· ἐτρέπετο (τρέπομαι ‘to face, be directed’) is attested in Hsch. It is now corrected, in Latte’s edition, to τετάρπετο· ἐτέρπετο (τέρπομαι ‘to enjoy’). Since the reduplicated aorist τετάρπεσθαι ‘to enjoy’ is a specific Homeric word, Latte’s conjecture seems attractive.

The verb **τραπέω** ‘to tread grapes’ (*Od*.+) is derived from a PIE root **trep*- ‘to tread’ by *LIV*^{2}. Beside τραπέω, the lemma contains only Balto-Slavic material meaning ‘to beat, hit’ (Slavic) and ‘to transgress’ (Old Prussian). The connection is possible, but not evidently correct. As the *LIV*^{2} remarks, “die Semantik der Wurzel bedarf ebenfalls noch weiterer Klärung”. Further, the semantic field of viticulture is known to contain many loanwords. If τραπέω is indeed an inherited word, τραπ- may also be a secondary zero grade beside τρεπ-. We have to assume, then, that a full grade **trep*- was around late enough in Ionic-Attic to influence the vocalized zero grade **tarp*-. See section 9.4.1 on ἀτραπός.

The substantive **τράχηλος** ‘neck’ has been connected with τρέχω ‘to run, turn’ (originally of a wheel, in Homer only present). Although the semantic development ‘wheel, turner’ > ‘neck’ is well-attested (cf. Lith. *kãklas* ‘neck’ < PIE *k^wek^wlo- ‘wheel’), the formation of τράχηλος is unclear. Since τρεχ- is the full grade slot of the root, τραχ- may be a secondary zero grade allomorph. This weakens the evidential value of τράχηλος in any case. Beekes (*EDG* s.v.) follows Furnée (1972: 115 n. 5) in assuming a substrate word because of possible evidence for a Pre-Greek suffix -ηλο-.

[1135] It is uncertain that ῥάδαμνος ‘branch’ (cf. ὀρόδμανος) is related. If so, it would presuppose an earlier form *ῥάδανος, in which the ending was replaced by -αμνος after θάμνος ‘thicket’, ῥάμνος ‘thorny shrub’.

9.5 The development of **r̥n*

As we have seen in section 1.2.4, Haug suggested that **r̥* developed to -αρ- in front of a nasal in all Greek dialects. In what follows, I will consider whether there is evidence for (1) a Pan-Greek *a*-colored development of **r̥n*, or for (2) a Pan-Greek development **r̥n* > **-ərn-*, with subsequent dialectal coloring, and (3) for **r̥n* > -αρν- as the regular Ionic-Attic reflex.[1136]

Let us remark from the start that there is no good evidence for a reflex -ρα- in Ionic-Attic, the only possible example being Hom. κράνεια 'cornel cherry', Thphr. κράνον 'id.', Lat. *cornum* 'id.' < **kr̥no-*.[1137] In nominal formations, there is hardly any evidence for -αρ- either.[1138] The gloss κάρνος· φθείρ, βόσκημα, πρόβατον 'louse; head of cattle' (Hsch.), in its second meaning, could be from PIE **ḱr̥no-* 'horned animal' (see Nussbaum 1986: 6). But since there is no dialect indication, the form cannot be used in the present context. The adjective σπαρνός 'sparse, rare' (Class.) could be reconstructed as **spr̥-nó-*, from the root of σπείρω 'to disseminate'. But the formation need not be old, and the suffixation may have been modelled on the opposites πυκνός or συχνός (cf. Frisk, q.v.). In view of its lexically isolated position, one could envisage to derive χάρμη 'battle lust' directly from PIE **ǵ^{h}r̥-m(n)-éh$_2$-* (cf. χάρμα, derived from the synchronic root of χαίρω), but then again, it cannot be excluded that the root χαρ- was reintroduced at some point.

The following verbal forms which continue **-r̥n-* have the vowel in front of the liquid:

- θόρνυμαι 'to mount' (Hdt.), θάρνυσθαι· ὀχεύειν, κυΐσκεσθαι 'to mount, get pregnant' (Hsch.) < PIE **d^{h}r-n-h$_3$-*.
- μάρναμαι 'to battle' (Hom.+) < PIE **mr-n-h$_2$-*, dissimilated βαρνάμενος (Att. and Corc. inscr.); also μορνάμενος· μαχόμενος 'fighting' (Hsch.).
- πορνάμεν· πωλεῖν 'to sell', πορνάμεναι· κεντούμεναι, πωλούμεναι (both Hsch.) < **pr-n-h$_2$-*, beside Class. πέρνημι, with the root vocalism of aor. περάσαι.
- πτάρνυμαι 'to sneeze' (Class.), aor. ἔπταρον (*Od.*) < PIE **pstr-nu-*.
- στόρνυμι 'to spread out', probably for **στάρνυμι < **str-n-h$_3$-* with the root vocalism of aor. στορέσαι.

The question is whether any of these forms is compelling evidence for the regular, undisturbed outcome of **r̥n*. The presents πτάρνυμαι and θάρνυμαι can be reconstructed as PGr. **ptr̥-nu-* and PGr. **t^{h}r̥-nu-* < PIE **d^{h}r̥-n-h$_3$-*, respectively, and their vowel slot may theoretically have been influenced by the thematic aorists πταρεῖν and θορεῖν. This makes the evidential value of most such nasal presents for a Pan-Greek vocalization to -αρ- uncertain. Such influence is probable in the case of the gloss θάρνυσθαι, because θόρνυμαι (Hdt.) even adopted the *o*-coloring of the aorist θορεῖν; the same happened in στόρνυμι << *στάρνυμι.[1139]

[1136] The group **l̥n* is treated in section 10.5. As we will see, there is one decisive piece of evidence against a Common Greek epenthesis in **ClNV-*: the West Greek adverb αϝλανεῦς 'all together' (Elis), also attested in the gloss ἀλανέως· ὁλοσχερῶς, Ταραντῖνοι (Hsch.), related to Hom. ἀολλέες 'thronged, gathered together' < PGr. **sm̥-wl̥n-es-*, from the root of εἰλέω 'to press together'. The reflexes Hom. -ολ- and West Greek -λα- differ both in vowel color and in the place of the vowel.

[1137] On the difficulties concerning the reconstruction of this form, see section 6.8.3. The forms κράνος (n.) 'helmet' (Class.), κραναός 'rocky' (Hom.), ὀλιγο-δρανέων 'powerless' (Hom.) have no convincing etymology. The aorist δραμεῖν 'to run' < **dr̥m-e/o-* is of no consequence, because it could be analogical after δέδρομε, δρόμος. Similarly, τέτραμος 'trembling' (Hp.+) may have been influened by the full grade of τρέμω. Nothing can be based either on the reconstruction of τράμις 'perineum' (Archil.+) as **tr̥-mi-*, which is accepted by Frisk but lacks further motivation.

[1138] I do not include the Gs. ἀρνός 'lamb': this must be analogical after the Ns. ἀρήν in view of the laryngeal reflex in πολύρρην and Ved. *úran-* 'lamb'.

[1139] For πτάρνυμαι one may doubt this scenario, because the νυ-present is probably inherited (in view of Lat. *sternuō*, cf. *LIV*^{2} s.v. **pster-*), and the aor. ἔπταρον may have been based on this present within Greek. There is,

Two verbal formations in the above list, however, definitely speak against a Pan-Greek *a*-anaptyxis, because they show an *o*-coloring which cannot be analogical: πορνάμεν and μορνάμενος. Both are only attested as glosses, but there is no reason to doubt their authenticity. In πορνάμεν, the combination of *o*-vocalism with the infinitive ending -μεν suggests Thessalian origin.[1140] Although the vowel normally arises after the liquid in Aeolic dialects (-ρο-), the corresponding aorist may have played a role in a reshaping to -ορ-.[1141] In μορνάμενος and Ionic-Attic μάρναμαι, we are dealing with a defective paradigm without any other stems, so that both forms are probably the regular and unrestored outcome of PGr. **mr̥na-*. There is no indication of dialect in the gloss μορνάμενος, but a reflex -ορ- would be regular in Arcadian, in Cretan (after a labial consonant), and possibly in Cyprian (see chapter 3). The two glosses prove that the vocalization of **Cr̥nV-* differed per dialect. This refutes Haug's thesis that **CLNV-* yields Common Greek **CaLNV-*.

The nasal present μάρναμαι 'to fight, contend' (Hom.+), with by-form βαρναμενος (inscr.), is the only formation of this root attested in Greek.[1142] The etymological identification of this nasal present with Ved. *mr̥ṇā́ti* 'to rob, grab' ("packt an"), as from PIE **mr̥-n-h₂-*, is likely.[1143] The Greek middle present, with reciprocal meaning, explains the semantic development ("try to catch one another", e.g. in a wrestling match).

It used to be assumed that the variation μάρναμαι ~ βαρναμενος is due to an original vocalization of **mr̥namai* > **mranamai* > **branamai* (e.g. Kuryłowicz 1968: 318). But this scenario can be ruled out, because there would have been no clear model to replace a putative **branamai* or **mranamai* with βάρναμαι or μάρναμαι, respectively. The reason is that there is no further trace of the assumed root **merh₂-* in Greek, let alone of an ablauting full grade form.[1144] A reasonable alternative explanation for βαρναμενος has been suggested by Lejeune (1972: 152) and Méndez Dosuna (1985: 142): the sequence of nasals **m … n … m* was dissimilated to *b … n … m*.

We may conclude that μάρναμαι is strong evidence for a regular Ionic-Attic development **r̥n* > -αρν-. In addition, the glosses πορνάμεν and μορνάμενος prove that the reflex of **r̥n* underwent the *o*-coloring of other dialects (Aeolic, Arcado-Cyprian). μορνάμενος proves that some *o*-coloring dialect also had this vocalization slot, but unfortunately the gloss has no indication of dialect. On the basis of the evidence for **r̥n*, it is not easy to exclude a Pan-Greek development **r̥n* > **-ərn-*, but on the other hand, there is no compelling reason whatsoever to make such an assumption. As we will see in section 10.6, a Pan-Greek development **l̥n* > **-əln-* can be excluded on account of Elean αϝλανεος.

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however, no reason to insist on this, because there is other, more convincing evidence for -αρ- as the regular reflex in a nasal present.

[1140] But West Greek origin cannot be entirely excluded, cf. section 3.2.2 on the Cretan evidence for *o*-vocalism.

[1141] In πέρνημι 'to sell', Ionic introduced the vowel of the aorist περάσαι, and in μάρναμαι (no aorist), it has the expected *a*-coloring.

[1142] The form βαρναμενος is attested three times: *IG* IX 1^2 868 (Kerkyra, 6th c.); *IG* IX 1^2 214.4 (Acharnania, 5th c.); *IG* I^2 934.46 (Attic, 4th c.).

[1143] It is accepted by Mayrhofer (*EWAia* s.v. *mar^{i}-*^{2}), referring to Thieme for the distinction within Vedic from *mar^{i}-* 'to crush'. The further comparison of Hitt. *marriie/a-*$^{tta(ri)}$, *marra-*^{tta} 'to melt down, boil (vel sim.)' (Oettinger 1979) is highly uncertain in view of the semantics: in the meaning 'to crush', Ved. *mr̥ṇā́ti* probably derives from a different root (**melh₁-* 'to crush' ~ **meld-* 'to weaken, soften').

[1144] Within Greek, the *LIV*^{2} compares μαραίνω 'to quench', but it is not clear how the comparison with μάρναμαι works formally. The idea that μαραίνω is from "**mr̥n̥h₂-enti*" (*LIV*^{2}), from the same paradigm as **mr̥-neh₂-ti*, can hardly be correct: **mrnh₂-enti* (without the vocalization signs) would yield **mrananti* (**CRh₂e- > CaRa-*). It seems better to compare μαραίνω with **mer-* 'to disappear' (with secondarily added suffix -αίνω, for which Frisk (s.v.) compares κηραίνω 'to destroy' and ἰαίνω 'to invigorate') or else to leave it without etymology.

9.6 Evidence for -αρ- < *$\underset{\circ}{r}$ in isolated nominal formations

In addition to the evidence for *$\underset{\circ}{r}$ > -αρ- accumulated in the preceding chapters, the following nominal forms are isolated within Greek and have not yet received a comprehensive treatment. Although some of these forms have been mentioned along the way in connection with various problems, it seems worthwhile to collect them in this section.

ἅρπη 'sickle' is related to Latv. *sirpis*, *sìrps* and Slav. **sьrpъ* (OCS *srьpъ*, Ru. *serp*), both with the same meaning.[1145] Perhaps, a verbal root is preserved in Lat. *sarpō*, *sarpiō* 'to prune'. If so, we are dealing with a zero grade root noun *$s\underset{\circ}{r}p$- in the meaning 'pruner' which received an extension *-*ā*- in Greek. It has been assumed that Celtic **serrā* 'sickle' (MIr. *serr*, OW *serr*) also belongs to this etymon as **serp-eh$_2$*- (see Matasović *EDPC* s.v.),[1146] but this does not drastically change the picture. The form ἅρπη < PGr. *$s\underset{\circ}{r}p$-*ā*- is isolated within Greek and has no ablaut. There is no indication either that an ablauting root noun still existed within Greek when the liquid was vocalized. I therefore conclude that ἅρπη contains the regular, unrestored vocalization of *$\underset{\circ}{r}$ in Ionic-Attic.[1147]

As argued in section 2.1, **καρπός** 'fruit, harvest' must be separated from Myc. *ka-po*. The assumption of a secondary zero grade **CaRT* of the type advocated by Kuryłowicz (section 1.4.3) is unlikely. Within the framework of a regular change *$\underset{\circ}{r}$ > -αρ-, καρπός can be directly derived from an inherited pre-form *$k\underset{\circ}{r}p$-*ó*-. The word is also attested in many West Greek dialects, where it may either be the vernacular form, or due to epic influence.

Although the reconstruction of **σάρξ** < *$t\underset{\circ}{u}r\acute{k}$- is made difficult by a number of complications involving the reduction of the cluster *-*tw*- in Greek, the solution proposed in section 2.5 avoids all the problems. I have argued that word-internal *-*tw*- was regularly reduced in front of *$\underset{\circ}{r}$ (as evidenced by τετρα-, τέτρασι, and τέταρτος ~ τέτρατος). Prior to this development, the word-initial **tw*- presupposed by the cognates of σάρξ must have developed to *t^s-, perhaps already to *s*-, after which *$t^s\underset{\circ}{r}k$- or *$s\underset{\circ}{r}k$- regularly yielded σαρκ-. The "Doric" and "Aeolic" glosses with συρκ- may be explained by assuming that North Greek preserved the syllable onset *t^sw- for a longer time than South Greek. North Greek solved the problem of vocalization posed by *$t^sw\underset{\circ}{r}k$- by reinterpreting the labial off-glide as a vowel, yielding *t^surk-, but South Greek first underwent the reduction to *$t^s\underset{\circ}{r}k$-. Of course, it is not easy to exclude alternative solutions, but I conclude that σάρξ < Proto-South Greek *$t^s\underset{\circ}{r}k$- may well be an instance of the regular Ionic-Attic vocalization to -αρ-.

Ionic-Attic has several related words for 'rope, cord': **σπάρτον** (Hom., Hdt., Th. etc.), σπάρτη (Ar.), σπαρτίον (X.+). They must be connected within Greek to σπεῖρα 'anything wound or coiled', e.g. 'cord, belt, etc.' (class.), and perhaps also to σπεῖρον 'sail, cloth, burial shroud, etc.' (*Od*.+). Although these words have no clear IE cognates,[1148] the suffixes are characteristic for an inherited word. This means that σπάρτον may reflect a form with zero grade, i.e. *$sp\underset{\circ}{r}$-*to*-. It cannot be entirely excluded that σπαρ- was influenced by the full grade

[1145] See Frisk and *DELG* s.v. ἅρπη.

[1146] Alternatively, the Celtic words have been analyzed as borrowings from Lat. *serra* 'saw'. This has been judged semantically implausible, but this is not necessarily the case, given the side-by-side of Ved. *sṛṇī́*- 'sickle' and Khot. *harraa*- 'saw', NP *arrah* 'id.' < PIr. **hr̥na-ka*-. The relation between these Indo-Iranian words and **srp*- 'sickle' remains unclear.

[1147] For Beekes (p.c.), the fact that syllabic *$\underset{\circ}{r}$ would appear as -αρ- in ἅρπη was reason to discard the regular etymology in favor of the assumption of a European substrate word (Beekes *EDG* s.v.). But with the possibility that -αρ- is the regular reflex of *$\underset{\circ}{r}$, this objection disappears.

[1148] It is possible that the words derive from the same root as OLith. *spartas* 'tie', which belongs to Lith. *spìrti*. This verb has several meanings: 'to offer resistance', 'kick with the hoofs' (of horses), 'strike, crash' (of lightning), 'push, sting' (of bees), 'move quickly, be speedy, hurry'. Etymologically, this verb derives from **sperH*- 'stamp into the ground, push down' (the form may rather be **TsperH*-, cf. Lubotsky 2006) as found in Hitt. *ispār-*^{i} 'to trample', Ved. *sphuráti* 'to kick away with the foot', Av. *spar*- 'to tread, trample', etc. As a speculative suggestion, could the semantic connection between σπάρτον, σπεῖρα and this root be that a rope 'binds down, puts to the ground' a thing or person?

slot *_sper-_ in the related words. However, given that the paradigms of σπάρτον (etc.) are non-ablauting, and that no corresponding verbal root is attested in Greek, and that the meanings are heavily lexicalized, there is no reason to assume that the vocalism of σπάρτον was influenced by a full grade form. In this respect, σπάρτον 'rope' is different from ἄσπαρτος 'unsown', which may have been influenced by the full grade of σπείρω and the zero grade of the intransitive aorist σπαρῆναι.

10. The reflex of *$l̥$ in Ionic-Attic and in the other dialects

In this chapter, I will discuss the development of the lateral liquid in interconsonantal position, still keeping in mind the early vocalization to -αλ- in some environments (e.g. in front of a laryngeal, section 1.2). It is beyond doubt that the Proto-Ionic reflex of *$l̥$ was *a*-colored. Upon the traditional view, the regular outcome is -λα-; the aim of this chapter is to examine whether -αλ- can really be excluded. In general, there is much less evidence than for *$r̥$, which makes it difficult to draw a definite conclusion. Many potential examples appear to be inconclusive for various reasons: the etymology is not compelling (section 10.1), the form may have levelled the slot of the full grade (section 10.2), or it does not contain the direct, regular reflex of *$l̥$ for another reason (section 10.3). There are only a few possible pieces of evidence (section 10.4). The evidence for a special vocalization of *$l̥$ in front of a nasal is treated in section 10.5.

10.1 Unknown, doubtful, or uncertain etymologies

Since the etymology of the following words is doubtful or unknown, they will be left out of consideration: ἄφλαστον 'curved poop of a ship' (*Il*., Hdt.), γλάμων, γλαμυρός 'blear-eyed' (com.), θάλπω 'to heat' (*Od*.+), κάλπη 'trot' (Paus., Plu.), κλαδαρός 'weak, handicapped' (late), λάξ adv. 'with the heel' (Hom.+), λαπαρός 'slack, hollow' (Hp. Arist.), λαπάρη 'flank of the body' (*Il*.+), πλαδαρός 'humid, damp, weak, flaccid' (Hp., A. R.), πλαδάω 'to be flaccid' (Hp.+) φλαδεῖν them. aor. 'to be rent' (hapax, A. *Choe*. 28), φλάω 'to bruise, crush' (Pi.+). For a discussion of these words, I refer to the etymological dictionaries.

The following middle pf. formations are analogical creations on the basis of other stems with a full grade: ἐπὶ … ἐτέταλτο (2x Hom.), mid. pf. of ἐπιτέλλω 'to enjoin sth. on sbd., give a command to sbd.', ἔσταλμαι (*Scut*., A., Hdt.+), mid. pf. of στέλλω 'to prepare, equip'. Note that τέλλω etymologically belongs to a root ending in a laryngeal, *$telh_2$- 'to carry' (for ἐπιτέλλω, cf. G. *auftragen*).

For other words that have been reconstructed with *$l̥$, there are important reasons to doubt the reconstruction. I will discuss these cases in alphabetical order.

A probable substrate word is As. αὔλακα 'furrow' (Hes., Pi.+), ἄλοκα (trag.), ὦλκα (Hom.).[1149] The traditional etymology (see Frisk s.v. ἄλοξ, *LIV*^{2} s.v. *$h_2u̯elk$-) derives these words from the root underlying Lith. *vil̃kti*, 1s. *velkù* 'to draw', OCS 1s. *vlěkǫ* 'to drag', Av. *varək*- 'to draw', which was reconstructed by Schindler (1972) as *$h_2u̯elk$- (with *h_2-) on the evidence of the Greek substantive. Assuming that Hom. ὦλκα continues *ἄϝολκα, it has been derived, together with αὔλακα, from an ablauting paradigm PGr. As. *$awolk$-$m̥$, Gs. *$awl̥k$-*os*. But even if this is granted, it would remain unclear why ἄλοκα (if with "Aeolic" vocalization -λο-) has no trace of digamma, as in Hom. ταλαυρῖνος: to assume a reshaping of *ἄολκ- to ἄλοκ- (see Frisk l.c.) is *ad hoc*. Moreover, there are other dialectal by-forms like Dor. εὐλάκᾱ and glosses such as αὐλάχα, ὄλοκες (Hsch.). It is not possible, therefore, to reduce the Greek forms to one proto-form. Beekes (*EDG* q.v.) concludes, probably rightly, that the word is Pre-Greek.

The sound word κλαγγή 'piercing sound, cry' (*Il*.+), root noun Ds. κλαγγί (Ibyc.), with a derived verb (pres. κλάζω < *$klang$-$i̯e/o$-, aor. κλάγξαι) may well be onomatopoeic, and it would be unwise to build any hypothesis on it. Lat. *clangere* 'to cry' (pres. only) and the Gm.

[1149] The Ns. is not attested in Archaic and Classical Greek.

group of ON *hlakka* 'id.' have been compared, but if the group is onomatopoeic, it is better to depart from an original form with **a* than from a pre-form with **l̥*.[1150] Within Greek, another old form of the verb is the intensive perfect κέκληγα (Hom.+), and the them. aor. κλαγεῖν (B., E.) may have been secondarily derived from it. Alternatively, this could point to a root **kleh$_2$g-* with a secondary (presentic?) origin of the nasal.

The substantive κλάδος (m.) 'branch' (Ion.-Att., also attested as a ntr. *s*-stem and in isolated forms as a root noun κλαδ-) has been compared with the Germanic group of ON and OE *holt* (n.) 'wood; forest', and reconstructed as PIE **kl̥d-o-*. Although the formations are compatible and the meanings are highly similar, this etymology does not seem certain. The comparison with κράδη 'branch', κραδάω 'to swing' (Beekes, *EDG* s.v. κλάδος) deserves consideration. As Beekes remarks, "… it may be accidental that all [Germanic and Greek] forms can be derived from **kldo-*, since κλάδος can also be connected within Greek with κραδάω, which points to an interchange ρ/λ and therefore to substrate origin". For this reason, it is better not to include κλάδος among the prime evidence.[1151]

The adjective λάσιος means 'hairy, shaggy (of animals, of the human chest); overgrown, wooded (of land)' (*Il*.+), and occurs in the compound λασιαύχην 'with hairy neck' (*h. Merc*.).[1152] The first meaning is matched in Celtic (OIr. *folt* 'hair' < PClt. **wolto-*), the second in Germanic (G. *Wald*, OE *weald* < **wóltu-*).[1153] If λάσιος were to be derived from a PIE **wl̥t-o-*, we would only have a root etymology. Moreover, another word for 'hair' is **wolḱo-*, attested in Skt. *válśa-* 'sprout, twig', Av. *varəsa-* 'hair (on the head)', Ru. *vólos* 'hair', etc.[1154] One of the roots **wolt-* and **wolḱ-* may have influenced the other, and it does not seem wise to try and reconstruct the proto-form of λάσιος as **wl̥t-io-*.

The substantive λάχνη 'frizzy or curly hair' (e.g. of a sheep's fleece or the human chest), traditionally reconstructed as **wl̥k-sn-ā-* (Pokorny s.v. **u̯el-* 4). Even if a root **uolḱ-* 'hair' is indeed attested in Balto-Slavic (e.g. Ru. *vólos* 'hair', *voloknó* 'fibre') and Indo-Iranian (e.g. Ved. *válśa-* 'sprout, twig'), the lack of precise cognate formations is disturbing (see also on λάσιος).

Another feasible, inner-Greek connection exists with the adjective (fem. only) λάχεια 'wooded, hairy' (Hom.), as a first member in λαχύ-φλοιος 'with a hairy rind' (v.l. in Nic. *Al*. 269), and perhaps with ἀμφιλαχαίνω 'to weed' (*Od*.). The etymology of this second group has been extensively discussed by de Lamberterie (1975; 1990: 732-42). He plausibly compared λόχος 'ambush' < **'bush, thicket'; moreover, he compared -νη in λάχνη with the suffix -νο- found in θάμνος 'thicket' and in πυκνός 'densely grown'. Against the traditional reconstruction **wl̥k-sn-ā-*, he argues that an initial digamma is excluded by the Homeric attestations (1990: 733). It is impossible to reconstruct a common PIE pre-form on the basis of the Greek evidence, which points to a root λαχ- / λοχ- (1990: 741-2). Thus, until more specific arguments are found, λάχνη cannot be counted among the evidence for **l̥*.

The adjective μαλθακός 'soft, mild, weak' is often compared with the Germanic adjective for 'mild', found e.g. in OHG. *milti*, Goth. *unmildjai*. A by-form μόλθακος is attested in Lesbian poetry (Alcaeus). It is supposed to be related to μάλθη (Hippon., Crat., S.), also μάλθᾰ (Ar. *fr*. 157), which is a technical term for a mixture of wax and pitch used for caulking ships, but which also more generally means 'wax' (S. *Ichn*. 140), and could therefore

[1150] For an extensive discussion of this group, cf. Tichy (1983: 41-48).

[1151] κλάδος may have been connected with the verb κλάω, aor. -κλάσαι 'to break' in Greek by folk etymology, as 'that which is pruned'. But it cannot be etymologically related, because the verb is attested in Homer as -κλων, inf. -κλᾶν < PGr. **klāi̯e/o-*.

[1152] Blanc (*DELG* Supp. q.v., following a suggestion of Bader) distinguishes λάσιος 'hairy' from λάσιος 'willing' in the formula λάσιον κῆρ, a formal term of address preceded by the genitive of a PN (*Il*. 2.851 and 16.554), which would originally mean 'strong-willed heart'. However, his etymological reconstructions are untenable.

[1153] For these, and possible Slavic cognates, see *GEW*, *DELG* and *EDG* s.v. λάσιος.

[1154] In Slavic, the root is also found in depalatalized form before the suffix *-no-* (Ru. *voloknó* 'fibre', etc.).

be derived from *'soft stuff', cf. also Suda s.v. μάλθη. There is further the noun μάλθων (ascribed to Socrates in Stobaeus 4.15.16), denoting a "softy" as opposed to ἐργάτης in the sense of a hard-working man.

The meanings attested for μαλθακός are diverse. When it modifies object nouns, we find it referring to soft soil, cushions, skin, limbs, etc. But more often, the word is used metaphorically, either negatively (cowardly warriors, etc.) or positively (soothing words, mild sleep, etc.). It is possible that the ending of μαλθακός (which acc. to *LSJ* s.v. is a poetic word) was influenced by μαλακός (the prose word). It is unclear, however, which formation should be reconstructed for the adjective, and whether the comparison with Gmc. **mild-* is pertinent. Moreover, it is not obvious at all that the dialectal difference Ion. μαλθακός ~ Lesb. μόλθακος goes back to a zero grade root: compare the dialectal distribution of καθαρός ~ κοθαρός (see section 9.4).

The adjective πλάγιος (Pi.+) 'athwart, oblique, sideways', substantivized as τὰ πλάγια 'the flanks', of the body but especially of an army (Hdt., Th.+), has no good IE etymology. It is perhaps to be connected with the root πλαγγ- 'go astray' in πλάζω, πλάγχθη; see below. Hom. ἔκπαγλος 'terrible, outrageous', if from **-plaglo-*, may belong here, too. The post-Hom. meaning 'wondrous, amazing' (Pi., trag.+), ἐκπαγλέομαι (Hdt.+) 'be struck with amazement', may be older and the Homeric use due to semantic bleaching.

The verb πλάζω, ἐπλάγχθη (root πλαγγ-) means 'to turn sth. away from, thwart, make deviate' in the active voice, and 'to go astray, waver, wander' in the middle. It is clearly the epic and poetic synonym of the prose form πλανάομαι. Frisk compares Lat. *plangō* (*plānxi*, *plānctus*) 'to beat, strike; mourn', assuming that the Greek meaning 'to drive astray' developed from 'to beat off track'.[1155] However, the Greek comparandum to Lat. *plangō* and Goth. *faiflokun* is clearly πλήσσω, πλῆξαι, πληγῆναι, with same the duality of meanings, 'to beat' and 'to beat the chest, mourn'. Frisk explains the root-internal nasal of πλάγχθη as deriving from the present stem, but there are no clear parallels for this process within Greek. Moreover, the nasal disappeared by regular sound change in the present πλάζω, so that the root was simply πλαγγ-. There is also a semantic gap between 'to beat' and 'to go astray'. Therefore, this etymology has litle to recommend itself. I suspect that the interchange between the roots *plang-* (ἐπλάγχθη), *plag-* (πλάγιος 'athwart'), and *plak-* (Class. ἀμπλακεῖν, ἀμβλακεῖν 'to err') points to a substrate origin.[1156]

πλάξ, -κος (S., E.+) 'flat surface (of the sea, the flank or flat top of a mountain, etc.)' has been compared with a North Germanic word for 'surface', ON *flær* (f.pl.) 'rocky plateau' < PGm. **flahiz* (root noun), sg. *fló* < PGm. **flahō* (secondary *ā*-stem), and with a Baltic word for 'flat', Latv. *plakt* 'to become flat, diminish, etc.', Lith. *plàkti* 'to beat', *plãkanas* 'flat'. This comparison is possible only if we assume ablaut *o*/Ø in a PIE root noun **pl(o)k-* 'surface'. This example must remain uncertain, however, since πλάξ is not attested in Homer and frequent in Greek toponyms: cf. the Πλάκα in downtown Athens, and the mountain name Πλάκος (*Il.*). Substrate origin cannot be excluded.

The verb πλάσσω 'to shape, provide with a form, = Lat. *fingo*' (Hes.+), with πλαστός 'kneaded', has no clear etymology. The root probably ended in -θ-, in view of the compounds in -πλάθος '-maker' (Pl., Isoc.). Within Greek, a connection with πλάθανον 'cake mould' is possible, but not certain; this form could contain the instrument suffix -ανον.

[1155] This comparison was recently accepted by de Vaan (*EDL* s.v.).

[1156] See Beekes (*EDG* s.vv. ἀμπλακίσκω, πλάγιος, and πλάζω), who takes over my suggestion to reconstruct a Pre-Greek verbal root *$*(a)^{m}pla^{n}k$*- on the basis of these comparisons. I have also included πλάνη 'errand' in the comparison, assuming a root-final nasal velar *-*ŋ*-, but this is much more hypothetical.

10.2 Cases of -λα- and -αλ- influenced by a full grade form

The outcome of a number of forms with *$l̥$ provides evidence for the color of the anaptyctic vowel, but not necessarily for its place, because the full grade slot may have been introduced in the vocalized zero grade. An adjectival root ἀλπ- is found in the following forms:

(1) ἔπαλπνος 'cheerful, happy' (*LSJ*), only in Pi. *Pyth*. 8.84, τοῖς οὔτε νόστος ὁμῶς ἔπαλπνος (…) κρίθη "for whom no homecoming as happy as yours was decided (…)".

(2) the superlative ἄλπνιστος, only attested in the scholia to Pi. *Isthm*. 5.12, where the mss. have the corrupt (while unmetrical) form $^{+}$ἀνέλπιστος. The passage reads: "there are truly two things alone that foster the finest sweetness (ἄωτον … τὸν ἄλπνιστον) of life in blossoming prosperity: (…)". Wackernagel (1910) suggested to correct the form to ἄλπιστος. This form is indeed found in Aeschylus (*Pers*. 982), where it was traditionally interpreted as a proper name Ἄλπιστος, carried by a high-ranking Persian officer who is called "eye" of the King. In his edition of the *Persae*, West proposes to read παῖδ' ἄλπιστον, with the appellative that is missing in the Pindaric passage. This seems attractive, because Pindar's ἄωτον … τὸν $^{+}$ἄλπνιστον is mirrored in the Aeschylean passage: Περσᾶν τὸν ἄωτον, τὸν σὸν πιστὸν πάντ' ὀφθαλμόν, μυρία μυρία πεμπαστάν, Βατανώχου παῖδ' ἄλπιστον (…).[1157] The form ἄλπνιστον must then probably be ascribed to an attempt by the scholiasts to relate the form ἄλπιστον to ἔπαλπνος.

(3) ἁρπαλέος 'desirable' (*Od*.), with dissimilation and with folk-etymological aspiration taken from ἁρπάζω 'to rob, snatch away'. The meaning may have been influenced by that of ἁρπάζω already in Homer, where ἁρπαλέος occurs three times (*Od*. 6.250, 14.110 as in adv. in -έως, and *Od*. 8.164 as an adj.).[1158] The older meaning 'desirable' is clear in the last-mentioned passage. Moreover, the gloss ἀλπαλέον· ἀγαπητόν 'cherished, adorable' (Hsch.) attests the undissimilated form.

As for the etymology of these adjectival forms, it is commonly accepted that they have a zero grade root corresponding to ἔλπομαι 'to hope for, desire'.[1159] The only possible cognate of ἔλπομαι is Lat. *volup* (adv.) 'with pleasure', which excellently fits the meaning of ἁρπαλέος.[1160] This reconstruction implies that ἔπαλπνος is an Epic or Ionic word, because one would normally expect a reflex of the word-initial digamma in Pindar. Loss of digamma also has to be assumed for ἁρπαλέος in *Od*. 8.164. The added prefix ἐπ- is also attested in the compounded verb ἐπιέλπομαι 'to hope for' (Hom.), ἐπέλπομαι (A.), and in ἐπίελπτος (Archil.).

It seems likely that the positive form with -νο- was created secondarily beside an adjective in -αλέος: cf. especially σμερδνός 'terrible' ~ σμερδαλέος 'id.' (note the quasi-

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[1157] Schmitt (1978) already remarked that Ἄλπιστος cannot be a genuine Iranian name, but this is not judged decisive by Garvie (ad loc.), since more "Iranian" names were made up by Aeschylus in this tragedy. Garvie discusses the relative merits of the competing hypotheses.

[1158] The meaning given in the *LfgrE* is 'erwünscht, angenehm' (adj.), 'freudig, gern' (adv.). The etymological connection with ἔπαλπνος and ἄλπνιστος is accepted there, because it is favored by the attested inner-Greek semantic development of ἁρπαλέος. On the other hand, "… mit einer aus der antiken Etymologie gewonnenen Bedeutung *gierig* (Adv.) oder *zu erraffend, erraft, räuberisch* (Adj.) zu rechnen (…) ist an keiner Stelle nötig. Auch nachhomerisch tritt ἁρπαλέος zunächst noch in der etymologisch richtigen Bedeutung auf (…), daher ist wahrscheinlich, dass die anfänglich sich nur beim Adv. findende Bedeutung heftig (…) auf falscher Interpretation von besonders *Od*. 6.250 beruht, wo der Zusammenhang eine Umdeutung begünstigt."

[1159] *DELG*: "groupe archaïque altéré ensuite par l'étymologie populaire". Beekes (*EDG* s.v. ἄλπνιστος) writes that "It is doubtful to interpret ἀλπ- as *ϝαλπ-, a zero grade of *ϝελπ- in ἔλπομαι, ἐλπίς (for wouldn't one expect *ϝλαπ-?)." This objection to the traditional etymology can now be effectively answered by assuming that ἀλπ- replaces older **welp*-.

[1160] It is possible that the original meaning of the root is preserved better in ἁρπαλέος than in ἔλπομαι; the meaning 'to expect, hope' may have arisen in the middle present, which frequently developed desiderative meaning in Greek (cf. futures of the type ἔδομαι). Lat. *volup* is reconstructed as **uelp-i*- (de Vaan 2008 s.v.), the same formation as Gr. ἐλπίς.

opposite meaning of ἀρπαλέος), post-Hom. ἰσχνός ‘withered, thin, lean’ ~ Hom. hapax ἰσχαλέος ‘withered, dry’.[1161] We are left, then, with a well-paralleled scheme *_walp-aléo-_ : *_walp-isto-_. The superlative replaces an earlier full grade form *_welp-isto-_ (see section 4.1.3) after the positive with *_walp-_. Since the adjectives in -αλέος may replace older ablauting *u*-stem adjectives (section 4.2.2), the reflex *_walp-_ can be explained as follows: *_wélp-u-_, *_wl̥p-éw-_ > *_wélp-u-_, *_wlap-éw-_ >> *_welpú-_, *_walpéw-_ >> *_walpú-_, *_walpéw-_. For this reason, ἀρπαλέος and ἄλπιστος cannot be used as evidence for a regular change *_l̥_ > -αλ-.

An Eastern Ionic by-form of γλῶσσα ‘tongue’ is γλάσσα, attested in late literary Ionic in Herodas (a Hellenistic, 3rd c. mimographer who imitated the language of Hipponax). The authenticity of γλάσσα is guaranteed by its occurrence in inscriptions from Asia Minor, where it denotes the tongue as a part of a sacrificed animal. It seems, then, that γλάσσα was preserved beside γλῶσσα in Eastern Ionic because of its semantic specialization. It is possible that γλάσσα continues the original form of the motional feminine *_dl̥k^h-i̯a_*, which was derived from the weak stem of a root noun *_dlōǵ^h-_, *_dl̥ǵ^h-_ reflected in γλῶχες ‘beard of corn’ (*Scut*., cf. Hom. γλωχίς ‘barb of an arrow’). Subsequently, γλάσσα may have been reshaped, under the influence of γλῶχες or γλωχίς, to γλῶσσα, which was the only form to survive in Classical Attic.[1162] It cannot be excluded that the outcome -λα- in γλάσσα < *_dl̥k^h-i̯a_* was influenced by the vowel slot of cognate words like γλῶχες or γλωχίς. Therefore, Eastern Ionic γλάσσα is not a certain example for the regular development of *_l̥_ in Ionic-Attic.

There are two compounded forms with -πλακ-. Hom. δίπλαξ is attested as an adjective ‘double-layered’ in δίπλακι δημῷ ‘[wrapped] in a double layer of fat’ (*Il*. 23.243 and 253, in the funeral ceremony for Patroklos), and as a substantive in δίπλακα πορφυρέην ‘purple mantle’ (*Il*. 3.126, 22.441, *Od*. 19.241).[1163] Furthermore, the hapax τρίπλακ- describes the “threefold” rim of the shield of Achilles (only in *Il*. 18.479-80 ἄντυγα βάλλε φαεινὴν τρίπλακα μαρμαρέην).[1164]

It is attractive to derive the second member -πλακ- from the root of πλέκω ‘to plait, twine’ (PIE *_pleḱ-_), and to compare the identical formation of Lat. *duplex* ‘twofold’ (de Vaan *EDL* s.v. *-plex*, Beekes *EDG* s.v. δίπλαξ). Semantically, the use of ‘-fold’ in Germanic offers a good parallel. It is possible that δίπλακι δημῷ preserves the original meaning ‘two-fold, wrapped twice’, and that in the substantivization δίπλακα πορφυρέην, -πλακ- originally qualified the kind of thread from which it was made (“twined twice” vel sim.).[1165] It is noteworthy that the Latin form points to a full grade second member *_-pleḱ-_. This could mean either that Latin introduced the full grade from the verb (*plectō*, *-plicō*), or that -πλακ- replaces earlier -πλεκ- in Greek. In any case, the presence of the verb πλέκω forbids us to use δίπλακ- and τρίπλακ- as compelling evidence for -λα-, rather than -αλ-, as the regular outcome of *_l̥_ in Proto-Ionic.

The adjective πλατύς ‘broad; flat’ is quoted as a prime example for the development of *_l̥_ in almost every manual. Its forms of comparison are analogical (πλατύτερος and

[1161] Other adjectives in -νό- may also be secondary: hapax στιλπνός ‘glistering, gleaming’ (*Il*. 14.351, ~ στίλβω ‘gleam’), ἐρεμνός ‘dark, gloomy’ (~ ἔρεβος ‘underworld, darkness’), and in Pindar θαλπνότερος ‘warmer’ (θάλπω ‘to heat’). A very frequent form is τερπνός; since the root of τέρπομαι has no other positive, τερπνός probably underlies the rarer forms στιλπνός, ἔπαλπνος, θαλπνός.

[1162] In section 4.1, I have suggested that the motional feminine of *u*-stem adjectives may have been derived by adding the forms of the motional suffix directly to the ablauting *stem* forms of the masculine. It is possible, then, that a paradigm Ns. *_dlōk^h-i̯a_*, Gs. *_dl̥k^h-i̯ās_* yielded Ns. γλῶσσα, Gs. *γλασσῆς (whence a new Ns. γλάσσα after semantic specialization).

[1163] It is to be noted that the dictionary nominative forms δίπλαξ and τρίπλαξ are unattested.

[1164] The precise meaning of the triple rim is disputed, cf. the commentary by Kirk et al. ad loc.

[1165] I reject the thesis, defended in Frisk s.v. δίπλαξ, that this is a compound with second member -πλακ- ‘surface’. See there for further literature on this word.

-τατος).[1166] The adjective is also attested in Lesbian poetry (πλάτυ Alc. fr. 74). Other forms attested in Greek are πλαταμών 'flat stone or object', πλάτος 'breadth, width; plane surface' (*Cypr*. fr. 1.2, Simon., Hdt.+), and adjectives in -πλατής (X., Th., Arist.).[1167] The old form of the motional feminine is probably reflected in the toponym Πλάταια. But whether the outcome of vocalized *$*l̥$* was -λα- or -αλ-, the original paradigm *$*pleth_2$*-*u*-, *$*plth_2$*-*eu*- would have been leveled out as *platu*-, **platew*- anyway. After this, the stem form **plat*- spread to all other derivatives. Therefore, πλατύς offers no clues about the regular outcome of *$*l̥$*.

The collective formation σπλάγχνα 'entrails, viscera' (Hom.+) is clearly related to Av. *spərəzan*- (m.) 'spleen', Ns. *spərəza*, and to Lith. *blužnìs* 'id.', and within Greek to σπλήν 'spleen' (*Il*.+). The difficulty to reconstruct a PIE pre-form on the basis of these and other related terms for the spleen is well-known: "Da eine Rekonstruktion im einzelnen nicht möglich ist, müssen wir uns auch für σπλήν und das davon nicht zu trennende σπλάγχνα auf blosse Vermutungen beschränken" (Frisk, q.v.). Greek σπλήν has no trace of a root-final velar, which is mostly assumed to be due to tabooistic deformations.[1168] The σπλάγχνα refer to a collection of innards, "especially heart, lungs, liver, kidneys, which in sacrifices were reserved to be eaten by the sacrificers at the beginning of their feast" (*LSJ*). In Frisk's view, σπλάγχνα stands for earlier *σπλάχνα, with a secondary internal nasal.[1169] The collective would reflect a PIE "Transponat" *$*splg̑^h$*-*n*-h_2, but is probably not old: the comparative evidence points to a specific denomination of the spleen, so to an original singular form. Therefore, σπλάγχνα was probably derived from the weak stem of the PIE paradigm, e.g. Gs. *$*splg̑^h$*-*n*-*ós*, and is likely to contain a regular vocalization to -λα-.[1170] There is no particular reason to assume that the vowel slot of σπλάγχνα was influenced by that of σπλήν.[1171] On the other hand, it would be unwise to base our conclusion on σπλάγχνα, because most of its cognates in other IE languages have undergone irregular deformations.

10.3 The pre-form did not necessarily contain *$*l̥$*

10.3.1 βλάβομαι, βλάπτω

The paradigm of βλάπτω 'to hinder, impede; bend off, mislead' (*Il*.+, post-Hom. 'to damage') consists of a causative aor. βλάψαι, a middle pf. ptc. βεβλαμμένος, and an intransitive aor.

[1166] A comparative πλατίον 'broader' is attested in Epich. fr. 101 Kaibel, but the form is probably secondary for expected $^{++}$πλάσσον << *πλέσσον.

[1167] As de Lamberterie (1990: 452-63) has argued, it is improbable that πλατύς 'brackish' is the same word in origin. The proponents of this identification believe that πλατύς 'broad', as an epithet of the Hellespont, was misunderstood to mean 'salty', given that Herodotus also calls the Hellespont ἁλμυρός 'salty'. Cf. Frisk s.v. πλατύς 2. and Mayrhofer *EWAia* s.v. *paṭu*- (both embracing this view), *DELG* s.v. 2 πλατύς (doubting it). Against this, de Lamberterie remarks that πλατύς only means 'brackish', never 'salty'. The suggestion found in older literature is a connection with Skt. *paṭu*- 'sharp, biting, bitter' (and many derived meanings) as PIE **plt-u*-; de Lamberterie suggests that this adjective belonged to a primary perfect with intransitive meaning 'to split, cleave' (with in Gmc. the 7th class strong verb **spaldan*- 'to split', Slav. **ras-platiti* 'id.', Skt. *paṭati* 'crack, burst', caus. *pāṭayati* 'split').

[1168] Note, however, Puhvel's proposal (1999: 74) to derive φρήν and σπλήν from *$*b^hreǵ^h$*-*n*-*s* and *$*spleǵ^h$*-*n*-*s*, respectively, by a regular development *-*eǵ^hns* > -*ēn* with compensatory lengthening. It is unclear how Puhvel envisages this development phonetically, but it would have the advantage of providing φρήν with a natural etymology (cf. διάφραγμα) and of explaining why σπλήν coexists with σπλάγχνα in Greek. An obvious objection is that no structurally comparable PIE sound changes are known: one wonders what was wrong with a vocalization *$*b^hreǵ^h$*-*n̥(-s)* or *$*spleǵ^h$*-*n̥(-s)*.

[1169] In this word, deformations took place in other branches too: compare Ved. *plīhán*- (AV+) 'spleen', which may have been influenced by *snīhán*- 'snot' (Mayrhofer, *EWAia* q.v.).

[1170] The secondary zero grade in the Baltic forms (Lith. *blužnìs* 'spleen', OPr. *blusne* 'id.'), as well as Slavic material (OCS. *slězena* 'id.', Ru. *selezënka*) and perhaps also Skt. *plīhán*- 'id.' (AV+), point to a full grade II. On the other hand, there is Celtic material pointing to a full grade I (MIr. *selg*, MBret. *felch* 'spleen').

[1171] Cf. *DELG* (s.v. σπλήν): "il n'est pas sûr que les Grecs aient senti la parenté entre σπλήν et σπλάγχνα."

ἐβλάβην ‘was impeded’ beside ἐβλάφθην. The latter form was preferred by Homer for metrical reasons, but it is less frequent than ἐβλάβην in the classical language. Besides, a thematic middle present βλάβεται ‘to be hampered (of the voice), to give way (of the knees)’ is attested only in the *Iliad*,[1172] where it was preserved for metrical reasons. *LSJ* gives the basic meaning “*disable, hinder*”, but with some modifications like “*entangled, caught, stopped*”, and a separate metaphorical meaning “II. *distract, pervert, mislead*, of the mind”. The primary meaning was ‘to put off track, bend off, drive off course’.

The causative active paradigm βλάπτω, βλάψαι is clearly secondary to the older intransitive forms βλάβεται, ἐβλάβην. The compound ἀβλαβής ‘unharmed, unwavering, securely’ was derived directly from this intransitive verb, and must be old within Greek.[1173] Other nominal derivatives follow productive patterns and may be relatively recent creations.[1174] The question is, then, whether the root of βλάβεται and ἐβλάβην can be derived from a zero grade **mḷk^{w}*-. Such a root is required by the etymological comparison with Ved. *marc*- (caus. *marcáyati*) ‘to slander, injure’, Avestan *mərəc*- ‘to destroy’ (vel sim.), which is accepted by both Frisk and *DELG* (s.v. βλάβη).[1175] However, an obvious objection against this etymology is the root-final -β- in Ionic-Attic. For this reason, Knobloch proposed that the Indo-Iranian root should rather be compared to Hitt. *markiie/a-*^{zi} ‘to disapprove of’, an idea which has been accepted both by Puhvel (*HED*, q.v.) and Kloekhorst (*EDHIL*, q.v.).[1176] This would leave βλάβομαι, βλάπτω without an etymology.[1177]

There are, however, several reasons to maintain the traditional comparison with Ved. *marc*- and Avestan *mərəc*-. First of all, there are clear semantic parallels between Greek and Indo-Iranian. The intransitive meaning ‘to turn off, lose the track, deviate’ is clearly old in Greek, but a second use of βλάπτω is found in Hesiod, where the causative verb means ‘to

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[1172] Plus a Homeric imitation in *Anacreont*. 31.26.

[1173] This formation also has a reflex in Cretan, see below. In traditional oaths, ἀβλαβής means ‘unwavering’, i.e. “abiding by the terms” (Th., Att. inscr.). The non-agentive semantics are also attested in the compound φρενοβλαβής ‘with perverted mind’ (Hdt., Eupolis, Hp.), i.e. “going astray in one’s thoughts”. For the phraseology, compare νόου βεβλαμμένος (Thgn. 223). Secondarily, ἀβλαβής (Sapph., Pi., trag., class. prose) also acquired the meanings ‘unharming’ (agentive) and ‘unharmed’ (passive), probably under influence of the causative semantics of βλάπτω. For the derivation of an *s*-stem compound from an intransitive verbal stem, see e.g. Meissner (2006: 186-97).

[1174] As *DELG* (s.v. βλάβη) remarks, “Par son attestation plus ancienne comme par son sens concret, le thème verbal semble plus archaïque que les formes nominales”. Cf. for instance βλάβος n. ‘harm; curse’ (Hdt.+, backformed from ἀβλαβής) and βλάβη (A.+) ‘id.’; ἀβλαβίη (*h. Merc*., inscr.); βλαβερός ‘harmful’ (Hes.+) may have been formed to ἀβλαβής on the model of κρατερός : ἀκρατής (Schwyzer 1939: 482; see chapters 4 and 5 on the adjectives in -ερό-).

[1175] Beekes’ view (*EDG* s.v. βλάβη) that βλάπτω is of Pre-Greek origin cannot be substantiated. It could be envisaged to derive Lat. *mulcāre* ‘to damage, mutilate’ and *mulcēre* ‘to stroke’ from PIE **mlk^{w}*- (this was rejected by Walde-Hofmann and Frisk). If *mulcāre* is a denominative from **mulkā*- ‘damage’, the formal reconstruction could work if **k^{w}* was delabialized after **l̥* in a pre-Latin **mḷk^{w}ā*- (cf. dulcis ‘sweet’ < pre-Latin **dl̥kwi*- < **dlukwi*-). It is interesting that *mulcēre* has a special meaning ‘charm, beguile’ (e.g. with a song, *carmine mulcēre*, also *permulcēre mitibus verbis* ‘to manipulate someone with soft words’). This meaning is close to βλάπτω in the sense ‘to mislead’.

[1176] Puhvel subsequently proposed to connect βλάπτω with Hitt. *gullak(k)uwan*- ‘impure’ (1996: 167), and speaks of “an important binary Hittite-Greek isogloss exhibiting Indo-European labiovelars and a sense of religion-tinged offensiveness (…)” (ibid.). According to Puhvel, the Hittite word “denotes hygienic or ritual or religious or moral failing” (*HED* s.v. *kullak(k)uwan*). Although βλαβ- does indeed occur in religious and moral senses from Homer onwards, this root etymology can hardly be correct, because the primary meaning of βλάπτω is ‘to hinder, put off track’, whence ‘to mislead’.

[1177] Kloekhorst recently proposed to derive βλάπτω from a PIE root **mlek^{w}*-, for which the only other evidence would be Hitt. *malekk(u)-*^{zi}, a “verb describing a negative consequence of illness” (*EDHIL*, q.v.). But this etymological connection remains “highly speculative” (as Kloekhorst admits), because we are dealing with a hapax. The passage where *malekkun* occurs reads in translation: “… because of the [ill]ness, I have become tired and *malekku*-ed; I cannot succeed (*taruḫmi*) any longer” (see Kloekhorst l.c.). An alternative proposal by Puhvel (*HED* s.v. *malikku*-) connects *malekkun* with *mališku*- ‘weak’.

slander, pronounce a false oath' in at least three instances (*Op*. 193-4, *Op*. 258, *Op*. 282-3, and perhaps also in the only other instance in Hesiod, *Th*. 89). The only meaning of *marc-* in the *Rigveda* seems to be 'to lead astray', e.g. in combination with *dváyena* 'with double tongue'. Poetic phraseology pointing in the same direction is also found in Homer (*Il*. 9.505-512, about 'straight-footed' Ate overtaking men and making them err), and this meaning 'go astray' can be recognized in traditional oath formulae (e.g. Th. 5.18, 5.47, in Attic inscr. e.g. *IG* I^3 53.13-14). Since the concrete meaning of βλάπτω, 'to hinder, put off track', is clearly primary within Greek, it is quite possible that 'to slander, speak falsely' is a metaphorical use of 'to mislead' (sbd. with words) that existed already in PIE.[1178]

Secondly, the Old Avestan verbal paradigm has a remarkable parallel formation to Greek βλάβομαι: the athematic present *vī-mərəṇcaitē* (3p. mid. pres. ind.), *mərəṇgəduiiē* (2p.), *mərəṇgəidiiāi* (inf.), and the 3s. act. pres. opt. *mərąšiiāṯ*. The attestations of the Avestan verb allows us some freedom of translation (traditional is 'to destroy'), but there seems to be no difference in meaning between the active and the middle.[1179] This suggests that the middle is older, and that it derives from a nasal infix formation **mlm̥k^w-to*. The oldest Greek present formation βλάβομαι may be the direct outcome of this same pre-form if we assume that it underwent thematicization.[1180] If this is correct, -λα- in βλάβομαι may be the outcome of a vocalized nasal, rather than of **l̥*. If the aorist βλαβῆναι was formed secondarily beside βλάβεται within Greek, which seems likely, its -α- need not be the result of a vocalized **l̥* either.[1181]

A third reason to retain the etymological comparison with Indo-Iranian is the Cretan evidence for a root βλαπ-, βλοπ-. The following forms are attested:

(1) inf. καταβλαπεθαι (*IC* IV 42.11), καταβλα[πεθ]αι (*IC* IV 82.3), both from Gortyn, early 5th c. BC. The middle inf. ending -θαι continues older -σθαι, and in older Cretan, word-internal -πτ- < **-pi̯-* was initially preserved, and later assimilated to -ττ-.[1182] Therefore, καταβλαπεθαι should be directly compared with Hom. βλάβεται. In the first inscription, a judge is said to καταβλαπεθαι "qui, pour une raison valable, ne peut exercer son métier. La loi dit expressément qu'il ne faut pas le «pénaliser»" (Bile 1988: 353). This would mean, in Bile's interpretation, that the judge should not be fined ("être lésé"). The prefixed causative verb καταβλάπτω is frequently found in inscriptions across Greece, in the meaning 'to inflict damage, do harm', but it is hardly attested in the Classical language.[1183]

[1178] A further philological analysis of βλάπτω in Epic Greek, which I intend to provide elsewhere in the near future, shows that Homer and Hesiod agree with Vedic and Avestan in traditional phraseology.

[1179] Since the object of *mərəc-* is often *ahu-* 'righteous life' or *aša-* 'order', a better translation may be e.g. 'to disturb, mess up'. This claim cannot be further elaborated here.

[1180] It is in fact quite attractive to reconstruct a nasal present for βλάβομαι: since most thematic middle root presents have an *e*-grade root (δέρκομαι, πείθομαι, etc.), one would expect a present *βλέπομαι or *μέλπομαι.

[1181] In this context, it is noteworthy that Homer structurally avoids *McL* scansion in the root βλαβ-. Whereas the regular Ionic-Attic form of the passive aorist is βλαβῆναι, Homer only uses the artificial form βλαφθῆναι, with the single exception of βλάβεν in front of a vowel (*Il*. 23.545). Moreover, the preservation of βλάβομαι is due to the metrical awkwardness of *βλάπτομαι (a dactylic form with double initial consonant, which can only be placed in verse-initial position or after a syllable that is long by nature). Thus, if we depart from the assumption that the vocalization of **l̥* and **r̥* was simultaneous, it is remarkable that we find no traces of *McL* scansion at all. It follows either that βλαβ- does not contain the result of a vocalized **l̥*, or that the vocalization of **l̥* was prior to that of **r̥*.

[1182] Cf. pf. mid. εγρατται 'has been written', επτα > εττα 'seven'.

[1183] In literary Greek, the only early attestation of καταβλάπτω is at *h. Merc*. 93, but there the meaning could be 'to hinder, harm' in a more general sense (see Richardson ad loc.). The only other two occurrences up to Plato are Pl. *Leg*. 864e and 877b. In this dialogue, the Athenian spokesman uses καταβλάπτω on both occasions, but since he is conversing with a Spartiate and a Cretan, he could be deliberately using a non-Attic juridical term here.

The relic thematic middle present attested in Cret. καταβλαπεθαι provides a serious indication that the root originally ended in a voiceless stop.[1184] What does this form tell us about the vocalization of *$\underset{\circ}{l}$ in Cretan? We have seen in section 3.2 that *$\underset{\circ}{r}$ normally developed to -αρ- in Cretan, and to -ορ- after a labial consonant. But καταβλαπεθαι does not show *o*-vocalism, even if *$\underset{\circ}{l}$ was surrounded by two labial consonants. The development of an anaptyctic vowel after the liquid would also be in contrast with the development of *$\underset{\circ}{r}$ in Cretan. It follows either that *$\underset{\circ}{l}$ developed to Cretan -λα- prior to the conditioned development of *$\underset{\circ}{r}$, or that καταβλαπεθαι does not contain the reflex of *$\underset{\circ}{l}$.

The second alternative is made probable by the Cretan abstract αβλοπια, which is attested as απλοπια (*SEG* 27.631 = Bile No. 28, A 18 [Lyttos]), Ds. αβλοπιαι (*IC* IV 81.12-13 [Gortyn], *IC* II v 2.10, and perhaps]οπιαι, in an uncertain context, *IC* II v 4.2 [both from Axos]).[1185] All attestations are from the 6th or 5th century, which ensures that we are dealing with an archaic legal term.[1186] Chantraine (*DELG* s.v. βλάβη) translates αβλοπια as "conduite qui ne fait tort à personne", and explains -λο- as a dialectal reflex of *$\underset{\circ}{l}$ with the suggestion that it may be pre-Doric.[1187] How can the formation underlying αβλοπια be reconstructed? Chantraine (1933: 79) compared the near-synonym ὠφελία 'service, behavior which benefits sbd. or sth.', which is regularly opposed to βλάβη in Classical Greek. Since an older form ὠφέλεια (derived from *s*-stem adjectives in -ωφελής) is attested beside ὠφελία, he suggests that αβλοπια can be derived from the same pre-form as the classical *s*-stem compound ἀβλαβής. Such an *s*-stem compound is indeed attested in the gloss ἀβλοπές· ἀβλαβές. Κρῆτες (Hsch.). In this way, we arrive at the following correspondences between Ionic-Attic and Cretan:

	middle pres.	***s*-stem adj.**
Ionic-Attic:	βλάβεται	ἀβλαβής
Gortynian Cretan:	καταβλαπεθαι	ἀβλοπές (whence αβλοπια)

Since both βλαπ- and βλοπ- are attested in the dialect of Gortyn, at least one of them cannot have the regular Cretan outcome of *$\underset{\circ}{l}$. In Chantraine's view, βλοπ- is due to Achaean substrate influence. But in view of the possibility that καταβλαπεθαι (like Homeric βλάβεται) contains the reflex of a vocalized nasal, this *ad hoc* assumption is unnecessary. It is a distinct possibility, then, that ἀβλοπές and αβλοπια contain the regular reflex -λο- of *$\underset{\circ}{l}$ in Cretan, and that -λα- < *$\underset{\circ}{l}$ is regular in Ionic-Attic ἀβλαβής.

Having said that, it must be taken into account that the vowel slot in ἀβλοπές may have been influenced by καταβλαπεθαι, and that Ionic ἀβλαβής may also have introduced the productive verbal root, which derived from a pre-form with *$\underset{\circ}{n}$ (cf. above on βλάβομαι, βλαβῆναι). The potential relevance of βλαπ- for the place of the epenthetic vowel also depends on the original full grade of the root. There is no trace of such an ablaut form in Greek, but the Indo-Iranian vowel slot was **mark*-, as seen in Ved. *marcáyati* (caus.), *markā*- 'ruin', and Av. *marəxšaitē* (3s. aor. subj.), *mimarəxšaitē* (desid.), *mahrka*- 'death'. Although

[1184] I have no unambiguous solution for the root-final voiced stop of Ionic βλαβ-, but a comparison with γλάγος 'milk' (on which see below) could be interesting. This *s*-stem form is found in Homer beside γαλακτ- and γλακτο-. It has been argued that γλάγος may directly continue a zero grade root *$g\underset{\circ}{l}g$-, but this would not be a regular IE root structure. If the comparison with Hitt. *kalank-*^{i} 'to soothe' is pertinent, a reconstruction PGr. *$gl\underset{\circ}{n}k^{h}$- may be considered, with voicing of the stop between the heavy voiced initial cluster and a vowel.

[1185] The form απλοπια from Lyttos may be due to the sound change **Dl*- > *Tl*-, which is also observed in κλευκος 'new wine' (in the same inscription) and in the Cretan gloss κλάγος 'milk' (Hsch.).

[1186] Cf. the remark by Bile (1988: 123-4), "le registre juridique du mot le place parmi les archaïsmes".

[1187] Chantraine's translation "conduite qui ne fait tort à personne" may have to be modified: if we compare the use of ἀβλαβής 'unerring' in Athenian oath formulae, it seems that αβλοπια originally referred to unerring social behavior, which was conform to the law.

Ved. *marká-* and Av. *mahrka-* could be productive replacements of the root noun Av. *mərəxš* (Ns.), Ved. *mṛ́c-*, the basic assumption must be that the PIE root was **melk^{w}-*.[1188]

For Ionic-Attic, no certain conclusions can be based on Hom. βλάβεται, because its pre-form may have contained an internal nasal, nor on ἀβλαβής or βλαβῆναι because it cannot be excluded that they were influenced by or derived from βλάβεται. The only significant conclusion to be drawn from the above analysis is that -λο- or -ολ- is probably the outcome of **l̥* in a labial environment in Cretan.

Finally, it is interesting that the verb βλάπτω is attested in Arcadian: aor. subj. ποσκατυβλαψη (*IG* V 2 6.37), aor. ptc. το κατυβλαφθεν (ibid. 41). The inscription contains regulations concerning construction sites, and the meaning of the verbal forms is simply 'to damage', like that of Classical βλάπτω. Although καταβλάπτω is not a normal Ionic-Attic form, a West Greek *Koine*-form cannot be excluded, because a number of clauses and collocations appear in similar inscriptions elsewhere.[1189] If this is correct, the general non-Ionic-Attic verb καταβλάπτω may have been superficially Arcadianized by introducing the preverbs κατυ- and ποσ-. The Arcadian forms, then, do not inform us about the outcome of **l̥* in that dialect.

10.3.2 διπλάσιος

The adjective διπλάσιος 'twofold, double the size, twice as much' is not attested in Homer, but first in Solon (fr. 13.73), and it is common in Attic prose.[1190] It may originally be a legal term: cf. διπλάσιος ζημία 'double the fine', also found in Arcadian (*IG* V^{2} 6.35, also in Dubois 1988, Tegea 4.18) and in Elis (Minon 2007, I: 208), where it could be due to Koine-influence. The Ionic form διπλήσιος is attested in Herodotus and inscriptions, and may be analogical after a semantically close form like παραπλήσιος 'about the same size, about equal' (from the root **pelh$_2$-* of πέλας 'near').[1191]

In Classical Greek, the meaning of διπλάσιος 'double the size' is different from that of διπλός, διπλόος, contracted διπλοῦς (Hom., Pi., trag., etc.), which means 'double, twofold' in the sense of 'consisting of two discrete entities'. διπλός clearly represents older **dui-pl-o-* as in Lat. *duplus* (< **du-pl-o-*), *simplus*, also in Goth. *tweifls* 'doubt', Lyc. *tbiplẽ* 'twice(?)', OIr. *díabul* 'double'.[1192] The root may also be present in Gm. **-falþa-* '-fold' (Goth. *-falþs*, MoG. *-falt* < **-pol-to-*). For διπλάσιος, on the other hand, the etymological dictionaries (Boisacq, Frisk, *DELG* and Beekes) posit an earlier **δίπλατος, enlarged by a suffix -ιος (like e.g. ἀμβρόσιος beside ἄμβροτος).[1193] This **δίπλατος would continue a compound **dui-pl̥-to-* from the same root **pel-* 'fold' as **dui-pl-o-*.

Upon closer scrutiny, however, it appears that διπλάσιος must have been created within the history of Greek, because there is also a verb διπλάζω 'to be twice as big' (S. *Aj*. 268 τό τοι διπλάζον μεῖζον κακόν). This denominative verb may have been derived from διπλός or its ntr. p. διπλά. For the subsequent derivation of διπλάσιος 'double the size', cf. Class. θαυμάσιος 'amazing' beside θαυμάζω 'to be amazed', Hom. ἀσπάσιος 'quiet' beside ἀσπάζομαι 'to be quiet'. Thus, the derivational chain is διπλός, διπλά 'double' (Hom.+) →

[1188] For an accentual difference between the Indic and Iranian forms, see Mayrhofer, *EWAia* s.v. *MARC*. Nothing can be based on the Hittite hapax *malekkun*, see above.

[1189] Compare *IG* VII 3073.29-37 and 3074.9-11 (Lebadeia in Boeotia), which also contain regulations for construction.

[1190] The word is unattested, however, in the tragedians.

[1191] Cf. also Hdn. 3.130.4. The special Ionic form is also attested in inscriptions, e.g. αὐτοὶ τὴν θωιὴν διπλησίην ὀφελόντων IG XII *Supp*. 347 II, 6 (Thasos).

[1192] According to Kretschmer (cited *apud* Frisk s.v. διπλόος), διπλός was reanalyzed as διπλόος after the word for 'sea journey', **plówo-* > πλόος > πλοῦς. This is not immediately convincing, but seems possible in view of the lack of alternatives.

[1193] The form δίπαλτος is wrongly cited by Boisacq s.v. διπλός; it belongs to πάλλω 'to swing'.

διπλάζω ‘to be twice as big’ (trag.) → διπλάσιος ‘double the size, twice as big’ (Thgn.+), whence later → διπλασιάζω ‘to double’ (Pl. *Leg*. 920a). We may conclude that the only old form in Greek is διπλός, and that διπλάσιος is not to be directly compared to E. *two-fold*. It provides no evidence for the development of **l̥*.

10.3.3 λαγαρός and λάγνος

The adjective λαγαρός ‘hollow, slack, thin, lean, etc.’ is attested in Ionic-Attic and epigraphically in Cos (*SEG* 28.697, lines 18 and 20, 4th c. BC). It is related within Greek to λαγών, plural λαγόνες ‘flanks of an animal’ < “weak spots” (with the location suffix -ών). The etymological dictionaries further compare λάγνος ‘lascivious’ (Arist.), λαγνεία ‘lasciviousness’ (X.+). Finally, the reconstruction of λαγωός ‘hare’ (Hom.) as **slag-ows-ó-* ‘the one with slack ears’ (cf. Peters 1980: 59) is attractive.[1194]

For semantic as well as formal reasons, λαγαρός and λάγνος should first be compared with the Germanic group of ON *slakr*, OS *slac*, OE *slæk* ‘weak, floppy’ < PGm. **slak-n-*, but the question is in which way. Further forms that have been adduced as comparanda for λαγαρός and λάγνος are Lat. *laxus* ‘spacious, wide, loose’, Ved. *ślakṣṇá-* ‘smooth, slippery, soft’ (AV+), MoP *lašn* ‘smooth’, and Tocharian A *slākkär* ‘sad’, B *slakkare* ‘darting’. There are three alternative ways to deal with this rather heterogeneous group.

First, we may be dealing with a group of European substrate words (cf. the suggestion in Beekes, *EDG* s.v. λαγαίω). To my mind, this is a promising option, in view of λαγγάζω ‘to slacken’ (Antiph., glosses) and other forms with λαγγ-, which may either have Pre-Greek prenasalization (Beekes, *EDG* s.v. λαγγάζω) or belong to a European substrate root **lang-* (cf. Lat. *langueō* ‘be slack, faint’). In the case of a root **(s)leh$_2$ǵ-* with internal laryngeal, the short vowel in Greek λαγ- could be explained from the zero grade of the **s*-less variant (Beekes 1988b: 26f., cf. Lubotsky 1981 for the derivation of Ved. *ślakṣṇa-* from **sleh$_2$g-snó-*).

Finally, accepting Schrijver’s rule **RDC > RaDC*, de Vaan (*EDL* q.v.) explained Lat. *laxus* from a pre-form **sl̥ǵ-so-*. He explains (s.v. *langueō*) that he posits this pre-form in order to reconstruct *langueō* ‘to be sluggish’ as **slangw-* < **sl-n-ǵ-u-*, and remarks that the appurtenance of Tocharian B *slakkare*, which would point to **slh$_2$ǵ-*, cannot be ascertained. If this root reconstruction is correct, the entire Greek group could be derived from a zero grade root **sl̥ǵ-*.[1195] Thus, neither a root PIE **slh$_2$ǵ-*, nor a European substrate word *slag-* can be definitely excluded for the group meaning ‘weak’, which comprises at least Germanic and Greek words.

10.4 Possible cases of **l̥* > -λα-

10.4.1 βλαδεῖς

An adjective *βλαδύς is attested in the gloss βλαδεῖς· ἀδύνατοι. ἐξ ἀδυνάτων (Hsch.). Other glosses derived from this root are βλαδαρόν· ἐκλελυμένον, χαῦνον ‘flaccid, porous’, βλαδαρά· ἄωρα, μωρά, ὠμά ‘untimely, sluggish’, βλάδαν· νωθρῶς ‘slothful’, and βλαδόν· ἀδύνατον ‘powerless’ (all Hsch.). Since the root was **meld-* (see section 4.4.5), βλαδ- must be the regular outcome of a zero grade form.

[1194] All these words are treated in the same entry in Frisk, *DELG*, and *EDG*. The appurtenance of Cretan λαγασαι ‘to release a prisoner’ (on which see section 10.6) to these words is usually taken for granted, but highly uncertain.

[1195] Note, however, that Schrijver himself did not yet propose to explain *laxus* with his rule (1991: 136 and 165), because he followed Lubotsky’s proposal that the root contained a laryngeal. A fourth option would be to separate Lat. *laxus* ‘spacious, wide, loose’ from *langueō* and its Germanic cognates, and to compare its root with Ved. *sarj-* ‘to loosen, set free’.

It seems natural to suppose that βλαδεῖς reflects a PIE adjective **mld-ú-* 'soft, weak', and that this *u*-stem was replaced by a different suffix in the other glosses βλαδαρόν, βλάδαν, βλαδόν. However, a comparison with Arm. *mełk* 'weak, soft', Lat. *mollis* 'soft, gentle', W. *blydd* 'soft' and Ved. *mṛdú-* 'soft, delicate' shows that we are dealing with an ablauting *u*-stem adjective **meld-u-*, **mḷd-eu-*. In section 4.4.5, I have argued that ἀμαλδύνω (with secondary ἀ-) was built on an earlier full grade form of this adjective. The ablauting paradigm **meld-u-*, **mlad-ew-* was replaced by **meld-u-*, **mald-ew-*, and the factitive verb ἀμαλδύνω may have been derived after this replacement.

Since it is difficult to derive βλαδεῖς from the weak stem of the adjective in Ionic, I am inclined to consider two alternative solutions. On the one hand, the root allomorph βλαδ- may have originated in the adverb PGr. **mḷd-a*. Alternatively, the glosses may have been taken from a Doric dialect. Such an origin for βλαδεῖς could be confirmed if πλαδαρός 'damp, weak, flaccid', πλαδάω 'to make flaccid' are the genuine Ionic-Attic forms corresponding to the gloss βλαδαρός. But since their initial πλ- is hard to explain, I will not base any conclusions on them; for further details, see the discussion in section 4.4.5. For now, we may conclude that βλαδ- must be the regular outcome of **mḷd-*, but it is unclear in which formation this root allomorph originally came into being, and whether the glosses with βλαδ- are of Ionic-Attic provenance.

10.4.2 βλαστός

According to the etymological dictionaries, the thematic aor. βλαστεῖν 'to sprout, bud' (Pi.+), with the derived pres. βλαστάνω, has no etymology. In the meantime, de Lamberterie (1990: 358-61) proposed to derive it from the noun βλαστός 'sprout, young shoot' (Hdt.+), which he reconstructs as a substantivized adjective **mḷd-tó-* 'tender, young'. As a parallel, he points at the fact that **meld-* 'soft, weak' also served as the basis for a word for soft or tender shoots in Slavic (**moldъ* 'young, tender' > OCS *mladъ*, Ru. *molodój*, etc.). The derivation of a thematic aorist βλαστεῖν from βλαστός yields some difficulties. De Lamberterie proposes to compare βλαστός with Hom. θαλλός 'id.', which can be derived from the present stem of θάλλω 'to flourish'. On this basis, a verb *βλάστω, impf. ἔβλαστον, aor. ἐβλάστησα would have been backformed, after which the imperfect was reinterpreted as a thematic aorist. The assumed switch of aspect is not without problems, but de Lamberterie's idea to derive βλαστός from **mḷd-tó-* is certainly attractive. If the etymology is correct, it furnishes another example for a regular outcome -λα- < **l̥*.

10.4.3 γάλα, γλακτοφάγος, γλάγος

Beside the normal form γάλα, γάλακτος 'milk' (*Il.*+), there are a few by-forms with a different root shape: γλακτο-φάγος 'living on milk' (*Il.* 13.6), name of a Scythian people (Hes. fr. 151), γλάγος 'milk' (*Il.* 2.471 = 16.643, Pi. fr. 106.4), περιγλαγής 'overflowing with milk' (*Il.* 16.642).[1196] There are also some glosses of unclear interpretation: κλάγος· γάλα. Κρῆτες, γλακῶντες· μεστοὶ γάλακτος 'full of milk', and γλακκόν· γαλαθηνόν 'sucking milk' (all Hsch.).

If this word can be reconstructed for PIE at all, the main question is whether the Greek forms with γλα- derive from a pre-form with **l̥*. The main comparandum is Lat. *lac, lactis* 'milk', which could point to a reconstruction **glgt-* if Schrijver's rule **CRDC-* > Lat. **CRaTC-* (1991: 479f.) is correct. Problematic, however, is the fact that the reconstructed root **glgt-* would contain two *mediae*, and that word-initial **gl-* would have to be retained in Latin. This has been mended either by positing a pre-form with **dl-*, or by assuming a

[1196] After the end of the fifth century, γλάγος is again found in Hellenistic hexameter poetry (Nic., Mosch.), probably in imitation of Homer. Further, Callimachus has γάλακι (*Hec.* 1.4.4); Lycophron (4th c. tragedian) attests thematic (-)γλαγο- in compounds; and πολυγλαγής appears in the Hellenistic poet Aratus (*Phaen.* 1.1100).

dissimilation **glakt-* > Lat. *lact-* (cf. de Vaan, *EDL* q.v.). As Weitenberg has shown (1985, *apud* Kortlandt 2003: 65) a second comparable form is Class. Arm. *kałcʿ* 'milk', which may continue Ns. **gl̥Kt-s*. There is also a dialectial form *katʿn* 'id.', which he derives from the As. **gl̥Kt-m*. In both forms, the **l̥* regularly vocalizes to Arm. *-al-*. Again, this would point to a pre-form **gl̥Kt-*, and exclude a form with **dl-*.

Let us now consider the Greek situation. The variation between γαλακτ- and γλακτ- is somewhat problematic, but best explained as having originated in the monosyllabic nominative **glakt* > **gla* > γάλα. A parallel is γυνή, Boeot. βάνα 'woman', both < PGr. **g^{w}nā* (cf. Beekes, *EDG* s.v. γάλα). Then, the oblique stem γαλακτ- introduced the onset of the NAs. γάλα, and the compound γλακτοφάγος retains the older form.[1197] The question remains whether γλακτ- can be the regular outcome of a PIE *t*-stem **gl̥Kt-*. A verbal root could be recognized in Hitt. *kalank-^{i}* 'to soothe, satiate, satisfy', *galaktar* 'a soothing drug', perhaps opium (cf. Puhvel *HED*, q.v.). This connection is not discussed by Kloekhorst (*EDHIL* s.v. *kalank-^{i}*), who follows Oettinger in comparing *kalank-^{i}* with ON *kløkkr* 'weak, soft', Lith. *glẽžnas*, *gležnùs* 'id.', both < **gleǵ^{h}-n-* (note the non-acute root in Baltic). However, it is quite conceivable that milk, as the nourishment given to infants, was referred to as a soothing substance.[1198]

If this derivation is valid, γάλα and Arm. *kałcʿ* could be compared with Hitt. *galaktar* and reconstructed as **glǵ^{h}-t-*. This would presuppose that we leave Lat. *lact-* unexplained, but that is perhaps not disastrous given the more general problems with this form (it would presuppose two *mediae* in the same root, and the absence of a reflex of **g-* is troublesome). It remains to explain γλάγος, περιγλαγής, and the glosses with γλακ-. Chantraine (*DELG* s.v. γάλα) speaks of assimilation from an earlier form γλακ-; Beekes (*EDG* s.v. γάλα) suggests that the forms with γλαγ- were created beside the Ns. at an intermediate stage **glak*. Neither solution is very appealing. If the *t*-stem is indeed old in γάλα, γλάγος cannot be anything but a derivation from the unextended root. Is is possible, then, that γλάγος was derived as **gl̥nk$^{(h)}$-os* from a verbal stem **gl̥nk$^{(h)}$-e/o-* 'to soothe, satisfy' in the prehistory of Greek? If the explanation of Hom. βλάβομαι given above is correct, it is perhaps conceivable that a **gl̥nk-e/o-* (with voiceless stop, which would explain γλακ- as well) developed to **gl̥ng-e/o-* in Proto-Ionic (or South Greek), and that the glosses with γλακ- derive from some other, North Greek dialect (cf. Cret. -βλαπεθαι beside Hom. βλάβομαι).[1199] In other words, a root **glk-* may underlie all Greek forms. The assumption that the PIE root was **glk-*, however, would require that ON *kløkkr* and Lith. *glẽžnas*, *gležnùs* are left aside. Alternatively, we may assume that **gl̥nk^{h}-e/o-* and **gl̥nk-e/o-* would develop in an identical way, and discard the two glosses with γλακ-. In either case, explaining the entire Greek body of evidence brings along additional costs.

We have stretched the Greek evidence as far as possible, perhaps too far. The origin of γλάγος and περιγλαγής remains problematic, and the etymological connection with Hitt. *kalank-^{i}* is not rock-solid. Perhaps it is best, then, not to draw any conclusions regarding the development of **l̥* on the basis of the word for 'milk'.

[1197] In Homer, the NAs. γάλα is attested 4x in verse-final γάλα θῆσθαι and γάλα λευκόν; the other case forms only in verse-final λευκοῖο γάλακτος, γλυκεροῖο γάλακτος. It is conceivable that the latter forms replace older λευκοῖο / γλυκεροῖο *γλάκτος.

[1198] Since drugs are often prepared with milk (e.g. in the Indo-Iranian tradition), another option could be that γάλα originally denoted milk mixed with drugs.

[1199] Phonetically, we could be dealing with the voicing of a stop after a long voiced sequence. It may also be wondered whether there is any counterevidence to a development **gl̥K-*, **ml̥K^{w}-* > **gl̥g-*, **ml̥g^{w}-* (cf. βλάβεται) in Proto-Ionic.

10.4.4 γλαφυρός

The etymology of Hom. γλαφυρός 'hollow' (epithet of ships, caves, and the phorminx, in *Od*. 14.533 also of a hollow stone that provides shelter) has been evaluated in various ways. There are two basic proposals (see de Lamberterie 1990: 315ff.). First, γλαφυρός has been derived as an adjective in *-*uló*- from the root of γλάφω 'to scoop out, dig a hole'. This verb is attested as a simplex only in ποσσὶν γλάφει "he digs [the earth] with his paws", of a lion (*Scut*. 431), and with a preverb only in εὐνὰς δ' ἐν ψαμάθοισι διαγλάψασ' ἀλίῃσιν "she [Eidothea] had scooped out lairs in the sand of the sea" (*Od*. 4.438). De Lamberterie objects to this proposal that the only indication for a PIE verbal root is precisely Greek γλάφω, and that the alleged connections with Slavic (e.g. Bulg. *glob* 'eye socket') and Celtic words (MIr. *gulba* gl. rostrum 'beak') are uncertain.

As a second proposal, Chantraine (*DELG* s.v. γλαφυρός) argues that γλάφω cannot be separated from γλύφω 'to carve, sculpture', a root which does have verbal cognates in other IE languages (Lat. *glūbere* 'to peel, strip the bark', OHG *klioban* 'to cleave'). This combination is accepted by de Lamberterie, departing from a dissimilation *γλυφύ- > γλαφύ-, with a semantic specialization of the adjective from 'stripped off' to 'hollow'. Subsequently, the verbal root would have been split into γλαφ- and γλυφ-.[1200] De Lamberterie further suggests that the reconstructed *u*-stem *γλυφύ- may be deverbal, and that another continuant of this *u*-stem is perhaps found in the Slavic adjective **glǫbokъ* (Ru. *glubókij*) 'deep'.

This scenario does not seem plausible to me. First, the assumed dissimilation *γλυφύ- > γλαφύ- remains without a convincing parallel in Greek.[1201] Moreover, it is unclear how the split into γλύφω and γλάφω should be envisaged: for a new verb based on the adjective *γλαφύς, one would rather expect a factitive verb $^{++}$γλαφύνω. Thirdly, the only proposed cognate is found in Slavic, where the three variants **glǫb*-, **glyb*- and **glъb*- could also point to non-IE origin.[1202] Finally, the semantic connection between 'to peel off, scale' and 'to make hollow' is conceivable, but not evident.[1203] It is true that the adjective γλαφυρός is applied not only to natural cavities (caves, holes), but also to artificial ones (musical instruments, ships). However, the verb γλάφω does not refer to holes that are made by carving, chiseling, or peeling: it means 'to dig a hole with the hands or paws' in both instances.

As an alternative etymology, I propose that γλαφυρός contains the root of δελφύς 'womb', δελφίς 'dolphin' (e.g. 'the one with womb'), and ἀδελφεός 'brother/sister, born of the same mother' < **sm̥-g^{w}elb^{h}-es-ó*- "from the same womb or nest". In Indo-Iranian, the root **g^{w}elb^{h}*- is found in Vedic *gárbha*- 'womb, embryo', Avestan *garəβa* 'womb', *gərəβuš*- 'newborn lamb'.[1204] The semantic development is straightforward: a meaning 'hollow' can be posited for the PIE root, and already in the proto-language, nominal formations with the

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[1200] "… la relation, perçue en synchronie, entre l'adjectif et le verbe a entraîné la scission d'une seule et même racine *γλυφ- en deux racines, resp. γλυφ- et γλαφ-, la première ayant l'acception technique de "sculpter" dont la seconde est dépourvue, encore qu'on en trouve des traces dans certains emplois de γλαφυρός" (de Lamberterie 1990: 315).

[1201] "Ce qui, assurément, ne va pas de soi", as de Lamberterie (1990: 316) admits.

[1202] Cf. the doubts expressed by Derksen, *EDSIL* s.v. **glǫbòkъ*, about the possibility to reconstruct this word.

[1203] The oldest meaning in both Latin and Germanic is 'to peel off, scale', which is very close to that of γλύφω 'to carve', i.e. 'to scale off chips of wood or stone'.

[1204] In spite of doubts concerning the chronology of the attestations (formulated e.g. in de Vaan 2008 s.v.), it seems to me that Lat. *vulva* (imperial inscr. *vulba*) 'womb' can hardly be separated from Ved. *gárbha*-. The meanings 'bodily cavity' and 'cavity in the landscape' are also found side by side in Gr. κολπός 'bosom, lap, gulf of the sea' (borrowed as Ital. *golfo*). This may have dissimilated from PGr. **k^{w}olpo*-, from a root **k^{w}elp*- also found in Germanic **hwelban*- 'to vault, overarch' (cf. Frisk, *EDG*). The root looks very much like the one under discussion, but at this point I can only speculate about their interrelation (some early borrowing, or substrate phenomenon in the proto-language?). Hitt. *ḫu̯elpi*- (adj.) 'new, fresh, newborn', (n.) 'newborn animal, whelp' is also semantically close, but formally irreconcilable.

meaning ‘cavity’ developed a special meaning ‘womb’ (for the development, see e.g. Skt. *yóni-* ‘abode, place to stay’, also ‘lap, womb’).[1205]

The formation of γλαφυρός < *$g^{w}l̥b^{h}u$-*ló-* can be analyzed as an extension in *-*ló-* based on the weak stem of a *u*-stem adjective *$g^{w}elb^{h}$-*u-*, *$g^{w}l̥b^{h}$-*eu-* ‘hollow’ (for a discussion of the adjectives in *-*uló-*, see de Lamberterie 1990: 708-714). There are clear parallels for this derivation of an adjective in -υλός, notably δαυλός ‘shaggy’ beside δασύς < PIE *$dén$*s-u-*, *$dn̥$*s-éu-* (see section 9.1.1) and the adverb παχυλῶς ‘roughly, coarsely’ beside παχύς ‘thick’, corresponding to Ved. *bahulá-* ‘thick, dense, wide’ and *bahú-* ‘many, frequent’ < PIE *$d^{h}b^{h}éng^{h}$*-u-*, *$d^{h}b^{h}ng^{h}$*-éu-* beside *$d^{h}b^{h}ng^{h}$*-u-ló-*.[1206]

But are there any parallels for the delabialization of a labiovelar in front of -λ- within Greek? If we consider βλέπω (Att.), βλέφαρα (Hom.+), beside γλέπω (Alcm.), γλέφαρον (Alcm., Pi.), it is problematic that the forms with γλ- are limited to non-Ionic-Attic dialects. Moreover, βλέπω and βλέφαρα have no etymology, so that the variation may be due to a substrate phenomenon. It is therefore more promising to compare the numerous cases where a common Greek labiovelar dissimilated against a labial stop in the following syllable, for instance:

- καπνός ‘smoke’ < PGr. *$k^{w}apno$- / *$kwapno$- beside Lith *kvãpas* ‘id.’
- Hdt. ἀρτοκόπος ‘baker’ beside Myc. *a-to-po-qo* ‘id.’ (PIE *pek^{w}- ‘to cook’, the Ionic form first with metathesis to *-$k^{w}opo$-)
- Hom. κόλπος ‘bosom, lap, curvature, etc.’ < PGr. *$k^{w}ólpo$- (cf. PGm. fem. *$h^{w}albō$ in ON *hvalf*, OE *hwealf* ‘vault’).[1207]

As can be gleaned from the evidence, this dissimilation is found in Ionic-Attic (not in Myc.) and must therefore be relatively late. The fact that δελφύς does show the palatalization of a labiovelar before *e* can be explained if the dissimilation *K^{w}…*P* > *K…*P* took place after the palatalization of the labiovelar.[1208] It is possible, then, that the initial γ- of γλαφυρός and γλάφω arose in this way.

Since the full grade slot of the root for ‘hollow’ was *$g^{w}elb^{h}$-, this etymology furnishes new evidence for a regular development *$l̥$ > -λα- in Homeric Greek (and, presumably, in Proto-Ionic). It may also help us to clarify the background of the toponym Δελφοί (Boeot. Βελφοί). Given the etymological meaning ‘hollow’, this may be the plural of a substantivized adjective which referred to caves or places of shelter.[1209] The same meaning is found in γλάφυ ‘cave’, and another toponym containing this root is Γλάφυραι (*Il*. 2.712).[1210]

[1205] See chapter 11 on the IE etymology of *yóni-*. In Classical Sanskrit, the meanings ‘inside, middle, interior’ and ‘adyton, interior of a sanctuary’ are well-attested for *gárbha-* (cf. Monier-Williams, q.v.).

[1206] The reconstruction of the root as *$d^{h}b^{h}eng^{h}$- (rather than *$b^{h}eng^{h}$-) is based on the Avestan verbal root *dəbąz-* ‘to consolidate’.

[1207] See Schwyzer (1939: 298-9, 302) for an overview of these cases of dissimilation.

[1208] Hom. γεφύραι ‘dams, lines of battle’, post-Hom. γέφυρα ‘bridge’ beside Boeot. βεφυρα, Cret. δεφυρα < PGr. *$g^{w}ep^{h}$- seems to constitute a counterexample to this solution for δελφύς. But since the word cannot be properly reconstructed for PIE, it may also be argued (with Beekes, *EDG*) that the word was borrowed in different ways into the various Greek dialects. Note that both γλαφυρός and γλάφω are limited to Epic Greek, where the development may have been different from that of the vernacular. Finally, it is also possible that we are dealing with an incidental dissimilatory phenomenon.

[1209] It is possible to assume that *$g^{w}elb^{h}$-ó-* contains the Caland suffix *-ó-* (cf. Nussbaum’s derivation of ἀργός ‘white’ from *$h_{2}erǵ$-ó-).

[1210] The precise origin of the hapax γλάφυ (n.) ‘cave, shelter’ (Hes. *Op*. 533) is debated. De Lamberterie (1990: 313-14) analyzes it as a substantivized form of the *u*-stem adjective. However, in view of the evidence gathered in chapter 4, it seems unlikely that the adjective generalized the zero grade at an early date: since the original ablaut form *$g^{w}élb^{h}$-u* would have a full grade, paradigmatic leveling would be expected to yield $^{++}$γάλφυ.

When using γλαφυρός as evidence for *$l̥$ > -λα-, we have to make one slight reservation concerning the origin of γλάφω ‘to scoop out, dig a hole’. This form is problematic: as we have seen, it would be the only trace of *$g^{w}elb^{h}$- as a verbal root. The precise origin of this Greek zero grade thematic root present (of the type Ved. *tudáti*) is unclear. An obvious comparandum for γλάφω within Greek is γράφω ‘to scratch, write’, which is also transitive and semantically close. If γράφω may reflect a formation with nasal infix (see section 9.2), the same could perhaps be assumed for γλάφω. I see no reason, however, to assume that the rare verb γλάφω influenced γλαφυρός, or that it was the derivational basis of the latter. In fact, ἀδελφεός presupposes the existence of a compounded *s*-stem adjective *$sm̥$-$g^{w}elb^{h}$-*es*-. This means that the existence of a parallel *u*-stem adjective *$g^{w}elb^{h}$-*u*-, *$g^{w}l̥b^{h}$-*eu*-, from which γλαφυρός would have to be derived, is conform to expectation. More generally, Greek Caland formations derive from intransitive verbal stems, not from transitive verbs like γλάφω.

10.5 The development of *$l̥n$

A couple of Ionic-Attic forms suggest that *$l̥$ developed to -αλ- in front of nasal plus vowel.[1211] An original sequence *$l̥n$ can be reconstructed in the following verbal forms:[1212]

- βάλλω ‘to throw’ < *$g^{w}l̥ne/o$- << *$g^{w}l̥$-n-(e)h_1-
- θάλλω ‘to flourish’ < *$d^{h}l̥ne/o$- << *$d^{h}l̥$-n-(e)h_1-
- πάλλω ‘to toss, sway, brandish’, perhaps < *$pl̥ne/o$- << *$pl̥$-n-(e)h_1-.

Ionic-Attic βούλομαι, West Greek δήλομαι ‘to wish, want’ and other dialectal variants must be reconstructed as PGr. *$g^{w}elne/o$-. Similarly, Hom. εἴλομαι ‘to throng together’ derives from **welne/o*-, and ὀφείλω ‘to owe’ from *$op^{h}elne/o$-. This proves that intervocalic -*ln*- developed to -λ- with compensatory lengthening of the preceding vowel (cf. Slings 1975). This can be reconciled with the geminate -λλ- in βάλλω, θάλλω, πάλλω if we assume that the vocalization *$l̥$ > -αλ- in *-$l̥n$- was posterior to the assimilation *-*ln*- > -*ll*- in original intervocalic position.

The question is whether the presents βάλλω, θάλλω, and πάλλω can be used to prove a regular vocalization *-$l̥n$- > *-*aln*- > -αλλ-. That βάλλω is indeed an original nasal present *$g^{w}l̥ne/o$- (PIE *$g^{w}l̥$-n-h_1-) seems reasonably certain, but the present stem may theoretically have been influenced by the vowel slot of its aorist βαλεῖν. It is often suggested (see Frisk,

[1211] I leave aside the following forms: (1) σκαλμός ‘thole, pin by which the oar was fastened to the τρωπητήρ’ (trag.+). The connection with PGm. **skalma*- (attested in various concrete meanings), accepted by *DELG* and Frisk, seems uncertain; an inner-Greek derivation from σκάλλω ‘to hoe’ seems semantically difficult; (2) Ion.-Att. στήλη, Dor. στάλα, Lesb. στάλλα. The pre-form is not necessarily *$stl̥$-neh_2-, as is often assumed: see section 1.2.4; (3) μαλλός ‘flock of wool’: the comparison with Armenian *mal* ‘ram’, proposed by Greppin (1981), is doubtful: cf. the discussion in Clackson (1994: 232); (4) φαλλός ‘penis’ could be related to OIr. *ball* ‘member’, *ball ferda* ‘penis’ < PClt. **balno*-, W. *balleg* ‘sack, purse’, Lat. *follis* ‘bag, testicles’ < *$b^{h}ol$-*n*- or *$b^{h}l̥$-*n*-. The pre-form *$b^{h}l̥nó$- that would be presupposed by Gr. φαλλός could also underlie the Celtic word. Alternatively, φαλλός could be a substrate word (Beekes *EDG* s.v.), and the meaning of the word advises against basing any conclusions on it.

[1212] πίλναμαι ‘to approach’ preserved or rather restored -λν- due to a proportional analogy σκεδάσαι : σκίδναμαι = πελάσαι : X. It may have replaced an opaque form like *πάλλαμαι. I also leave aside πλανάω ‘to drive off track, mislead’, mid. ‘to err, go wrong; wander’, πλάνη ‘long journey, errand; error, falsehood’ (Ion.-Att.). Cognates within Ionic-Attic are πλάνος ‘vagabond; deceiver’ (trag.+), *t*-stem πλάνης, -ητος ‘vagabond; planet’, *s*-stem adjectives πολυπλανής (E.+) ‘wandering much’ (= πολύπλαγκτος) and ἀπλανής ‘unerring; fixed (of stars)’ (Pl.+). The verb is nearly absent from Homer (only πλανόωνται ‘they waver’, of horses at *Il.* 23.321), which may at least in part be due to the fact that πλάνης and the non-presentic stem forms of πλανάω would require *McL* scansion. According to the etymological dictionaries (cf. Frisk s.v.), the root has no convincing etymology. In view of the meaning, it would be obvious to compare πλαγχθῆναι and to assume a substrate word (see the remarks in Beekes *EDG* s.v. πλανάομαι).

Beekes *EDG*, q.v.) that a *yod*-present cannot be excluded, but this formation was not normally derived from a thematic aorist. On the other hand, a nasal present beside a thematic or root aorist is a well-known pattern, and probably inherited from PIE (within Greek, cf. δάκνω beside δακεῖν, Ion. τάμνω beside ταμεῖν). For θάλλω, the root reconstruction **d^{h}elh$_1$-* proposed by Hackstein (2002: 220) clearly favors an inherited nasal present **d^{h}l̥ne/o-* << **d^{h}l̥-n-(e)h$_1$-*. The derivative θαλλός 'sprout' seems to be based on this present stem. It would be possible to argue, however, that the root shape of the frequent pf. ptc. τεθαλυῖα < **d^{h}e-d^{h}l̥h$_1$-us-ih$_2$* influenced the vocalization of **d^{h}l̥ne/o-*.

The case of πάλλω is much more complicated. The *LIV*^{2} (s.v. **pelh$_1$-*, following Harðarson 1993: 161) reconstructs an inherited nasal present **pl̥-n-h$_1$-*. Frisk, however, reconstructs a *yod*-present **pal-i̯e/o-* in view of the aorist πῆλαι < **pal-s-*. In other words, Homeric Greek points towards a root PGr. **pal-*, but the etymology requires a root ending in a laryngeal. The resolution of this issue depends on the question which formation was primary. The sigmatic aorist πῆλαι is clearly secondary (cf. *LIV*^{2} l.c. and Beckwith 1996: 125), and the root aorist πάλτο is widely supposed to be a secondary and artificial creation (Leumann 1950: 60ff., accepted by Harðarson 1993: 196f.). The only remaining formation is the relic reduplicated aorist ἀμπεπαλών 'swinging up (over the head)', which is only attested in Homer and could be reconstructed as **pe-plh$_1$-e/o-*. This seems to confirm the root reconstruction **pelh$_1$-*.

Etymologically, πάλλω is connected by the *LIV*^{2} (**pelh$_1$-*) with Slov. *páti* 'to wave', Ru. dial. *polót'* 'to winnow'. These meanings are indeed close to πάλλω 'to toss, sway', but it deserves attention that some older etymological dictionaries (Ernout-Meillet s.v. *pellō*, Frisk s.v. πάλλω) compare πάλλω primarily with Lat. *pellō* 'to beat against, strike, push'. The Latin perfect *pepulī* could then be compared with the reduplicated aorist ἀμπεπαλών. This equation is also attractive from a semantic point of view: Frisk (l.c.) compares παλμός 'pulse' with Lat. *pulsus* 'id.'. Although the formation of παλμός need not be inherited, a number of attestations of the intransitive middle present πάλλομαι suggest that this meaning is old: 'to beat', of the heart (πάλλεται ἦτορ *Il*. 22.452, παλλομένη κραδίην *Il*. 22.461), but also 'to flounder' (ἀναπάλλεται ἰχθύς, of a fish in *Il*. 23.692, also at Hdt. 1.141), 'to quiver' (of the knees of old men, Ar. *Ran*. 345), 'to vibrate' (of a string, Pl. *Phd*. 94c). Likewise, Lat. *pellō* may mean 'to vibrate' (transitive) when the action is applied to the strings of a musical instrument. It seems attractive, then, to derive πάλλω and Lat. *pellō* from an inherited nasal present **pl̥-n-h$_1$-* 'to strike, vibrate' (tr.) that was built to an intransitive verb with the meaning 'to sway, vibrate'.

Most modern etymological dictionaries (e.g. *LIV*^{2}, de Vaan s.v. *pellō*) separate πάλλω from the root of Lat. *pellō* and Umbr. *am-pelust* 'will have slain', because they connect the Italic words with OIr. *ad-ella* 'visits' and fut. *-eblaid* 'will drive'. The root is reconstructed as **pelh$_2$-* on the basis of a comparison between OIr. *ad-ella* and Gr. πίλναμαι, aor. πελάσαι 'to approach'; the semantic development is supposed to be *'to bring near' → 'to thrust, drive near' → 'to strike'. This scenario has been embraced by various scholars, but seems extremely unlikely to me. It seems much more pertinent to separate OIr. *ad-ella* from the future *-eblaid*, and to assume that we are dealing with two different nasal present formations: **pl̥-n-h$_1$-* 'to strike, vibrate' > Lat. *pellō*, Gr. πάλλω, and **pl̥-n-h$_2$-* 'to approach' > OIr. *ad-ella*, Gr. πίλναμαι.

If this is correct, the question is whether -αλ- in the present πάλλω can be due to a restoration of -λα-. Given that πάλτο is generally supposed to be secondary, such a refashioning would have to be based on the relic form ἀμπεπαλών. It may be wondered, however, whether that is a very likely scenario. Therefore, πάλλω must be taken seriously as evidence for a regular development **l̥n* > -αλλ- in Ionic-Attic.

10.5.1 καλλι-, περι-καλλής

It remains to discuss another lexical root with -αλλ-: that of περι-καλλής 'very beautiful', κάλλος 'beauty', possessive compounds like καλλι-γύναικα 'with beautiful women', and the forms of comparison καλλίων, κάλλιστος, which belong to καλός 'beautiful'. The etymology of -καλλής and related forms is considered to be unclear. The only existing proposal is that by Wackernagel (1934: 191-197), who proposed to analyze Skt. *kalyáṇa-* 'beautiful, lovely' (fem. *kalyāṇī́*) as an old compound *'with beautiful elbows', with a first member **kali-* to be compared with καλλι-, which in his view replaced an older *καλι-. Whether one accepts this analysis or not, it does not illuminate the remarkable allomorphy between καλός and καλλ- within Greek.

In my view, a much more direct reconstruction of -καλλής, καλλι- can be given. Since Caland adjectives (notably *s*-stem adjectives) were productively derived from intransitive verbs in Greek, -καλλής < **-kl̥n-es-* and καλλι- < **kl̥n-i-* could be mechanically derived from a Proto-Greek thematic nasal present **kl̥ne/o-*.[1213] If we assume that 'beautiful' developed from 'excelling, outstanding', this reconstruct PGr. **kl̥ne/o-* can be further analyzed as the equivalent of the nasal present attested in Lat. *-cellō* 'to rise' and Lith. *kìlti* 'to rise', 1s. pres. *kylù*.[1214]

The original meaning of περικαλλής (the only Homeric *s*-stem compound containing this root) would be 'standing out (from the rest), excelling'.[1215] The meaning 'to excel, surpass' is, of course, also found in Lat. *praecellō*, *excellō*. A further noteworthy detail is found in Lithuanian: this language not only has a *u*-stem adjective *kilùs* 'protruding, sticking out' (with the synchronic meaning of *kìlti*), but also *kilnùs* 'elevated, sublime', which looks like a derivation from the older nasal present stem **kl̥n-* (before the liquid was vocalized and the nasal present changed into infixed **kinl-*). It is therefore both formally and semantically close to the Greek Caland forms.

This brings us to the formation of the positive, Att. κᾰ́λός, Hom. κᾱ́λός, Boeot. καλϝος 'beautiful'. On the basis of Greek alone, this **kalwó-* could theoretically continue a PGr. **kl̥wó-*, if one supposes a vocalization **l̥* > -αλ- in front of **w* (but see section 1.2.1). But if the etymology proposed here is correct, the root must be reconstructed as **kelh$_1$-* (final **-h$_1$-* reconstructed on the basis of the thematicized present PGr. **kl̥ne/o-*, cf. βάλλω, θάλλω, πάλλω). This implies that **kalwó-* must be a thematicization of PGr. **kalú-*, a phenomenon also encountered in Hom. στεινός 'narrow' beside στενυ-, ταναός 'thin' beside τανυ- (Ved. *tanú-*), or μανός 'sparse, thin' beside μανύ and Arm. *manr* (*u*-stem) 'small, thin'. Note that a common pre-form PIE **klh$_1$-u-* 'sticking out, rising up' may be theoretically reconstructed for Lith. *kilùs* and PGr. **kalú-*.

The existence of **kalwó-* is important, because it offers at least the theoretical possibility that the vocalization **l̥* > -αλ- in περικαλλής was influenced by this form. As with πάλλω, the root καλλ- offers suggestive evidence for a regular vocalization **l̥n* > -αλλ-, but the influence of cognate forms cannot be entirely excluded.

[1213] This pre-form would have yielded Gr. *κάλλομαι. In the meaning 'to stand out', this verb was perhaps replaced by (δια)πρέπω. In Early Greek poetry, cf. also the inherited middle pf. κέκασμαι 'to excel'.

[1214] Lat. *-cellō* may have introduced its *e*-vowel from a prehistoric aorist, see de Vaan (*EDL* s.v. *-cellō* 1).

[1215] In a number of cases, one may suspect that περικαλλής originally refers to a conspicuous or elevated object, Διὸς περικαλλέϊ φηγῷ (*Il.* 5.693), δόμον περικαλλέα, περικαλλέα δειρήν, and περικαλλέα βωμόν. Cf. in particular πᾶσαν γὰρ ὁηλικίην ἐκεκαστο κάλλεϊ "she excelled in beauty over all of her age-group" (*Il.* 13.431-2), and οἷος δ' ἀστὴρ εἶσι μετ' ἀστράσι νυκτὸς ἀμολγῷ ἔσπερος, ὃς κάλλιστος ἐν οὐρανῷ ἵσταται ἀστήρ "as a star goes among the stars in the Milky Way, the Evening Star, which stands [out] in heaven as the most conspicuous (or: beautiful) star" (*Il.* 22.317-8, my translation).

10.5.2 ἀλής, Hom. ἀολλέες

The adjective Ion. ᾱ̔λής (Hdt., Hp.) means ‘thronged, amassed, in close formation, forming a unity’, plur. also ‘all together’.[1216] This is a potentially important piece of evidence, because it is matched by the Homeric forms ἀολλέες (*plurale tantum*) ‘gathered together’ < zero grade **ha-wl̥n-es-*, and ἀελλής ‘thick, dense’ (Ns. msc., hapax at *Il*. 3.13) with a full grade root.[1217] The zero grade formation is also found in West Greek: Elean αϝλανεᾱς ‘all together’, and the gloss ἀλανέως· ὁλοσχερῶς. Ταραντῖνοι (‘entirely, completely’, Hsch.).[1218] Since Taranto was a Spartan colony, this adverb can be reconstructed for Proto-West Greek.

Several uncertainties render the reconstruction of this adjective difficult. The dialectal origin of Hom. ἀολλέες is unclear. The hapax ἀελλής, with its geminate reflex of intervocalic **-ln-*, seems to have an Aeolic origin and to point to a pre-form **ha-welnes-*. The Ionic prose form ᾱ̔λής could theoretically continue a full grade (cf. ἀελλής) as well as a zero grade root (ἀολλέες, αϝλανεᾱς). On the one hand, it could be reconstructed as **ha-wl̥n-* > **ha-waln-* > **hawall-* > **hāl(l)-*, where the geminate was automatically simplified after a long vowel. But since ᾱ̔λής may also be the regular contraction of a pre-form **hawē̆les-* < **ha-welnes-* with *e*-grade root, it does not necessarily presuppose an Ionic-Attic development **l̥n* > -αλλ-.

For present purposes, the main issue concerns the pre-form to be reconstructed for Proto-Greek. Since it is unlikely that West Greek and Homer independently introduced a zero grade without a clear motivation, we have to reconstruct **sm̥-wl̥n-es-*, with a zero grade root. It follows that the *e*-grade was introduced in the hapax ἀελλής, and possibly also in ᾱ̔λής. A possible basis for this introduction was the verbal root **wel-* ‘to throng’, which formed a nasal present **welne/o-* reflected in Hom. εἴλομαι ‘to be thronged’. The full grade is present in most stems of the Homeric verbal paradigm: beside pres. εἴλομαι, cf. mid. pf. ἔελμαι, and also pres. εἰλέω ‘to press together’, aor. ἔλσαι.[1219]

The derivational basis of the pre-form **sm-wl̥n-es-* has not been pointed out so far. A suffix **-nos-*, as assumed by Frisk, Chantraine, and Beekes, is difficult to motivate.[1220] Since *s*-stem adjectives could be directly derived from intransitive verbal stems, I would propose to reconstruct a present stem **wl̥n-e/o-* that was later replaced by the **weln-e/o-* > Hom. εἴλομαι.[1221] In the same way, one could assume that the precursors of βούλομαι and ὀφείλω

[1216] Cf. Ἁλὴς μὲν γὰρ γενομένη πᾶσα ἡ Ἑλλὰς χεὶρ μεγάλη συνάγεται “For when all of Hellas unites (…)” (Hdt. 7.157). For the meaning of the plural, see e.g. ἁλέσι μὲν γάρ σφί ἐστι Ἀτάραντες οὔνομα, ἑνὶ δὲ ἑκάστῳ αὐτῶν οὔνομα οὐδὲν κεῖται “For as a whole they are called Atarantes, but every single one of them does not have a name” (Hdt. 4.184), and σίτοισι δὲ ὀλίγοισι χρέωνται, ἐπιφορήμασι δὲ πολλοῖσι καὶ οὐκ ἁλέσι “their side-dishes are numerous, and not served all together” (Hdt. 1.133). Cf. also πάντες ἁλέες (Hdt.) corresponding to πάντες ἀολλέες (Hom.). Attic uses ἀθρόος (of uncertain etymology) in the same meaning.

[1217] ὣς ἄρα τῶν ὑπὸ ποσσὶ κονίσαλος ὄρνυτ’ ἀελλὴς ἐρχομένων· μάλα δ’ ὦκα διέπρησσον πεδίοιο (*Il*. 3.13-4). The Achaean and Trojan armies approach each other; the Achaeans are compared to Notos (the South Wind) which blows a gust of mist over the mountains: “Likewise a thick cloud of dust arose from under their feet as they marched: and they crossed the plain very quickly”. The idea that ἀελλής is related to ἄελλα ‘gust of wind’ cannot be upheld, see Kirk’s commentary ad loc.

[1218] The Elean form is an adverb in -ως based on the *s*-stem adjective. It modifies the directly preceding numeral <π>εντακατιῶν, denoting the council of 500 “in its entirety”. Minon (2007: 36, 511-13) translates “au complet”. This excellently fits the semantics of Hom. ἀολλέες ‘gathered together’.

[1219] There is also the intransitive aorist ἀλῆναι ‘to get close together, become thronged’, with a zero grade reflex in accordance with regular ablaut schemes. A perfect is perhaps attested as ἐόλει (a likely emendation in Pi. *Pyth*. 4.233) in the meaning ‘to push back’, cf. *DELG* s.v. εἰλέω 1.

[1220] The traditional analysis, as adopted by Beekes (*EDG*, q.v.) is as follows: “… both may go back to *ἀ-ϝαλνής or *ἀ-ϝολνής, with copulative ἀ-, ἀ- < **sm-* and **wa/oln-* < QIE **-ul-n-*. We may suppose a noun *ϝέλ-νος ‘crowd, throng’, suffixed like ἔθνος, σμῆνος (Chantraine 1933: 420), which would belong to εἴλω. The expected full grade [for the *s*-stem compound] may be found in the hapax ἀελλής (Γ 13).” Upon this analysis, however, the zero grade of ἀολλέες remains unexplained, and the assumption of a suffix **-nes-* is problematic.

[1221] Comparable derivations of an *s*-stem adjective from a middle present stem are, for instance, -τρεφής from τρέφομαι and -δερκής from δέρκομαι.

secondarily introduced a full grade. The process is well-known in Latin (*pellō*, *-cellō*, etc.). Thus, the original intransitive present **wl̥neto* must have formed the basis of the *s*-stem **sm-wl̥n-es-*.

A derivation of ἀελλής from the more recent present stem **weln-* (or later **well-*) reflected in εἴλομαι would make sense from a semantic point of view. Both ἀολλέες and αϝλανεῦς have developed the meaning 'gathered, all together' (denoting a total or sum), while ἀελλής 'thick' qualifies a sandstorm (κονίσαλος) in its only attestation. The latter form remains much closer in meaning to the verb εἰλέω, εἴλομαι. Moreover, the fact that ἀολλέες has a defective plural paradigm in Homer confirms its lexicalized and derivationally isolated status.[1222] The lexical isolation of **sm-wl̥n-es-* may go back to Proto-Greek, because the non-trivial semantic development is attested both in Homer and in West Greek, but especially because the introduction of *e*-vocalism into North-Greek **g^{w}élnomai* 'to want' and ὀφείλω 'to owe' must be very old (cf. Myc. *o-pe-ro-si*). Since the Ionic prose form ἀλής means both 'united, all together' and 'thronged, in close formation', it is hard to exclude that its root vocalism was influenced by εἰλέω, εἴλομαι.

Let us now consider the possible origins of Hom. ἀολλέες. At first sight, it seems logical to assume that ἀολλέες is Aeolic form, in view of the geminate reflex -λλ- < **-ln-* in combination with the *o*-vocalism. But since **-l̥n-* yields -αλλ- in the Ionic words discussed above, the only remaining argument for an Aeolic origin is the *o*-vocalism. There is no further evidence, however, to suggest that the outcome of **l̥* in the Aeolic dialects was -ολ-.[1223] It cannot be ruled out that **l̥* developed to Aeolic -ολ- in front of a nasal,[1224] but the conclusions reached in chapter 7 warn us that ἀολλέες may be an old Epic word.[1225] What might its dialectal origin be?

An Ionic origin does not seem likely. It is hard to exclude entirely that the preceding **w* could induce *o*-coloring in front of **-l̥-*.[1226] Still, this would require that **wl̥-* developed differently from **wr̥-*, as in ἄρσην. Moreover, the fact that Classical Ionic has ἀλής speaks against a vernacular origin. An inner-Epic vocalization of **-l̥-*, in the manner of chapters 6 and 7, does not seem likely either: ἀολλέες only occurs between $|_{T}$ and $|_{B}$, so that its pre-form **hawl̥nehes* would have required a metrical lengthening. However, I have found no convincing parallels for the metrical lengthening of a syllabic liquid. Note that **l̥* and **r̥* did not have a corresponding long phoneme.

Only one logical option remains: an Achaean relic form. We do not know the regular outcome of **l̥* in Mycenaean, because there is no convincing evidence for **l̥* generally, let alone for the position in front of a nasal.[1227] But no matter whether **r̥* was preserved in

[1222] Cf. section 4.3 on the defective plural paradigm of Hom. ταρφέες 'numerous'.

[1223] Cf. e.g. Wathelet (1970: 170), who cites ἀολλής as the only example, and only with hesitation.

[1224] If the Aeolic outcome of **l̥* was -λο-, parallel to **r̥* > -ρο-, one could theoretically assume that the vowel slot was analogically introduced from the verbal root **weln-*. But one wonders whether restoration of **wlon-* to **woln-* was likely if the full grade verbal root was already **well-* when **l̥* vocalized. Clearly, the stage **-ln-* belonged to the past already in Mycenaean, given *o-pe-ro-si* /op^{h}ellonsi/ < PGr. **op^{h}eln-e/o-*. If the word is of Aeolic origin, then, it would follow either that the Aeolic vocalization **l̥* > -λο- was prior to **-ln-* > **-ll-*, or that the Aeolic vocalization in front of a nasal was **l̥* > -ολ-.

[1225] The transitive verb ἀολλίζω 'to gather together' was derived from the *s*-stem ἀολλής by a productive process in Homer (cf. τειχίζω beside τεῖχος).

[1226] The only counterexample I know of is **walpu-*, presupposed by ἄλπιστος 'loveliest' etc. (see section 4.2.2).

[1227] A possible candidate could be Myc. *wo-ne-we*, if this form is to be interpreted as the Np. of a *u*-stem adjective **weln-u-*, **wl̥n-ew-* 'compact'. If this interpretation is correct, it would confirm the Achaean origin of ἀολλέες in a spectacular way. But unfortunately, the context of the form does not allow us to reach certainty: see section 2.3.2.

Mycenaean or whether it had developed to *-or-*, it seems possible that the Mycenaean outcome of PGr. **sm-wl̥n-es-* was Myc. **hawolnehes*.[1228]

10.6 Dialectal evidence

There are two West Greek dialects for which some conclusions can be drawn: Cretan and the dialect of Elis. In Cretan, we have seen that the root βλαπ- ~ βλοπ- offers evidence for a conditioned development of **l̥* in a labial environment. However, given that βλαπ- probably contains a vocalized nasal, the vowel slot of βλοπ- may be due to leveling. The gloss κλάγος· γάλα. Κρῆτες (Hsch.) contains a development κλ- < γλ- typical for certain parts of Crete.[1229] Another Cretan form, κλευqος, Gs. κλευκιος 'new wine' (Bile 1988, No. 28) beside Myc. *de-re-u-ko* /dleukos/, Cret. Gs. γλευκιος (Gortyn) and Att. γλεῦκος (Arist.) show that some regions of Crete underwent a devoicing γλ- > κλ-. The form κλάγος could seem to prove *l̥* > λα after a non-labial consonant for Cretan, but the reconstruction of the pre-form remains uncertain: as we have seen above, a vocalized nasal cannot be entirely excluded.

The verb λαγαιω 'to release' (of persons in custody) has an aor. λαγασαι (Gortyn, *IC* IV Nos. 14; 52B; 62.6; 78.4; also *Lex Gortyn* passim), and is also attested as a gloss λαγάσσαι· ἀφεῖναι (Hsch.). The origin of the -α- lies in the aorist, because the present (< **-as-i̯e/o-*) was productively derived from it. Frisk (q.v.) suggests that λαγάσαι is a remodelling of an older root aorist or thematic aorist λαγ- after χαλάσαι, which has a similar meaning (χαλάω 'to loosen, relax', also 'to release a prisoner'). Since the -α- in λαγάσαι can hardly be part of the root, this solution seems reasonable. If this is correct, the etymological connection with Vedic *sarj-* 'to let go, set free' (*LIV*[2] s.v. **selǵ-*) is quite attractive. It would show that Cretan underwent a development **hl̥g-* > λαγ-, or perhaps rather word-initial **l̥g-* > λαγ-, because Cretan is a psilotic dialect. It must be stressed that this is based on a root etymology only, and that we are dealing with an *unus testis* for word-initial position.

As we have seen in the previous section, the West Greek cognates of Hom. ἀολλέες are Elean αϝλανεῡς 'all together' and the gloss ἀλανέως· ὁλοσχερῶς. Ταραντῖνοι ('entirely, completely', Hsch.).[1230] They provide valuable evidence for the regular development of **l̥* in these dialects. The verb αποϝελεω /apowēleō/ is attested in Elis (cf. Minon 2007: 511-13), with a reflex of the first compensatory lengthening. The full grade slot **weln-* ensures that αϝλανεῡς has the uninterrupted development of **-wl̥n-* in this dialect.

In this context, it is noteworthy that the reflex of **r̥* in Cretan was -αρ-, and that Cretan has *o*-vocalism after a preceding labial consonant, both in **r̥* > ορ (πορτι, -μορτος, Αφορδιτα) and **l̥* > λο or ολ (αβλοπια). This suggests that the development of **l̥* was later than Proto-West Greek (if it makes sense at all to reconstruct such an entity). Finally, αϝλανεῡς proves that the development of an anaptyctic vowel in **-l̥n-* was a matter of the individual dialect groups, or even of the individual dialects. In other words, **-l̥n-* cannot be compared with the laryngeal developments discussed in section 1.2, where all Greek dialects behave in an identical way.[1231]

Among the reflexes of the root **plth₂-*, there is no evidence for a dialectal variant πλοτ-: the Cyprian form *po-lo-te-i* is unreliable (see section 3.5). The Lesbian evidence is as

[1228] The Homeric epithet εἰλιποδ-, attested in the formulae βουσὶν ἐπ' εἰλιπόδεσσι and εἰλίποδας βοῦς, has remained without a convincing explanation to this date (cf. *DELG*, *EDG*). It may also contain the root of ἀολλής, if we suppose that it denoted cows 'with thronged feet'. This is close to the core meaning of the verbal root, and a semantically satisfactory description of a herd of cattle. Note also Hom. μάχεσθαι ἀολλέες 'to fight in close formation' and νηυσὶν ἀολλέσιν (*Od.*), of ships gathered ashore. The first member may be derived either from **wel-i-* with metrical lengthening, or from **weln-i-* parallel to the form of the *s*-stem adjective with **weln-es-*.

[1229] It has been supposed that Cret. κλάγος is from *γλάκος by metathesis of voice (see the older lit. in Frisk s.v.), but this is both unlikely and unnecessary.

[1230] Taranto was a colony of Sparta.

[1231] The evidence from Elis for the outcome of **r̥* is minimal and internally contradictory: see section 3.3.3.

follows. In Mytilene we find the word for 'shoulder-blade' as ὠμοπλάτα[ν (*IG* XII 2 71.2), and also the abstract πῐ̣λᾰ̣τος 'breadth' (Hodot 1990, MYT 013, 10, 3rd c.). The adjective πλάτυς is attested in Lesbian poetry (Alc. fr. 74). An epicism or Ionicism cannot be easily excluded in any of these instances, and is especially likely in ὠμοπλάτα, given that the regular Aeolic outcome of 'shoulder' would be ομμο- < **Homso*- (cf. ἐπομμάδιος, v.l. in Theoc. 29.29). Finally, note that σπλανχνων (MYT 015.04, 3rd c.) could also be due to Ionic influence.

Beside πλάτυ, two other words with -λα- < **l̥* are attested in literary Lesbian: ἀβλάβη[ν 'unscathed' (Sapph. 5.1) and γλαφύρα['hollow' (Alc. 7.8), but both could be borrowings from Ionic. As a fixed epithet of ships and caverns in Homer, γλαφυρός 'hollow' is clearly a traditional Epic word. The adjective ἀβλάβη[ν is also poetic, and typical for Ionic-Attic. The Homeric word ἀολλέες 'thronged, all together' is attested as ἀόλλεες in Alcaeus, but again, an Epic origin cannot be excluded. Thus, it is theoreticaly possible that the Lesbian outcome of **l̥*, unlike that of **r̥*, had *a*-vocalism, but the material does not necessarily impose this conclusion.

Πλατηεύς 'inhabitant of Plataea' is the epichoric Boeotian term. It could be argued, however, that Plataea was originally founded by speakers of a different dialect. In this case we would probably be dealing with a South Greek form. It cannot be excluded, for instance, that Proto-Ionic was once spoken in the area.

In Arcadian, the term ιμπλατια (*IG* V 2 4.2) is perhaps related to πλατύς. Although the meaning is not clear, the following verb ιλασκεσθαι (with dative rection) may suggest that the Ds. ιμπλατιαι denotes a sacrifical offering (cf. Dubois 1988 ad loc.). Further, we find a PN Πλατιας (*IG* V 2 6.57 and 85, Dubois 1988: 45), but it is unwise to base any conclusions on it, because the bearer need not be an Arcadian.

Thus, it could be thought that -λα- was regular in Arcadian and Lesbian, notwithstanding the fact that these dialects have -ορ- < **r̥* and -ρο- < **r̥*, respectively. In view of the marginal evidence, however, it is better not to draw a conclusion.

10.7 Conclusions

What was the regular place of the anaptyctic vowel after the vocalization of **l̥* in Ionic-Attic? Unless one wishes to base anything on the connection between μαλθακός and the Germanic word for 'mild', we may conclude that there is no evidence at all for the reflex -αλ-. On the other hand, there are several reasonable candidates for the development to -λα-. This would be remarkable in view of the evidence for **r̥* > -αρ-, with a different vowel slot. One might hesitate to assume different developments for **l̥* and **r̥*: as far as we know, these sounds hardly ever undergo different developments in the Indo-European daughter languages. But the evidence deserves to be taken seriously.

To be sure, the evidence for a regular reflex -λα- is not overwhelming. The forms γλάσσα, δίπλαξ, σπλάγχνα stand beside γλῶσσα, πλέκω, and σπλήν. Furthermore, βλαδεῖς is not necessarily of Ionic-Attic origin, and the reconstruction of γάλα, γλακτοφάγος, γλάγος is beset with problems. A new piece of evidence is γλαφυρός 'hollow', which I derive from a pre-form **g*^{w}*l̥b*^{h}*-u-ló*- 'hollow'. Unless one is prepared to accept that the verb γλάφω derives from **g*^{w}*l̥nb*^{h}*-e/o*- and that the vocalism of γλαφυρός may have been influenced by it, this adjective does seem to furnish reasonable evidence for a regular development **l̥* > -λα-. It must also be taken into account that forms like σπλάγχνα are lexically isolated, and therefore most easily explained if **l̥* > -λα- was indeed the regular outcome.

There is one environment where -αλ- may be regular in Ionic-Attic: in front of a nasal. The case would be analogous to the Celtic outcomes, where **l̥* normally yields *-li-*, but *-al-* in front of a nasal. We have seen that the reflex of **l̥n* contained a geminate -λλ-, as opposed to intervocalic *ln* which underwent the first compensatory lengthening. In favor of the outcome

-αλ- speak -καλλής, for which I have proposed a reconstruction PGr. *-*kl̥n-es-*, and πάλλω, of which the underlying formation is to be equated with that of Lat. *pellō*. The Ionic prose form ἀλής does not prove anything, because it may have introduced the full grade vowel or its slot. Its cognate Hom. ἀολλέες 'gathered together' could contain a trace of the Mycenaean vocalization.

In most other dialects, there is unfortunately no reliable epigraphic evidence for the reflex of **l̥*. The only serious indication is the difference between Elean αϝλανεῡς and Cretan αβλοπια: this suggests that the vocalization of **l̥*, just like that of **r̥*, took place in the individual West Greek dialects.

11. Remarks on relative chronology

Let us review our previous findings with respect to the question of relative chronology, which is of such cardinal importance for the origin of the four Greek dialect groups: when did **r̥* vocalize in the Ionic-Attic vernacular, and when was Epic **r̥* eliminated?

11.1 A Proto-Ionic development

Attic and varieties of Ionic agree almost completely in their reflexes of **r̥*: we find -αρ- in the same isolated forms (e.g. τέταρτος, ἥμαρτον, κάρτα), and all descendants of Proto-Ionic applied the same analogical replacements to yield -ρα- (e.g. leveled ἔδραμον after the relic perfect δέδρομε). More importantly, the replacements within "Caland system" formations have taken place in an identical way in all varieties of Ionic-Attic: *a*-vocalism was introduced in κράτος 'power', κράτιστος 'best, superior', θάρσος 'courage' (for *κρέτος, *κρέτιστος, *θέρσος), but the original root shape was retained in Ion. κρέσσων, Att. κρείττων (with a secondary lengthening of the root vowel). At the same time, it is possible to indicate some later changes, such as the productivity of the root allomorph θρασ- (where Attic has more innovations), or the replacement of κρατύς with σφοδρός (only in Attic). The verb καταδαρθεῖν has been replaced in the Ionic vernaculars, and has been retained only in Attic.

The general conclusion must be that the vocalization of **r̥* took place when Proto-Ionic was still a unity, prior to or during the Ionic migrations to Asia Minor. This takes us back to the 11-12th c. BC or earlier. The generalizations and levelings that occurred in spoken Ionic-Attic in κρατύς and related forms (see chapters 4 and 5) also presuppose the lapse of some time. In chronological order, the most important changes are (IA = Ion.-Att. vernacular; E = Epic Greek):

(IA1) vocalization to -αρ- in καρτερός < PIon. **kr̥terό-* and κάρτα < **kr̥ta*.
(IA2) levelings in the *u*-stem adjective, yielding PIon. κρατύς.
(IA3) spread of the allomorph κρατ- from κρατύς to Caland forms with original full grade, yielding κράτιστος, κράτος, -κρατής, κρατέω, κρατύνω.
(E1) creation of κρατερός (replacing **kr̥terό-*) beside καρτερός and κρατύς in Epic Greek.[1232]
(IA4) loss of κρατύς as a current form: replacement by σφοδρός (Attic), perhaps by καρτερός (spoken Ionic).
(E2) absorption of κρατύς by καρτερός ~ κρατερός in Epic Greek.
(E3) spread of καρτ- within Epic Greek from καρτερός ~ κρατερός to κάρτος ~ κράτος and κάρτιστος (~ vernacular κράτιστος).
(E4) creation of καρτύνω on the basis of κάρτος.

Of course, it is difficult to give a precise estimate for the time of the vernacular vocalization on this small basis. The leveling in the *u*-stem adjectives (IA2) may have been accomplished fairly quickly, but the elimination of ablaut in the Caland formations (IA3) may have been carried out in several steps, and is likely to have taken some time. If we depart from an 8th c. date for Homer, and allow some time for the analogies under (IA3) to take place, the data indeed seem to be compatible with a 11th or 12th century date for the vernacular vocalization.

There are no other compelling indications against a post-Mycenaean date. We have seen (section 7.3.1) that the chronological arguments based on *d*-epenthesis in Mycenaean

[1232] Note that the analogy which gave rise to γλυκερός beside γλυκύς presupposes (1) the phonetic reality of *-ra-* in κρατερός, and (2) the simultaneous existence of κρατύς and κρατερός.

cannot be upheld: *$r̥$ may still have been present in Mycenaean. It would be quite attractive to view the Ionic-Attic vocalization to -αρ- and the West Greek *a*-colored vocalization as part of the same isogloss. It is difficult, however, to assume a common development of Proto-West Greek (if such an entity ever existed) and Proto-Ionic, because the vocalization in the dialects of Crete had a different conditioning (*o*-vocalism after a labial consonant). This suggests that the vocalization took place while the West Greek tribes were settling their historically attested habitats on the Peloponnese. The vocalization with general *a*-coloring may then be analyzed as a common innovation of Proto-Ionic and the mainland West Greek dialects. Again, a date somewhere in the 12th or 11th century would be quite fitting. Note that West Greek and Proto-Ionic share other isoglosses that can be dated to this period, such as the conditioned development of the labiovelars before front vowels and the completion of the first compensatory lengthening.

11.2 The late, but pre-Homeric elimination of Epic *$r̥$

We have seen that κρατερός may have introduced the root allomorph of κρατύς and replaced those cases of the original form *$kr̥terós$- that had been preserved longer within Epic Greek. Other forms that introduced a reflex -ρα- at an early date were the thematic aorists δραθε/ο-, δρακε/ο-, and πραθε/ο-. This early introduction of -ρα- explains the difference in metrical behavior between κρατερός and κραδίη, as well as the absence of δρακών. Thus, the number of words in which Epic *$r̥$ was preserved was rather small.

For how long was this marginal sound, Epic *$r̥$, retained? The peculiar metrical behavior of κραδίη suggests that its elimination was very recent. But is it possible to assume that Homer still retained $r̥$? The split between -ρα- and -ρο-, which was conditioned by the preceding consonant, seems to speak against such an idea. However, it cannot be excluded on forehand that this conditioned change first occurred in post-Homeric recitations, before the text was first written down.[1233] Viewed in this way, κραδίη and the cases where *McL* scansion could not be avoided do not teach us anything about the presence or absence of Epic *$r̥$. There are, however, two decisive pieces of evidence, plus one highly suggestive one, to prove that the author of the *Iliad* did not pronounce *$r̥$ anymore:

1. On 4 occasions out of 41 (of which two in the *Iliad*, 5.361 and 19.22), Homer demonstrably uses the βρ- of βροτός to generate length by position. Moreover, he avoids *McL* scansion in the simplex βροτός in all case forms where this is possible. The same distribution is found in compounds: ἄμβροτος, τερψίμβροτος, φαεσίμβροτος have no *McL* scansion, and only the verse-initial formula ἀσπίδος ἀμφιβρότης and the hapax ἀβρότη preserve the older scansion. This proves that the pre-form was no longer *$mr̥tó$- when the *Iliad* was composed. For the details, see section 7.2.
2. The spread of *McL* scansions as an incidental licence, already in the *Iliad*, suggests that the vocalization had already been completed before the final composition of that epic. See e.g. verse-final μεγάλοιο Κρόνοιο (4x), Κρόνου πάϊς ἀγκυλομήτεω (7x), and cases like εἰνὶ θρόνῳ |ρ (2x).
3. if we depart from the attractive identification of ῥοδόεντι with Myc. *wo-do-we*, the *o*-coloring in ῥοδόεντι (and in ῥόδον) presupposes the preservation of word-initial digamma when Epic *$r̥$ was vocalized.

In the *Odyssey*, there are more indications for the vocalization of Epic *$r̥$ than in the *Iliad*:

[1233] Similarly, as remarked in chapter 7, it is hard to exclude that Ἐνυαλίῳ ἀνδρεϊφόντῃ and ἀνδροτῆτα first reached their final shape in the post-Homeric tradition. Moreover, it is all but certain that Homer did not yet have epenthetic -β- in the sequence -μρ- < *-$mr̥$-.

4. The adjective θρασύς is used in the Ns. θρασύς after the definite article ὁ, whereas the *Iliad* only has the As. θρασύν, never after a short vowel,[1234] and the formulaic Gp. θρασειάων.
5. The productivity of plural forms of θρόνος with *McL* scansion, and the larger acceptability of the *McL* licence generally (cf. the use of κλιθῆναι, ἐκλίθη).

If our explanation of the formula ὑπόδρα ἰδών (section 9.2) is correct, this would corroborate the picture suggested by ῥοδόεντι and provide an important *terminus ante quem*: the vocalization of Epic **r̥* took place prior to the loss of word-initial digamma. But the value of this example depends on the question whether Homer and his immediate successors still pronounced digamma in traditional Epic words like ἰδών < **widōn*. It is normally assumed that the only traces of digamma in Homer are metrical, because such traces are more frequent in hiatus than after a final consonant (when digamma is used to make position). But in the light of the principles advanced in section 6.6, it seems quite attractive to assume that **w*- was still sung by Homer in traditional Epic words, and only absent from words which had later been introduced from the Ionic vernacular. In that case, ὑπόδρα ἰδών and ῥοδόεντι lose some of their probative value for the question of chronology.

It is not possible, then, to give a *terminus ante quem*. But the longer we assume that **r̥* was preserved in Epic Greek, the easier it is to explain the metrical behavior of κραδίη discovered by Hoenigswald, and the contrast with the behavior of other forms like κρατερός. On that basis, I tentatively conclude that **r̥* continued to be present in Epic Greek until one generation of poets before the composition of the *Iliad*.[1235]

After the elimination of **r̥* from spoken Proto-Ionic, in the early Dark Ages, the number of Epic words where **r̥* was retained gradually decreased, thanks to replacements such as **kr̥terós* → κρατερός and **edr̥kon* → ἔδρακον. It could not be replaced in words like **dr̥kont*- 'snake', which turn up in Homer with *McL* scansion (δράκων). This is precisely why most of the words where we have to assume Epic **r̥* undergo *McL* scansion, the only exceptions being κραδίη, στρατός, certain case forms of βροτός, and some compounds in -βροτος). In other words, *McL* scansion became acceptable due to the fact that **r̥* was eliminated from Epic speech. Initially, this type of scansion was all but avoided, as follows from the avoidance of certain case forms of βροτός. Only those case forms where *McL* scansion could not be avoided at all (Gp. and Dp.) allow the aberrant scansion, and in large numbers. The entire singular and the Np. simply behaved according to the new phonological surface structure of the stem, *CroCo*-. In a similar way, ἄμβροτος was 'sealed' in its dactylic form, whereas anapestic ἄβροτος (with *McL*, from earlier **ámr̥to*-) is a hapax.

But how could *McL* scansion become acceptable and even productive as a licence? In my view, at least part of the answer must be sought in two forms which were preserved with **r̥* in Epic Greek, and which in the vernacular form had -ρο- or -ρα-: the middle aorist τραπέσθαι (only verse-final in Homer), and the much more frequent preposition and preverb πρός, προσ-. The use of *McL* scansion in verse-final position was promoted by τραπέσθαι and especially προσηύδα, and may have led to the introduction of forms like Κρόνοιο, κράνεια. The use of *McL* scansion after the trochaeic caesura, on the other hand, may have been promoted by the use of προσ- and πρός in this position. It is also possible that a form like τράπεζα, after it had been borrowed into spoken Ionic, fed the productivity of the licence. How *McL* became productive in the case of stop plus *l* is a different question, but there is only a handful of cases. Again, it must be stressed that the innovative scansion hardly absorbed any

[1234] In *Il*. 8.126, it is possible to assume the original presence of ephelcystic -ν in μέθεπε θρασύν.
[1235] In other words, if the *Iliad* is the work of an older poet, the vocalization will have taken place in his early career or in his youth.

new lexemes: leaving aside the structural cases, we are still dealing with a rare poetic licence, even in the *Odyssey*.[1236]

11.3 Relative chronology: other sound changes

It is difficult to date the vocalization of **r̥* in the vernacular relative to other sound changes. We have seen (section 9.3) that ὑπόδρα cannot be used as an argument for dating the vernacular vocalization of **r̥* before the loss of word-final stops. On the contrary, ὑπόδρα seems to prove that word-final **-r̥* > -αρ preceded the loss of word-final stops, and that word-internal **r̥* vocalized after the last-mentioned development. It is further possible, in view of τρήρων, that the vocalization of **r̥* took place before the disappearance of *-h-* in clusters which took part in the first compensatory lengthening. Similarly, if τραυλός derives from **tr̥h-u-ló-*, it would follow that **r̥* vocalized before the loss of intervocalic **h*, which in South Greek can probably be dated to the early Dark Ages. But it must be stressed that τρήρων and τραυλός are difficult cases, and the only examples for their respective environments.

It is not easy either to relate the vocalization of **r̥* to accentual developments. Wheeler's Law prescribes that an oxytone word of dactylic metrical structure withdraws the accent to the penultimate. It seems that Wheeler's Law did not operate in ἀνδρακάς, whereas it did operate in ἀνδράσι. However, ἀνδράσι may have generalized the accent of the other plural case forms, just like its stem form ἀνδρ- may be analogical in spoken Ionic. Since ἀνδρακάς probably contains Epic **r̥*, does it prove that Wheeler's Law preceded the vocalization of Epic **r̥*? Not necessarily, because all Greek adverbs in -άς are oxytone, which means that the accent may have been generalized. Likewise, καρτερός < **kr̥teró-* could be an indication that Wheeler's Law operated before the vocalization **r̥* > -αρ- in spoken Proto-Ionic. But again, it cannot be excluded that other adjectives in -ρός influenced the accentuation of καρτερός.

Fortunately, two of the Epic formulae discussed in chapters 6 and 7 contain more definite indications for dating the vocalization of **r̥* in relation to other sound changes, and seem to provide a valuable *terminus post quem*. First of all, φιλότητι |$_{\text{T}}$ τραπείομεν εὐνηθέντε can be used as evidence once we have clarified the etymology of εὐνηθέντε, a denominative deriving from εὐνή 'bed'.

11.3.1 φιλότητι τραπείομεν εὐνηθέντε and the etymology of εὐνή

The substantive εὐνή is poetic and "rare in early prose" (*LSJ* s.v.).[1237] Furthermore, it is noteworthy that the verb εὐνησ- 'to put to sleep', εὐνηθη- 'to go to bed (with)', with which we are dealing in our formula, is unproductive already in Homer.[1238] As a present form, Homer uses εὐνάζομαι (only *Od.*), with a metrically induced suffix interchange in Epic Greek that looks traditional (cf. ἀτιμάζω beside ἀτιμάω, ἠτίμησε). As we have already seen (section 8.2.3), within Homeric Greek εὐνάω is to be compared primarily with its synonym κοιμάω (41x as a simplex, 3x with κατα-). The latter is clearly the productive variant in Homer,

[1236] Note that the poet of the *Odyssey* uses both ἐκλίνθη, ὑπεκλίνθη and ἐκλίθη, κλιθῆναι. This means that he knows the traditional way to avoid the problem posed by ἐκλίθη, but on the other hand does not entirely avoid the latter form anymore, as the poet of the *Iliad* did.

[1237] Cf. also Chantraine (*DELG* s.v. εὐνή): "Cet ensemble est caractérisé par sa couleur poétique et non attique, par le sens général de εὐνή "couche, gîte" distinct de λέχος (…)". In Classical prose, the word is reasonably frequent only in X. and Hp., authors who are reputed for their to use of poetic or Homeric words. According to *LSJ*, εὐνή means: "I. 1. bed, 2. bedding, as distinct from λέχος, 3. abode of nymphs, lair of animals, nest of a bird, etc., 4. marital bed, 5. grave, resting place". In the meaning II. 'anchoring place of a ship', εὐναί (only plur.) is better left aside, because it may have nothing to do with the word for 'bed'. Note, too, that εὖνις 'bereft person' (Hom.+) is probably unrelated to εὐνή.

[1238] It occurs 13x as a simplex, always aor., of which 11x εὐνηθη-. Further only in παρευνάζεσθε (only *Od.* 22.37), κατευνάω, -άζω 'to put to sleep' (5x).

because it is used without exception when the onset consonant is metrically irrelevant (i.e. in verse-initial position or after final syllables that are long by nature). Moreover, contracted present forms in -ᾶται, -ᾶτο are never formed from εὐνάω (the present is εὐνάζομαι), but 6x from κοιμάω.[1239] It seems, then, that εὐνή and derivatives are poetic relic words.

There is currently no consensus about the etymology of εὐνή, as appears from the review of previous proposals by Balles (2007). Early on, Brugmann (see Lidén 1906: 320) compared εὐνή to OIr. *úam* 'cave, boar's lair, den' (f. *ā*).[1240] To this Graeco-Hibernian isogloss, Lidén proposed to add YAv. *unā* 'cleft, split', which was judged "relativ plausibel" by Peters (1980: 50). There are, however, some problems. Both Brugmann and Peters reckon with a root **h₁eu-*, to which different suffixes in *-m-* and *-n-* are supposed to have been added in the daughter languages.[1241] But since there is no clear verbal root, all we are left with is a root etymology. Moreover, as Balles remarks, the connection with YAv. *unā-* is "much less attractive semantically".[1242]

On the other hand, Klingenschmitt (1981) proposed that the root of εὐνή is to be found in Alb. *vë*, aor. *un-* 'to put, place', and proposed to explain εὐνή by a laryngeal metathesis **u̯nh₁-eh₂-* > "**E₁u̯n-eh₂-*". This etymology was adopted by the *LIV*[2], and Ziegler (2004) subsequently proposed to recognize **uenh₁-* in the Iranian root *van-* 'to cover'. But the Iranian material is rather ambiguous, and Balles rightly remains somewhat sceptical about the etymology as far as εὐνή is concerned.[1243] In my view, the assumed laryngeal metathesis does not have much to recommend itself either, and Balles rightly points out that it conflicts with ἀρήν 'lamb' < **urh₁-en-*.[1244]

Thus, there is no commonly accepted etymology for εὐνή at the moment. Let us reconsider the old comparison with OIr. *úam* 'cave, boar's lair, den'. From a semantic point of view, the comparison is impeccable, given that the meaning 'lair, den' (of wild animals and swine) is attested in Homer (*Il*. 11.115, *Od*. 4.338, 4.438, 14.4, also of the lair or cave where Typhoeus sleeps, *Il*. 2.783).[1245] The Greek and Celtic forms could be derived from the same pre-form if the suffixal difference is due to the reduction of PIE **-mneh₂-*. A phonetic reason for this reduction is not hard to find: the labial nasal may have been assimilated to the preceding labial glide in Greek. A possible Indo-European reconstruction would be **h₁eu-mn-*

[1239] The origin of κοιμάω is disputed: does it derive from a substantive **ḱoimo-* or **ḱoimā-* related to Gothic *haims* 'village', Lith. *šeimà, šeimýna* 'family', etc. (cf. Frisk s.v. κεῖμαι)?

[1240] Other stem forms attested in Irish are *úaim* (f. *i*), and *úama* (f. *d*), in the same or similar meanings as *úam*.

[1241] Moreover, the difference in ablaut between the various formations **h₁eu-neh₂* (Greek), **h₁u-neh₂* (Avestan *unā-*), and **h₁eu-meh₂* (Irish) would require an explanation.

[1242] Vegas Sansalvador (1992) interprets Χαμύνη, epithet of Demeter, as 'who has the earth as a bed'. She assumes that the regular outcome of a PIE compound **dʰǵʰm-unh₁-eh₂* or **dʰǵʰm-h₁un-eh₂* is reflected only in Χαμύνη, and that it was replaced by χαμαιευνάς, χαμαιεύνης, χαμεύνης in Homer and Classical Greek. She does not, however, address the metrical problem with χαμαιευνάς to be discussed below. Moreover, Χαμύνη itself is only attested at a late date as Χα]μυναιας in Olympia (*IvO* 485.3, 3rd c. AD), and in Pausanias, who mentions Demeter Χαμύνη twice (6.20.8-9 and 6.21.1). Vegas Sansalvador excludes that Χαμύνη is due to a change ευ > υ, but for reasons that are unclear to me (note the late date of the attestations: not much is known about the Elean sound changes in the intermediary period). The etymology of εὐνή cannot be based on a weakly attested name.

[1243] "the evidence for our root becomes rather meagre" (Balles 2007: 17). She concludes that εὐνή is "to be judged only as a possible [example]" for the supposed laryngeal metathesis.

[1244] The laryngeal metathesis was first proposed by Rix in order to explain εὐρύς beside Ved. *urú-* 'broad' from **u̯rh₁-u-*, and subsequently adopted by Peters (1980), who used it to explain εὗρον 'found' from **e-u̯rh₁-e/o-* and εὐλή 'maggot' from **u̯lh₁-eh₂-*. However, the development is phonetically unexpected and remains without clear parallels in other IE languages. Moreover, most of the supposed examples are uncompelling, as appears from the discussion by Balles, who retains only εὐρύς, εὗρον, and εὐλή. To her otherwise careful discussion, I would add that ἕλμις, -ινθος looks like a substrate word in view of its suffix (see Beekes *EDG*, s.v.), and that a full grade **h₁eur-u-* cannot be entirely excluded for εὐρύς (see section 11.1 on the ablaut of *u*-stem adjectives).

[1245] Boisacq (s.v. εὐνή) accepts Brugmann's idea and posits a "sens premier de 'cavité servant de gîte à l'homme et aux animaux', cf. pour le sens got. *badi* (…)".

eh₂, but if we assume that the poetic form εὐνή underwent psilosis, **(H)ieu-mn-eh₂* would be equally possible.[1246]

Starting from this idea of an old word for 'resting place, lair, abode', I propose to directly compare εὐνή with Ved. *yóni-* (m.) 'seat, place, home, residence', also 'womb, lap'. Again, this comparison is highly attractive from a semantic point of view: both in Homer and in later Greek poetry, εὐνή often has sexual connotations (the bed as the place of lovemaking or the marital bed), and the same is true of the Indic word. There is, however, a formal difference which needs to be explained. The Greek word is an oxytone feminine *ā*-stem, whereas the *Rigveda* has a barytone masculine *i*-stem.[1247] I can see two ways to explain the difference in stem formation. First, in compounds Vedic has **su-yoná- > syoná-* 'agreeable' (vel sim.) and *dur-yoṇá-* '(place) bad to live in'. The thematic formation of these compounds is matched in Avestan *hu-iiaona-*, *huuā-iiaona-*, *pərəθu-iiaona-*. It could be assumed, then, that the thematic formation is older, and that Ved. *yóni-* obtained its *i*-stem inflection and barytone accent from the semantically close *śróṇi-* 'hip, buttocks'.[1248] Note, especially, the parallelism in phraseology between Av. *pərəθu-iiaona-* 'having a broad lap' (cf. Ved. *pṛthúṃ yónim*, RV 10.99.2) and *pərəθu-sraoni-* 'having broad hips' (Ved. *pṛthú- śróṇi-* ŚB+).[1249] A second alternative would be that both the *i*-stem of Indic and the *ā*-stem of Greek and Irish are old, because Irish also attests a feminine *i*-stem *úaim* 'lair'. It may be speculated, finally, that εὖνις, -ιδος 'wife' (trag.), which is probably related to εὐνή within Greek (Chantraine, *DELG* s.v. εὐνή), contains the same *i*-stem, but this remains uncertain.

It remains to explain the absence of aspiration in εὐνή. If the word is indeed poetic and was preserved in the form εὐνή in Epic Greek, it could be explained as a psilotic form. The presence and origin of psilotic lexemes in Homer is an intricate question: is the psilosis simply due to Ionic provenance, and was the *spiritus asper* introduced in an Attic redaction, as famously argued by Wackernagel (1916)? However this may be, it is sufficient to note, for present purposes, that εἰνατέρες 'wives of the husband's brothers, *ianitrices*' < PGr. **i̯enateres* (with metrical lengthening of the first syllable) furnishes a good parallel for a psilotic Epic lexeme εὐνή < PGr. **i̯eunā*.

Another indication that εὐνή was originally not vowel-initial are the Epic compounds χαμαιευνάδες 'having their lair on the earth' (of swine, *Od*. 10.243 and 14.15), and χαμαιεῦναι 'id.' (of the Selloi or perhaps Helloi, priests of Dodonaean Zeus at *Il*. 16.235). In both compounds, -αι- undergoes epic correption at the morpheme boundary, a procedure for which there are no good parallels in Homer. Chantraine (1942: 168) only mentions οἷός ἐσσι (*Il*. 13.275, cf. 18.105, *Od*. 7.312, cf. 20.89), the frequent scansion of υἱός as an iamb, and ἔμπαιον (*Od*. 20.379). Thus, the licence is extremely rare in word-internal position in Homer, and χαμαιεύνης, χαμαιευνάδες are the only instances where it allegedly took place in composition.[1250]

[1246] Probably **Hieu-mn-eh₂* rather than **ieu-mn-eh₂*, see below on the the further etymology.

[1247] In the *Rigveda*, *yóni-* is always masculine, but in the *Atharvaveda*, it also occurs as a feminine.

[1248] The *i*-stem inflection of this word in PIE is confirmed by Lat. *clūnis* 'buttocks, tail bone', MW. *clun* 'haunch', pl. *cluniau* (note the homonymous word for 'meadow', OIr. *clúain*, OW. *clun*, etc. < PCelt. **klowni-*), and not contradicted by Lith. *šlaunìs* 'hip, thigh', ON *hlaun* 'buttocks, loin'. Taken together, these forms point to a reconstruction PIE **ḱlouni-* 'hip, buttocks, loin'.

[1249] Unfortunately, the precise formation of the simplex in Avestan is not entirely clear. There are two attestations, As. *yaonəm* and Ls. *yaona*. If *yaonəm* can be from *-im*, as Mayrhofer (*EWAia* s.v. *yóni-*) seems to assume, the Iranian evidence could also point to an *i*-stem *yaoni-* 'place' (Ls. *yaona* < *-ā*).

[1250] The iambic scansion of υἱός may be due to prevocalic shortening in the expected outcome **hū(i̯)us* of PIE **suH-iu-s*, a form which was replaced with υἱός either in Homer or in the ms. tradition. At any rate, the Homeric paradigm of 'son' contains many other unexplained irregularities, so it would not be wise to base anything of the scansion of the Ns. υἱός. Furthermore, in οἷός ἐσσι the localization of οἷός in the biceps deviates from the normal metrical behavior of this word. In my view, it could well be a transformation of other formulaic material containing this pronoun. Hesiod also uses the licence to inflect the formula Ποσειδάων γαιήοχος ἐννοσίγαιος,

It is implausible to assume that the word-internal correption in χαμαιευνάδες and χαμαιεύνης is original. If the diphthong -αι- were old, χαμαιεύνης could have been easily used in Epic Greek, and we would expect to find a trace of its preservation, rather than two instances of correption. Moreover, the suffix -άδ- in combination with the localization of χαμαιευνάδες (after |P) suggests that -άδες is an artificial *Streckform* for the Np. -αι, of a kind typically encountered in the fourth foot of the hexameter (cf. Meister 1921: 22-7). In other words, χαμαιευνάδες itself looks like a metrical archaism, but it presupposes the correption in χαμαιεῦναι. It follows that the original form underlying χαμαιεύνης was *k^h*ama-eunās* with hiatus, and that the attested form χαμαιεύνης was designed to heal this hiatus.[1251]

In fact, there are various other reasons to think that the older form of the directional adverb χαμαί 'to the ground, on the ground' (24x Homer, of which 19x after |T) was *χαμά. Its metrical variant χαμάδις 'id.' (14x, 13x after |P) must have been based on this form by adding the relic allative suffix -δις (cf. Hom. ἄλλυδις 'to elsewhere'). Moreover, the accentuation of χαμᾶζε suggests a pre-form *χαμά-αζε, based on *χαμά by adding the suffix of ἔραζε 'id.'. This suggests that χαμαί replaces earlier *χαμά, perhaps in analogy to παρά : παραί (in the same metrical slot). Thus, it seems likely that χαμαιευνάδες and χαμαιεύνης continue a pre-form *k^h*ama-(i)eunā-* and that the preserved hiatus is an indirect trace of original intervocalic *yod*. In post-Homeric Greek, the same pre-form yielded χαμεύνη, χάμευνα 'bed on the ground' (trag.), with a productive elision of -α following the loss of *yod*.[1252]

Greek εὐνή and OIr. *úam* are a perfect formal and semantic match if we assume that a pre-form **(H)ieu-mn-eh$_2$-* was simplified in different ways after the split-up of PIE. The same applies to the inclusion of Ved. *yóni-* (plus *syoná-*, Av. *-iiaona-*), if it is accepted that the Indo-Iranian simplex may have been influenced by *śróṇi-*. To be sure, the details of the much-discussed reduction of clusters containing PIE *-*mn-* still await a definite solution,[1253] but in any case, the assumed reduction of *-*eumn-* to *-*eun-* in the ancestor(s) of Greek and Indo-Iranian is phonetically natural.

As for the further etymology of **(H)ieu-mn-eh$_2$-*, it is hard to connect **(H)ieu-* with one of the canonical roots thus reconstructed (Ved. *yav-* 'to separate' or *yav-* 'to hold, connect') for semantic reasons. From a semantic point of view, however, it is attractive to assume that **Hieu-* was the outcome of **h$_3$ieb^h-* 'to enter', with a special phonetic development of *-*b^h-* to *-*w-* in front of the cluster *-*mn-*.[1254] The outcome of **h$_3$ieb^h-* means 'to copulate' in Vedic, Greek, and Slavic, but 'to enter' (e.g. a house) in Tocharian B *yäp-*. Moreover, Tocharian B has a substantive *yenme* 'gate, entry, portal' which derives from **yemne* by a regular metathesis, and can be directly derived from a pre-form **h$_3$ie/ob^h-mn-o-*. If this is correct, we may reconstruct a PIE derivative **h$_3$ieb^h-mn-o-* denoting "that into which one penetrates", hence **h$_3$ieumnéh$_2$-* 'cave, lair' underlying Greek εὐνή.

11.3.2 The formula φιλότητι |T τραπείομεν εὐνηθέντε

As we have seen in chapter 6, the root shape τραπ- in the 1p. aor. subj. τραπείομεν is due to the vocalization of Epic **r̥* to -ρα-. Let me repeat why the formula φιλότητι |T τραπείομεν εὐνηθέντε "let us go to bed and satisfy ourselves" must be old. Since it would be unclear why a T$_2$-formula was preferred over a P$_2$-formula starting with $^{++}$ταρπείομεν, the whole formula

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frequent in Homer, as an accusative Ποσειδάωνα γαιήοχον ἐννοσίγαιος (*Th.* 15, see West ad loc.). This is a clear innovation.

[1251] It cannot be determined whether this had already happened when the *Iliad* was created, or later on in the tradition.

[1252] I hope to further elaborate the reconstruction of χαμαί in the near future.

[1253] It seems likely to me that *-mn-* was originally retained after a short vowel in Greek, cf. Hom. νώνυμνος (later ἀνώνυμος) and ἀπάλαμνος (later παλάμη).

[1254] I owe this suggestion to Karl Praust (p.c.).

(including φιλότητι) must have existed before the elimination of Epic *$r̥$, and possibly much earlier. This is confirmed by Latacz's analysis of the formula (1966: 185), according to which the locative (ἐν) φιλότητι is a complement to εὐνηθέντε, with hyperbaton. The presence of (ἐν) φιλότητι in the formula explains why *$tr̥pēomen$ was preserved as an artificial aorist form of τέρπομαι, and why the vernacular reflex *$tarpēomen$ was never introduced in front of εὐνηθέντε.

If the etymology proposed here for εὐνή is correct, the original formula must be reconstructed as *$p^hilotāti$ $tr̥pēomen$ $(i)eunāt^hente$. It now becomes clear that the formula cannot have been coined before the loss of initial *yod*, because with *$i̯eunāt^hente$ the formula would not scan in any proposed predecessor of the Homeric hexameter.[1255] In this way, we arrive at the following chronology:

1. loss of initial *yod* (*$i̯eunāt^hente$ > *$eunāt^hente$)
2. Creation of the formula *$p^hilotāti$ $tr̥pēomen$ $eunāt^hente$
3. Development of Epic *$r̥$* to -ρα-, raising of *$ā$* to *$ē$*, and quantitative metathesis plus epic restoration to -ειο-, yielding φιλότητι |$_T$ τραπείομεν εὐνηθέντε

A final question of considerable importance is whether the formula *$p^hilotāti$ $tr̥pēomen$ $eunāt^hente$ was created before the Proto-Ionic vernacular vocalization *$r̥$ > -αρ-, or whether *$tr̥pēomen$ was originally retained with Epic *$r̥$* in other environments too (in its metrical slot following |$_T$). The first option seems much more likely to me, because the form only appears in this specific formula, and because the relic phoneme *$r̥$* will not have been very productive unless metrical necessity was at work. Such metrical necessity is, in the present case, provided only by the fact that *$tr̥pēomen$* occurred in this specific formula. Thus, although a slightly later date of creation of the formula *$p^hilotāti$ $tr̥pēomen$ $eunāt^hente$ cannot be completely ruled out, it seems reasonable to assume that it was created before the vernacular vocalization *$r̥$ > -αρ-.

If this is correct, it can be concluded that Proto-Ionic retained *$r̥$* until after the Mycenaean period, because initial *yod* is still regularly written on the Mycenaean tablets.[1256] Again, it appears to be unnecessary to assume that certain formulae date back to the mid-second millennium merely because they contain an indirect reflex of *$r̥$.

11.3.3 The creation of ἀνδροτῆτα καὶ ἥβην

In section 7.3.1, we have seen that the formula |$_H$ ἀνδροτῆτα καὶ ἥβην 'masculine and youthful vigor' is best analyzed as containing the reflex of an Ionic pre-form *$anr̥tāta$. After the vernacular sound change *$r̥$ > αρ, *$anr̥tāta$ was preserved with Epic *$r̥$* in this particular formula, and perhaps also more generally. When *$anr̥tāta$ subsequently developed to *$anratētа$, the latter form was replaced by ἀνδροτῆτα by analogy with forms containing a first member ἀνδρο-.

As many previous scholars have remarked, it cannot be doubted that the expression ἀνδροτῆτα καὶ ἥβην is monumental and archaic, because it is used on two key moments in the story of Achilles and his wrath. An examination of formulaic material from the *Iliad* shows that there were plenty of other ways to sing the death of a hero. Why would the poets sing the

[1255] The only way to avoid this conclusion is to assume that the first plural (or dual) ending was still *-*me* (cf. Ved. -*ma*) when the formula was coined. But this would be gratuitous, because there are no further traces of the retention of *-*me* in Epic Greek. In general, I am skeptical of the possibility to reconstruct older stages of the hexameter from the comparison with Aeolic meters, even if the idea that Epic verse originated from traditional Indo-European metres could be basically correct. In any case, there is no reconstructed proto-hexameter in which the fourth foot could end in an iambic sequence.

[1256] My default assumption, here as elsewhere, is that the two South Greek dialects, Proto-Ionic and Mycenaean, did not undergo any different phonological or morphological developments unless there is a specific indication to think so.

deaths of Patroklos and Hektor with an unmetrical verse? Therefore, the synchronically aberrant scansion of the Homeric formula confirms the impression that ἀνδροτῆτα καὶ ἥβην is an archaism: this formula is fitting in its synchronic Homeric contexts only if we assume that it was traditionally fitting.

Let us now consider in more detail when the formula may have come into being. The first question to answer is: what was the original form of the formula when was it coined? Ruijgh has taken great trouble to show that ἀνδροτῆτα καὶ ἥβην is ultimately of Achaean origin. This would require, however, that the Homeric formula is a transformation of a different, older Mycenaean prototype. One of his latest attempts to solve the problems involved deserves to be quoted in full:

"L'expression ἀνδροτῆτα καὶ ἥβην ne peut pas remonter à la phase mycénienne: myc. *ἀ(ν)δροτᾶτα κασὶ *h*ήγ^{w}ᾶν (ou *y*ήγ^{w}ᾶν) comporterait une suite de trois brèves. En outre, la valeur mycénienne de κασί était probablement '(et) aussi' (Ruijgh 1967: 329-333), valeur emphatique qui ne convient pas à l'expression homérique. Autrefois, nous avons songé à la possibilité d'une expression originelle *ἀν̯ρτᾶτ' ἰδὲ yήγ^{w}ᾶν avec la particule homérique ἰδέ 'et'. Maintenant, nous la rejetons: en chypriote, cette particule sans doute achéenne conserve encore la valeur originelle 'et alors' (Ruijgh 1957: 55-57), qui ne convient pas elle non plus à l'expression homérique. En outre, ἰδέ figure chez Homère presque toujours après la césure trochaïque. (…) En Mycénien, la particule normale à valeur 'et' est *-qe* κ^{w}ε. Elle figure chez Homère dans des coordinations comme μάχη πόλεμός τε et πτόλεμόν τε μάχην τε. L'expression ἀνδροτῆτά τε καὶ μένος ἠύ ne peut pas elle non plus remonter à la phase mycénienne à cause de la présence de καί 'et'. Dans ces conditions, nous sommes amené[s] à postuler une formule proto-mycénienne *ἀν̯ρτᾶτα μένος κ^{w}ε 'la force de l'âge et l'élan' (…) comparer (…) λύθη ψυχή τε μένος τε, expression qui figure également dans le contexte de la mort d'un héros." (1997: 43-44).

There are good reasons to doubt a Mycenaean origin of ἀνδροτῆτα καὶ ἥβην. First of all, there is a problem of scansion: as it stands, the formula with καί cannot be projected back to the Mycenaean period because of the initial consonant to be reconstructed for ἥβην. Moreover, as Ruijgh remarks, *-qe* rather than καί is used as a simple connector in the Mycenaean tablets. Contrary to Ruijgh, however, I see no sufficient reason to analyze ἀνδροτῆτα καὶ ἥβην as the transformation of a formula that had become unmetrical. Ruijgh's attempt to reconstruct *ἀν̯ρτᾶτα μένος κ^{w}ε fails for a simple reason: if this was indeed the pre-form, there would have been no reason to modify it to ἀνδροτῆτα καὶ ἥβην. Ruijgh speculated that Epic singers used καὶ ἥβην to replace the reconstructed *μένος τε because they wished to underline the idea of a premature death ("pour souligner davantage l'idée de la mort prématurée", 1997: 44). But this idea does not work, because Homer did in fact preserve ἀνδροτῆτά τε καὶ μένος ἠύ (*Il*. 24.6), which is clearly equivalent to ἀνδροτῆτα καὶ ἥβην and underlines Patroklos' premature death just as well.

I conclude that the pre-form of ἀνδροτῆτα καὶ ἥβην, including the conjunction καί, was coined as a verse-final formula within Ionic Epic. For the present investigation, it is important that this creation can be dated *after* the loss of the initial consonant of ἥβην, i.e. that the original shape of the formula was already **an̯rtāta kai* ^{h}*ēbān*, where *h*- does not make position any longer.[1257] The salient form ἥβην '(youthful) vigor' is generally considered to be etymologically related to Lithuanian *jėgà* 'vigor, strength', Latvian *jẽga* 'strength, sense' and Lith. *jẽgti*, *jẽgia* 'to be able or strong'. A comparison of the various attested Greek forms

[1257] There is no unambiguous metrical trace of **i̯*- in Homer: πότνια Ἥβη (*Il*. 4.2) may well have been coined on πότνια Ἥρη (frequent verse-final formula).

points to a Proto-Greek substantive *$i̯ēg^{w}ā$ 'vigor',[1258] and the Baltic forms can be derived from PIE *$(H)ieh_1g^{w}$-eh_2 or *$(H)iĕ̄g^{w}$-eh_2.[1259]

Returning to our formula, if this etymology is correct, it implies that *$r̥$ remained intact, at least in Epic Greek, until after the loss of word-initial *yod*. It is well-known that Mycenaean preserves initial *yod*, even if there are signs that this phoneme was in the process of being eliminated already in the tablets, i.e. in the 14th-12th c. If we depart from the assumption that Proto-Ionic lost this phoneme around the same time, it follows that the formula **anr̥tāta kai ^{h}ēbān* was created in the early Dark Ages. This is a few centuries later than scholars have hitherto assumed. The formula may theoretically have been taken from Mycenaean Epic, but this would presuppose that the conjunction **kai* existed in Mycenaean, which is hard to prove. Since a Mycenaean origin would only complicate matters, it is better to assume that **anr̥tāta kai ^{h}ēbān* is a creation of Ionic Epic in or before the Early Dark Ages. It is also likely that the formula was coined when **anr̥tāta* was still a normal vernacular form, but it cannot be entirely excluded that **anr̥tāta* remained in more general use in Epic Greek after the vernacular vocalization.

In conclusion, **anr̥tāta kai ^{h}ēbān* points in the same direction as **p^{h}ilotāti tr̥pēomen eunāt^{h}ente*, but strictly speaking, only the latter formula provides proof that the vocalization of **r̥* in the Ionic vernacular took place after the lenition of word-initial *yod*. This is because the retention of **tr̥pēomen* could not be motivated outside the formula where it occurs.

11.4 The prehistory of Epic Greek

We have seen that certain formulae enjoyed an uninterrupted presence in Epic Greek, from the vocalization of **r̥* in the Proto-Ionic vernacular until the vocalization of Epic **r̥*, not too long before the *Iliad*. In my view, this allows us to conclude that Ionic was the language of Epic Greek all along, throughout the Dark Ages. At first sight, this conclusion does not seem to impose itself, because the formulae with **r̥* may theoretically have been preserved in an "Aeolic phase" after the vocalization of **r̥* in the Proto-Aeolic vernacular. There are, however, two decisive arguments against an Aeolic phase.

First of all, a number of forms with -ρα- must have been created artificially not long after the vocalization of **r̥* in the Ionic vernacular, notably κρατερός and thematic aorists of the type ἔδρακον. These forms must have been substituted for forms with **r̥* when Ionic was the language of Epic, for otherwise one would expect to find Aeolic artificial forms like $^{++}$κροτερός or $^{++}$ἔδροκον. If one assumes an Aeolic phase that lasted until two generations before Homer, the introduction of κρατερός for **kr̥terό-* and ἔδρακον for **édr̥kon* would be too late to explain the different metrical behavior of κρατερός as opposed to κραδίη, or δράκων as opposed to unattested δρακών (see section 8.4).

Secondly, the extensive evidence for analogical creations that took place in the roots θαρσ- and κρατ- within Epic Greek (replacement of **kr̥terό-* with κρατερός, semantic influence of κρατύς on κρατερός, creation of new doublets like κράτος ~ κάρτος, etc.) presupposes an uninterrupted Ionic Epic tradition in which these analogies could take place. All such artificial creations bear the stamp of Ionic, and they took place between the vocalization of vernacular **r̥* and that of Epic **r̥*.

Finally, there is no reason to assume an Aeolic phase anymore as far as the forms with -ρο- are concerned: they can now all be explained by the labial-conditioned development of Epic **r̥*. In section 6.6, when discussing a possible scenario for the retention of Epic **r̥*, I have

[1258] Pindar has ἥβα, and West Greek and Aeolic inscriptions have it too (Lex Gortyn ηβιω, Locr. ηβατας *IG* 9(1) 334, Thess. ειβατας, etc.). This ensures that the Proto-Greek form had **ē*. The form ἄβα in Alcaeus (fr. 101) and Callimachus (*Id*. 1.44 and 30.20) is probably a hyper-Aeolicism.

[1259] It deserves to be noted, however, that Lith. *jẽ̃gti, jẽ̃gia* and *jėgà* (accent paradigm 4) have a circumflex root. This could be a case of *metatonie douce* in a deverbal Lithuanian *ā*-stem, on which see Derksen (1996: 141-43).

suggested that other alleged Aeolic characteristics of Epic Greek (e.g. retained long *ā*, non-palatalized labiovelar reflexes in front of *e*) can also be explained in the same way. I have to limit myself to an outline of this idea here, and hope to discuss it more elaborately in the near future.

11.5 Conclusions

I arrive at the following relative chronology for the developments that took place between Proto-Greek and Ionic-Attic (PI = Proto-Ionic, E = Epic Greek):

1. vocalization of word-final **r̥* (PGr.)
2. loss of word-final stops (PGr.)
3. *d*-epenthesis in intervocalic *-nr-* (Pan-Gr.)
4. lenition of word-initial **i̯-* (PI)
5. vocalization of **r̥* (PI)
6. loss of *-h-* (intervocalic and, in front of a resonant, with CL1) (PI)

To be dated before 5. is the reduction **-tw-* > **-t-* in front of **r̥*. Then, Epic Greek underwent the following additional changes:

7. substitution of -ρα- for some cases of Epic **r̥* (E, not long after 5.)
8. vocalization of Epic **r̥* (E)
9. loss of Epic **w* (E)
10. *d*-epenthesis in **anratētа* or **anrotētа*, *b*-epenthesis in **amrotos* (etc.).

Note that the relative chronology obtained on the basis of the evidence for **r̥* is confirmed by the Mycenaean evidence. In Mycenaean, word-initial *yod* is disappearing under our eyes in the Linear B tablets (cf. variant spellings like *ja-ke-te-re ~ a-ke-te-re*), whereas word-initial and intervocalic *h* still function as a normal consonant. Again, there appears to be no reason to make a distinction between Mycenaean and Proto-Ionic prior to the Linear B tablets. The assumed post-Mycenaean date for the vocalization of **r̥* in Proto-Ionic has the following advantages:

1. it yields a more realistic time frame for the preservation of **r̥* in Epic Greek.
2. it offers the possibility to derive Epic words like ἀβροτάξομεν and τράπεζα directly from Mycenaean, assuming that this dialect retained **r̥*.
3. it allows us to explain how the formulae φιλότητι |$_{T}$ τραπείομεν εὐνηθέντε and |$_{H}$ ἀνδροτῆτα καὶ ἤβην came into being, assuming that they were created when **r̥* was still present in the Ionic vernacular.

12. Conclusion

This concluding chapter summarizes and evaluates the most important results.

12.1 The reflex of word-internal **r̥* in Ionic-Attic and Epic Greek

I have arrived at the conclusion that the regular development in the Proto-Ionic vernacular was **r̥* > -αρ-, and that Epic Greek retained **r̥* considerably longer. Such cases of Epic **r̥* were eliminated before Homer, but relatively late, by a conditioned sound change: **r̥* > -ρα-, but -ρο- after a labial consonant. The following evidence for a regular **r̥* > -αρ- in Ionic-Attic has been gathered along the way:

1. ἁμαρτεῖν 'to miss' is the regular outcome of **amr̥te/o-* in Proto-Ionic, while ἤμβροτον shows the regular Epic reflex of preserved **āmr̥te/o-* (section 8.2.2)
2. ἅρπη 'sickle' < **sr̥pā-* and καρπός 'fruit' < **kr̥pó-* are isolated lexical items. Since there is no trace a full grade root within Greek, the usual assumption of analogically restored -αρ- is arbitrary and unwarranted. It is attractive to explain σάρξ 'meat' < **twr̥k-* in the same way (section 9.6).
3. καταδαρθεῖν 'to fall asleep' is the regular outcome of **-dr̥t^{h}e/o-* in Attic, and hence in Proto-Ionic, whereas -ρα- was substituted for **r̥* at an early date in Homeric κατέδραθον (sections 8.2.1 and 8.4.2)
4. καρδία, καρδίη 'heart' continue the regular outcome of Proto-Ionic **kr̥diā-*, while κραδίη is the regular Epic outcome of **kr̥diā-*. This explains the peculiar metrical behavior of κραδίη in Homer (sections 6.1, 6.6, 6.7).
5. καρτερός 'steadfast, firm' is the regular outcome of **kr̥teró-* in Proto-Ionic (chapter 5), and κάρτα 'very' that of **kŕ̥ta*. The outcome -ρα- was the result of paradigmatic leveling in κρατύς (section 4.4). Thence, the allomorph κρατ- spread to derviationally related forms like κράτος, κράτιστος, which originally had an *e*-grade root.
6. μάρναμαι 'to battle' has no cognate forms within Greek and continues an inherited nasal present **mr-n-h$_2$-* (chapter 9.5).
7. ταρφέες 'dense, frequent' contains the regular outcome of the weak stem **t^{h}r̥p^{h}éw-* in Proto-Ionic. Its restricted plural inflection in Homer explains why the vowel slot of the original strong stem **t^{h}rép^{h}u-* was not generalized (section 4.3.1).
8. τέταρτος 'fourth' is the regular outcome of **k^{w}étr̥to-* in Proto-Ionic, while τέτρατος arose within Epic Greek, probably as the regular outcome of metrically lengthened **k^{w}étr̥to-* (sections 2.5, 2.6 and 6.7.4)

The evidence from the following roots is less certain:

9. σπάρτον 'rope, cord' seems to be related to σπεῖρα 'coil', but the words have no clear etymology (section 9.6).
10. ταρσός 'sole of the foot' < **tr̥só-*, as opposed to τρασιά, ταρσιή 'drying place', where the poetic form τρασιά, if it is indeed an epicism, could have the regular outcome of **tr̥siā-* in Epic Greek (section 9.1.5).
11. φαρχσαι (Attic inscr.), which was ultimately based on a zero grade formation derived from PIE **b^{h}erǵ^h-*, seems to be the regular outcome of **p^{h}r̥k^h-s-*. However, the origin of the Homeric and later Classical aorist φράξε (pres. φράσσω, φράγνυμι) remains unclear (section 9.2.3).

As a consequence, all remaining instances of -ρα- have to be accounted for. There is no need to account separately for forms with -ρα- which may have developed by analogy with full

grade forms, such as ἔτραπον beside τρέπω. As we have seen in section 2.6, the first member τετρα- has an analogical -α- after δεκα-, εἰνα- (etc.), and the same explanation accounts for Myc. *qe-to-ro-po-pi* (beside *e-ne-wo pe-za*). Many forms with either -ρα- or -αρ- arose by the spread of a zero grade allomorph in so-called "Caland formations". These forms cannot be used in the discussion about the regular reflex in Ionic-Attic, but they may used to determine the derivational relations within the Caland system more precisely (see chapter 4).

The clear distributions, within Ionic-Attic, between poetic forms with -ρα-, -ρο- and prose words with -αρ- render a solution in metrical terms plausible. Apart from the doublets mentioned above, the following forms have received a special explanation:

a) The regular reflex of Epic **r̥* is -ρα- in the following Homeric forms with *McL* scansion: δράκων, θρασειάων, κραται-, κραταιΐ̈ς, κραταιός, τράπεζα, τραπείομεν, τραπέσθαι (section 6.7) and Ἀνδρεϊφόντῃ, ἀνδροτῆτα (with -ρο- for -ρα-, section 7.3).
b) The regular reflex -ρα- of Epic **r̥* is found in the following other forms (section 6.7): κραδίη, τέτρατος, στρατός.
c) The regular post-labial reflex of Epic **r̥* is -ρο- in the following forms with *McL* scansion (section 7.2): βροτῶν, βροτοῖσι, ἀμφιβρότης, ἀβρότη, ἀβροτάξομεν, προκείμενα, πρός, πρόσω, πρόσωπον, Ἀφροδίτη.
d) The regular post-labial reflex -ρο- of Epic **r̥* is found in the following other forms: other case forms of βροτός, ἄμβροτος, ἀμβρόσιος, ἤμβροτον, ῥοδόεντι (section 7.2), πρόξ, προκάς (section 9.4.1).
e) Epic **r̥* was replaced with -ρα- at an early date in κρατερός and in the aorists ἔδρακον, ἔδραθον, ἔπραθον (section 8.4).
f) The aorist ἔτραφον is an artificial replacement of ἐτράφην in Epic Greek (section 8.3).
g) Hom. ὑπόδρα, in which a word-final consonant was lost, was preserved with Epic **r̥* in the formula ὑπόδρα ἰδών (section 9.3.3).
h) In Pindar, the intransitive aorist ptc. δρακείς was substituted for the ptc. δρακών of the thematic aorist.

It is now time to take stock: which advantages does the present scenario offer over previous hypotheses? Do these advantages justify the assumptions that have been made?

First of all, the present scenario aligns the abundant attestation of -ρα- in Homeric words with their metrical behavior. Since Mühlestein (1958) and Wathelet (1966), it has been broadly acknowledged that forms like τράπεζα < **tr̥pedi̯a* and βροτοῖσι < **mr̥toisi* contain a metrical trace of the syllabic liquid, because their onset cluster is subject to *muta cum liquida* scansion. Several objections have been voiced against Wathelet's scenario. Is it possible that metrical irregularities were preserved over such a long period of time? And how can the formulaic or traditional status of Epic material be proven in a rigorous way? These concerns are only partially justified, because we have found extensive synchronic evidence for the avoidance of *McL* scansions in Homer. Moreover, the former presence of **r̥* is ascertained in most of the lexemes which undergo *McL* scansion on a structural basis. A retention of Epic **r̥* until approximately one or two generations of poets before Homer explains why *McL* scansion is so frequent in words with -ρα- or -ρο- from **r̥*. It also allows us to answer the chronological objections to Wathelet's earlier account, and to understand why the *McL* licence is still structurally avoided in Homer.

Secondly, all previous scenarios operate with rather abstract analogical explanations: forms with -αρ- are thought to be "somehow" analogical after full grade forms. The analogical influence of κῆρ on καρδία is unlikely for chronological reasons, and because κῆρ has a different synchronic root shape. No full grade forms of the verbal root **kerp-* 'to pluck' are attested beside καρπός, and it is far-fetched to assume influence of νημερτής on the verb

ἁμαρτεῖν. The assumed replacement of τέτρατος with τέταρτος is difficult because a convincing motive and model are lacking. Influence of a root allomorph κερτ- has been invoked in order to explain καρτερός and κάρτα, but the evidence unequivocally points to one single root shape κρετ-.

The new analysis of all these forms is therefore a definite improvement. The analogical developments assumed here are much more natural, because they appear to occur mostly within an ablauting paradigm or between derivationally related formations. Because thematic καρτερός and adverbial κάρτα are non-ablauting, and because they had become semantically and derivationally isolated from κράτος and related forms at an early date, only these two forms preserved the regular zero grade outcome -αρ-. All *u*-stem adjectives generalized the vowel slot of the ablauting *e*-grade root within the paradigm (cf. κρατύς, βραχύς), but ταρφέες did not undergo this influence because it only occurred in the plural when **r̥* vocalized in the Ionic vernacular.

A third and more general benefit is that no previous scenario has accounted in a coherent way for the structural interchange between prose forms with -αρ- and poetic forms with -ρα- in Ionic-Attic. This distribution appears from the fact that doublets such as καρδία ~ κραδίη, καρτερός ~ κρατερός, and τέταρτος ~ τέτρατος are found only in Homer and later poetry, and also from the more general observation that forms with -ρα- are often restricted to Epic Greek. None of the previously assumed conditioned developments (accent-conditioned distribution, original sandhi variants) was able to explain why forms with -ρα- are so frequent in poetry, and especially in Epic Greek. A fourth benefit is that the Homeric words with -ρο-, for which there are no clear indications of Aeolic origin apart from the *o*-colored reflex, now appear to have arisen within Epic Greek by a conditioned development of Epic **r̥*.

Thus, the advantages are clear, but what about the costs: which assumptions do we have to make? The assumption of ablaut in the *u*-stem adjectives can hardly be shocking in itself: the retention of -σ- in δασύς proves that an ablauting paradigm **densu-*, **dn̥s-ew-* was preserved until at least a Proto-Greek stage. The preservation of paradigmatic ablaut until a Proto-Ionic date might arouse more suspicion, but we have seen that the spread of *a*-vocalism in the root of various Caland formations must have been a dialectal Ionic-Attic development. In other words, root ablaut of the type **kr̥teró-*, **kŕ̥ta*, **kr̥ti-* as opposed to **kréteh-*, **krétio̯h-*, **krétisto-* must have existed until a relatively recent date in all Greek dialects. The generalization of κρατ- became attractive after the elimination of root ablaut from the *u*-stem adjective had yielded Proto-Ionic κρατύς. Note that Cretan and other West Greek dialects treated the ablaut of this specific root in a different way by generalizing the allomorph καρτ-.

A second potential problem concerns the assumption that some words attested in Classical prose are epicisms, that is, that they were borrowed from the Epic tradition (or more specifically from Homer) into the Ionic-Attic vernacular. This mainly applies to θρασύς, στρατός, and τράπεζα, for which I have argued in section 6.7 that they belong to specific semantic fields (martial or ritual vocabulary). True, it is hard to prove beyond doubt that a given word must be an epicism, but for present purposes, it merely has to be conceded that epic origin is a possibility in these three words. For a second group of words with -ρα- or -ρο- of the sort δράκων or βροτός, it is already generally assumed that they are epicisms in later poetry.

The assumption likely to arouse most opposition, from a "typological" point of view, is the prolonged retention of Epic **r̥* for a period of at least two or three centuries. There are, of course, parallel cases of a poetic tradition preserving archaic phonology or phonetics. French poetry and song preserve the syllabic value of unaccented word-final *-ə* to this day, even if the sound disappeared from Standard French in the early 17th century. Similarly, Russian vowel reduction is not applied in the liturgical pronunciation in the Russian Orthodox

Church.[1260] Another outer-Greek case that immediately comes to an Indo-Europeanist's mind is the traditional pronunciation of *ṛ* in Sanskrit: to this day, Indic scholars pronounce [rɪ]. This pronunciation must have arisen after the Indo-Aryan vernaculars had lost **ṛ*. However, both cases are different from the retention of Epic **ṛ*: French poetry preserves a segment which was protected from total loss for obvious metrical or rhythmic reasons, the Russian liturgical pronunciation may be due to the reading aloud of texts, and the artificial pronunciation of Sanskrit *ṛ* may, in principle, have come into being immediately upon the vocalization of this sound in the vernacular. Another difference: in the case of Epic Greek, we have to assume that Epic **ṛ* was eliminated by a conditioned development that has all characteristics of a regular sound change. Perhaps, then, the situation of Epic Greek is best compared to the prehistory of the Avestan tradition: there, we find not only the results of vernacular sound changes entering an orally transmitted text; there is also evidence for sound changes that are not found in any Iranian vernacular, but which took place within the Avestan tradition itself.[1261]

The decisive point is that the new scenario allows us to explain a number of peculiarities of Epic vocabulary and formulae, both phonological and metrical. The evidence can be put to the test by assuming that **ṛ* was not retained for a longer period in Epic Greek, but that it was artificially vocalized as -ρα- in Epic Greek, *for metrical reasons*, more or less simultaneous with the vernacular sound change **ṛ* > -αρ-. In this way, one could explain κραδίη as an artificial reflex of **kṛdiā* (καρδίη was metrically awkward), and τραπείομεν as an artificial reflex of **trpēomen* in the formula φιλότητι τραπείομεν εὐνηθέντε (*McL* scansion was less damaging to the metre than the vocalization to -αρ-).

It would remain unclear, however, why less obviously formulaic words like **dṛkōn*, **edṛkon* and **stṛtós* did not end up as ⁺⁺δάρκων, ⁺⁺ἔδαρκον and ⁺⁺σταρτός. Moreover, the *o*-colored outcome of cases like βροτός is best explained as conditioned by the preceding labial consonant. Since the Ionic vernacular vocalization did not have this conditioning, this implies that we are not dealing with an artificial replacement of the vernacular outcome, but with a separate sound change. Finally, the problems concerning the metrical evidence would be severe. A case of exceptional importance is κραδίη which, as Hoenigswald recognized, never causes a preceding short vowel to scan heavy in Homeric verse. The different metrical behavior of κρατερός as opposed to that of κραδίη can only be understood if we assume that **kṛteró-* was replaced at an early date (probably under influence of κρατύς), and if κραδίη retained Epic **ṛ* for a considerably longer period. The avoidance of thematic aorist forms like δρακών, as against the non-avoidance of δράκων, can be explained in the same way: Epic **ṛ* was eliminated in the thematic aorists at an early date, but retained in δράκων.

Thus, there is evidence not only for the avoidance of unmetrical forms, but also for the analogical creation, within Epic Greek, of metrically useful forms. The analogical changes which took place in the root καρτ- ~ κρατ- within Epic Greek strongly suggest that the main dialect of the tradition was Ionic for a considerable period, and that a verse form much like the Homeric hexameter was used all along. I would therefore prefer to approach the "composite" nature of Epic Greek in a different way, and ask: is there a parallel for a poetic tradition that entirely shifted its dialect but retained its verse form, as is usually assumed for Epic Greek in the framework of the theory of phases? If Aeolic was indeed the traditional language of Epic poetry, why is there no trace of Aeolic Epic in hexameter verses? And why would Ionic singers suddenly start to sing verses, with Ionic vocabulary, in what was not a traditional Ionic metre?

[1260] As Prof. Lubotsky (pers. comm.) points out to me.

[1261] For an introductory overview to the problems concerning the spelling and transmission of Avestan, see Hoffmann (1989).

In view of these problems, our new framework for the relation between Epic Greek and the Ionic vernacular is much more natural. As explained in section 6.6, I think that Epic Greek generally conserved a more archaic pronunciation in comparison with the Ionic vernaculars, and that it could resist innovative phonetic tendencies for a certain amount of time. The decisive point of this change of paradigm is that the results of vernacular sound changes, much like morphological innovations, generally penetrated into Epic Greek by lexical diffusion, on a word-for-word basis. Archaic pronunciations and formations were preserved when a word was not current in the vernacular or when there was some metrical motivation not to introduce the vernacular form. I have suggested that at least one other phonological peculiarity of Homeric Greek can be explained in this way: the labial reflexes of labiovelars before the front vowels *e, ē*. The case would be an exact parallel in that the labiovelars were retained longer, but eventually eliminated by an inner-Epic phonological development. It seems promising to apply this principle to other Ionic sound changes and reputed Aeolicisms, but for the time being, the elaboration of this idea has to be postponed.

12.2 The dialectal reflexes of word-internal **r̥*

The following table summarizes our results for the different dialect groups:

Dialect group	**Sub-dialects**	**Regular outcome of word-internal **r̥***
Achaean	Mycenaean	<-*Co*->, representing either -*r̥*- or -*or*-
	Arcadian	-ορ-
	Cyprian	Uncertain whether -*ro*- or -*or*-
Aeolic	Lesbian	-ρο-
	Thessalian	Probably -ρο-
	Boeotian	-ρο-
Ionic-Attic	All varieties	-αρ-
West Greek	Cretan	-αρ-, but -ορ- after $C_{[+lab]}$ (also Theran?)
	Other varieties	Unclear whether -αρ- or -ρα-
Epic Greek	Homer	-ρα-, but -ρο- after $C_{[+lab]}$

*Table 12.1: The outcome of word-internal *r̥*

In many dialects, the material is difficult to judge, but quite a few interesting conclusions can be drawn regarding the evidence from Cretan and from the Aeolic dialects. It was previously assumed that Cretan underwent a liquid metathesis of -ρα- and -ρο-, but I propose that the regular outcome of **r̥* in Cretan is -αρ-, but -ορ- after a labial consonant. The evidence from most other West Greek dialects does not allow us to go beyond the rather general observation that these dialects had an *a*-colored reflex.

For the Aeolic dialects, the traditional assumption that *o*-vocalism was regular (independent of the environment) has been vindicated. An important new conclusion is that the only regular Aeolic reflex of **r̥* is -ρο-. In this respect, the Aeolic dialects differ from all other Greek dialect groups, at least as far as we can see, and from most of the other Indo-European languages. The development **r̥* > -ρο-, ascertained for at least Lesbian and Boeotian and probable for Thessalian, seems to be a common innovation. It is therefore an important argument in favor of a Proto-Aeolic unity.

Concerning the Achaean dialects, it deserves attention that there is no good evidence for an *a*-colored reflex in Mycenaean, as García Ramón already argued. The Mycenaean material clearly excludes that **r̥* developed to -*ro*-. The regular Myc. reflex of **r̥* was written <-*Co*->, never <-*Co-ro*->. It is possible that spellings like *to-pe-za* and *to-qi-de* represent underlying /torpedi̯a/ and /stork^{wh}ides/, but it cannot be excluded that **r̥* was preserved as such, and that the syllabary had no separate means to distinguish this sound from e.g. -*o*- or

-or-. Concerning Arcado-Cyprian, I accept Haug's arguments for a general *o*-colored reflex, but only the Arcadian evidence allows us to draw a conclusion concerning the place of the anaptyctic vowel.

Once the place of the anaptyctic vowel is seen to be a significant dialectal trait, it appears that there were not two, but at least four different possible ways of vocalizing the syllabic liquids. These vocalizations may well have occurred at different times. There are several reasons to assume a relatively late vocalization of **r̥* in most dialects. The most important general objection against an early vocalization is the retention of Epic **r̥*. The fact that Attic and Ionic behave in exactly the same way points to a Proto-Ionic vocalization, but it would be unwarranted and unnecessary to extend the date of vocalization back to before the Dark Ages. If Mycenaean still preserved **r̥*, this could explain the appearance of typical Mycenaean-looking lexemes like **wr̥dowent-*, **tr̥pedi̯a*, **anr̥k^{wh}ontā-*, and **amr̥taksomen* with Epic **r̥*. It cannot be entirely excluded that a putative Mycenaean Epic tradition preserved **r̥* after the vernacular had lost this sound. It seems attractive to assume that a South Greek Epic tradition gained momentum after the collapse of the Mycenaean empire. If this scenario is correct, and if one assumes that the *o*-colored outcomes of Arcadian and Cyprian are due to a common innovation, then the Achaean vocalization must have occurred in the declining years of the palace civilization.

The Cretan development has two chronological consequences. First of all, **r̥* > -αρ- is not a general isogloss between West-Greek and Ionic-Attic. Secondly, the difference between Cretan and Elean is best explained by assuming that the vocalization of the syllabic liquids took place after the Dorian tribes had settled in these regions, i.e. probably in the early Dark Ages. As argued in chapter 11, it would still be attractive to connect the general Ionic-Attic and mainland West Greek *a*-colored reflexes, both for geographical and chronological reasons. The Proto-Aeolic development is hard to date, but a relatively early vocalization deserves consideration.

In conclusion, I see no compelling reasons to assume an early divergence between Ionic and Achaean in the Mycenaean period, and suggestive evidence for a vocalization of **r̥* as late as the early Dark Ages.

12.3 Remaining issues

The development of word-final **-r̥* is complicated by the nature of the evidence. Analogical influence of the weak cases is hard to exclude in the NAs. of heteroclitic neuters, and the reconstruction of many adverbs in -αρ is not quite certain. However, there is some suggestive for an early, Pan-Greek development to -αρ. The forms Cyprian *a-u-ta-re* /autar/ and Arcadian παρ suggest that **-r̥* developed to -αρ even in Achaean dialects, which would make this development chronologically prior to that of word-internal **-r̥-*. As for Ionic-Attic, it is remarkable that Homer has no traces of Epic **r̥* in word-final position, and that the only trace of **-r̥* > word-final -ρα is ὑπόδρα, the pre-form of which ended in a stop. I have therefore proposed that ὑπόδρα contained Epic **r̥*, and that the word-final development **-r̥* > -αρ was prior to the loss of word-final stops, i.e. probably Proto-Greek. As a preverb, however, that **pr̥-* may have been retained longer, in view of the reflex of Epic **r̥* in προκείμενα (see section 7.2).

There is some evidence to suggest that the group **r̥n* behaved like other cases of word-internal **r̥*: μάρναμαι shows the unrestored outcome, and we find an *o*-colored reflex in the glosses πορνάμεν and μορνάμενος. There is no compelling reason to assume a Pan-Greek development **r̥n* > **-ərn-*, all the more so since a Pan-Greek development **l̥n* > **-əln-* is excluded on account of Elean αϝλανεος < **ha-wl̥neh-*.

The evidence for **l̥*, both in Ionic-Attic and in the other dialects, is much more meagre than that for **r̥*. It has traditionally been assumed that the regular Proto-Ionic outcome was

-λα-, independent of the environment. This is indeed the most likely conclusion, in view of the plausible cases βλαδεῖς, βλαστός, γλαφυρός, and perhaps σπλάγχνα. Although a diverging development (*$r̥$ > -αρ-, as against *$l̥$ > -λα-) is unexpected at first sight, it must be stressed that there is no compelling evidence for a regular reflex *$l̥$ > -αλ-, except perhaps in front of a nasal in καλλι-, περι-καλλής and πάλλω. As for the other dialects, the only remarkable piece of evidence are the different outcomes of Elean αϝλανεῡς and Cretan αβλοπια. They suggest that the vocalization of *$l̥$ is a relatively late phenomenon within West Greek.

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CID: *Corpus des inscriptions de Delphes*. Paris 1977-.
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Unless otherwise indicated, I have followed the editions used in the online Thesaurus Linguae Graecae (marked below with an asterisk). The following editions and commentaries have been used:

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- *Hesychii Alexandrini Lexicon*. Rec. et emend. Kurt Latte. Copenhagen 1953-2009.

Online resources:

TLG: *Thesaurus Linguae Graecae*, searchable online database of Greek literature from Homer to the fall of Byzantium, at http://stephanus.tlg.uci.edu.

PHI: searchable online database of Greek inscriptions provided by the Packard Humanities Institute, at http://epigraphy.packhum.org.

Samenvatting in het Nederlands

De ontwikkeling van de Proto-Indo-Europese vocalische liquidae in het Grieks

Het Oud-Grieks werd gesproken in een groot aantal verschillende dialecten, en is zowel bekend uit literaire bronnen als uit inscripties. In geen enkele bron vinden we direct geschreven bewijs voor de klanken *r̥* en *l̥* (de vocalische liquidae), maar het is bekend dat een ouder gemeenschappelijk voorstadium van deze dialecten, het Proto-Grieks, deze klanken nog wel moet hebben gehad. Dit proefschrift bevat een reconstructie van de ontwikkeling van de uit het Proto-Indo-Europees geërfde vocalische liquidae in alle alfabetische dialecten (vanaf ongeveer 800 v. Chr.) en in het Myceens (ongeveer 1400-1200 v. Chr.). De nadruk ligt op twee vragen: hoe luidde de precieze klankwettige ontwikkeling (vocalisatie) van *r̥* en *l̥*? En wanneer vond deze vocalisatie plaats?

Bij de vocalisatie van *r̥* en *l̥* vond vocaalanaptyxe plaats. In een aantal omgevingen werd deze anaptyxe reeds in het Proto-Grieks gefonologiseerd: zo ontwikkelen **r̥*, **l̥* zich tot *ar*, *al* voor een halfvocaal of voor een laryngaal plus vocaal. Deze omgevingen worden in hoofdstuk 1 besproken en blijven in de rest van het boek buiten beschouwing. In de overblijvende omgevingen zijn er per dialect twee belangrijke vragen. Ten eerste, was de kleur van de anaptyctische vocaal *a* dan wel *o*? Ten tweede, kwam de anaptyctische vocaal vóór, dan wel na de liquida te staan? Er zijn dus vier mogelijke uitkomsten: *ar*, *or*, *ra*, en *ro*. Voorafgaand onderzoek richtte zich vooral op de dialectale vocaalkleur en de mogelijke conditioneringen daarvan, terwijl de regelmatige plaats van de anaptyctische vocaal minder aandacht kreeg. Daarbij wordt vaak aangenomen dat de vocaal regelmatig ná de liquida kwam te liggen (*ra*, *ro*), en dat in een aantal tegenvoorbeelden (met *ar*, *or*) metathese is opgetreden.

In dit boek ligt de nadruk juist op de vraag naar de regelmatige plaats van de vocaal. In hoofdstuk 2 wordt beweerd dat de anaptyctische vocaal in het Myceens, dat regelmatige *o*-kleuring had, in ieder geval niet ná de *r̥* kwam te liggen. Het is mogelijk dat *r̥* nog bewaard is gebleven in het Myceens, alhoewel er in het Lineair B geen distinctieve spelling was voor *r̥* ten opzichte van *or*. In hoofdstuk 3 wordt het bewijs uit de meeste alfabetische dialecten besproken. De belangrijkste nieuwe conclusie is dat in het dialect van Kreta geen metathese van *ra* tot *ar* plaatsvond, maar dat de regelmatige uitkomst van **r̥* hier *ar* of *or* was. Aan de andere kant was de uitkomst in de Aeolische dialecten *ro*. Hieruit volgt als eerste belangrijke conclusie dat niet alleen de kleur, maar ook de plaats van de anaptyctische vocaal per dialect verschillend was.

De hoofdstukken 4 tot en met 9, die de kern van het proefschrift vormen, hebben betrekking op het bewijs voor **r̥* uit het Ionisch en Attisch. In tegenstelling tot de *communis opinio* beweer ik dat de klankwettige uitkomst van **r̥* in deze dialecten *ar* was, niet *ra*. De belangrijkste innovatieve gedachte is dat het Episch Grieks een eigen, klankwettige ontwikkeling van **r̥* had, die te onderscheiden is van de klankwettige ontwikkeling tot *ar* in het gesproken Ionisch en Attisch. Dit stelt ons in staat om aan te nemen dat de vormen met *ra* een specifiek epische uitkomst van **r̥* laten zien. Voorts wordt bewijs aangevoerd voor een geconditioneerde ontwikkeling, in het Episch Grieks, van **r̥* tot *ro* na een labiale consonant. Dit nieuwe scenario stelt ons in staat om verschillende metrische problemen in Homerus, zoals het ontstaan van de *muta cum liquida* licentie, beter te begrijpen. Verder werpt het een nieuw licht op de relatieve chronologie van de Griekse klankwetten: in hoofdstuk 11 wordt beargumenteerd dat de vocalisatie van **r̥* in het Ionisch-Attisch gedateerd moet worden na het verlies van initiële *yod*, dus op zijn vroegst aan het eind van de Myceense periode.

De ontwikkeling van *$\underset{\circ}{l}$ wordt behandeld in hoofdstuk 10. Het bewijs voor deze ontwikkeling blijkt in veel dialecten te summier te zijn om duidelijke conclusies te trekken – zelfs in het Ionisch-Attisch, waar het meest waarschijnlijke scenario lijkt te zijn dat de klankwettige uitkomst *la* was. In dat geval was de ontwikkeling van *$\underset{\circ}{r}$ niet dezelfde als die van *$\underset{\circ}{l}$.

Naast de reconstructie van de klankwettige ontwikkeling van *$\underset{\circ}{r}$ en *$\underset{\circ}{l}$ geeft dit proefschrift ook nieuwe etymologieën voor belangrijke Griekse woorden als *kalós* ‘mooi’, *stratós* ‘leger’, *eunḗ* ‘bed’, en *kraterós* ‘onstuimig, gewelddadig’. De conclusies ervan zijn echter niet alleen van belang voor de historische fonologie van het Grieks en voor de reconstructie van het Proto-Indo-Europees, maar ook voor de Homerusfilologie. Als het hier voorgestelde scenario voor de vocalisatie van *$\underset{\circ}{r}$ correct is, dan blijken de vormen met *ro* als uitkomst van *$\underset{\circ}{r}$ niet uit een Aeolisch dialect, maar binnen het Episch Grieks zelf verklaard te moeten worden. Zo verdwijnt een belangrijke categorie van vormen die traditioneel als Aeolismen werden gezien.

Curriculum Vitae

Lucien Christiaan van Beek werd op 13 februari 1979 geboren in Delft. Vanaf 1990 bezocht hij aldaar het Sint Stanislascollege, waar hij in 1996 het Gymnasiumdiploma behaalde. In datzelfde jaar begon hij met de studie Wiskunde in Leiden, waarin hij in 1997 de propedeuse verwierf, en in 2004 het doctoraaldiploma in de afstudeerrichting Toegepaste Analyse en Differentiaalvergelijkingen (met veel genoegen). Ondertussen behaalde hij in het studiejaar 1998-1999 de propedeuse Slavische Taal- en Letterkunde, waar de interesse in de Indo-Europese taalvergelijking voor het eerst gewekt werd, en in 2002-2003 de propedeuse Wijsbegeerte. Van 1997 tot 1999 leidde hij als student-assistent werkgroepen bij de opleiding Wiskunde.

Vanaf 1999 volgde van Beek jaarlijks een keuzevak bij de opleiding Vergelijkende Indo-Europese Taalwetenschap, en in 2004 nam hij, na het afronden van de studie Wiskunde, het besluit om zich verder te specialiseren in de Indo-Europese taalvergelijking, in het bijzonder in de historische grammatica van het Grieks. In dit kader volgde hij ook verschillende colleges bij de opleiding Griekse en Latijnse Taal en Cultuur. Dit resulteerde in 2007 in het doctoraaldiploma in de Vergelijkende Taalwetenschappen van de Indo-Europese taalfamilie (cum laude), met als afstudeeronderwerp het vermeende bewijs voor vocaalassimilatie in het Grieks. Gedurende deze periode werkte hij van 2005 tot 2007 als student-assistent mee aan het *Indo-European Etymological Dictionary* (IEED) project.

In mei 2007 werd van Beeks subsidieaanvraag *Proto-Greek: a reconstruction* gehonoreerd binnen het NWO-programma “Toptalent”. Dit stelde hem in staat om van 2007 tot 2012 het onderzoek dat aan dit proefschrift ten grondslag ligt uit te voeren binnen het Leiden University Centre for Linguistics (LUCL), met als begeleider Prof. A. Lubotsky. Gedurende deze periode bleef hij ook in deeltijd werkzaam binnen het IEED-project, waar hij onder andere Prof. Beekes assisteerde bij de redactie van het *Greek Etymological Dictionary*, dat in 2010 bij Brill verscheen. Tevens gaf hij college in vakken als Historische Grammatica van het Grieks, Leescollege Homerus, en Inleiding tot de Indo-Europese Vergelijkende Taalwetenschap, en dit zowel binnen de opleiding Vergelijkende Indo-Europese Taalwetenschap (later Taalwetenschap) als tijdens de Leidse Summer School in Languages and Linguistics. In 2008 volgde hij de Anatolische Summer School aan de Freie Universität te Berlijn, in 2009 nam hij deel aan de cursus Epigrafie van OIKOS, en in 2010 aan de OIKOS Masterclass, beide aan het Nederlands Instituut in Athene.

Van Beek presenteerde zijn onderzoek in lezingen tijdens internationale conferenties in onder meer Salzburg, Oslo, Kopenhagen, Gent, en Halle an der Saale, en publiceerde in internationale tijdschriften en congresbundels. Vanaf september 2012 heeft hij een tijdelijke aanstelling als docent bij de Opleiding Taalwetenschap aan het LUCL, en werkt hij binnen het IEED-project aan een nieuwe versie van het *Greek Etymological Dictionary*. In 2013 was hij medeorganisator van de conferentie “The Lengthened Grade in Indo-European”, gehouden in Leiden.

Buiten de universiteit is Lucien van Beek bekend als schaker. Hij werd in 1994 Nederlands Kampioen in de categorie tot en met 16 jaar, nam deel aan diverse Europese en Wereldkampioenschappen voor de jeugd, en was van 1994 tot 1999 lid van de Jong Oranjeselectie van de KNSB. In 2008 werd hij, na het behalen van drie meesterresultaten, door de Wereldschaakbond FIDE benoemd tot Internationaal Meester.