The Reflexes of Syllabic Liquids in Ancient Greek

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The Reflexes of Syllabic Liquids in Ancient Greek

Linguistic Prehistory of the Greek Dialects and Homeric Kunstsprache

By

Lucien van Beek

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Preface

The original objective of the Ph.D. project that eventually grew into this book was rather grotesque: I planned to establish a relative chronology of all sound changes that took place between Proto-Indo-European, Proto-Greek, and the different dialects of Ancient Greek. After some time, it became clear to me that the syllabic liquids constituted one of the most important problems. There is a large variety of different and contradictory opinions on their development and reflexes in the Greek dialects. Moreover, it was a topic with potentially large consequences, not only with respect to questions of relative chronology, but also for the genesis of the four main dialect groups of alphabetic Greek. When a new possibility to tackle the problematic double reflex of *$r̥$ suggested itself to me, I started to put all my time and effort into this problem, and eventually decided to devote the entire dissertation to this topic.

When I defended the dissertation in December 2013, I was convinced (as I still am) that the main results were sufficiently plausible and innovative to be published.[1] However, as I was not completely satisfied with the presentation of my arguments, and as I felt that my work would improve if it got the chance to ripen, I continued working on it off and on. The present book emerged from the dissertation by a gradual process of revising, expanding, deleting, and weighing the arguments over and over again. Below I will comment on the differences with the 2013 dissertation in more detail. In terms of conclusions and the main arguments, however, the works are very similar.

An important thread running through this book is my claim that *$r̥$ and *$l̥$ did not have a double reflex in any Greek dialect. Of course, this claim will not surprise anyone trained in Neogrammarian principles, nor am I the first to make it. Nevertheless, the contrary view that the place of the anaptyctic vowel beside *$r̥$ and *$l̥$ varied per word, or at least that the distribution between both reflexes still remains to be found, has become widespread in handbooks concerned with the historical phonology of Greek.

Apart from a strict adherence to the principle of regularity, another important methodological point applied throughout this book is a search for the concrete models and motivations that may (or may not) underlie the analogical reshaping of word-forms or the derivation of new lexemes. In my view, we must not be satisfied with the observation that a certain analogy is possible on

1 The dissertation became available online by June 2017.

paper; it is often possible to go further than this and to tell whether an analogy is plausible or implausible, paying attention to the contexts in which a word is used. This holds especially for the language of epic, where it is often possible to indicate a concrete impetus for the reshaping or creation of a specific word, phrase or formula.

The focus of this work is on reflexes of syllabic *$\mathring{r}$ and *$\mathring{l}$ that can be reconstructed for Proto-Greek. Developments involving PIE laryngeals (such as the problematic double outcome of **CRHC* clusters in Greek) are touched upon, but they do not occupy center stage. My basis is a thorough and up-to-date etymological discussion of all words containing a reflex of Proto-Greek *$\mathring{r}$ or *$\mathring{l}$, in all dialects of Ancient Greek, including Mycenaean. A fair number of new etymologies and novel reconstructions of forms are presented (for an overview, see section 12.1). In addition, there are various fresh discussions of issues in derivational morphology, especially concerning the 'Caland system'.

The main innovative hypothesis advanced in this work is the bold claim that -αρ-, rather than -ρα-, is the regular reflex of word-internal *$\mathring{r}$ in Ionic-Attic. This idea first took a rudimentary shape when I realized that two seemingly independent metrical peculiarities of Homeric Greek had to be related: on the one hand, Wathelet's (1966) observations about the distributions and origin of *muta cum liquida* in Homer; on the other, the realization that the onset of κρα-δίη rarely makes position in Homer, an oddity that had been observed earlier by Hoenigswald (1991). In combination, these two peculiarities suggested to me that *$\mathring{r}$ had been preserved until not too long before Homer.

The main breakthrough took place when I realized that -ρα- in various exclusively Homeric words could be seen as an *artificial* reflex of word-internal *$\mathring{r}$, and as such could be contrasted with the regular reflex -αρ- in words that occurred in Ionic and Attic prose. It appeared that a prolonged retention of *$\mathring{r}$ in the Dark Age epic tradition could explain *both* the reflexes -ρα- and -ρο- in words that are virtually limited to Epic Greek *and* the peculiar prosodic behavior of many such words.

Along with this novel hypothesis came a large number of problems. All Ionic and Attic forms with -ρα- had to be accounted for, especially those forms which do not appear in Epic Greek. Moreover, the evidence from all other Greek dialects had to be re-examined. In this domain, too, the attempt to determine the regular slot of the anaptyctic vowel proved fruitful. For instance, it appeared that -ρο- was the regular, unconditioned reflex in Aeolic dialects; that a regular reflex *-ro-* could be excluded for Mycenaean, and that Cretan normally has -αρ-, but a conditioned reflex -ορ- after labials.

My ideas concerning the reflexes of *$\mathring{r}$ that are specific to epic have led me to propose a new model concerning the relationship between Epic Greek and

the poets' vernacular(s). The consequences of this new model for the prehistory of the epic tradition are still difficult to oversee. From 2016 to 2019, I have been elaborating and testing this model within the project 'Unraveling Homer's Language'. An important result corroborating the model proposed here is my analysis of the formulaic and metrical behavior of the Homeric verb ῥέζω 'to do'. I have decided not to incorporate this result in the present book, but to publish it separately in the volume *Language Change in Epic Greek and other Oral Traditions*, which is to appear in the LSIE series.

As said above, the present book differs in many details from the 2013 dissertation, and the reader who compares both works will see differences in formulation in almost every paragraph. In this sense, I have completely revised the book. On the other hand, these revisions hardly ever affected the core of the argument. It is my hope that they have made the whole more persuasive and more clearly presented. I have added many bibliographical details (including secondary literature published after 2013), expanded and refined various etymological treatments, and elaborated certain new ideas with more precision (such as those on the comparison of Myc. *to-ro-no-wo-ko* with Hom. θρόνα, now in section 2.5.2, originally in 2.2.1). I left out a couple of digressions that were not relevant to the main argument and which required more extensive argumentation, for instance:

– the accentuation of feminine stems in **-i̯a* (Van Beek 2013, section 4.1.1);
– a new proposal concerning the etymology of καρτερός (Van Beek 2013, section 5.3);
– a new proposal concerning the etymology of εὐνή (Van Beek 2013, section 11.3.1), which I have now elaborated in Van Beek fthc.

I have changed my opinion on one important point: the presence of Aeolisms in Epic Greek. While finishing my dissertation, I was impressed by the insight that Homeric forms with -ρο- did not have to be Aeolisms, but instead could also show a vocalization of artificially retained Epic **r̥*. While I still believe this to be true in many cases, it does not follow that other forms with **r̥* > -ρο- (or -ρα-: see section 8.4.3) cannot be Aeolisms. Moreover, it was rash and unnecessary to exclude the presence of Aeolisms in Homer generally.

New features of this book compared to the dissertation include:

– a discussion of the Greek evidence for an *u*-reflex of syllabic liquids (section 1.3.2);
– an introductory section on Epic Greek as an artificial linguistic form, including a brief discussion of theories on the origin of the hexameter (section 1.5);
– the addition of more Mycenaean evidence and of more secondary literature on this dialect (chapter 2);

– the recognition that certain *a*-spellings in Mycenaean must be taken seriously (section 2.4);
– a brief treatment of the evidence from Argolic (section 3.2.4);
– the realization that the analogical root vocalism of κρατύς 'strong' and other adjectives in -ύς can be ascribed to inter-paradigmatic rather than intra-paradigmatic levelling, for instance after the forms of comparison (section 4.3.3);
– a quantitative analysis of the evidence for *muta cum liquida* in Homer (section 6.5);
– the addition of ἀταρπός / ἀτραπός 'path', ἄρχω 'to be first' and χάρμη 'fighting spirit' as serious pieces of evidence for the regular vocalization of **r̥* (section 9.6);
– clearer etymological discussions of many words with λα, such as πλάξ, λάγνος and λαγωός (chapter 10).

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Abbreviations and Conventions

I have generally followed the abbreviations of Greek authors and their works as used in LSJ, with the exception of *Ol.*, *Pyth.*, *Nem.*, and *Isthm.* (instead of *O.*, *P.*, *N.*, *I.*) for the works of Pindar. I have provided my own translations of Greek passages, unless otherwise indicated in the text.

Languages and Sources

Aeol.	Aeolic
Alb.	Albanian
Arc.	Arcadian
Arg.	Argolic
Arm.	Armenian
Att.	Attic
Av.	Avestan
Boeot.	Boeotian
Class.	Classical
Cret.	Cretan
CS	Church Slavic
Cypr.	Cypriot
Cz.	Czech
dial.	dialectal
Dor.	Doric
Du.	Dutch
E-	East(ern)
El.	Elean
Fr.	French
Fris.	Frisian
G.	German
Gmc.	Germanic
Goth.	Gothic
Gr.	Greek
Hitt.	Hittite
Hom.	Homer(ic)
Icel.	Icelandic
IIr.	Indo-Iranian
Ion.	Ionic

inscr.	inscription(s)
Ir.	Irish
It.	Italic
Ital.	Italian
Lat.	Latin
Latv.	Latvian
Lesb.	Lesbian
Lith.	Lithuanian
Locr.	Locrian
Lyc.	Lycian
MHG	Middle High German
Mo-	Modern
MoE.	Modern English (but E. = Euripides)
ms(s).	manuscript(s)
Myc.	Mycenaean
Nw.	Norwegian
NWGr.	North West Greek
O-	Old-
OE	Old English
OHG	Old High German
ON	Old Norse
OP	Old Persian
OPr.	Old Prussian
P-	Proto-
Pamph.	Pamphylian
PCelt.	Proto-Celtic
PGr.	Proto-Greek
Phryg.	Phrygian
PIon.	Proto-Ionic
PIE	Proto-Indo-European
Ru.	Russian
RV	Rigveda
SCr.	Serbo-Croatian
Skt.	Sanskrit
Sl.	Slavic
Sln.	Slovene
Tarent.	Tarentine
Ther.	Theran
Thess.	Thessalian
Toch.	Tocharian

Ved.	Vedic Sanskrit
W-	West(ern)
W.	Welsh
WGr.	West Greek
YAv.	Young(er) Avestan

Linguistic Notation

*	(precedes a reconstructed form)
x	(precedes an unattested form)
<	developed from
>	developed into
<<	analogically developed from
>>	analogically developed into
←	derived from
→	is the derivational basis of

C	consonant
H	laryngeal
L	liquid
N	nasal
R	resonant
V	vowel

Metrical Positions

$\|_P$	penthemimeral caesura
$\|_T$	trochaic caesura
$\|_H$	hephthemimeral caesura
$\|_B$	bucolic dieresis

Grammatical Abbreviations

1/2/3	1st/2nd/3rd person
acc.	accusative
act.	active
adj.	adjective

adv.	adverb
aor.	aorist
athem.	athematic
comp.	comparative
CL	compensatory lengthening
CM	compound member
dat.	dative
denom.	denominative
du.	dual
f.	feminine
fut.	future
gen.	genitive
ins.	instrumental
impf.	imperfect
impv.	imperative
ind.	indicative
inf.	infinitive
inj.	injunctive
intr.	intransitive
loc.	locative
mg.	meaning
mid.	middle
m.	masculine
nom.	nominative
n.	neuter
opt.	optative
pl.	plural
pass.	passive
pf.	perfect
PN	personal name
prep.	preposition
pres.	present
pret.	preterite
ptc.	participle
red.	reduplicated
sg.	singular
subj.	subjunctive
superl.	superlative
them.	thematic
TN	toponym
tr.	transitive

CHAPTER 1

The Greek Reflexes of *$\mathring{r}$ and *$\mathring{l}$

Introduction

The main aim of this book is to establish the regular reflexes of the syllabic liquids *$\mathring{r}$ and *$\mathring{l}$ in all Ancient Greek dialects, including Mycenaean. These sounds were inherited by Proto-Greek from Proto-Indo-European as allophones of /r/ and /l/ in a number of phonological environments.[1] All first millennium Greek dialects have lost *$\mathring{r}$ and *$\mathring{l}$, as did most other Indo-European languages upon their first attestation. However, Proto-Greek must have retained them because the alphabetic dialects show various different reflexes of *$\mathring{r}$ and *$\mathring{l}$. For example, the Proto-Greek thematic aorist *$am\mathring{r}t$-*e*/*o*- 'to miss, fail' is continued in Ionic-Attic as ἥμαρτον, inf. ἁμαρτεῖν, but in Lesbian as inf. αμβροτην (epigraphically)[2] and ind. ἄμβροτε (Sapph.). Proto-Greek *$t\mathring{r}pe\mathring{d}ia$ 'table' is reflected as *to-pe-za* in Mycenaean, but as τράπεζα in alphabetic Greek from Homer onwards.

Questions that a historical linguist may ask regarding such forms are: what conditioned the difference between the reflexes -αρ- (ἁμαρτεῖν) and -ρα- (τράπεζα)? What does the Mycenaean form *to-pe-za* represent phonologically and phonetically? Why does Lesbian have a reflex -ρο- in ἄμβροτε, but -αρ- or -ρα- in several other forms? Is the *o*-reflex, in those dialects where we find it, subject to phonological conditioning or is it found across the board?

The bibliography on the syllabic liquids in Greek is large, and not every previous treatment of the topic will receive equal attention in this book. In section 1.1, where I discuss a selection of previous scholarship, the main aim is to illustrate the different issues that are at stake. Once these issues have been presented, the scope of this investigation will be delimited more precisely.

1.1 The Problem and Its Relevance

Determining the regular reflexes of *$\mathring{r}$ and *$\mathring{l}$ is not just an issue of Greek historical phonology. The problem is intimately connected with two other, much-

1 The PIE phonological system with both syllabic liquids and syllabic nasals is placed in a typological perspective by Cooper (2013).

2 Throughout this book, accent marks and breathing signs will not be added to alphabetic Greek forms as attested in inscriptions.

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debated questions that are of considerable importance for reconstructions of the prehistory of the Greek language and literary traditions. First, how and when did the four main dialect groups of alphabetic Greek originate? And secondly, how and when did the artificial language of the epic tradition, in the form familiar to us from Homer onwards, come into being? Once the regular reflexes of the syllabic liquids and the chronology of their developments have been established, more definite answers to these questions may be given.

1.1.1 *A Concise Summary of Some Previous Accounts*

Although scholars disagree on many smaller issues, in essence there have been three basic views on the development of the syllabic liquids. I will associate these views with the names of Ruijgh, Tichy, and Heubeck.

C.J. Ruijgh has written about the syllabic liquids in Greek for almost his entire scholarly career.[3] Since he usually presents his views and their consequences with great clarity, his work is a good place to start. Ruijgh's two main contentions are:

1. The syllabic liquids were eliminated from all Greek dialects already in the mid-second millennium. This resulted in a split between dialects with *o*-vocalism (Aeolic, 'Achaean'[4]) and dialects with *a*-vocalism (Ionic-Attic, West Greek).
2. The metrical behavior of certain Homeric formulae containing a reflex of **r̥* proves that epic composition in hexameter verse (more or less in the form known from Homer) existed as early as the mid-second millennium.

Concerning point 1. 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.[5] 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 have come to agree that the fundamental division is between what Risch (1955) called North Greek and South Greek.[6] The two most important isoglosses sepa-

3 See, for instance, Ruijgh (1961; 1967; 1985; 1995; 1997).

4 'Achaean' is the conventional name for the hypothetical dialect group comprising Mycenaean, Arcadian and Cypriot.

5 See e.g. Buck (1955: 20); Lejeune (1972: 197).

6 North Greek comprises the later West Greek and Aeolic groups, and Proto-South Greek is the ancestor of 'Achaean' and Proto-Ionic. The idea was already proposed before the decipherment of Linear B: see Risch (1949) and Porzig (1954). For a history of early research on the possible relations between Mycenaean and the precursors of the alphabetic dialect groups, see Cowgill (1966).

rating these two groups are the South Greek assibilation *$t^{(h)}i$ > *si* and the South Greek development of intervocalic *-$t^{(h)}\underset{\cdot}{i}$- through *-*ts*- to -*ss*- (later > Ion.-Att. and Arc. -σ-). The phonologically more conservative North Greek dialects initially retained $t^{(h)}i$ and *-*ts*.[7]

In discussions of early Greek subgrouping the reflexes of *$\underset{\circ}{r}$ have played an important role, especially when the decipherment of Linear B seemed to prove an early date for its vocalization. Mycenaean forms like *to-pe-za* and *qe-to-ro-po-pi*, which derive from PGr. *$t\underset{\circ}{r}$-ped-$\underset{\cdot}{i}$a and *$k^{w}et\underset{\circ}{r}$-pod-$p^{h}i$, are usually thought to represent /torpedd^{j}a/[8] and /k^{w}etropopp^{h}i/, respectively. These examples seem to prove that the vocalization had been accomplished already in the early 14th c. BCE (the earliest attestations of Linear B) 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-* between a coda nasal and an onset liquid.[9] This phenomenon is attested already in Mycenaean[10] and also in the Homeric form ἀνδροτῆτα 'vigor', which is usually taken to reflect PGr. **anrtāt-*. Since the insertion of *-d-* in ἀνδροτῆτα presupposes the vocalization of *$\underset{\circ}{r}$ to *-ro-*, and since the same reflex appears to be found in Myc. *qe-to-ro-po-pi*, most scholars have concluded that both developments, the vocalization of *$\underset{\circ}{r}$ and *d*-epenthesis, took place in this word prior to the attestation of Linear B. By extension, it was assumed that the other dialects vocalized *$\underset{\circ}{r}$ (and *$\underset{\circ}{l}$) around the same time, even if these dialects are first attested at a much later date than Mycenaean.[11]

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7 Cf. Myc. *di-do-si* /didonsi/ 'they give' (Ion.-Att. 3sg. δίδωσι), and Myc. *to-so* /to(s)son/ 'so much' (Ion.-Att. τόσος), Myc. *me-sa-to* /me(s)sato-/ (Ion.-Att. Arc. μέσος 'middle'). The ambiguous spelling of Linear B does not allow us to determine whether Mycenaean had already undergone the development *-*ss*- > -*s*-. The Boeotian and Cretan reflexes presuppose that the affricate reflecting intervocalic PGr. *-$t\underset{\cdot}{i}$- was preserved in Proto-Aeolic and Proto-West Greek, respectively.

8 I write /dd^{j}/ for the outcome of the palatalized stops *$d\underset{\cdot}{i}$ and *$g^{(w)}\underset{\cdot}{i}$ in Mycenaean, following the arguments advanced by e.g. Risch (1979b) and Crespo (1985). Of course, my argument concerning the syllabic liquids does not depend on this; the reader who wishes to read e.g. a geminated affricate /dz:/ instead may feel free to do so.

9 Apart from Ruijgh (in most of the publications cited in n. 2), cf. e.g. Hackstein (2002: 6); Barnes (2011: 2).

10 In *a-di-ri-ja-te* /andriantē/ (ins. sg.) '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/. However, these forms do not contain the reflex of *$\underset{\circ}{r}$ but of its prevocalic consonantal allophone, i.e. **anrV*-. See section 7.3.1.

11 Apart from Ruijgh, see also Cowgill 1966: 92–93. However, this view is certainly not shared universally: among the scholars defending a pre-Mycenaean origin of Epic Greek, West (1988: 156–157: "in the Mycenaean tablets that stage is already past; that dialect *at least* [emphasis LvB] has moved irrevocably towards *or* or *ro*") and Wathelet (1970: 172: "un fait

TABLE 1 The mid-2nd millennium split into 4 dialect groups, according to Ruijgh

South Greek	*$t^{(h)}i$ > *si*	Achaean	*$\mathring{r}$ > *-or-*, *-ro-*
	*$-t^{(h)}\underset{\wedge}{i}-$ > *-ts- > *-ss-*	Ionic-Attic	*$\mathring{r}$ > *-ar-*, *-ra-*
North Greek	*$t^{(h)}i$ retained	Aeolic	*$\mathring{r}$ > *-or-*, *-ro-*
	*$-t^{(h)}\underset{\wedge}{i}-$ > *-ts-*	West Greek	*$\mathring{r}$ > *-ar-*, *-ra-*

Starting from these assumptions, Ruijgh concludes that the developments represented in Table 1 took place in the mid-second millennium, resulting in a split into four dialect groups.[12]

Note that the argument for a mid-second millennium split into *four* dialect groups depends also on morphological criteria, but the outcome of *$\mathring{r}$ is the only phonological criterion used in this connection. There are no other phonological developments that are demonstrably early and where the first millennium dialect groups have different reflexes.[13] It does not come as a surprise, then, that alternatives to Ruijgh's scenario have been put forward. Risch (1955) maintained that there were no significant differences between 'Achaean' and Proto-Ionic in the Mycenaean period, and denies that the reflexes of *$\mathring{r}$ can be used as a reliable criterion.[14] Heubeck (1972) argued that *$\mathring{r}$ was preserved in Mycenaean, and he was followed by García Ramón (1975), who claimed in addition that Proto-Aeolic retained *$\mathring{r}$ until a relatively late date.

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relativement récent en mycénien et, sans doute, aussi dans l'ensemble du grec") are much more cautious.

12 This is specifically Ruijgh's view (e.g. 1985: 162–163, 1992: 84–87, 1996: 117). Similarly, Cowgill (1966: 94–95).

13 For a summary overview of morphological criteria (the athematic inf. act. in -ναι, -μεν, or -μεναι, or adverbs of the type ὅτε, ὅτα, ὅκα 'when') and lexical criteria (e.g. βούλομαι, βόλομαι vs. δήλομαι, βέλλομαι), see the classic study by Risch (1955), especially the table on p. 75, and also Cowgill (1966). The most important question is always whether a feature shared by two dialect groups can be proven to be a common innovation, or whether we may be dealing with shared archaisms or independent innovations.

14 This view is maintained also in Risch 1979a. However, Risch's views on the syllabic sonorants are idiosyncratic in at least two respects. First, he views the vocalization of syllabic liquids and nasals as part of the same development (which is implausible: see section 1.3.3). Secondly, he seems to have held that the *o*-vocalic outcome in Aeolic and Arcado-Cyprian is an archaism, i.e. that it can be viewed as a pre-stage of the *a*-colored reflex in Ionic-Attic, which is untenable (cf. the criticism in Cowgill 1966: 80 and 82).

Let us now turn to the second issue: the prehistory of Epic Greek and the hexameter. The history of scholarship on this question in the second half of the 20th century is well summarized by Hajnal (2003). The debate was initiated by Mühlestein (1958) in an article about Mycenaean names starting with *a-no-*. He interpreted this as representing the lexical element /anor-/ < *$an\mathring{r}$- 'man', corresponding to Class. ἀνδρο- < **anro-*. Moreover, he connected the Mycenaean names with a long-standing metrical problem from Homeric Greek. The verse-final coordinated noun phrase ἀνδροτῆτα καὶ ἥβην 'vigor and youth' and the noun-epithet formula Ἐνυαλίῳ ἀνδρεϊφόντῃ 'to man-slaying Enualios', which both seem to be old elements of epic diction, are unmetrical as they appear in our Homeric text. This remains so if we replace the morphologically opaque form ἀνδρεϊφόντῃ by a pre-form with *ἀνδρο-. Moreover, using a formulaic phrase like ἀσπίδος ἀμφιβρότης 'man-covering shield' in the epic hexameter requires that plosive plus liquid (PL) onsets can be realized as tautosyllabic. Of course, *muta cum liquida* scansion is a well-known license in many varieties of Greek poetry, but in Homer this phenomenon is relatively rare, and highly uncommon with word-internal PL-clusters.[15] These metrical irregularities disappear if *$\mathring{r}$ is substituted for its Homeric outcome -ρο-, i.e. in the reconstructed pre-forms **an$\mathring{r}$tāta*, **an$\mathring{r}$k^{wh}ontāi*, and **amp^{h}im$\mathring{r}$tās*. Hence, it is attractive to assume that the phrases in question were coined before *$\mathring{r}$ was eliminated from the dialect in which they were composed. Now, if it is true that the change *$\mathring{r}$ > *-or-*, *-ro-* had been completed in Mycenaean already before our attestations of Linear B, as many scholars assume (see above), and if we also believe that pre-forms of ἀμφιβρότης and ἀνδροτῆτα (with their reflex -ρο-) entered the epic tradition from this direct ancestor of Mycenaean, it would follow that the formulae in question were coined by poets speaking this pre-form of Mycenaean, approximately in the mid-second millennium BCE.[16]

This account of ἀνδροτῆτα and related forms was widely shared in the 1980's and early 1990's, but in the meantime, it had also become the topic of a controversy initiated by Tichy (1981).[17] Tichy's main objection to the account just

15 See chapter 6.

16 Mühlestein (1958: 224): "Demnach muss schon vor der Mitte des zweiten Jahrtausends in griechischen Hexametern von Mannheit gesungen worden sein". See also Ruijgh (as above), Wathelet (1966: 171–172), West (1988: 156–157). However, Mühlestein (1958: 226, *Nachtrag*) also argued 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* which he interpreted as /anork^{wh}asiā-/, excluding *-ro-* as a regular reflex. For further evaluation of these arguments, see section 7.3.3.

17 Hackstein (2002: 6) speaks of "ein beständiger Zankapfel zwischen der Philologie und der

sketched 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 phrases like ἀσπίδος ἀμφιβρότης and Ἐνυαλίῳ ἀνδρεϊφόντῃ could be relatively recent creations. Moreover, she maintained that ἀνδροτῆτα καὶ ἥβην does not provide evidence for a phonological pre-stage, but for an older shape of the verse form: she explains it by taking recourse to the proto-hexameter framework proposed by Berg (1978). In Tichy's view, the aberrant Homeric scansion of the form ἀνδροτῆτα was regular at a pre-stage of epic verse when a trochaic fourth foot was still allowed. This scenario, or at least its possibility, has gained an increasing number of proponents among Indo-European scholars.[18] Another point of criticism directed at Ruijgh's views has been that the preservation of metrically irregular formulae over a period of seven centuries is implausible.[19] Finally, it has been claimed 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.[20]

The idea of an early split into *a*-coloring and *o*-coloring dialects has also been challenged in various different ways. First of all, the Mycenaean situation cannot be automatically projected onto the other dialect groups with *o*-colored reflexes: there is no cogent reason to assume a development shared by Mycenaean with Proto-Aeolic. *A fortiori*, we must remain agnostic about the date of vocalization of **r̥* and **l̥* in the other non-'Achaean' dialect groups.[21] Moreover, the assumption that an *o*-vocalic reflex of **r̥* and **l̥* was the only regular treatment in Aeolic and 'Achaean' has occasionally been challenged, most notably by Morpurgo Davies (1968), and more recently by Thompson (2010).[22] Finally, Heubeck (1972) has argued that Mycenaean, as attested in the Linear B tablets, even preserves **r̥*. He proposed that the epic language and its meter first

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Sprachwissenschaft", which is not quite accurate because the 'philologist' view has also been championed by linguists.

18 E.g. Haug (2002), Hackstein (2002; 2010), Hajnal (2003). However, note that Tichy's monograph on the subject (2010) has been severely criticized by West (2011) in his review of it.

19 Cf. Haug (2002: 63–64), whose arguments concerning Ἐνυαλίῳ ἀνδρεϊφόντῃ will be further discussed in section 7.3.2.

20 Cf. e.g. Hackstein (2002: 6). The absence of καί in Mycenaean caused Ruijgh to modify his views on ἀνδροτῆτα καὶ ἥβην in his later publications (e.g. Ruijgh 1997: 42–44); as a consequence, he then placed more emphasis on Ἐνυαλίῳ ἀνδρεϊφόντῃ as the main piece of evidence for the assumed pre-Mycenaean origins of epic verse.

21 Cf. Risch (1955: 72 and 1979a: 109) and Heubeck (1972). According to Wathelet (1970: 172–173) the vocalization "constitue un fait relativement récent en mycénien et, sans doute aussi, dans l'ensemble du grec."

22 See section 3.4.

originated in the early Dark Ages, when stories about the 'heroic' age of the Mycenaeans started to be told.

To conclude this introductory discussion, there is still no consensus about the following points:

– The exact reflexes of *ṛ in Aeolic and Arcado-Cyprian;
– The date of its vocalization in the various dialect groups;
– The origin of metrically aberrant forms with -ρο- in Homer.[23]

Regarding the last two points there are three main positions. Scholars like Ruijgh argue for an early vocalization of *ṛ in all dialect groups, and think that certain metrically anomalous forms in Homeric Greek were adopted by the epic tradition at this early time in a form with *ṛ. Tichy and her followers agree about the early date of the vocalization of *ṛ, but for them the idea of reflexes of *ṛ in Homeric meter is *anathema* (cf. section 1.5.3). Finally, scholars like Heubeck consider a late vocalization of *ṛ possible and consequently have less problems in viewing metrically aberrant verses in Homer as preserving traces of *ṛ. Concerning the date of vocalization, the mainstream view still sides with Ruijgh and Tichy,[24] but as we will see the arguments on which this view is based are not strong. As for the possibility to distinguish metrical traces of *ṛ in Homeric meter, many scholars these days have yielded to Tichy's arguments against this.[25] In chapters 6 and 7, I will plead for a reappraisal of the views held by Wathelet and Heubeck, and reinforce their case with new arguments.

1.1.2 *Research Questions and Hypotheses*

The attempt to disentangle this web of questions and proposed solutions must start with a thorough investigation of the evidence for each dialect, as attested in epigraphic material, in glosses and grammarians, and in literary sources. The first main goal of this book is, therefore, to review the entire evidence for *ṛ and *ḷ and to establish the regular development(s) per individual dialect group. An evaluation of the etymological evidence for *ṛ in Mycenaean and the alphabetic dialects apart from Ionic-Attic will be given in chapters 2 and

23 For instance, Cowgill (1966) is cited with approval by Parker (2008), and Heubeck (1972) has been accepted by García Ramón (explicitly in 1975, implicit in many later works). Rix (1992: 65) is more reserved about the *o*-colored outcome in Mycenaean and Arcado-Cyprian. Lejeune (1972: 197–198) assumes a stronger "preference" for the *o*-colored outcome in Mycenaean and the Aeolic dialects.

24 Apart from Wathelet (1970) and West (1988), this thesis is accepted by scholars like Sihler (1995: 92), Haug (2002: 59), Hackstein (2002: 5–7), Hajnal (2003). Meier-Brügger (1992b: 288) and Barnes (2011: 2 with n. 6) use the form ὑπόδρα as an argument for an early vocalization, but as I will show in chapter 9, this is unfounded.

25 Cf. Haug (2002); Hackstein (2002); Hajnal (2003).

3, respectively. The much more extensive evidence for *$\mathring{r}$ from (literary) Ionic-Attic, including the oldest attestations in Epic Greek, is the subject of chapters 4 to 9. The development of *$\mathring{l}$ in all dialects is discussed separately in chapter 10, because *$\mathring{r}$ and *$\mathring{l}$ may have had different reflexes.

The main focus of my attention will be on the regular place of the anaptyctic vowel. In this respect, the present work differs from most previous treatments of the problem. Shorthand formulations like "PGr. *$\mathring{r}$ > Ion.-Att. αρ/ρα, Myc. *or*/*ro*" are commonplace in the scholarly literature. However, if such statements are taken at face value, the assumed variation would violate the principle of *Ausnahmslosigkeit*. Since sound changes normally do not have a dual outcome, we must ask, for each individual Greek dialect: was the regular reflex *-or-*, *-ro-*, *-ar-*, or *-ra-*? The evidence for various dialects within the West Greek group is rather limited, but for the two dialect groups with an *o*-colored reflex we will reach a remarkable conclusion: the regular treatment in Aeolic dialects is *$\mathring{r}$ > -ρο- (chapter 3), but such a development can be excluded for Mycenaean (chapter 2).

The most complicated question concerns the regular outcome of *$\mathring{r}$ in Ionic-Attic: was it -αρ- or -ρα-? The existence of pairs like κραδίη ~ καρδία and κρατερός ~ καρτερός forms a long-standing problem to which various solutions have been suggested since the late nineteenth century. As we will see in section 1.4, none of these attempts has been particularly successful. Therefore, many scholars have resigned to the view that the original distribution cannot be fully recovered. At the same time, it is still widely believed that *$\mathring{r}$ > ρα was the regular development in Ionic-Attic—in spite of various unresolved problems.[26]

In my view, this conclusion is unwarranted, and the problematic 'double reflex' in Ionic-Attic must be tackled from a completely different angle. I posit a regular development *$\mathring{r}$ > -αρ- in Proto-Ionic (i.e. the latest common ancestor of Attic and all varieties of Ionic), and propose to explain a considerable number of instances of -ρα- by a development taking place in Epic Greek, which affected those forms with *$\mathring{r}$ that were retained longer within the epic tradition. I will briefly introduce the reasons for proposing such a scenario in section 1.5, and elaborate the details in chapters 6 to 8. Thus, the second objective of this book is to make explicit the various mechanisms by which forms with an original *$\mathring{r}$ were treated in Epic Greek.

As we have seen, the reflexes of *$\mathring{r}$ have played an important role in previous discussions about the genesis of the four main Greek dialect groups. The reader may have noticed my skepticism concerning the alleged mid-second

26 See e.g. Lejeune 1972: 197.

millennium date of the vocalization. Indeed, on the basis of the new proposals made in this book, the value of the vocalization of *r̥ as an isogloss must be reconsidered.[27] This is the third main objective of this book. An important realization is that Aeolic and 'Achaean' have different outcomes of *r̥, in spite of the fact that they appear to share an *o*-colored reflex. This conclusion deprives the idea of an early vocalization of all justification: there is no longer any reason to view these two dialectal developments as part of the same isogloss.[28] For reasons that will become clear later, I think that the vocalization of *r̥ must be pushed forward in time as far as possible towards our first attestations.[29] In this context, a particularly important question is whether Mycenaean still preserves *r̥, as Heubeck (1972) argued. This thesis has been widely criticized and, as we will see in chapter 2, the issue is indeed difficult to resolve on the basis of the Mycenaean evidence alone. However, as will become clear from the scenario proposed here for the development of *r̥ in Epic Greek, there are various aberrant word-forms and/or scansions in Homer that probably entered the tradition in a shape with *r̥ in a Mycenaean context. In my view, such forms make the retention of *r̥ in the palatial period, *and* the existence of a precursor of the epic tradition at that stage, likely.

Before examining previous proposals to solve to the vexed issue of the 'double reflex' in section 1.4, I will first of all delimit the phonological environments where the Greek dialects did not diverge in their treatment of *r̥ and *l̥. These environments with a Pan-Greek or Proto-Greek vocalization to /ar, al/ (or /ər, əl/) are discussed in section 1.2, and will only play a marginal role in the remainder of this book. After that, various issues related to *o*-colored and alleged *u*-colored reflexes of *r̥ will be treated in section 1.3: in which dialects do we find *o*-vocalism, and under which conditions? Is there any evidence for a *u*-colored reflex in labial environments? And, finally: is there any connection between the *o*-colored reflex of the syllabic liquids and that of the syllabic nasals?

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27 Since the evidence for *l̥ is too limited, I will focus on the vocalization of *r̥ as far as chronological issues are concerned. It cannot be excluded on forehand that *l̥ vocalized earlier than *r̥.

28 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. However, there is no principled reason 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.

29 In this respect, I agree with Heubeck (1972).

1.2 Environments with a Common Greek or Proto-Greek Reflex αρ, αλ

In Proto-Indo-European, *$*\underset{\circ}{r}$* and *$*\underset{\circ}{l}$* were allophones of /r/ and /l/, occurring whenever these phonemes served as a syllabic nucleus. This would usually be a consequence of ablaut, which left /r/ or /l/ between two consonants (including laryngeals), or at word end after a consonant. Examples are:

– *$C\underset{\circ}{L}C$: τρέπω 'to turn' < *$trek^{w}$-oH*, aor. ἔτραπον < *e-$t\underset{\circ}{r}k^{w}$-om*
– *$C\underset{\circ}{L}HC$: βορά 'food' < *$g^{w}orh_3$-éh$_2$*, βρωτόν 'meat' < *$g^{w}\underset{\circ}{r}h_3$-tóm* (root PIE *$g^{w}erh_3$-*)
– *$C\underset{\circ}{L}HV$: ἀρήν 'lamb' < *$\underset{\cup}{u}\underset{\circ}{r}h_1$-ēn*, πολύρρηνος 'rich in lambs' < *$polh_1u$-$\underset{\cup}{u}\underset{\circ}{r}h_1n$-os*
– *-$C\underset{\circ}{L}$: ἦμαρ 'day' < *h_2eh_1-$m\underset{\circ}{r}$*, Myc. *a-mo-ra-ma* /āmōr-āmr̥/ (1st CM *h_2eh_1-mōr*).

It is sometimes assumed that *$*\underset{\circ}{r}$* and *$*\underset{\circ}{l}$* could occur as a consequence of Sievers' Law, in words where a suffix like *-*ro*- or *-*lo*- followed a heavy syllable, e.g. ἀγκάλη 'bent arm' < PIE *$h_2énk$-leh$_2$*, ὀμφαλός 'navel' < PIE *h_3nb^{h}-lós*.[30] However, it remains uncertain whether Sievers' Law was really a productive phonological rule at any stage of the prehistory of Greek.[31] Moreover, even if Sievers' Law was operative, it is not quite clear whether it makes sense to distinguish e.g. *$h_3nb^{h}\underset{\circ}{l}$ós* as an intermediate stage, rather than assuming a direct vowel anaptyxis (PGr. *omp^{h}lós* > *omp^{h}əlós*) that was at some point phonemicized. In other words, in such examples *$\underset{\circ}{l}$* is nothing more than a notation indicating that anaptyxis took place. The same point applies to alleged cases of Lindeman's Law in Greek, such as nom.-acc. sg. κάρη 'head' < *$kərā$ < PGr. *$krā$. I will not be dealing structurally with alleged cases of prevocalic *$\underset{\circ}{r}$* or *$\underset{\circ}{l}$*.

While *$\underset{\circ}{r}$* and *$\underset{\circ}{l}$* were originally allophonic variants of /r/ and /l/, they may have functioned as distinct phonemes (be it marginal ones) at certain stages of the prehistory of Greek. In Proto-Greek, the loss of intervocalic laryngeals led to a phonemicization of the glides *$\underset{\cup}{i}$* and *$\underset{\cup}{u}$*, as opposed to the vowels *i* and *u*. Thus, in PIE *$med^{h}io$- > PGr. *$met^{h}\underset{\cup}{i}o$-* 'middle', the sequence *-$\underset{\cup}{i}o$- had become phonologically distinct from e.g. the suffix PGr. *-$i(\underset{\cup}{i})o$- < PIE *-*iH*-*o*- (continued as Gr. -ιος). At this time, a marginal phonemic difference between consonantal /r/ /l/ and syllabic /$\underset{\circ}{r}$/ /$\underset{\circ}{l}$/ may also have come into existence: the sequence -*ur*- between two consonants (e.g. in the borrowing πύργος 'fortification') may have been realized differently from -$\underset{\cup}{u}\underset{\circ}{r}$- in the same position (e.g. in PGr. *$t\underset{\cup}{u}\underset{\circ}{r}kes$ 'pieces of meat' > σάρκες). However, it is also possible that πύργος was borrowed

30 Forms like OFris. *ankel*, OHG *enchil* 'ankle' and Lat. *umbilīcus* 'navel' corroborate the antiquity of these formations.

31 On Sievers' Law, see generally the monograph by Barber (2013) and my review of it, Van Beek (2016).

into Greek only after the syllabic liquid in *-$\underset{\cup}{u}\underset{\circ}{r}$- had been eliminated. In any case, instances like πύργος versus *$t\underset{\cup}{u}\underset{\circ}{r}k$- would have remained marginal.

In other cases, syllabic liquids were eliminated early on (but after PIE) by conditioned phonological developments. This certainly included the environments PIE *$CRHV$ and *$CRHC$.[32] An early vocalization has also been envisaged for three other environments: word-initial and word-final position (cf. Schwyzer 1939: 342), and the positions before a glide (*$CL\underset{\cup}{i}/\underset{\cup}{u}V$-) and a nasal (*$CLNV$-). I will now discuss these environments in succession.

1.2.1 *PIE *CRHV and *CRHC*

In PIE sequences of the structure *$CRHV$, an anaptyctic vowel had developed in Proto-Greek before the sonorant: *$C_{\partial}RHV$. When the laryngeals were eliminated, the anaptyctic vowels were phonemicized, meaning that the syllabic liquid was 'vocalized': *$C\partial RV$. This subsequently yielded Greek /CaRV-/, e.g.:

– βαρύς 'heavy' < *$g^{w}\underset{\circ}{r}H$-$u$- (cf. Ved. *gurú-*, Goth. *kaurus*, etc.)
– πάρος 'before' < *$p\underset{\circ}{r}Hos$ (cf. Ved. *puráḥ* 'in front')
– ἀρήν 'lamb' < *$\underset{\cup}{u}\underset{\circ}{r}h_1$-$ēn$ (cf. Ved. *úran-* f. 'id.')
– τανᾰός 'thin' < *$t\underset{\circ}{n}h_2$-$e\underset{\cup}{u}o$-.[33]

Two points deserve attention. First, the development *$CRHV$ > *$C\partial RV$ shows that *all* Greek dialects developed an anaptyctic vowel *before* the liquid or nasal, and secondly, the development is identical for liquids and nasals. This contrasts with the development in most environments not involving laryngeals, in which case an anaptyctic vowel developed after the liquid in some dialects (yielding -ρο- or -ρα-), but before the liquid in others (yielding -ορ- or -αρ-). This means that the development *$CRHV$ > *$C\partial RV$ preceded the vocalization of the syllabic liquids (and nasals) before consonants other than laryngeals.

It is likely that the anaptyctic *shwa* in *$C\partial RHV$ merged with /a/, the reflex of interconsonantal *h_2 and *h_2e, at an early stage. The main argument for this claim is that all Greek dialects appear to have this reflex.[34] Some scholars have proposed a special development *$CRHV$ > *$CoRV$ for Lesbian, but the evidence consists of just two forms in Alcaeus:

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32 Note the following notations: R = any sonorant (= liquid or nasal), L = any liquid, N = any nasal.

33 Beekes (1969) at first defended the idea that the anaptyctic vowel before the sonorant in the sequence *$C_{\partial}RHV$ could be colored by the laryngeal following it ("laryngeal umlaut"). He gave up this idea soon afterwards in view of ἀρήν 'lamb' beside Ved. *úran-*, both reflecting PIE *$\underset{\cup}{u}\underset{\circ}{r}h_1$-$ēn$, and ἁλῶναι 'to get caught' < *$\underset{\cup}{u}\underset{\circ}{l}h_3$-$eh_1$-. Ruijgh kept defending the idea of "laryngeal umlaut" in various publications. For further arguments against it, see Peters (1980: 27–31 n. 19).

34 For this point, see e.g. García Ramón (1985) and Rix (1992: 74).

– τόμοντες 'cutting', corresponding to Ion. ταμόντες < **tm̥h₁-ont-es*;
– χόλαισι corresponding to Ion. χαλῶσι (3pl. ind. pres. of χαλάω 'to release; slacken').

Concerning τόμοντες, I agree with Francis (1974: 23–24 with n. 30, followed by Peters 1980: 28) that the form may well be a hyper-Lesbianism. Alternatively, τόμοντες could have an analogical *o*-vowel of the root if we assume that this became productive in the thematic aorist in Lesbian, starting from forms with a vocalized zero grade **CṛC-* > /CroC-/, such as ἔτροπον, ἔδρομον. As for χόλαισι beside χαλάω, in spite of Francis (1974: 24 n. 32) and Peters (l.c.) it would be hazardous to conclude anything on the sole basis of this form, as its root has no clear Indo-European etymology. Moreover, accepting the above analysis of χόλαισι would imply that all other instances of the reflex **CRHV-* > /CaRV-/ in Lesbian were borrowed from Ionic, which seems highly unlikely.[35]

In sequences of the structure **CRHC*, an anaptyctic vowel developed *after* the sonorant: **CR̥ₔHC*. This vowel was subsequently colored by the following laryngeal, yielding the well-known long-vocalic triple reflex **CRēC*, **CRāC*, **CRōC*: cf. -γνητος 'born' < **ǵnh₁-tó-*, Att. πρᾱτός 'sold, for sale' < **prh₂-tó-*, and χλωρός 'bay, pale; green' < **ǵʰlh₃-ró-*. This means that **CR̥ₔHC* merged with **CReHC*. Again, all Greek dialects have the same reflexes,[36] and in fact Greek probably shared this development with Phrygian, witness χλωρός beside Phryg. γλουρεος 'golden' (cf. now Obrador Cursach 2019: 234).

A more difficult problem is the existence of disyllabic reflexes of **CRHC*. This issue will not be treated in detail in this book, and it would merit an extensive treatment of its own.[37] I will limit myself to a few basic observations concerning two questions: what evidence is there for a disyllabic reflex, and how was this reflex conditioned?

In my view, two of the most clear-cut pieces of evidence are the following.
– ταράσσω 'to stir' has a disyllabic reflex of zero grade **dʰr̥h₂gʰ-*, while τρᾱχύς 'rough' < **dʰr̥h₂gʰ-ú-* shows the reflex with a long vowel. The alternative

35 For χόλαισι beside χαλάω, one might compare other Lesbian forms with ο for α where this interchange has nothing to do with the development of **CRHV*, e.g. κόθαρος for καθαρός 'pure, clean' (see section 9.7.2).

36 The only apparent exception is West Greek πρᾶτος 'first' corresponding to πρῶτος in the other dialects (cf. Beekes 1969: 214–216). Peters (1988: 376) admits a special development of **CRHC* in West Greek, but the difference πρᾶτος vs. πρῶτος can be explained in other ways. It has been argued that πρᾶτος has the regular reflex of **pr̥h₂-to-*, and that the vowel color of πρῶτος was influenced by that of πρότερος 'earlier, before' (Rix 1992: 73, Cowgill 1966: 149); for another explanation, see Waanders 1992: 378.

37 Concerning this issue, cf. the informative recent discussion by Höfler 2016/17.

form of the present θράσσω 'to stir' and the perfect τέτρηχε 'is stirred up' may reflect either *$d^h\mathring{r}h_2g^h$- or full grade *$d^hreh_2g^h$-.

– παλάσσω 'to soil, spatter' is etymologically related to πλήσσω 'to strike, blow' (from a root *$pleh_2g$-, *plh_2g-), as argued in Van Beek 2013b.

These examples (and various other alleged cases) concern *h_2, but what happened to the other two laryngeals? It has been suggested (e.g. Rix 1992: 73) that the disyllabic reflex was also threefold /eRe aRa oRo/, parallel to the long vowel reflexes, an alleged example being γένεσις 'origin' < *$ǵ\mathring{n}h_1$-*ti*-. This development has been questioned by Peters (1980: 29). A form like γένεσις could ultimately reflect a full-grade form *$ǵenh_1$- of the root (whether this was originally present in the paradigm or analogically introduced from elsewhere). The same holds for the aorist γένετο. Peters draws attention to φαρέτρη 'quiver', which could reflect *$b^h\mathring{r}h_1$-*treh*$_2$- "means of carrying", closely resembling Ved. *bharítra*- n. However, the Vedic form is a *hapax*, its meaning is not quite clear (possibly 'finger' or 'arm'), and it could be a nonce formation based on *carítra*- 'leg' (cf. *EWAia* s.v.). Thus, it is uncertain whether φαρέτρη may reflect *$b^h\mathring{r}h_1treh_2$- (with an extended root *b^herh_1- 'to carry'); whether **CRHC* had a threefold disyllabic reflex remains an open issue.[38]

As for the factor conditioning the twofold reflex of **CRHC*, it is widely believed that the disyllabic treatment was regular only in words with a secondarily retracted accentuation (e.g. Rix 1992: 73, Harðarson 1993). However, as Rix remarks, this requires that we assume a later accent shift in cases with an accented long vowel reflex such as κράατος, κράατα < *$krāhat$- < *$ḱ\mathring{r}h_2s\mathring{n}$-*t*- 'head'. This is conceivable, but not evident; excellent discussions of previous hypotheses and the problems involved can be found in Vine 1998: 66–69 and Probert 2006: 233–236. In my view (cf. Van Beek 2021b), the conditioning factor for the disyllabic reflex may have been the number of following consonants (i.e. disyllabic reflex in **CRHCC*, long vowel reflex in **CRHCV*), but this point will not be further pursued here.

1.2.2 *$\mathring{r}$ and *$\mathring{l}$ before a Glide

It is widely acknowledged that between a PGr. consonant and prevocalic glide, all Greek dialects regularly developed an *a*-vowel before liquids: *$\mathring{r}$, $\mathring{l}$ > αρ, αλ | **C_ i̯V*.[39] The main pieces of evidence are the verbs in -αίρω, which never turn up with *o*-vocalism (*-οίρω) in any dialect, and feminine forms in -αιρα such as ἰοχέαιρα 'who holds an arrow in her hand' (epithet of Artemis), probably

38 For two other possible instances of a disyllabic reflex /aRe/, see Höfler 2016/17.

39 Cf. e.g. Haug (2002: 53) following García Ramón (1985: 206–208).

reflecting PGr. **isu̯o-kʰesr̥-i̯a*.[40] As with **CRHV*, the development of the syllabic nasals is identical to that of the liquids: cf. ὀνομαίνω 'to name' < **onomani̯e/o-* < **onomn̥-i̯e/o-*. Thus, most scholars are inclined to posit a Common Greek development **CRi̯V* > **CəRi̯V* > **CaRi̯V*.

There are, however, some potential obstacles. First of all, there is the possible testimony of dialectal **-ori̯-* < **-r̥i̯-* in Aeol. ὄνοιρος 'dream' (Sapph.). However, this form does not force us to reconstruct an old **onr̥i̯o-*, as it might rather be a reshaping of PGr. **oneri̯o-* (as reflected in Class. ὄνειρος) under the influence of **ὄνορ*, assuming that this was the regular Aeolic reflex of **onr̥* (> Class. ὄναρ).[41]

Secondly, it is hard to find instances of **-l̥i̯-* and **-r̥i̯-* that are demonstrably of Proto-Greek date. A possible example for **-l̥i̯-* is ἅλλομαι 'to jump', if this derives from **sl̥-i̯e/o-* and is to be directly compared with Lat. *saliō* 'id.'. However, the *a*-vocalism of the Latin verb is difficult to obtain from a root **sel-*, and may rather point to a root **sh₂el-* (see *EDL* s.v.).[42] As for **-r̥i̯-*, many verbs in -αίρω can be analyzed as inner-Greek denominatives to stems in -αρ, such as τεκμαίρομαι 'to conjecture' beside τέκμαρ 'sign'. Likewise, a number of feminines in -αιρα stand beside forms containing -αρ-, such as χίμαιρα 'she-goat' beside χίμαρος 'he-goat'. In such cases, the *a*-vocalism could have arisen first as a result of the word-final development **-r̥* > -αρ.

Notwithstanding these doubts, certain isolated formations strongly speak in favor of a Pan-Greek development to **r̥* > αρ before *yod*. The present stem formation of χαίρω 'to feel good' seems to have been inherited from earlier PIE **ǵʰr̥-i̯e/o-*, if we consider the cognate verbs Ved. *háryati* 'id.', Lat. *horior* 'to encourage', U. **heriiei** 'wishes'.[43] Another example of considerable antiquity

40 Peters 1980: 223–228 argues that ἰοχέαιρα contains the word for 'hand', but doubts whether the form can reflect PGr. **isu̯o-kʰesr̥-i̯a*; for this reason, he envisages a reconstruction **-ǵʰeserih₂* (analogous to the motional feminine πίειρα, Ved. *pīvarī́*) or **-ǵʰesrih₂*, and argues that an outcome **ἰόχειρα* would be expected in both cases. In the end, he asks whether verse-final ἰοχέαιρα may be a Homeric *Streckform* which secondarily obtained its suffix -αιρα from elsewhere. I find it much more likely that the form directly reflects **isu̯o-kʰesr̥-i̯a*, but the issue will not be further pursued here.

41 See Peters 1980: 198 and section 9.5. Aeol. ὄνοιρος has also been compared to Arm. *anurǰ* 'dream' < **onōri̯o-*, a pre-form which would yield ὄνοιρος directly by Osthoff's Law, but again, positing two pre-forms **onōri̯o-* beside **oneri̯o-* would be unparalleled from a morphological (or derivational) perspective.

42 Moreover, ἅλλομαι may have been influenced by the Hom. root aorist ἆλτο (**ἅλτο*). Examples like σκάλλω 'to hew' and σφάλλομαι 'to stumble' can be derived from older nasal presents, and in any case their root does not undergo ablaut; they are therefore irrelevant for the present discussion.

43 Cf. García Ramón (1985: 207). The reflex in Ved. *háryati* differs from that in *mriyáte* 'to die', which must contain the regular Indo-Aryan reflex of PIE **Cr-ie/o-* (cf. Lat. *morior* <

could be μεγαίρω 'to begrudge', cognate with Arm. *mecarem* 'to hold in esteem', which probably continues the same pre-form and illustrates an intermediary stage of the semantic development leading from μέγα 'big' to μεγαίρω.

Another issue concerns the relation between the outcome *-*ar̥i-* (in the verbal formations just discussed) and the different syllabification found in forms like gen. pl. τριῶν 'three' or the feminine agent nouns in -τρια (already in Myc. *-ti-ri-ja*, *-ti-ra*$_2$) < PGr. *-*tria*, *-*triā*- < PIE *-*tr-i*(*e*)*h*$_2$-. According to Ruijgh (1992: 78 ff.), the outcome in τριῶν and -τρια is regular, and the development to *-*aR̥i-* (in presents in -*i̯e/o-* and motional feminines in -*i̯a*) occurred whenever *$_{\text{̥}}i$ was analogically re-introduced, as a result of which the syllabic sonorant developed secondarily. However, the converse could also be defended: the syllabification reflected in τριῶν could be analogical after the dat. τρισί or acc. **trins*, and the feminine agent nouns in *-*tr-ih*$_2$- also contain a morpheme boundary.[44] In this connection, the form πότνια 'lady' (Myc. *po-ti-ni-ja*) is of prime importance. Since no base form with the stem **potn-* existed, πότνια (rather than πόταινα*) must display the regular reflex of **potn̥i̯a* (ultimately from PIE **potnih*$_2$). But even this is not the end of the story: Peters (1980) has argued that in the forms *-*tr̥i̯a* and **potn̥i̯a* (reflected in -τρια and πότνια), the morpheme *-*i̯a* may have been restored, and that the sole example of a regular reflex of *-*Cr̥i̯a* would be ἄρουρα 'arable land' (Myc. *a-ro-u-ra*) < **aro-u̯r-i̯a*, with regular loss of *yod* in this environment.

Although these issues certainly merit a more detailed discussion, the exact scenario need not concern us here: the main point is that Greek furnishes no evidence for a prolonged retention of syllabic liquids before *$_{\text{̥}}i$. Whenever *-*r̥i̯-* arose in Proto-Greek, it seems to end up with an anaptyctic *-a-* before the liquid in all Greek dialects. In this connection, the development of the syllabic nasals in the same environment is also relevant:[45] in the inherited present stems βαίνω 'to walk' < **g*$^{\text{w}}$*m̥i̯e/o-* (cf. Lat. *veniō* 'to come') and μαίνομαι 'to rage' < **mn̥i̯e/o-* (cf. Ved. *mányate* 'thinks'), we are clearly dealing with an early development *$_{\text{̥}}n$ (including original *$_{\text{̥}}m$) > **an* before a glide, and analogical restoration is unlikely. There is every reason to think that cases like χαίρω, with *a*-vocalism before the liquid, arose as part of the same development.

**mr̥-i̯e/o-*). According to de Vaan (EDL s.v. *horior*), this fact and the full grade root *her-* attested in Sabellic point to an ablauting PIE *i*-present. It seems more likely to me that these full grades were introduced from elsewhere in the verbal paradigm, and that the PIE present stem already had thematic *-*i̯e/o-*.

44 For a recent discussion of these questions of syllabification in an optimality theory framework, see Cooper 2014, chapters 6 to 10.

45 Cf. García Ramón (1985: 207).

As for the outcome of the syllabic liquids in the environment PGr. *$C_\underset{\cup}{\mu}V$, it is difficult to cite a convincing example. The problem can be illustrated by an example containing a nasal: μανός 'thin, sparse'. This adjective has ᾱ once in Empedocles (fr. 75.2 DK), but ᾰ generally in Attic, and it therefore presupposes a pre-form *$manu\acute{o}$-. However, this *$manu\acute{o}$- probably does not reflect PGr. *$m\underset{\cup}{n}$-$\underset{\cup}{u}o$-, because the gloss μανύ (Hsch.) suggests that the form is due to the thematicization of an older *u*-stem, *mnH-u-.[46] Such a proto-form is corroborated by Arm. *manr* 'small' (gen. *manu*).[47] The same type of formation may underlie Ion. κᾱλός, Att. κᾰλός, Boeot. καλϝος, if my idea that the underlying root ended in a laryngeal (section 10.5.3) is correct.[48] Finally, the neuter φᾶρος 'cloth' (Hom.+), Myc. *pa-we-a*$_2$ has been compared in previous scholarship with Lith. *bùrva* 'color, colored garment' and *bùrė* 'sail', but according to Fraenkel (*LEW* s.vv.), 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. Thus, since the etymology of *p^haru- remains uncertain, it is unknown whether this word contains a reflex of *$\underset{\cup}{r}$.[49]

1.2.3 *Word-Initial *$\underset{\cup}{r}$- and *$\underset{\cup}{l}$-*

A number of discussions of the development of the syllabic liquids in Greek distinguish a special Common Greek outcome ἀρ- in word-initial position.[50] However, if the phonotactics of PIE did not allow a word-initial onset *r-, as seems likely, it is doubtful that syllabic *$\underset{\cup}{r}$- existed in this position.[51] Furthermore, it has become clear that many apparent cases of ἀρ- can or must be derived from a pre-form with PIE *h_2r-.[52] In word-initial *HLC-, an epenthetic vowel developed in early Proto-Greek; in the ensuing *$H_əLC$- the *shwa* was sub-

46 Cf. Lamberterie (1990: 187–194).

47 Lamberterie (1990: 192–193) proposes that *mnH-u- 'sparse, rare, thin' contains the verbal root of Lith. *mìnti* 'to tread, break flax'; if so, we might assume that an older meaning of the adjective was 'broken into pieces'.

48 In section 10.5.3, I argue that καλός reflects a thematicization of PGr. *$kalú$- < PIE *klH-u-, containing the root of Lith. *kìlti* 'to rise, emerge', Lat. *-cellō* 'to stand out, excel'.

49 García Ramón (1985: 210) also remarks that there is no good evidence for the reflex of *$C\underset{\cup}{r}\underset{\cup}{u}V$-, 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".

50 Thus already Schwyzer (1939: 342): "αρ erscheint im Anlaut und Auslaut, vor einstigem Halbvokal und vor Vokal". Cf. also Morpurgo Davies (1968) and García Ramón (1985).

51 Cf. Ruijgh (1992: 86 n. 31).

52 Cf. Haug (2002: 50).

sequently colored by the neighboring laryngeal.[53] For instance, the following words may reflect full grade *h_2erC- or zero grade *h_2rC-:

– ἀρκέω 'to ward off, protect; be sufficient' beside Hitt. *ḫar(k)-zi* 'to hold; keep', Lat. *arceō* 'to enclose; debar, keep away; protect';
– ἀρτύω 'to arrange, prepare' (cf. ἀρτύς· σύνταξις 'arrangement, ordering' Hsch.) beside Lat. *artus* 'joint', Ved. *ṛtú-* m. 'order, fixed time'.[54]

Moreover, instances of ἀρ- may reflect *$\underset{\circ}{u}rC$- and, in forms with psilosis or Grassmann's Law, *$s\underset{\circ}{r}C$-. A possible case of *$s\underset{\circ}{r}C$- is ἄρχω 'to be first; rule'. The etymology of this verb has been variously interpreted: *h_2r-*ske/o*- with the root *h_2er- 'to fit' (Klingenschmitt 1974: 274 n. 1; accepted by Le Feuvre 2015: 506–507), or *$\underset{\circ}{r}g^h$-*e/o*- to a root PIE *reg^h- as reflected in MHG pret. *rac* 'arose, protruded' and *regen* 'to incite' (Tichy *apud* LIV^2 s.v. *reg^h-). In the latter analysis, it would be an instance of word-initial *$\underset{\circ}{r}$-. In my view, ἄρχω rather reflects PIE *$s\underset{\circ}{r}g^h$-*e/o*- or perhaps rather *$s\underset{\circ}{r}g^h$-*ske/o*- 'to stand out', to the PIE root *$serg^h$- reflected in Hitt. *sarku-*, *sargau̯-* adj. 'pre-eminent, powerful' < *$s\underset{\circ}{r}g^h$-(*e*)*u*-, *sarkiske/a-zi* 'to be eminent' and Toch. B *ṣärk-* 'to surpass'. This new proposal establishes ἄρχω as an instance of the treatment of word-internal *$\underset{\circ}{r}$ in Ionic-Attic. For further details, see section 9.6.2.

The only potential (though uncertain) piece of evidence for initial *$\underset{\circ}{r}$- in Proto-Greek is ἄρσην 'male' (Att. ἄρρην, Thess. ορσεν, Arc. ορεν, τορρεντερον), but there the place of the anaptyctic vowel may have been influenced by the variant ἔρσην. This complicated example will receive further discussion in section 9.1.7.

There was no phonological constraint against word-initial *$\underset{\circ}{l}$-, but there are no examples for its reflex in Greek. For instance, the root underlying ἀλκή 'mar-

53 This phenomenon is generally known as "Lex Rix" (Rix 1970) and mostly thought to apply to both liquids and nasals. On **HLC*-, see also Vine (2005).

54 The comparison of the particle ἄρα 'then, therefore', Hom. ἄρ with the Baltic conjunction Lith. *ir̃*, Latv. *ìr* 'and, also; even' and/or with the question particle Lith. *ar̃*, Latv. *ar*, has been taken to point to a reconstruction *$\underset{\circ}{r}$. This is based, essentially, on the identification of ἄρα with Homeric ἄρ, ῥα (cf. Hoenigswald 1953: 289–290, with a review of older literature). Upon this view, ἄρα arose as a conflation of ἄρ and ῥα, which are both supposed to be outcomes of a pre-form *$\underset{\circ}{r}$. Haug (2002: 52) accepts the reconstruction *$\underset{\circ}{r}$ for the Greek forms, but admits that all kinds of special accidents may have taken place in a monosyllabic clitic, and therefore does not use ἄρα, ἄρ, ῥα as evidence. I agree with this conclusion, but since the origin of the variation ἄρ ~ ῥα remains obscure, I am not so sure about the reconstruction *$\underset{\circ}{r}$. It is possible to connect ἄρ with the Baltic forms if we reconstruct a particle *h_2r, *$h_2ér$ (EDG s.v. ἄρα, cf. also DELG), but this would leave the origin of ῥα unaccounted for. Another option is to reconstruct ἄρ, ῥα as *$s\underset{\circ}{r}$; this would explain the existence of a Mycenaean particle -a_2 (in *o-da-a*$_2$, *o-de-qa-a*$_2$) but it does not yield a meaningful etymology.

tial courage' was *h_2lk- with an initial laryngeal, as shown by the related ἀλέξω 'to ward off' < *h_2lek-*s*-. In various words with initial λα-, this sequence may reflect *lh_2C-, *$sl̥$- or *$m̥l̥$- (see chapter 10).[55] Ruijgh (1992: 86 n. 31) draws attention to λεπτός 'delicate, small', a verbal adjective in *-to-* to λέπω 'to peel, scale' that is attested already in Myc. *re-po-to*. As one would expect a pre-form *$l̥tó$- with zero grade root in this type of formation, roots of the structure *leC- apparently generalized the full grade at an early date.

1.2.4 *Word-Final *$r̥$ and *$l̥$*

In word-final position, we only have evidence for *-$r̥$; there are no clear examples of *-$l̥$. I will postpone the discussion of word-final *-$r̥$ to chapter 9, when we will have obtained a clearer picture of the word-internal developments. For now, let me briefly mention the two main issues. First, various scholars have posited an early, Pan-Greek change *-$r̥$ > -αρ which took place prior to the vocalization of *$r̥$ in word-internal position.[56] Others assume that *-$r̥$ would develop to either -αρ or -ορ depending on the dialect, just as in word-internal position, and assume that only the place of the anaptyctic vowel (*$ər$ rather than *$rə$) was different in this position.[57] We will be in a better position to overview the arguments once we have treated the evidence for the reflex of word-internal *$r̥$ in Mycenaean and the alphabetic dialects (in chapters 2 and 3). Secondly, a special issue is the outcome seen in ὑπόδρα '(looking) sternly' < *upo-$dr̥k$, which has been interpreted by Hoenigswald (1988) as evidence for *-$r̥$ > -ρα. Barnes (2011), however, has ascribed the different reflex in ὑπόδρα to relative chronology, assuming that word-internal *$r̥$ was vocalized before the loss of word-final stops. Again, we will be able to evaluate this piece of evidence more effectively once we have treated the word-internal evidence.

1.2.5 *$r̥$ and *$l̥$ before Nasals*

Haug (2002: 54) has tentatively proposed that *$r̥$ and *$l̥$ developed *a*-vocalism in all Greek dialects in the environment *C_NV.[58] His evidence consists of Les-

55 On ἁρπαλέος < *$m̥alpaléo$- (with analogical *-al-* < *$l̥$), see section 10.2.1.

56 See e.g. Schwyzer (1939: 342), Lejeune (1972: 196), García Ramón (1985), and Sihler (1995: 92).

57 See e.g. Ruijgh (1961), Peters (1980).

58 "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*."

bian and Thessalian στάλλα (Aeolic for στήλη 'stele') and the proper name Myc. *wa-ni-ko*. Although both examples mentioned by Haug have an outcome *-aL-*, in his view the place of the anaptyctic vowel may have been either *-əL-* or *-Lə-*.

Most handbooks do not treat this issue, which could be taken as an indication that they reject a special development for *$\underset{\circ}{r}n$ and *$\underset{\circ}{l}n$. Indeed, the items στάλλα and *wa-ni-ko* do not prove the claim made by Haug. First of all, the reconstruction he proposes for στήλη is not certain. The handbooks compare it with OHG *stollo* 'support, post' (m. *n*-stem) and related Germanic forms; this would presuppose a pre-form form with *$stl̥$-n-.[59] However, the alternative reconstruction of στήλη as *sth_2-$sleh_2$- by Risch (1974: 110; accepted also by Sihler 1995: 213) from the root *$steh_2$- 'stand' cannot be excluded.[60] Against the reconstruction *$stl̥$-n-eh_2- it can be objected that a verbal root *stel- in the meaning 'to stand' may be found in Germanic, but it does not exist in Greek (στέλλω means 'to equip').

There are also phonological objections to a reconstruction *$stl̥nā$- for στήλη, στάλλα. It is questionable whether a geminate resulting from *-$\underset{\circ}{l}n$- would have taken part in the first compensatory lengthening in Ionic-Attic (cf. section 10.5 on βάλλω, κάλλος and similar forms). Moreover, one expects *$stl̥nā$- to develop *o*-vocalism in Aeolic dialects, even if there is no direct evidence for the outcome of *$\underset{\circ}{l}$ in Lesbian (cf. sections 3.3.4 and 10.6). In view of these objections and of Risch's alternative reconstruction, Aeolic στάλλα cannot be considered probative for Haug's thesis.

As for Myc. *wa-ni-ko*, this is often interpreted as a diminutive reflecting *$\underset{\smile}{u}rn$-*isko*- that would contain the stem of ἀρήν 'lamb'. However, the root of ἀρήν must have been *$\underset{\smile}{u}rh_1$- in view of πολύρρην 'rich in lambs' and Ved. *úran*- 'lamb', with a vocalic onset reflecting the root-final laryngeal. Therefore, the oblique stem ἀρν- < *$\underset{\smile}{u}arn$- must be analogical for earlier *$\underset{\smile}{u}rēn$- < *$\underset{\smile}{u}\underset{\circ}{r}h_1$-*n*-, with *$\underset{\smile}{u}ar$- taken from the nominative *$\underset{\smile}{u}arēn$ < *$\underset{\smile}{u}\underset{\circ}{r}h_1$-*ēn*. Thus, even if *wa-ni-ko* is to be connected with 'lamb' (which is uncertain), it cannot be used to determine the regular reflex of *$\underset{\circ}{r}n$.

In fact, there is ample further material for the development of *$\underset{\circ}{r}$, $\underset{\circ}{l}$ in the environment *C_nV. Most of the evidence is found in nasal present formations, where the vowel always appears before the liquid.[61] These forms will be discussed in sections 9.4 (*-$\underset{\circ}{r}n$-) and 10.5 (*-$\underset{\circ}{l}n$-). Anticipating my conclusions, the

59 Cf. Rix 1992: 67, *DELG* s.v.

60 For the suffix *-$sleh_2$-, one may compare e.g. Lat. *scālae* 'stairs' < pre-Latin *$skand$-$slā$-.

61 As Hirt already remarked, "die *nā*- und *neu*-Verben haben αρ" (1897: 157), mentioning as examples, among others, πτάρνυμαι 'to sneeze' and the Hesychius gloss θάρνυσθαι (for θόρνυμαι 'to copulate').

evidence suggests that the vocalization of *-*r̥n*- and *-*l̥n*- took place in the individual dialect groups and cannot be ascribed to Proto-Greek.

1.2.6 *Conclusions on Early Anaptyxis*

– Cases like ἀρήν 'lamb' where a syllabic liquid allegedly stood before a vowel are in fact cases of the environment **CL̥HV*.
– Before semivowels, **r̥* was eliminated in Proto-Greek; it developed to -αρ- before **i̯*, at least when the sequence *-*r̥i̯*- underwent morphological restoration. There is no secure evidence for *-*l̥̆i̯*-, *-*l̥u̯*- or *-*r̥̆u̯*-.
– The evidence formerly adduced for word-initial **r̥*- > Common Greek ἀρ- is obsolete in the light of the laryngeal theory.
– The development of word-final *-*r̥* is still debated and will be discussed in section 9.4.

It is also important to distinguish chronological levels: the developments **CL̥HV* > **CaLV* and **Cr̥i̯V* > **Cari̯V* took place at an early date, probably as early as Proto-Greek. In word-initial and word-final position, however, the dialect groups may have a diverging treatment. Nevertheless, as we shall see in section 9.5 there is strong evidence that word-final *-*r̥* developed earlier than word-internal *-*r̥*-.

From now on, our main focus will be on the environments **CL̥T* (where **T* is any occlusive or **s*) and **CL̥NV*. Unless otherwise indicated, the debate about the "double reflex" αρ ~ ρα in Ionic-Attic concerns these environments.

1.3 The *o*- and *u*-Colored Reflexes of **r̥* and **l̥* in the Environment **C_T*

In most dialects, the anaptyctic vowels in the reflexes of the syllabic liquids may appear with different qualities. For instance, in literary Lesbian we find both α (e.g. καρδία, ὄναρ) and ο (ἄμβροτε, στρότος). Differences of opinion exist on the cause of these different reflexes, especially concerning the *o*-colored reflex in Mycenaean, Arcado-Cyprian and the Aeolic dialects. It has been debated whether the *o*-reflex in these dialects was the unconditioned outcome of PGr. **r̥* and **l̥*, or whether it occurred only in some sort of labial environment. In section 1.3.1, I will give only a brief introduction to this problem; the evidence will be discussed in full detail in chapters 2 and 3.

Secondly, a few remarks will be devoted to the relatively marginal evidence for *u*-vocalism in Ionic-Attic (section 1.3.2). A third problem concerns the relation between the vocalization of the syllabic liquids and that of the syllabic nasals in those dialects which attest *o*-colored reflexes of both. In section 1.3.3, I will argue that these two developments must be viewed independently.

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 serious the evidence for *a*-vocalism in these dialects really is. 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 **u̯-* 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 an unconditioned *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, but her suggestions have not been taken very seriously, probably because she did not try to establish a distribution between *a-* and *o*-colored reflexes, and resigned to the conclusion that both reflexes may appear in any dialect without further conditioning (Bader 1969: 57–58).[62]

The potential instances of *o*-vocalism in Ionic-Attic will receive further discussion in chapter 9; for most of them alternative explanations are available. There is also one West Greek dialect that shows evidence for *o*-vocalism: as I will argue in chapter 3, in Cretan the development of **r̥* may have been conditioned by the preceding segment (labial versus non-labial).

1.3.2 *The u-Colored Reflex*

In various branches of Indo-European, the outcome of the syllabic liquids depended on surrounding consonants. In most cases where we find such a conditioned development, a preceding or following labial consonant colors the anaptyctic vowel to *u*. Thus, in Balto-Slavic the normal reflexes are *ir*, *il*, whereas convincing examples of *ur*, *ul* are found mostly after labiovelars.[63] In Indo-Aryan, a similar conditioning determined the outcome of **L̥* before laryngeals: contrast e.g. Ved. *tirás* 'across' < **tr̥h₂n̥s* (cf. Lat. *trāns* 'id.') with *purás* 'before;

62 Bader's reference to the supposedly unconditioned double reflex of the syllabic sonorants in Balto-Slavic is erroneous, because the conditioning factor for *-uR-* was a preceding labiovelar stop: see below.

63 This was originally proposed by Vaillant, and has been reinforced by Kortlandt (2007 = 2009: 39–41).

in front' < **pr̥Hós* (cf. πάρος 'before').[64] Phonetically, the anaptyctic vowel was rounded under influence of the preceding labialized stop.

It would not be surprising if similar effects were found in Greek. An extensive discussion of potential *u*-colored reflexes in Greek is Bernabé (1977: 275–283). However, most of his material concerns syllabic nasals and is therefore not directly relevant to our discussion, as these probably vocalized earlier than the syllabic liquids, and in a different way (cf. section 1.3.3 below). Words with *u*-vocalism that cannot be inherited must also be left out of consideration: well-known examples are πύργος 'fortification' (cf. Goth. *baurgs* 'citadel') and τύμβος 'tumulus' (cf. τάφος 'burial'), which are usually considered to be borrowings from a different, unattested Indo-European language into Greek.

Other reconstructions mentioned by Bernabé do not strike me as particularly convincing, for instance:

– κύρτος 'fishing net' (Sapph.+) has been reconstructed as **kr̥to-* and compared to Proto-Germanic **hurdi-* 'wickerwork (door)' (Goth. *haurds* 'latticed door', OHG *hurt* 'hurdle, grate, railing' and other forms, cf. *EDPG* s.v.). However, the type of referents of these words renders any etymology open to doubt, and the Germanic words are more likely to be related to Lat. *crātis* 'hurdle' < **krh*$_2$*-ti-*, with a root that cannot account for the Greek form.
– φύλλον 'leaf' beside Lat. *folium* 'id.'. The two must not be reconstructed as **bʰl̥i̯o-* (as per Bernabé 1977: 283) but may rather reflect **bʰoli̯o-*, with a raising **o* > υ before **-li̯-* as proposed by Vine (1999: 564–569).
– σκύλλω 'to tear apart, snatch' (A.+) and σκάλλω 'to hoe; stir up' (Hdt.+) are supposed to be vocalizations of **skl̥-i̯e/o-* or **sk*$_{\text{ə}}$*l-i̯e/o-* with a "reduced grade" by the etymological dictionaries. However, upon this account (accepted by Bernabé 1977: 277) it would be difficult to account for the two divergent reflexes. If there is indeed an etymological connection,[65] one might follow Vine (1999: 566) in reconstructing a pre-form with *o*-grade for σκύλλω, with the same raising as in φύλλον.
– The comparison between σφῦρα 'hammer' and σφαῖρα 'ball' (Bernabé 1977: 283) does not seem cogent to me in view of the semantic divergence; there are no ascertained cognates outside of Greek.

64 Cf. Beekes (2011: 151). A similar rule has been proposed for Latin by Meiser (1998: 63–64): **r̥* would have yielded *ur* after labiovelars and after *u̯-*. This rule is not widely accepted, however: cf. Zair (2017) for criticism. Frotscher (2012) has proposed that word-final **r̥* in Proto-Italic developed to *-ur* after labials (Lat. *femur* 'thigh', *iecur* 'liver'), but *-er* elsewhere (Lat. *iter* 'road', *ūber* 'udder' < **ou̯b-r̥*).

65 Cf. *LIV*^{2} (s.v. ?2.**(s)kel-*).

Nevertheless, even if such cases are left aside, some interesting candidates to show an *u*-colored outcome remain. I will now first discuss two promising cases: λύκος 'wolf' and the adjective κυρτός 'humped'.[66]

Usually, λύκος is considered an instance of metathesis from PIE *$\underset{\circ}{\text{u}}\underset{\circ}{l}k^{\text{w}}o$-. However, when *$\underset{\circ}{\text{u}}\underset{\circ}{l}k^{\text{w}}o$- came to be realized as *$\underset{\circ}{\text{u}}l_{\text{ə}}k^{\text{w}}o$-, it would be natural that the anaptyctic *shwa* was rounded due to the presence of labialized consonants on both sides, after which *$\underset{\circ}{\text{u}}luk^{\text{w}}o$- yielded λύκος. The chronology is unproblematic: the rounding may have taken place before [lə] developed into λα (the regular reflex, cf. chapter 10). The rounding of an anaptyctic vowel and subsequent delabialization is paralleled by γυνή 'woman; wife', which no doubt reflects *$g^{\text{w}}{}_{\text{ə}}nā$. Moreover, compare the reflex of a syllabic nasal in πύξ adv. 'with the fist' < *$p\underset{\circ}{\text{n}}k^{\text{w}}$-*s* (van Brock 1972), with the root of 'five' and related to OE *fyst* 'fist', OCS *pęstь* 'id.' < *$p\underset{\circ}{\text{n}}k^{\text{w}}sti$-.[67] Not all anaptyctic vowels in the prehistory of Greek were rounded by neighboring labiovelars; the development is not found in early instances of anaptyxis preceding the loss of laryngeals (e.g. βαρύς < *$g^{\text{w}}{}_{\text{ə}}ru$- < *$g^{\text{w}}rH$-*u*-). This means that the anaptyctic vowel in *$g^{\text{w}}{}_{\text{ə}}nā$ developed after *g^{w}ə*ru*- had become *$g^{\text{w}}aru$-.[68] A late date of *$g^{\text{w}}nā$ > *$g^{\text{w}}{}_{\text{ə}}nā$ is corroborated by Boeot. βανά, where the anaptyctic *shwa* apparently developed *after* the elimination of the labiovelars. At any rate, explaining λύκος as a regular vocalization of *$\underset{\circ}{\text{u}}\underset{\circ}{l}k^{\text{w}}o$- would be an attractive alternative over assuming an irregular metathesis. Chronologically, this would place the anaptyxis after *$\underset{\circ}{l}$ before the disappearance of labiovelars and before the reduction *$\underset{\circ}{\text{u}}l$- > λ-, i.e. in or before the Mycenaean period.

A second case is the adjective κυρτός 'bulging (of a wave); humped (of shoulders), hunchbacked' (*Il.*+), later 'convex'. Its root has been compared to that of Lat. *curvus* 'curved, convex', but as De Vaan (*EDL* s.v. curvus) remarks, **kur*- is not an allowed PIE root structure, and there is no PIE root *$k^{\text{w}}er$- meaning 'turn; round' *vel sim.* However, whether or not the etymological connection with Lat. *curvus* is correct, root structure constraints do suggest a reconstruction

66 Meier-Brügger (1990) proposed that κυλλός 'crooked, club-footed' reflects *$k^{\text{w}}\underset{\circ}{l}nó$-, with the root *$k^{\text{w}}el$- 'turn'. This is contradicted by the reflex of e.g. *$g^{\text{w}}\underset{\circ}{l}n$- in βάλλω (on which see section 9.5.1). I therefore hesitate to accept this etymology. To compare the pair κυλλός / βάλλω with γυνή beside Boeotian βανά, as done by Meier-Brügger (1990: 31 with n. 7), is not to the point: in the latter case we are clearly dealing with dialectally different treatments of the same word.

67 Compare also κύκλος which may reflect *$k^{\text{w}}ok^{\text{w}}lo$-, *$k^{\text{w}}{}_{\text{ə}}k^{\text{w}}lo$- or even *$k^{\text{w}}ek^{\text{w}}lo$-. Cases of Cowgill's Law (e.g. νύξ, ὄνυξ) are perhaps not directly comparable because their full vowel was colored by a contiguous labiovelar under more specific circumstances.

68 Incidentally, this proves that Lindeman's Law in Greek is an inner-Greek affair, rather than an inheritance from PIE.

*$k^{w}r̥$-*tó*- for κυρτός.[69] In fact, the root *$k^{w}er$- 'to cut off, amputate, mutilate' is an excellent candidate, as various of its derivatives denote corporeal defects, e.g. Ved. *karṇá*- 'crop-eared', CS *krъnъ* 'mutilated (with ears slit or cropped)', Sln. *kȓn* 'maimed, mutilated' (from Proto-Slavic *$kъrnъ$ 'maimed').[70] The meaning 'humped; hunchbacked' of κυρτός may easily have developed from 'truncated, blunt'. Furthermore, it is attractive to compare κυρτός directly with Lat. *curtus* 'mutilated', equally from *$k^{w}r̥$-*tó*-, and with Lith. *kuřčias* 'deaf', *kuřtas* 'id.'.[71] This provides κυρτός with a semantically attractive etymology which also explains its *u*-vocalism.

In addition to these two forms, three more potential (but rather complex) examples must be discussed:

– σύρξ 'meat', which is mentioned as the Aeolic and Doric form of σάρξ 'id.' (< PGr. *$tu̯rk$-) in the *Etymologicum Magnum*,[72] and as Aeolic in σύρκεσι· σαρξίν. Αἰολεῖς (Hsch.);
– σύρω 'to draw, drag' (Ion.-Att.), which is surely related to σαίρω 'to sweep' (S.+, also epigraphically in Cretan) < PGr. *$tu̯r$-*i̯e/o*-;
– PN Τυρταῖος, which is often supposed to mean 'born on the fourth day', and therefore thought to derive from *τυρτή 'fourth day', which would continue a relic form of the ordinal PGr. *$k^{w}tu̯r$*tó*- 'fourth'.

Concerning Τυρταῖος, we must take into account that the first part of τράπεζα 'table' is usually thought to derive from *$k^{w}tu̯r$- as well.

In all these examples we are faced with the problem of accounting for a double reflex of *$u̯r$: in part of the cases *$r̥$ appears to have undergone its normal vocalization, but in other cases there seems to have been a re-vocalization of *$u̯r̥$ to *ur. If that is indeed what happened, we should be able to indicate a phonetic factor that caused this re-vocalization. On the other hand, we must reckon with the possibility that υρ reflects not *$u̯r$, but something else. What follows now is an attempt to make sense of the data.

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69 Chantraine (*DELG* s.v.) also analyzes κυρ- as the *u*-colored reflex of a zero-grade root, but he does not explain how the vowel originated. There is no need to ascribe the *u*-vocalism to the allegedly expressive nature of this word, as per Bernabé (1977: 281).

70 Compare also Av. *karəna*- 'deaf', Latv. *kuřns* 'id.' (perhaps via *'with defect ears'), and with a different suffix Ved. *kr̥dhú*- 'maimed'.

71 Various Balto-Slavic words denoting corporeal defects are derived from the PIE root *$k^{w}er$-. The consistent reflex (*)*ur* of the vocalized zero grade in these words confirms the idea of a conditioned rounded outcome of the syllabic sonorants in Balto-Slavic after labiovelars (Kortlandt 2007).

72 *EM* s.v. σαρκάζω (Kallierges 708): Ἐτυμώτερον δὲ λέγουσιν οἱ Αἰολεῖς σύρκα, παρὰ τὸ ἀποσύρεσθαι τὸ δέρμα ἀπ' αὐτῆς· τὰς γὰρ σάρκας σύρκας οἱ Δωριεῖς λέγουσι· παρὰ τὸ σύρω σύρξω, σὺρξ καὶ σάρξ.

Starting with σάρξ beside σύρξ, the latter form may reflect an *o*-grade *$t\underset{\sim}{u}\acute{o}rk$-, with raising due to Vine's version of Cowgill's Law (Vine 1999: 570–572, elaborating a suggestion by Schindler 1972: 34), whereas σάρξ would contain the normal zero grade reflex.[73] This possibility suffices to eliminate σύρξ from the compelling evidence for re-vocalization of *$\underset{\sim}{u}\underset{\circ}{r}$.

As for σύρω beside σαίρω, the evidence for a PIE root *$t\underset{\sim}{u}er$- 'to sweep, rush' includes at least the following forms:

– pres. *$t\underset{\sim}{u}er$-*e/o*- > PGmc. **þweran*- (strong verb) > OE *þweran* 'to twirl, stir', OHG *dweran* 'to stir up', and also Ved. *tvárate* 'to rush'.
– pres. *$t\underset{\sim}{u}\underset{\circ}{r}$-*i̯e/o*- reflected not only in σαίρω, but also in ON *þyrja* 'to sweep, rush' (Kroonen, *EDPG* s.v. **þurjan*-).

Until the treatment by Vine (1999: 570), the twofold outcome of *$t\underset{\sim}{u}\underset{\circ}{r}$-*i̯e/o*- in Greek (σαίρω, σύρω) was usually left unexplained. As Vine remarks, however, the two reflexes cannot be ascribed to dialectal differences, as both verbs are attested in Ionic-Attic. If σαίρω reflects the regular treatment of *$t\underset{\sim}{u}\underset{\circ}{r}$-*i̯e/o*-, as seems likely (with an early, Common Greek vocalization *-$\underset{\circ}{r}$- > -*ar*- before *yod*), what does σύρω reflect? I will discuss two options.

First, one could analyze σύρω as a secondary denominative based on nominal forms like *συρτός 'stirred, in sweeping motion' (cf. κολοσυρτός 'sweeping motion, tumult' *Il.*+, although the element κολο- remains enigmatic; cf. *DELG* s.v.). This *συρτός could be the regular outcome of *$t\underset{\sim}{u}\underset{\circ}{r}$-*tó*- if we assume (i) that *$t\underset{\sim}{u}\underset{\circ}{r}$- > *$t^{s}\underset{\sim}{u}\underset{\circ}{r}$- would have yielded συρ- before an occlusive, whereas (ii) before *yod*, *$t\underset{\sim}{u}\underset{\circ}{r}$- was vocalized as *$t\underset{\sim}{u}$*ə*r- > *$t\underset{\sim}{u}$*ar*- at an earlier date. In other words, the development would be conditioned by the type of consonant that followed. However, the form σάρξ is left unaccounted for in this scenario, which predicts that *$t\underset{\sim}{u}\underset{\circ}{r}ks$ would develop into σύρξ even in Ionic-Attic. One could surmise that the re-vocalization took place only in pretonic position, hence *$t^{s}\underset{\sim}{u}\underset{\circ}{r}t\acute{o}$- > *$t^{s}$*urtó*- whereas *$t\underset{\sim}{u}\acute{\underset{\circ}{r}}ks$ was retained and later yielded σάρξ. However, for want of further examples, this is mere speculation, and one might also doubt the reconstruction *$t\underset{\sim}{u}\underset{\circ}{r}$-*tó*- underlying -συρτός altogether.

A second possibility to account for σύρω emerges when we consider that σύρξ could reflect an *o*-grade *$t\underset{\sim}{u}\acute{o}rk$- (cf. above) whereas σάρξ would contain the normal zero grade reflex. Vine leaves open the morphological motivation of the *o*-grade in σύρω, but I wonder whether -συρτός (in κολοσυρτός 'sweeping

73 Schindler's argument for reconstructing an ablauting paradigm *$t\underset{\sim}{u}ork$- beside *$t\underset{\sim}{u}\underset{\circ}{r}k$- is that the expected outcome of *$t\underset{\sim}{u}\underset{\circ}{r}k$- would be *τραϰ- on account of τράπεζα < *$t\underset{\sim}{u}\underset{\circ}{r}ped\underset{\circ}{i}a$. This cannot be upheld: see sections 2.5 and 2.6 for a full discussion of τράπεζα and related issues.

motion') may reflect an *o*-grade action noun **tu̯ór-to-* of the type φόρτος.[74] The assibilated form **ts̯u̯ór-to-* may have developed into **ts̯u̯urto-* by Cowgill's Law, and then simplified to **tsurto-*. This presupposes that the anaptyctic vowel in **ts̯u̯ər-i̯e/o-* (> σαίρω) had already developed into *a* before Cowgill's Law affected the *o*-grade (otherwise, it would be difficult to understand why a *shwa* was not rounded in the same environment), but this is an unproblematic assumption. We would then arrive at the following relative chronology:

(1) **-r̥i̯-* > **-ari̯-* and assibilation **tu̯* > **ts̯u̯*, in either order (yielding **ts̯u̯ari̯e/o-* beside **ts̯u̯órto-*, **ts̯u̯r̥k-* beside **ts̯u̯órk-*);

(2) Cowgill's Law operates in the context **tu̯or* (perhaps more generally **Tu̯oR*, cf. Vine 1999), probably followed soon by a simplification **ts̯u̯-* > **ts-* before *u* (yielding **tsúrto-*, **tsúrk-*);

(3a) Initial **ts̯u̯-* > **ts-* elsewhere, yielding **tsari̯e/o-* (> σαίρω), **tsr̥k-* (> σάρξ);

(3b) Creation of denominative **tsuri̯e/o-* (> σύρω).

Thus, it cannot be excluded that συρ- in the forms σύρξ and σύρω reflects pre-forms with an *o*-grade (**tu̯ork-*, **tu̯or-*).

Concerning Τυρταῖος, assuming that the derivation of this name from 'fourth' is correct, the expected vocalization of the ordinal would be **kʷtu̯r̥tó-*. In Proto-Greek, this would undergo simplification of the onset to yield **tu̯r̥tó-*, and the absence of assibilation in this form could be accounted for with the assumption that **kʷtu̯-* was still intact when **tu̯-* > **ts̯u̯-*. Could it be that this **tu̯r̥tó-* 'fourth' was re-vocalized as **turtó-*? From a purely phonetic viewpoint this is conceivable, but the idea seems contradicted at least by σάρξ reflecting **tu̯r̥k-*. Moreover, it must be taken into account that the first part of the word for 'table', attested as τράπεζα and Myc. *to-pe-za*, is usually reconstructed as **kʷtu̯r̥-* as well. In that word, however, there is no trace of the putative **u̯*.[75]

To be sure, it would be possible to resolve these issues. The reconstruction of 'table' as referring to a four-legged object is not certain, as we will see in chapter 2. For the word for 'meat', one might assume that an earlier **turk-* was reshaped as **tu̯r̥k-* under the influence of a full grade **tu̯órk-*. This leaves us with Τυρταῖος, but it would not be prudent to base far-reaching conclusions on the interpretation of a personal name.

To conclude this section, κυρτός < **kʷr̥tó-* and λύκος < **u̯l̥kʷo-* may well display rounding of an anaptyctic *shwa* next to a labiovelar. One of these examples concerns **r̥*, the other **l̥*, so there is not much evidence to go by. The phonetic

74 In fact, this **tu̯ór-to-* could be identical to the pre-form required for the Avestan adj. *ϑβāšʿa-* 'quick' (on this word, cf. *EWAia* s.v. *TVAR*).

75 Moreover, evidence for a simplification **tu̯r̥* > **tr̥* under certain conditions must be taken into account: cf. section 2.7 on **kʷetr̥-* 'four' and **kʷétr̥to-* 'fourth'.

environment in *u̯ḷ̥kʷo- is highly specific: in this word, the syllabic liquid was flanked by two labialized sounds. Nevertheless, as far as I have seen there is no counterevidence against a development *Kʷr̥- > *Kur- (*Kʷ = any labiovelar), as the vocalism of βραδύς 'slow' from *gʷr̥d-ú- may be analogical (see chapter 4).

1.3.3 *The o-Colored Reflex of the Syllabic Nasals*

The Greek vocalization of the syllabic liquids is often compared with that of the syllabic nasals.[76] The rationale behind this comparison is that all syllabic sonorants may be reflected 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 or *m̥.

There are, however, also some important differences between the regular development of *r̥ and that of the syllabic nasals. The following brief discussion will not solve all problems concerning the syllabic nasal reflexes; the goal is merely to argue that the changes affecting the syllabic liquids were chronologically later, and therefore best considered independently.

First of all, we must note 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). However, 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*.[77] This fact by itself suffices to show 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 stage [ə̃]. On the other hand, *r̥ and *ḷ were vocalized due to the phonemicization of an anaptyctic vowel; in this process the liquids were retained as independent segments.[78]

The main problem is to explain the conditioning of the reflex *n̥, *m̥ > *o*. Many scholars accept the thesis, first formulated for Mycenaean by Risch (1958: 160 n. 40) and taken up by Morpurgo Davies (1960), that the *o*-colored reflex is due to a neighboring labial consonant.[79] The strongest examples for this devel-

76 For instance in Risch (1955), Bader (1969).

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

78 Cf. Wathelet (1970: 175), who also remarks that an earlier vocalization of the syllabic nasals (as compared with the syllabic liquids) is paralleled in Indo-Iranian.

79 Thus, for Mycenaean, Lejeune (1972: 198), Leukart (1994: 110), Sihler (1995: 98). These three

opment are *a-no-wo-to* /anoʰwoto-/ 'without handles' < **an-ou̯sn̥-to-* (cf. Hom. οὔατα 'ears') and *e-ne-wo*° 'nine-' < PGr. **en(n)eu̯n̥* (Class. ἐννέα).[80] Conditioning by a neighboring labial consonant would also explain why Myc. has *a-mo* 'wheel' (also nom. pl. *a-mo-ta*, dat. pl. *a-mo-si*) corresponding to Hom. ἅρμα, ἅρματα 'chariot', and *pe-mo* 'seed' (if this represents /spermo/ rather than /spermōn/) beside alphabetic σπέρμα 'id.'.[81] It could also explain the Homeric forms ὄπατρος 'of the same paternal ancestry' < **sm̥-ph₂tr-o-* and οἰετέας 'born in the same year' < **sm̥-u̯etes-*, assuming that such forms are of Mycenaean origin.[82] However, these forms with copulative ὀ- cannot carry too much weight: Ruijgh (1961: 201) explains them 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(o)-*, ὁμο- before consonants) after the model of ἀ- beside prevocalic ἀν-.

There is, however, a severe problem with the idea of labials as a conditioning factor. A variation *a* ~ *o* is found in a small number of Mycenaean neuters. The forms with *-a-* are:

– *pe-ma* /sperma/, found also at Pylos, but only in one scribal hand and beside the much more frequent *pe-mo*;

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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 Myc. *o-wi-de-ta-i* and *o-mi-ri-jo-i* as possible examples, forms which he interprets as **n̥-u̯idetāhi* 'to the invisible [deities]' and **n̥-mrioihi* 'to the immortals'. More recently, Hajnal-Risch (2006: 212–213) and Thompson (2010: 191–192) argued in favor of the labial conditioning. See Thompson (1996–1997: 316–320) for an overview of the potential Mycenaean evidence for **N̥*.

80 It has been repeatedly observed (e.g. Ruijgh 1961, Wathelet 1970) that much of the alleged 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. I agree with Thompson (1996–1997: 319) that it is difficult to explain Myc. *e-ne-wo* by analogy.

81 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). The reconstruction **dm̥-pot-ā-*, however, is by no means certain: an *o*-grade **dom-* cannot be excluded. Myc. *da-ko-ro* is an occupational term, and usually compared with class. ζάκορος 'temple servant'.

82 In οἰετέας, οἰ- spells (metrically lengthened) /ō/ before a following ε. The third form with 'copulative' ὀ- in Homer is acc. pl. ὄτριχας (*Il.* 2.765). It could be argued that its ὀ- was taken over from οἰετέας, which directly follows it in the same line. Homeric ὄπατρος is clearly an archaic form, because it is attested twice in the verse end κασίγνητος καὶ ὄπατρος (*Il.* 12.371; acc. sg. *Il.* 11.257). Two other attestations of copulative ὀ- are found in Hsch.: ὄζυγες· ὁμόζυγες and ὀγάστωρ· ὁμογάστωρ.

– *AREPA* /aleip^{h}ar/ 'unguent', dat. *a-re-pa-te* /aleip^{h}atei/; *a-re-pa-zo-o* /aleip^{h}a-dd^{j}oho-/ 'unguent boiler' but also *a-re-po-zo-o* /aleip^{h}o-dd^{j}oho-/;
– ins. sg. *e-ka-ma-te* /hek^{h}matē/ and pl. *e-ka-ma-pi* /hek^{h}ma(p)p^{h}i/ < *hek^{h}-$m\underset{\circ}{n}t$- 'with support(s)' (part of a table), to be compared with Hom. ἔχμα 'support, prop' (of a ship or a wall).

These forms constitute a well-known crux of Mycenaean studies.[83] I will not attempt to review all previous solutions, but instead discuss Ruijgh's solution in more detail, as it is well-known and directly related to his views on the syllabic liquids.[84]

Since Mycenaean also shows neuters in /-ma/,[85] Ruijgh argued that the syllabic nasals had *a*-colored reflexes in all Greek dialects. In his view, the above-mentioned *o*-colored reflexes in Mycenaean originated in heteroclitic stems with nom.-acc. *-$\underset{\circ}{r}$, gen. *-$\underset{\circ}{n}$*tos*. Word-final *-$\underset{\circ}{r}$ would have regularly yielded *-or* in 'Achaean' and Aeolic dialects (i.e. the same vowel color as in word-internal position, but a different slot), while *-$\underset{\circ}{n}$*tos* developed into *-*atos*, as elsewhere.[86] He adduces the Homeric words ἦτορ 'heart' and ἄορ 'sword', which in his view are 'Achaean' elements of Epic Greek, as evidence for this development. Next, the heteroclitic paradigm could be leveled in two different directions. In literary Lesbian, a paradigm with -αρ, -ατος was the result, and Ruijgh sees the same levelling reflected in Mycenaean *AREPA*, *a-re-pa-te*, *a-re-pa-zo-o*.[87] In addition, he supposes that these heteroclitic stems had "doublets" in *-*or*, *-*otos* in Mycenaean, which arose by leveling in the opposite direction. This assumption allows him to explain the *o*-vocalism in words like *a-mo* and *pe-mo*: the "double flexion" (oblique forms in *-at-* beside *-ot-*) would have secondarily spread to non-heteroclitic neuters in *-$m\underset{\circ}{n}(t)$, and finally even to the nom.-acc. sg. of such forms.[88] Thus, alleged traces of such "doublets" are *pe-mo* beside *pe-ma* and *a-re-po-zo-o* beside *a-re-pa-zo-o*, while *e-ka-ma* would have retained the original *a*-vocalism and *a-mo* generalized the "doublet" with *-ot-*.

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83 Hajnal (in Hajnal-Risch 2006: 212 ff.) summarizes various proposals. With Thompson (1996–1997 and 2002–2003), I am pessimistic about the possibility to distinguish "mycénien normal" from "mycénien spécial".

84 E.g. Ruijgh (1961: 205; 1967: 100–101), followed by Wathelet (1970: 173–175).

85 According to Ruijgh (e.g. 1961: 203), the form *e-ka-ma-pi* shows that the labial environment cannot be responsible for the rounded outcome.

86 Ruijgh (1961; 1985: 153 ff.).

87 However, an alternative is that the literary Lesbian forms in -αρ are epicisms or borrowings from Ionic (see section 3.3.3) or that they display the Pan-Greek regular reflex of word-final *-$\underset{\circ}{r}$.

88 And also to the word for 'ear' (cf. Myc. *a-no-wo-to*), which belongs to a different type of heteroclitic.

This construction fails to convince for several reasons. First, as remarked by Cowgill, it is unlikely that the heteroclitic stems (a relic type) influenced a highly productive type like the neuters in *-*mn̥*(*t*), "especially when that influence consists in the creation of new doublets, rather than the favoring of one or another inherited form or the leveling of some anomaly" (Cowgill 1966: 90). Secondly, it is implausible that two suffix variants *-at-* and *-ot-* served as the productive marker of a morphological category in one single dialect. Thirdly, Ruijgh's scenario does not explain the distribution between *-mo* and *-ma*, and it is particularly problematic that only a marginal lexical item like *e-ka-ma* would have resisted analogical reshaping. Finally, there is no unambiguous proof that heteroclitic neuters in *-*r̥* ever had a nom.-acc. sg. in /-or/ in Mycenaean: the evidence rather points to /-ar/, and the dialectal origin and reconstruction of Homeric ἦτορ and ἄορ remains uncertain (see section 9.5). Ruijgh's scenario therefore cannot be correct.

In sum, it still seems more likely that the *o*-colored Mycenaean reflex of syllabic nasals was conditioned at least by surrounding labials. This would explain several isolated forms, as well as the pervasive *o*-vocalism of Myc. *a-mo* < PGr. **ar-mn̥* and the fact that *pe-mo* is the normal form at Pylos (with the exception of one single hand). However, it must be admitted that *e-ka-ma* and the variation *pe-ma* ~ *pe-mo* continue to present problems, and that there may have been other conditioning environments for the *o*-colored reflex.[89] Finally, it must be noted that **m̥* normally does not have a different reflex from **n̥* in Mycenaean (nor in Aeolic dialects): for the development **m̥* > *a*, cf. Myc. *a*$_2$*-te-ro* /hatero-/ 'next [year]' < **sm̥tero-* "the other [year]".

In the remainder of this work, the syllabic nasals will only play a marginal role. In my explanation of numeral forms like Myc. *qe-to-ro-*, Thess. πετρο-, Class. τετρα- (section 2.7), I will argue that these dialectal differences can be explained by analogy with the corresponding differences in 'nine' and 'ten'.[90]

89 Hinge (2007: 146–147) has proposed that the *o*-colored reflex was conditioned by a following sibilant in εἴκοσι (with assibilation, as opposed to Dor. ἴκατι) and a few other cases. Although this thesis has not found wide acceptance (no doubt because several of the etymologies provided by Hinge are not compelling), I agree with him that εἴκοσι can hardly be an analogical form.

90 See sections 2.6, 2.7 and 3.3.1. Ruijgh (1961) 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 -ο from ὀκτο (attested as such in Boeot. and Lesb.), which would itself have developed from ὀκτώ under influence of δύο beside δύω. Subsequently, the final -ο would have spread to 'nine' and 'ten'. This scenario is accepted by Haug (2002: 51). However, even if influence of 'two' on 'eight' is accepted, it is remarkable that in a sequence ἑπτά—ὀκτό—ἐννέα—

Furthermore, in chapter 9 it will be argued that certain instances of -ρα- reflect pre-forms of the shape *$Cr\underset{\circ}{n}C$, e.g. γράω 'to eat, digest'.

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

Let us now turn to the central issue of this study, the double reflex -αρ- versus -ρα- of Proto-Greek *$\underset{\circ}{r}$ in Attic and Ionic dialects. The claim defended in this book is that only -αρ- was the regular reflex of Proto-Greek *$\underset{\circ}{r}$. From the perspective of the Greek evidence usually marshalled, this is an unexpected result. However, if we compare the reflexes of *$\underset{\circ}{r}$ in other Indo-European languages, we find that the anaptyxis normally occurs in front of the vowel: cf. PGmc. *ur, ul, Arm. ar, PAnat. ar, PToch. $är$, Proto-Balto-Slavic *ir/ur, *il/ul. The only branch of Indo-European showing regular anaptyxis after the liquid is Celtic: the Proto-Celtic reflexes are *ri, li (though only before stops and m: in other contexts the reflex is *ar).[91] Within Greek, as we will see in chapters 2 and 3, only the Aeolic dialects provide clear evidence for an anaptyctic vowel developing after the liquid. Seen in this light, the claim that *$\underset{\circ}{r}$ regularly yielded -αρ- already appears to be much less outlandish.

An instructive treatment of the evidence in Ionic-Attic is Kuryłowicz (1968: 247), who cites the following evidence in favor of a regular development to -ρα-:

> Dass -ρα- lautgesetzlich ist, beweisen Gegensätze wie δέρκομαι : ἔδρακον; πέρθω : ἔπραθον; νημερτής aber ἔμβραται· εἴμαρται und ἐμβραμένη· είμαρμένη (Hesych);[92] 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*.

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* is the regular reflex of *$ene\underset{\circ}{u}$ due to the preceding labial consonant; similar for Lesb. ενοτος, and see now also Arc. ενϝοτος, Carbon-Clackson 2016). From 'nine' and perhaps also 'eight', the final *-o* could spread to 'ten'. The forms δεκο, δεκο-, δεκοτος (the latter attested in Thess. and Lesb., and possibly in Myc. *de-ko-to* PN) could then easily induce further analogical changes, such as Arc. πεμποτος for πέμπτος.

91 For the Celtic evidence, see section 9.4.

92 The etymology of this example is misunderstood by Kuryłowicz, because ἔμβραται is derived from the root of μείρομαι 'to receive as a share', but νημερτής from that of ἁμαρτεῖν 'to miss'. Moreover, ἔμβραται is not an Ionic-Attic form (it is ascribed to the Syracusan mimographer Sophron); see section 3.2.2.

Although not all these examples are equally compelling, this is certainly an impressive list. One fact deserves special attention: whenever *CraT-* appears as the zero grade reflex of a root of the structure *CerT-*, it usually cannot be explained by analogical mechanisms.

The apparent impossibility to give a different explanation for -ρα- in such paradigms as δέρκομαι : ἔδρακον and πέρθω : ἔπραθον has always strengthened the conviction that -ρα- is the regular reflex of **r̥* in Ionic-Attic. This is, however, not the end of the story. As was recognized long ago, there are also cases of -αρ- < **r̥* in roots of the structure *CreT-*. Osthoff (1879: 144–145) and Güntert (1916: 72) drew attention to κάρτα 'very' beside κρατύς (κράτος, κρατέω, κραταιός), as well as ταρφύς, ταρφειαί 'dense, frequent', τάρφος 'thicket' beside τρέφω. Güntert eventually dismissed κάρτα in view of the possibility that Goth. *hardus* 'hard' is etymologically related, and waved away ταρφύς and τάρφος with the claim that they are artificial epic creations.[93] Neither of these claims can be substantiated: κάρτα clearly belongs to the root κρετ-, with a different full grade slot, and 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-* in roots of the structure *CeRT-* induced a hesitation about the correct zero grade of roots of the structure *CReT-*.[94] It remains unclear, however, why hesitation about the correct zero grade would occur at all in roots with an otherwise unambiguous full grade slot. Kuryłowicz does not explain why this "morphologically conditioned" -αρ- is found precisely in καρτερός, κάρτα and ταρφύς and not in other forms, nor why there are no by-forms ˣκράτα and ˣτραφύς. It is difficult, then, to dismiss κάρτα, καρτερός, and ταρφύς so easily as Güntert and Kuryłowicz did.

Another important problem concerns the existence of doublets of the type καρτερός ~ κρατερός. In addition to words with the root καρτ- ~ κρατ-, Kuryłowicz (1968: 247) mentions the following pairs of forms:

93 For Osthoff's explanation, see section 1.4.5 below.

94 "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 ταφερή (γῆ) 'feste Erde, Festland'." (Kuryłowicz 1968: 247).

> μάρπτω und βράψαι; βάρναμαι (neben μάρναμαι) setzt *βράναμαι voraus; παρδεῖν : πραδεῖν; καρδία : κραδία; ἔδαρθον : ἔδραθον (poet.); (…) ταρπῆναι (…), aber τραπείομεν.

These examples are either true doublets (attested with both -αρ- and -ρα-), or could be taken to suggest the earlier existence of a doublet. Güntert (1916: 71–72) adduced several further examples, but most of them do not survive closer scrutiny;[95] Kuryłowicz rightly restricted himself to a group of more central examples.

In all the cases listed above, Kuryłowicz views the form with -ρα- as presenting the older reflex. Starting from the idea that -ρα- is the regular reflex of *$\mathring{r}$, most previous accounts use one or more additional hypotheses in order to explain the occurrence of forms with -αρ- that cannot be due to analogical restoration.[96] The following are the most notable proposals:

– There was originally free variation between -ρα- and -αρ- (or, before the phonologization of *shwa*, between [rə] and [ər]). Eventually, one of these variants was generalized in each lexeme, but in some cases older variants were preserved, especially in poetry.[97]

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95 For instance, Güntert mentions γράφω 'to write'; this is indeed related to G. *kerben* 'to carve', but the Greek dialects show evidence for an *o*-grade γροφ-, the vowel slot of which might be older than that of the Germanic word. Other examples adduced by Güntert include βράκανα (n. pl.) 'wild vegetables' (Pherecr. *apud* Ath. *Deipn.* 7.102; lexicographers) beside OHG *moraha* 'carrots' (these words are clearly borrowings; Greek βράκανα is closest to Ru. *borkan'* 'wild carrot': see Kroonen, *EDPG* s.v. **murhōn-* with references); ῥάδαμνος 'branch' (*LXX*) has a variant ὀρόδαμνος (Thphr.+); ῥάπτω 'to sew' has no clear etymology (it is not related to Lith. *verpiù* 'I spin' in view of forms like Myc. *ra-pte-re*); the root vowel of δράσσομαι 'to grasp with the hand' may be the reflex of a syllabic nasal (section 9.2.1); and the comparison between τράμις 'perineum' and PGmc. **þarma-* 'intestine' is a mere root etymology, cf. the judgement of Kroonen, *EDPG* q.v. ("potentially related … No further etymology"). The dubious status of a number of these etymologies is discussed in more detail elsewhere in this book.

96 Rix (1992: 65) only mentions the possibility of analogical influence of the full grade. Sihler (1995: 92) explicitly admits that the problem has not yet been solved, and gives a fairly 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." The arguments and conclusions of O'Neil (1971) are so manifestly misguided that they require no extensive discussion. Idiosyncratic ideas about the coloring of the anaptyctic vowel are found in Wyatt (1971) and Bernabé (1977), but these authors do not deal with the place of the anaptyctic vowel, the issue with which we are especially concerned here.

97 Chantraine (1958: 23).

– An accent-conditioned development, according to which only (secondarily) accented *$\acute{r}$ would yield -άρ-.[98]
– Liquid metathesis of -ρα- and -ρο- yielded -αρ- and -ορ-, respectively.[99]
– /CaRT-/ replacing /CRT-/ is a secondary (analogical or morphologically conditioned) ablaut variant of /CeRT-/ that arose before the vocalization of *R.[100]
– -αρ- is the regular reflex only after heavy onset clusters, -ρα- elsewhere.[101]

I will now discuss these proposals and the problems with them one by one.

1.4.1 *Free Variation between -ρα- and -αρ- at an Early Stage*

In his *Grammaire homérique*, Chantraine observed that doublets of the type καρτερός ~ κρατερός are mainly found in Homer. He mentions the examples shown in Table 2 on the opposite page. Chantraine (1958: 23) proposes that these pairs originated as follows:[102]

> Dans le développement des sonantes r et l 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.

Phrased in this way, Chantraine seems to accept both -αρ- and -ρα- as regular outcomes of *r. He does so in order to explain the choices apparently available to epic singers. This would not explain, however, why the variation occurs only in these specific words, and thus it would amount to a resignation to the

98 Kretschmer (1892), Schwyzer (1939: 342), Klingenschmitt (1974: 275), Hajnal-Risch (2006: 102–103; 202–205).

99 Hirt (1901: 232–238), Lejeune (1972: 196–197), Risch (1979a: 98–99), Thompson (2002–2003: 355–362), Hajnal-Risch (2006, l.c.).

100 Kuryłowicz (1956: 174–187; 1968: 243–247), García Ramón (1985), Hajnal (1997: 145–150).

101 Osthoff (1879: 144–145), Hoenigswald (1953; 1968; 1988), Lubotsky (1994: 97).

102 Chantraine (1958: 23–24) gives the following discussion: "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."

TABLE 2 Doublet forms in which αρ alternates with ρα in Homer

Ionic-Attic	Homeric
Att. καρδία, Ion. καρδίη 'heart'	κραδίη ~ καρδίη
θάρσος, Att. θάρρος 'courage' (but also Att. θράσος 'audacity')	θάρσος ~ θράσος
Ion.-Att. καρτερός 'strong'	κρατερός ~ καρτερός
Ion.-Att. τέταρτος 'fourth'	τέταρτος ~ τέτρατος
Att. βραδύς 'slow'	βραδύς, superl. βάρδιστος.

problem.[103] On a more charitable reading, Chantraine may be taken to assume that at some point, before the vocalization was phonologized, forms with [rə] and with [ər] were in competition. Only Epic Greek would preserve traces of the hesitation between these two competing realizations, and only in a small number of cases both variants were retained, because of their metrical utility.

This idea deserves attention because it would explain why *variation* between ρα and αρ *in the same lexeme* is practically limited to Epic Greek.[104] It is, however, not without problems. First of all, it entails that variation between forms like καρτερός and κρατερός existed already before the vocalization of *ṛ (i.e. before the phonologization of one of the supposed variants [rə] and [ər]). Since this stage is normally dated to before the Mycenaean period, this scenario would require a very long time depth for the epic tradition. Secondly, one would like to see other compelling reasons for assuming a true hesitation between the phonetic realizations [ər] and [rə] in spoken prehistoric Greek. Thirdly, admitting that the variation between ρα and αρ is an artificial phenomenon does not explain the presence of forms with the reflex αρ (like καρτερός) in the Attic vernacular.

If the creation or retention of pairs like καρτερός ~ κρατερός were due to metrical convenience only, it would be difficult to understand why such variation was exploited only on a limited scale. In the course of this book, we will repeatedly focus on the distribution of forms with -αρ- and -ρα-, especially among forms containing the root κρατ- ~ καρτ-, and we will encounter various salient distributions. Such details remain unexplained if we assume that the poets

103 For such a resignation, see Goldstein (2013): "The alternation between *ra* and *ar* or *la* and *al* may have been to some extent conditioned by speech tempo and register. As such, the precise conditions of their distributions may be unrecoverable."

104 For instance, in Herodotus all instances of κρατερός appear in oracles or otherwise clear epic reminiscences; the normal form is καρτερός.

could choose whichever variant they liked. For this reason, explanations along the lines of Chantraine are unlikely to be correct.

1.4.2 *Accent-Conditioned Development*

Schwyzer, in his *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. *dṛ́ti-* 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 (…).

It would not be inconceivable that the reflex of **r̥* depended on lexical accentuation. As a parallel case one might adduce Avestan, where the reflex of **r̥* is *-ərə-* when unaccented (e.g. YAv. *mərəγa-* 'wild animal', cf. Ved. *mr̥gá-* 'id.'), but *-əhr-* when accented (e.g. YAv. *vəhrka-* 'wolf', cf. Ved. *vŕ̥ka-* 'id.').[105]

However, whether such a scenario offers a feasible explanation in the case of Greek must ultimately depend on the data. In the above formulation by Schwyzer, it is not indicated how the difference between καρτερός and κρατερός, both with the same accent, is to be explained. Moreover, the widely advocated analogical explanation of καρδία, in which -αρ- would be due to the influence of etymologically related κῆρ, is not straightforward either (see chapter 6). These and similar problems arouse suspicion as to whether an accent rule can solve the problem of the double reflex.

The view canonized in Schwyzer's grammar goes back to Kretschmer (1892: 391–394). Kretschmer's main argument for the accent rule were the Homeric particles ἄρ (accented) beside ῥα (unaccented), which in his view retain the original distribution. For both particles, he started from a pre-form PIE **r̥*. Other examples adduced by Kretschmer include the gloss στάρτοι· αἱ τάξεις τοῦ πλήθους 'divisions of the people' (Hsch.), with retracted accent (beside the normal form στρατός 'army') and μάρτυς 'witness', which he connected etymologically with βραβεύς 'arbiter'. However, none of his examples is probative.

105 According to Frotscher (2012) the reflex of word-final **-r̥* in Indo-Aryan was also dependent on the accent: in his view, unaccented **-r̥* yielded *-ar*, as against accented **-ŕ̥* > *-úr*.

Although there is no dialect indication for στάρτοι in Hsch., the gloss must be from Cretan, where -αρ- is the regular reflex also in unaccented position (see section 3.1) and where σταρτος is indeed attested more or less with the meaning glossed by Hesychius. An etymological relation between βραβεύς and μάρτυς cannot be maintained for apparent reasons. Moreover, a resolution of the problem of -αρ- versus -ρα- cannot be based on the particles ἄρ and ῥα, if only because the reconstruction of their pre-form is uncertain (and they probably do not reflect **CL̥T*).[106] Finally, as pointed out already by Grammont (1895: 26), Kretschmer did not consider the counterevidence to his rule. Of the counterexamples adduced by Grammont, κατέδαρθον 'slept' and τέταρτος 'fourth' deserve to be mentioned; to these I would add καρτερός, ταρφύς, and καρπός.

In more recent times, Klingenschmitt (1974: 275–276) has tried to revive Kretschmer's idea. This attempt is often cited with approval, but as I will argue in section 2.5.3, Klingenschmitt's patchy argumentation does not withstand closer scrutiny.

1.4.3 *Liquid Metathesis*

Since Kretschmer's accent rule does not account for all instances of -αρ- < **r̥*, some scholars have invoked liquid metathesis as an additional mechanism. Hirt (1901: 232–238) argued as follows. On Crete, -ρο- appears to have undergone metathesis to -ορ- in the forms πορτι (Hom. προτί) and Αφορδιτα (Ἀφροδίτη). Therefore, forms with -αρ- (frequently found on Crete) need not directly continue **r̥* but could also be due to metathesis from -ρα- (assuming that this was the regular outcome). Starting from this observation, Hirt proposed that metathesized forms with -αρ- may also occasionally appear in other dialectal areas, and were even utilized in Epic Greek because of their metrical utility. Another much-cited treatment of the problem is Lejeune (1972: 196), whose reasoning is similar to that of Hirt. Assuming that ρα is the regular reflex and αρ is analogical, Lejeune invokes the "mobilité générale des liquides dans le syllabe" in order to account for the problematic forms that remain, such as καρτερός ~ κρατερός.

However, forms like δρομος 'track' and κρονος 'time' (= Att. χρόνος) are also attested on Crete, constituting counterexamples to Hirt's scenario. For this reason, Hirt assumes that the supposed liquid metathesis operated on an irregular basis. As I will argue in section 3.1, a completely different scenario is more plausible: Cretan Αφορδιτα and πορτι may have the regular reflex of **r̥* after a preceding labial consonant. Moreover, given that -ρο- was retained in Cretan in

106 Cf. Haug (2002: 52) and section 1.2.3 with n. 55 above.

δρομος and κρονος, it is much more attractive to analyze -αρ- as the regular Cretan reflex (at least in non-labial environments). If this is correct, it refutes the idea of a regular liquid metathesis in Cretan, and it deprives the assumption of an incidental liquid metathesis in other dialects of a solid parallel.[107]

Against the suggestion that liquid metathesis may operate irregularly, it must be stressed that this phonetic development in fact often operates in a completely regular and predictable way, 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 metathesis of unaccented **ər* to *rə* in Le Havre French (Blevins & Garrett 1998), which seems to be conditioned by a following labial fricative or labial nasal. Thus, to assume an irregular liquid metathesis does not account for the difference -ρα- versus -αρ-: it merely amounts to admitting that one is unable to indicate a historical condition for the attested distributions.[108] 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.

1.4.4 *Secondary Ablaut TeRT- : TaRT-*

In his discussions of Indo-European ablaut, Kuryłowicz has suggested that in what he called the "Southern" Indo-European languages (comprising the branches of Greek, Italic and Celtic), a secondary zero grade **TaRT-* could be introduced, replacing forms of the structure **T̥RT-* before a vowel. An example from Latin is *carpō* 'to pluck' (root PIE **kerp-*), where ˣ*corpō* would be the expected outcome of **kr̥p-e/o-*. Kuryłowicz (1968: 243) proposes the following scenario. The disappearance of laryngeals in roots of the structure *TeRH-* in Celtic, Latin and Greek led to the emergence of an ablaut pattern *TeR-V-* : *TaR-V-*

107 Hirt (1901: 238) further believes that Homeric -αρ- may be due to metrical constraints: 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". On an earlier occasion, Hirt had remarked: "Die Hauptargumente für unsere Ansicht werden bleiben: der Lok. Plur. πατράσι, und ὑπόδρα(κ) zu δέρκομαι." (Hirt 1897: 158).

108 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 claims that Hirt's discussion (which starts 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 hypothesis is protected against undesired falsification—clearly an *ad hoc* strategy.

< *T$\underset{\circ}{R}$H-V-* in forms where the zero grade was followed by a vowel. This pattern was then analogically transferred to roots of the structure *TeRT-*, yielding secondary ablaut *TeRT-* : *TaRT-* in cases where the suffix started with a vowel. This would explain why we find secondary zero grades like *carpō* mainly with roots of the structure *TeRT-* and only rarely with roots of the structure *TReT-*, where there was no corresponding model of the type *TRe-* : *TRa-*.

Kuryłowicz's scenario has been embraced by various scholars, including García Ramón (1985) and Hajnal (1997: 146–150). It is problematic, however, that the evidence for secondary zero grades of the type *$T\underset{\circ}{R}T$- → *TaRT-* is not at all widespread across the Indo-European realm. All nine roots adduced as evidence by Kuryłowicz (1968: 243–244) have a Latin example with *a*-vocalism, and in at least seven of these cases the Latin forms are the only reason to posit a secondary zero grade **TaRT-*. Indeed, the Latin *a*-vocalism remains problematic,[109] but this is a problem belonging to the prehistory of Italic: Kuryłowicz's idea of a "Southern" subgroup of Indo-European cannot be upheld.[110]

Further problems arise once the actual Greek evidence for secondary ablaut is considered. To be sure, there are well-known cases of secondary zero grades in Greek: for instance, the intransitive aorist ἐρράγην (ῥήγνυμι 'to break', PIE root *$\underset{\circ}{u}reh_1\acute{g}$-*) replaces the expected form *ἐρρήγην < **e-$\underset{\circ}{u}rh_1\acute{g}$-eh$_1$-* by analogy with cases like ἐπάγην (πήγνυμι 'to fix; make solid', PIE root **peh$_2\acute{g}$-*).[111] However, in such cases we are dealing with the extension of already-existing ablaut patterns, not with the special creation of a morphologically conditioned reflex. I do not think that the Greek forms adduced by Kuryłowicz require such a drastic explanation.

For *TaNT-* replacing *$T\underset{\circ}{N}T$-*, Kuryłowicz cites only two examples: κάνδαρος· ἄνθραξ 'piece of charcoal' (Hsch.), which is supposed to be related to Lat. *candeō* 'to shine', Ved. *cand* 'id.', and σκάνδαλον 'trap; outrage' (*LXX*+), which would be related to Lat. *scandō* 'to rise, ascend', Ved. *skand* 'to leap'. It is suspicious,

109 Schrijver has proposed a conditioning by adjacent pure velars (1991: 425–435), or an early phonologization of epenthetic vowels as /a/ before three consonants (1991: 488–498), but these suggestions do not seem to have met with general assent.

110 Kuryłowicz's claim that a secondary zero grade /CRaC/ was also formed to roots of the structure **CRHC* by analogy with roots of the type /CaC/ < **CHC* is rightly problematized by Hajnal (1997: 146), who notes that Greek has a triple reflex of **CHC*. On this basis, Hajnal (1997: 146–149) also criticizes Kuryłowicz's claims concerning an Indo-European origin of the secondary zero grade. Nevertheless, Hajnal retains the concept of secondary zero grades in order to account for *-aR-* as having a later, inner-Greek origin.

111 Hackstein (2002: 205–238) has argued for the spread of an analogical full grade ᾱ beside ᾰ in Greek, e.g. pf. τέθηλα 'to be abundant' beside θάλλω, τεθαλυῖα (quasi PIE **d^{h}e-d$^h\underset{\circ}{l}h_1$-us-ih$_2$*), and pf. μέμηλα, ptc. μεμᾱλότ- (Pi.) beside μέλω 'to concern', μελέτη 'care' (root **melh$_1$-*).

however, that neither κάνδαρος nor σκάνδαλον has an inner-Greek cognate formation with full grade root. In my view, neither etymology is compelling. Concerning κάνδαρος, the root PIE **kend-* 'to shine' qualifies bright, white light, especially that of the moon. Now, charcoal (ἄνθραξ) may glow, but it does not shine, and arguably blackness is a more specific characteristic of charcoal. As for σκάνδαλον, although the derivative σκανδάληθρον 'curved piece of wood in a trap' (Ar.+) assures the existence of this word for the classical period (cf. *DELG* s.v.), the derivation from **skend-*, accepted by both *GEW* and *DELG*, is not evident semantically.[112] Given its specialized technical meaning and the *a*-vocalism of the root, σκάνδαλον may well be a loanword, for instance from Pre-Greek (cf. *EDG* s.v.).

For secondary **TarT-*, the only Greek form mentioned by Kuryłowicz is ἅρπη 'sickle', related to OCS *srьpъ*, Latv. *sirpis*.[113] However, the Greek and Balto-Slavic forms can be explained as reflexes of a root noun **sr̥p-*: see section 9.6. García Ramón (1985: 217–218) has proposed to extend Kuryłowicz's explanation of Lat. *carpō* to Greek καρπός 'fruit; harvest'. Kuryłowicz' original idea was that Lat. *sarpiō* 'to prune (the vine)' and *carpō* 'to pluck' contained analogical prevocalic zero grades **TaRT-V-* of late-PIE date. This is, however, not the only possibility. For instance, Schrijver (1991: 493) has proposed that an *a*-vowel in Latin may have arisen in positions where it stood before three consonants, as in *sarptus* < **sr̥p-to-*, *carptus* < **kr̥p-to-*; subsequently the vocalism would have spread to other forms in the paradigm. Alternatively, Schrijver assumes that the *-a-* may have been taken from the semantically and formally close verb *sarriō* 'to hoe, weed'.

However this may be, the most important objection to Kuryłowicz's secondary ablaut remains that there is no obvious motivation for the assumed analogical introduction of *TaRT* as long as **TR̥T-* was still analyzable as a regular zero grade. His supposition that **TR̥T-* was felt to be ambiguous between **TReT-* roots and **TeRT*-roots does not seem a sufficient motive to me. Thus, both the lack of absolutely compelling evidence and the absence of a clear motivation for the allegedly 'morphologically conditioned' analogy are reasons to reject the concept of secondary ablaut in Greek forms with -αρ-.[114]

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112 *DELG* defines the original meaning as follows: "σκάνδαλον consistait en une barre de bois plus ou moins longue qui constituait, soit une partie d'un piège, soit la perche d'un acrobat."

113 The appurtenance of Celtic forms (OW *serr* 'sickle', MIr. *serr* f. *ā*-stem 'id.') is more uncertain. See section 9.6.1.

114 For a more detailed criticism of García Ramón's interpretation of καρπός and a number of Mycenaean forms, see section 2.2.

1.4.5 *Conditioning by Neighboring Consonant Clusters*

In his contribution to the second volume of *Morphologische Untersuchungen*, Osthoff (1879: 144–145) remarked that the outcome αρ < *r̥ in Greek cannot always be understood as analogical:

> Es gibt fälle, in welchen man dem αρ = r̥ 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.), Τιμοκρέτης 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.

In order to resolve this problem, Osthoff proposed that the coda of the preceding word could influence the development of *r̥:

> Hiess es ursprünglich ἡ κραδία mit κρα- im anschluss an das vocalisch auslautende, aber τῆς καρδίας mit καρ- hinter dem consonantisch schliessenden proklitikon?

One drawback of this hypothesis is that it cannot be tested against concrete distributions in the evidence: it merely posits the earlier, prehistoric existence of contextual sandhi treatments. Furthermore, the example adduced by Osthoff has no explanatory value, as the demonstrative ὁ, ἡ, τό had not yet been grammaticalized as a definite article when the syllabic liquids were vocalized. Finally, there are counterexamples such as στρατός and ὀφιόσπρατος (cf. already Kretschmer 1892: 391).

In the twentieth century, a solution along the same lines was attempted by Hoenigswald. He formulated his idea as follows (Hoenigswald 1968: 22):[115]

> 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..]).

115 Cf. also Hoenigswald (1953; 1988).

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.

This formulation has some plausibility in abstract phonetic terms (note that the anaptyxis in **CRH*, which took place before Proto-Greek, also depends on whether it is followed by a consonant or a vowel). However, like Osthoff before him, Hoenigswald never seriously considered the counterevidence to his claims. His scenario thus remains a paper exercise in phonetics and phonology.[116]

The idea of a special reflex -αρ- after a heavy initial cluster was advocated also by Lubotsky (1994), in a discussion of the reconstruction of σάρξ 'meat'. In his view, σάρξ regularly derives from a non-ablauting zero grade root PIE **tu̯rḱ-*. The shape of word-initial clusters would have automatically conditioned the vocalization: σπάρξαν (3pl. aor.) 'they wrapped' and σπάργανα 'swaddling-clothes' would display the regular reflex, while an initial cluster σπρ- (unattested in Greek) was impossible, according to Lubotsky. He also mentions the forms ἄσφαλτος, σκαλμός, and φθάρμα. However, the suggestion that onsets such as /spr/, /spl/, /sp^{h}r/ were not allowed when the syllabic liquids were vocalized lacks a clear motivation: the onset cluster /str/ is not problematic at all (cf. στρωτός 'spread out' < PIE **strh$_3$-tó-*, which existed in the same form already

116 The same is true of Grammont (1948: 285–286), who also ascribed the fluctuation between αρ and ρα as reflexes of **r̥* to the rhythmical structure of the preceding syllable. Hoenigswald (1953: 289–290) claims that he found a confirmation of his idea in the concrete distribution of the particles ἄρ and ῥα (ῥ') in Homer. In his view, these forms represent different vocalizations of **r̥* depending on the weight of the preceding syllable. Originally, ἄρ would be found after closed syllables with a bimoraic nucleus (e.g. τὴν ἄρ), while ῥα would be used after long vowels, diphthongs and closed syllables with a short vowel (e.g. τῇ ῥα, ἦ ῥα, τόν ῥα, but rarely τήν ῥα). Hoenigswald points out that the type τήν ῥα occurs only 8 times on 91 occurrences of unelided ῥα in the first twelve books of the *Iliad*. However, it is not clear how significant this distribution is. In any case, even if this distribution were significant, it does not follow that ῥα (ῥ') reflects a pre-form **r̥*, as the particle was clearly utilized widely in Homeric Greek to make position length or to gain a syllable; this fact by itself explains why ῥα normally does not follow syllables that are long by nature. Moreover, I doubt whether the pre-form of ἄρ and ῥα was **r̥* (perhaps it was rather **hr̥*, see section 1.2.3).

in Proto-Greek when the laryngeals were vocalized); an onset /skl/ is found in σκληρός 'withered' (probably reflecting *$sklh_1$-*ró*- with a zero grade root); and /spl/ appears in σπλάγχνα 'intestines' and σπλήν 'spleen'.[117] Thus, there appears to be no particular phonotactic reason as to why *$spr̥C$- had to be vocalized as σπαρC- rather than σπραC-.[118]

In sum, there is no sufficient reason to suppose that the dialectal vocalization of *$r̥$ in Greek depended on the number of preceding or following consonants. Note that this may have been different for **CRHC* in Proto-Greek: see section 1.2.1 and Van Beek 2021b.

1.5 Accounting for *$r̥$ > -ρα-

As we have seen, previous scholars have applied almost the entire linguistic toolkit to the problem of -αρ- versus -ρα- in Ionic-Attic, but without being able to explain all the attested forms. Within the framework of a regular change to -ρα-, it does not appear to be possible to account for forms like καρτερός, κάρτα, καρπός and ταρφύς. I therefore hypothesize that these forms with -αρ- are what they look like: the outcome of a regular sound change *$r̥$ > -αρ- in Proto-Ionic. We will encounter more evidence for this reflex along the road: see section 9.6 and, for an overview, section 12.5.

This means, however, that an account will have to be given of all forms with -ρα- < *$r̥$. This is the main task of chapters 4, 5, 6 and 8. In the present section, I set out the main lines of my argumentation, anticipating some of the conclusions to be reached.

1.5.1 *Distributions and a New Scenario*

Let us start with some remarkable distributions (discussed in more detail in section 6.1):

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117 As for σφρηγίς 'seal; brandmark', it is unclear whether this reflects a full grade root *sb^hreh_2g- or a zero grade *sb^hrh_2g-. For the etymology connecting this word with σφαραγέομαι 'to hiss', see Tichy (1983: 178–180) and Rico (2002).

118 As far as the examples adduced by Lubotsky are concerned, it is possible that σφαλ- should be reconstructed as *$sg^{wh}h_2el$- (cf. LIV² s.v. *$(s)g^{wh}h_2el$- and EDL s.v. *fallō*). The vowel slot of φθάρμα can easily be secondary, cf. the full grade seen in φθείρω 'to destroy' and its pf. -έφθορα, cf. also pf. mid. -έφθαρμαι, aor. φθαρῆναι 'to perish'. The pre-form of σκαλμός probably did not contain *$l̥$ (see section 10.1.10); the forms σπάρξαν, σπάργανα lack a clear etymology, meaning that they could owe their α-vocalism to the fact that they were borrowed.

– A clear majority of the forms with -ρα- < *$\mathring{r}$ are attested in Epic Greek, e.g. ἔδρακον, ἔπραθον, κραδίη, κρατερός. What is more, most such forms are all but restricted to Epic Greek.
– A number of forms with -ρα- < *$\mathring{r}$ have a corresponding by-form with -αρ- that is attested in Attic and/or Ionic prose: cf. Att. κατέδαρθον 'fell asleep' ~ Hom. κατέδραθον 'id.', Ion.-Att. καρτερός ~ poetic κρατερός, Ion. καρδίη ~ Hom. κραδίη.
– In some cases, the -αρ- variant is attested exclusively in prose (e.g. κατέδαρθον), in other cases the variants with -αρ- and -ρα- are both found in Homer (e.g. καρτερός ~ κρατερός, καρδίη ~ κραδίη).

In view of these distributions, it is worth investigating the possibility that the reflex -ρα- originated in the language of epic.

Before further following this line of thought, let us pause and inquire into the reasons for previous scholars to interpret the reflex -ρα- as a retained phonological archaism of Ionic-Attic. One motivation was, surely, that forms with -ρα- often have earlier attestations or more archaic phonology and/or morphology. For example, the regular aorist of τέρπομαι 'to enjoy' in Homer is ταρπῆναι, but the 1pl. subj. τραπείομεν 'let us get satisfaction' is also attested in a formulaic verse in Homer. Whereas the root vocalism of ταρπῆναι may obviously have been influenced by the full grade present stem τέρπομαι, the irregular form τραπείομεν looks like a phonological archaism of Ionic that was retained because of its metrical utility.

This account of τραπείομεν may seem plausible at first sight, but as we will see in section 6.8.5, it leads to various problems. Besides, a doublet like κρατερός ~ καρτερός does not admit of a similar explanation because καρτερός cannot be analogical. In chapter 5, I will show in detail how the variation between κρατ- and καρτ- came into being, and how it spread within the epic language by analogical mechanisms. Moreover, the common assumption that καρδίη (~ κραδίη) was analogically reshaped after κῆρ is also highly problematic, as I will argue in section 6.1. The same problem applies to τέταρτος (~ τέτρατος), which is usually assumed to have analogically acquired the vocalism of the cardinal τέτταρες, but not its geminated consonant (see section 2.6).

One might ask whether it isn't far-fetched to posit a special epic reflex -ρα-. In my view, it isn't. First of all, the Homeric *Kunstsprache* abounds in artificial formations whose creation was induced by metrical factors or the peculiarities of verse composition.[119] Against this background (cf. section 1.5.2), I suggest that Homeric forms like τραπείομεν have an artificial reflex -ρα- < *$\mathring{r}$. This idea

119 In the words of Chantraine (1958: 111), "toute la morphologie est commandée par des préoccupations métriques et nous aurons à chaque instant à faire appel à cette considération".

gains plausibility not only from the high concentration of forms with -ρα- < *ṛ in Homer and early epic texts, and more generally from the distributions just mentioned, but also from the metrical peculiarities displayed by various such forms. Words like τράπεζα 'table' and δράκων 'snake' regularly undergo *muta cum liquida* scansion, i.e. the sequence of plosive plus liquid does not close the preceding syllable. As we shall see in a detailed treatment of the Homeric material in chapter 6, this license is frequent in words reflecting *ṛ, but otherwise relatively uncommon. The same phenomenon is found in certain words with -ρο- from *ṛ, such as the dat. pl. βροτοῖσι 'mortals'. Wathelet (1966) therefore accounted for such scansions by assuming that they originated with the vocalization of *ṛ (which first yielded -ρο- in Mycenaean and/or Aeolic, which was later replaced with Ionic -ρα- in certain cases). In his view, the peculiar scansion was originally preserved in formulae, but later on the license acquired a somewhat wider currency, when it was gradually extended beyond the group of words with -ρα- or -ρο- reflecting *ṛ.

These conclusions were at first fairly broadly accepted, but there has also been criticism and dissent. The problematic aspects of Wathelet's argumentation will be further examined in chapter 6. For the time being, the evidence for *muta cum liquida* in forms with *ṛ > -ρα- may start to appear in a different light when considered against the idea of a regular sound change *ṛ > -αρ-. Could it be that *ṛ was retained 'artificially' for some time in the traditional language of hexameter verse after it had vocalized in the Dark Age vernaculars? If so, it is possible to view -ρα- as a later vocalization of this retained *ṛ. As we will see in chapters 5 to 8, this idea is corroborated by various other metrical peculiarities, including Hoenigswald's discovery that the double onset consonants of κραδίη are never used to generate position length in the *Iliad*. In other words, from a prosodic viewpoint, κραδίη appears to behave as if the underlying phonological form was still /kr̥diā/. Another issue that is explained in the new framework is the short scansion of the first syllable of the controversial form ἀνδροτῆτα (see section 1.5.3).

In view of the above arguments, I put forward the following scenario:

1. *ṛ regularly developed to -αρ- (-ρα- by analogy) in Proto-Ionic;
2. *ṛ was retained in Epic Greek at this point (it does not matter which dialect, Mycenaean, Aeolic or Ionic, was the 'epic default' at this stage);
3. At a much later date, this retained *ṛ developed to -ρα-, and probably to -ρο- after a labial consonant, within the epic language;

For artificial word-formation in Epic Greek, see Meister (1921), the papers collected in Witte (1972), and the recent overview by Hackstein (2010).

4. Forms with -αρ- (and with analogical -ρα-) were introduced into Epic Greek from the Ionic vernacular.

Within this new framework, a number of pieces suddenly fall into place. First of all, *$r̥$ had almost certainly vocalized already in Proto-Ionic and Proto-Aeolic, i.e. in the 11th century or even before that.[120] Assuming that the *Iliad* and *Odyssey* were composed somewhere around 700 BCE,[121] the retention of prosodic traces of *$r̥$ in Epic Greek is not a trivial assumption to make. If, on the other hand, *$r̥$ was retained in the epic *Kunstsprache* until not too long (around a century) before Homer, this would immediately explain why prosodic traces of *$r̥$ are still relatively frequent in the Homeric epics.

Secondly, and perhaps even more importantly, a solution for the problem of the double reflex -αρ- versus -ρα- comes within reach. This requires that we can give a convincing explanation for all forms with -ρα- < *$r̥$ that occur outside of Epic Greek, and that we can plausibly argue that Homeric forms with -ρα- < *$r̥$ are traditional elements of Epic Greek. These arguments involve digressions about subtle details, such as the lexical differences between the epic *Kunstsprache* and the vernaculars, the prehistory of the formulaic language, metrical lengthening, or the metrical behavior of certain prosodic word-types in Epic Greek.

A third potential advantage of this new scenario is that epic forms with -ρο-, especially those like βροτοῖσι displaying *muta cum liquida* scansion, can now be viewed as the outcome of a conditioned development, rather than as Aeolic forms. If we accept the broadly-shared assumption that forms like βροτοῖσι are Aeolic elements of the tradition, we are still left with the question how their pervasive *muta cum liquida* scansion can be explained, given that this license was highly exceptional in the Lesbian poets. Within a framework accepting the existence of an Aeolic phase, one could suppose that development 3 (the vocalization of retained *$r̥$) took place at that Aeolic stage, or at the transition from an Aeolic to an Ionic phase. In a diffusionist framework, one could assume that development 3 took place in both parallel traditions: -ρο- would be the reflex of retained *$r̥$ in the Aeolic tradition, -ρα- the reflex in the Ionic tradition. In

120 As we have seen in section 1.1.1, some scholars even claim (though without good grounds) that *$r̥$ was vocalized in all Greek dialects as early as the middle of the second millennium BCE. However, the interpretation of the Mycenaean evidence for the reflexes of *$r̥$ is not clear-cut: as I argue in chapter 2, a retention of $r̥$ in the Linear B tablets is not to be excluded.

121 For obvious reasons, I do not wish to take a strong position in the debate about the date of the *Iliad* and *Odyssey*, and about the genesis of the text. Nevertheless, if we assume that the largest part of both epics was composed somewhere between 750 and 650 BCE (the *Iliad* earlier than the *Odyssey*), this will in my view not be far from the truth.

this work, I will not make a choice between the two main competing scenarios concerning the genesis of the dialectal components of the epic tradition.[122] Instead, I advocate the possibility that most epic forms with -ρο- < *r̥ are merely Aeolic in appearance: in chapter 7 I argue that they arose by a conditioned development, reflecting retained *r̥ after labial consonants.

1.5.2 *Epic Greek versus Vernacular Dialects*

Let us now briefly recapitulate the aspects in which Epic Greek was different from the vernacular dialects, including varieties of Ionic and Aeolic.[123]

Epic Greek is the language of various sorts of poetry that were composed in hexameters. The prehistory of this language is the topic of fierce debates, but the following points are broadly shared among scholars:[124]

- Hexameter verse was used by oral poets to compose texts in various different genres and subject-types. These traditional genres include at least heroic poetry (remembering the deeds of men past) and catalogues (genealogy).[125] This manner of composition was used in *extempore* performance and facilitated the memorization and transmission of traditional knowledge.[126]
- The dominant dialectal element of Homeric language, as of most subsequent hexameter texts, is Ionic. However, this predominance *may* be of relatively recent date, as indicated by the presence of forms and morphemes that can never have existed in any pre-stage of Ionic.
- The non-Ionic elements were preserved (or adopted) because they proved useful in verse composition. A large number of these elements are archaisms

122 This is not the place to go into further details. Contrary to the views expressed in Van Beek 2013, I am no longer strongly opposed to assuming the presence of an Aeolic element in Epic Greek. My current impression is that Epic Greek does have a number of old mainland Aeolic features, but these entered the tradition at a relatively early stage, in the Mycenaean or sub-Mycenaean period. Arguments favoring this third alternative (a poetic *koinè* stemming from the Mycenaean period) have been adduced, among other scholars, by Hooker (1977) and above all by Hoekstra (1981).

123 Even in the case of Attic, the best-known Ancient Greek dialect, it is notoriously difficult to pin down exactly what the 'real' spoken language looked like (the style of all classical authors is elevated to a certain degree). For present purposes, however, it suffices to observe that the language of epic poetry has various characteristics (lexical, morphological, syntactic and stylistic) that are absent from texts belonging to other registers.

124 See Witte 1972; Forssman 1991; Janko 1994: 8–19; Hackstein 2010, among others.

125 I consider the cosmogonic aspects of Hesiod's *Theogony* and the didactic parts of the *Works and Days* to be secondary genres with respect to heroic poetry and catalogues, although the former two genres may of course have some antiquity beyond Hesiod.

126 Whether the composer(s) of *Iliad* and *Odyssey* made use of writing or not is irrelevant here.

that cannot be ascribed to any particular Greek dialect (for instance μέσσος 'middle'). Some elements have phonological or morphological innovations that single them out as Aeolic (e.g. ἀργεννός 'white', with a geminate reflex of *-*hn*-), others can be assigned with some degree of probability to Mycenaean / 'Achaean' (e.g. λαός 'army, people'),[127] though ascertained instances of 'Achaean' forms are more difficult to find in view of the higher time depth and the deficient orthography of Linear B.

– The language has been adapted to verse composition in hexameters also by the creation of artificial forms, which arose by analogy (e.g. non-Ionic and non-Aeolic ἐν νήεσσι 'at the ships'), by artificially stretching up the use of an existing form (e.g. using a metrically convenient middle form instead of its active counterpart), by changing the declension class of a form (e.g. forms of ἡνιοχεύς instead of ἡνίοχος 'charioteer'), etc.[128]

As is well-known, there are numerous lexical differences between the language of epic and that of the classical prose authors, or even post-Homeric poetry. There is a body of words, epithets and phrases that are used exclusively by Homer. In some such cases, one may suspect that the element lost currency in the vernaculars during the two or three centuries that separate Homer from the classical period (e.g. lexical replacements, semantic developments), but in other cases the difference in register must go back to prehistoric times.

To give an example, the normal word for 'man, human being' is ἄνθρωπος in Classical Greek. This lexeme is used frequently already in Homer, and it is also found in Linear B as *a-to-ro-qo*. In addition, however, Epic Greek uses another form βροτός, etymologically meaning 'mortal' but often used as a synonym of 'man, human being'. The form is never used by later prose authors, except when they imitate Homer or attempt to write in an elevated style. We can be confident that this word was not used in everyday Ionic or Attic speech, and that it is a traditional element of poetic diction. In this particular case, we are helped by historical phonology: the form βροτός must have developed from **mr̥tós*, but -ρο- cannot be the regular Ionic-Attic reflex of the syllabic liquid. Similar arguments can be adduced for various other words or word-forms that are used predominantly in Epic Greek, especially in cases where we have reason to assume that we are dealing with an artificial formation. I will therefore regularly make use of a distinction between the Ionic-Attic vernacular and Epic Greek in what follows, even if this distinction necessarily becomes more fluid as we move back in time from the classical period towards Homer and further back.

127 See section 6.8.7 for reasons why λαός is probably of Mycenaean origin.

128 See Hackstein (2010) for a convenient overview of artificial Homeric features.

A distinction between vernacular dialects and epic register is regularly made by scholars dealing with the artificial nature of Homeric language. Following Milman Parry, it is normally assumed that Epic Greek underwent the linguistic changes of the poets' vernacular, except in the case of forms that were formulaic or metrically protected in some other way.[129] The above scenario, however, assumes a prolonged retention of the sound *$\underset{\circ}{r}$ in Epic Greek. This can only be imagined if Epic Greek was a separate register, with not only its own morphology, syntax and lexicon (as is generally admitted), but also with a proper phonology and phonetics. Thus far, however, no instances of artificial phonology have been identified. This is surely due in large part to the fact that we only have a written text of the Homeric epics (which makes it difficult to say anything about phonetic realizations), and that the orthography of this text partly reflects spelling practices of the 4th century BCE. However, it is almost inevitable that epic poets would have avoided an all-too-local pronunciation in their performances, and it is plausible that certain phonetic or phonological features of the traditional poetic language were supra-regional.[130] It is even conceivable that a sound like *$\underset{\circ}{r}$, when it was progressively eliminated from vernacular dialects, came to be perceived as a marker of traditional, elevated epic style. Of course, this is mere speculation, but the point is that the scenario proposed here is not excluded by what we know about the language of early Greek epic.

1.5.3 *Metrical Irregularities and the Prehistory of the Hexameter*

A final issue that must be briefly addressed is the antiquity of the hexameter. Since Nagy (1974) and especially Berg (1978), various prominent Indo-

129 Cf. Parry (1971: 331) and section 6.7.

130 One might object to this that the oldest hexameter inscriptions from non-Ionic-speaking regions usually contain non-Ionic phonology. For instance, the Mantiklos inscription (*CEG* 1 326, Boeotia, 700–675 BCE) contains the forms χαρίϝετταν and ϝεκαβόλοι. However, this point is not probative for the issue under discussion. First, most of the phonological features (ᾱ for η, retained ϝ) are archaisms with respect to the corresponding Homeric features (in principle this may also hold for ⟨ττ⟩ against Homeric ⟨σσ⟩, as we are not informed about the exact phonetic value of the spelling ⟨ττ⟩ in Boeotian at this early stage). Secondly, the tendency towards a more local orientation in archaic hexameter inscriptions (which undeniably exists on a morphological level: cf. τύ for σύ and the imperative δίδοι in the Mantiklos inscription) might well be a relatively recent development of the 8th and 7th centuries. Third, it is plausible that dedications and funerary epigrams, embedded as they were in a specific local context (and necessarily written in a *local* script), were more prone to absorb local features than poetry performed at festivals. Thus, nothing forces us to assume that poets automatically applied the phonology of their spoken dialect when performing in hexameter verse.

Europeanists have subscribed to the idea that the hexameter arose from metrical cola inherited from Proto-Indo-European. Before that, since Meister (1921: 58) and Meillet (1923: 60 ff.) there was some sort of consensus that the hexameter was borrowed as a whole from the Minoans. The origin of the hexameter is an extremely difficult issue to resolve because there is little concrete evidence, nor a clear framework in which to interpret this evidence. In my view, the hexameter *may* ultimately derive from inherited meters, but it may also be that we lack the means to prove this, due to the antiquity of the tradition.[131]

At least since the early nineteenth century, scholars have used systematically occurring metrical anomalies for reconstructing earlier linguistic forms of the epic language. A clear example is the loss of word-initial **u̯-* in pre-Homeric Ionic, which explains the fact that words with etymological **u̯-* are more often involved in hiatus and irregular position length than one would expect on average. More controversial is the idea that metrical irregularities in words with ρο and ρα can be eliminated by tracing them back to a pre-form with **ṛ*. Concerning the best-known instance, the verse-end ἀνδροτῆτα καὶ ἥβην, Wackernagel (1916: 172) already remarked that the scansion of ἀνδροτῆτα can be understood if the original form had **anṛ-*. In this he has been followed by Mühlestein (1958: 224 n. 20), Ruijgh, Wathelet and many later scholars.

However, this explanation was called into question by Tichy (1981), who argued that the scansion of ἀνδροτῆτα is to be explained as a metrical archaism: the form would be a relic from Berg's proto-hexameter, at a stage which allowed for a trochaic fourth foot. Various Indo-Europeanists have since expressed their support for Tichy's scenario.[132] At the same time they criticize the alternative viewpoint (which views ἀνδροτῆτα as a phonological archaism): it would dogmatically take for granted the antiquity of the hexameter, without adducing independent proof for this claim.

Against these strong assertions of belief in the Berg-Tichy scenario, it must be stated very clearly that none of its advocates has been able to identify a means of testing it against competing scenarios. One clear criterion would be the scenario's ability to account for metrical irregularities and unexpected morphology that cannot be accounted for in other ways. In reality, however, Berg's proto-hexameter (as applied by Tichy to aberrant Homeric scansions) runs a heavy risk of becoming circular, as it does not explain much more than irregularities that can also be due to prehistoric sound changes, like the vocalization

131 For compelling points of criticism regarding our ability to reconstruct a proto-hexameter, see Hoekstra (1981: 33–53).

132 E.g. Haug 2002; Hackstein 2002: 8–9; and extensively Hajnal 2003: 63–100.

of *$\mathring{r}$.[133] Apart from the much-discussed verse-end ἀνδροτῆτα καὶ ἥβην, there is no evidence for the assumed trochaic fourth foot that cannot be explained otherwise. In order to show how patchy the evidence is, let us discuss in more detail a few forms that have been adduced.

Berg and Lindeman (1993: 186–193) analyze dactylic forms of the stem ἀνέρ- (with metrically lengthened ἀ-),[134] which are frequent in the fourth foot, as artificial stretched forms replacing original trochaic ones with ἀνδρ-.[135] Thus, the words ἀνέρες ἐσθλοὶ ὄροντο occurring at the end of the line (*Od.* 3.471; ὄρονται *Od.* 14.104) would be a transformation of *ἄνδρες ἐσθλοὶ ὄροντο, which they view as an old "pherecratean formula" (1993: 193). They reject the scenario already proposed by Schulze (1891), who argued that ἀνέρα, ἀνέρες, ἀνέρας and ἀνέρε (the original forms, later to be replaced by ἄνδρα, ἄνδρες, etc.) underwent metrical lengthening. In that scenario the gen. and dat. sg. forms ἀνέρος, ἀνέρι are artificial analogical creations beside the inherited forms ἀνδρός, ἀνδρί.

The objections formulated by Berg and Lindeman against Schulze's metrical lengthening scenario are:

(i) Forms like ἀνέρα (ending in a vowel) could have been used in the hexameter without metrical lengthening, but they are never so used;
(ii) Forms like ἀνέρες (ending in a consonant) *could* not have undergone metrical lengthening, as they could be placed before words starting in a consonant; ἀνέρες, however, is never used in this way;
(iii) As early as the Mycenaean period, Greek dialects could not have preserved ablauting paradigms of the type πατήρ / πατέρ- / πατρ-, except in kinship terms.

The two objections concerning metrical lengthening are easily dismissed. First of all, Berg and Lindeman seem to have missed that all instances of original anapestic scansion (in forms of the shape ἀνέρα, ἀνέρες, ἀνέρας with short ἀ-) may have been replaced completely by the innovative forms ἄνδρα, ἄνδρες, ἄνδρας once these had ousted the older forms from the spoken language. The stem ἄνδρ- is placed in the thesis 13× on 72 instances of ἄνδρες, and 10× on 44 instances of ἄνδρας, and this includes some archaic-looking phrases.[136] As for

133 As Barnes (2011: 9–10) remarks, "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." For a similar criticism, see West (2011).

134 The forms and numbers are ἀνέρα 4×, ἀνέρος 19×, ἀνέρι 9×, pl. ἀνέρες 41×, ἀνέρας 17×, and du. ἀνέρε 5×.

135 This idea is repeated uncritically in Hajnal 2003: 78 n. 127.

136 Cf. ὃν Βριάρεων καλέουσι θεοί, ἄνδρες δέ τε πάντες / Αἰγαίων' *Il.* 1.403–404, ὃν Ξάνθον καλέουσι θεοί, ἄνδρες δὲ Σκάμανδρον *Il.* 20.74, κύνες τ' ἄνδρές τε νομῆες *Il.* 17.65, κύνας τ' ἄνδρας

(ii), it is true that metrical lengthening of tribrachic forms ending in a consonant (e.g. ἀνέρες) is less frequent than with forms ending in a vowel (e.g. ἀνέρα), but the phenomenon does occur, especially with forms that are part of a larger phrase. A well-known example is the lengthened initial vowel of the gen. ὕδατος, which is explained by the occurrence of this form in the phrase Στυγὸς ὕδατος. Indeed, the ἀνέρ- forms also occur more than once in larger phrases: cf. verse-final ἀνέρες ἱπποκορυσταί, ἀνέρες ἀγροιῶται, and the frequent verse-initial ἀνέρες ἔστε, φίλοι "be men, friends!". Objection (iii) is not cogent, as ἀνήρ is (just like πατήρ) a high-frequency item in which an archaic inflection may well have been preserved longer.

The speculation that verse-final ἀνέρες ἐσθλοὶ ὄροντ- arose by a transformation of *ἄνδρες ἐσθλοὶ ὄροντ- is quite bizarre. In reality, in both attestations the entire formulaic phrase stretches from $|_P$ until the end of the line: ἐπὶ δ' ἀνέρες ἐσθλοὶ ὄροντο "and noble men watched over it" (*Od.* 3.471), ἐπὶ δ' ἀνέρες ἐσθλοὶ ὄρονται (*Od.* 14.104), with the preverb in tmesis. In other words, there never was a "pherecratean formula" *ἄνδρες ἐσθλοὶ ὄροντο. In reality, ἐπί … ὄροντο is a clear reminiscence of Mycenaean *o-pi* , *qe-to-ro-po-pi* , *o-ro-me-no* (PY Ae 134), and the specific combination with the preverb may well be a phraseological relic from the Mycenaean period (as Hajnal 1998: 48 rightly notes). It is therefore highly plausible that the phrase ἐπὶ δ' ἀνέρες ἐσθλοὶ ὄροντο contains a metrically lengthened relic form ἀνέρες.

From an Indo-Europeanist perspective, the forms ἀνέρα, ἀνέρες, ἀνέρας and ἀνέρε clearly reflect the expected full-grade stem *h_2*nér-* of the strong case forms.[137] The form ἀνέρες is also the most frequent of all the ἀνέρ- forms in Homer and it occurs, as we saw, in formulaic phrases. Thus, dactylic forms like ἀνέρες may have arisen by metrical lengthening of the first syllable of a tribrachic form /aneres/, as long as that form was available. The gen. and dat. sg. forms ἀνέρος, ἀνέρι arose by an artificial extension of the pattern seen in ἀνέρες, ἀνέρας beside ἄνδρες, ἄνδρας after forms of the latter type had come into being. When unlengthened anapestic forms like /aneres/ were no longer current in the spoken language, they were replaced by ἄνδρες.

τ' ἐρεθίζων *Il.* 17.658, ἔκ ῥ' ἀσαμίνθου βὰς ἄνδρας μέτα οἰνοποτῆρας *Od.* 8.456. Since the thesis placement of ἄνδρ- does not occur very often, the restructuring of the paradigm may have taken place at a relatively early stage. Note that vowel-initial anapestic *ἀνέρες was somewhat awkward to use, as it could not make position length. This may have helped to maintain the popularity of metrically lengthened dactylic ἀνέρες.

137 The so-called hysterokinetic paradigm. In Greek, cf. also πατέρα, πατέρες, πατέρας against πατρός, πατρί; and cf. Vedic acc. sg. *pitáram*, nom. pl. *pitáraḥ*, *náraḥ*.

In another contribution, Berg and Haug (2000) assume that the case forms νέες, νέας and νεός of the word for 'ship' in the fourth foot were substituted for trochaic *νῆες *νῆας *νηός when these were followed by the formulaic epithet ἀμφιέλισσα. This is an unnecessary assumption: the low numbers of attestations of νέες and νέας (in comparison with the numbers for νῆες and νῆας) are compatible with the relatively recent spread of a linguistic innovation (cf. Hoekstra 1965: 124–130).[138] I would like to add that the original form of this formula may have been the acc. pl. in the form *ναῦς ἀμφιελίσσας (with ναῦς as attested in Attic, which may be an archaism).[139]

As a third example, Hajnal (2003: 76 n. 124) refers to the odd 3pl. form μιάνθην in the verse-end μιάνθην αἵματι μηροί (*Il.* 4.146) for expected *μίανθεν, suggesting that the latter form (which would be expected in Berg's proto-hexameter) was actually sung by the original *Iliad* poet. However, although μιάνθην is indeed a strange form, it cannot be excluded that it was a one-off analogical creation (cf. Meister 1921: 25).

Scholars have also adduced artificially lengthened forms such as πτολιπόρθιος, ἀέθλια (for expected πτολίπορθος, ἄεθλα) as evidence for Berg's proto-hexameter, but these forms could equally well be accounted for in another framework, such as that of Witte (see below); they do not necessarily imply the existence of an earlier verse-form with a trochaic-ending fourth foot.

In sum, the purely hypothetical character of Berg's scenario appears, first of all, from the fact that no less than four 'transformations' (cf. the clear summary in Hajnal 2003: 74–75) are needed to reach the attested hexameter from the putative starting point. Secondly, it explains only the genesis of the hephthemimeral caesura, not that of the more important bucolic dieresis and the third foot caesuras. Thirdly, assuming trochaic-ending pre-forms does not offer a convincing explanation for the peculiar linguistic forms occurring in the fourth foot. And finally, even if a scenario like that of Berg were correct, we have no idea at all *when* the hexameter would have come into being.[140]

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138 Note, in passing, that assuming an earlier verse with *νῆας ἀμφιελίσσας (allegedly with a trochaic fourth foot) does not take into account that the final syllable of the word preceding attested νέας ἀμφιελίσσας occupies the *longum* of the fourth foot, e.g. λιπὼν νέας ἀμφιελίσσας *Il.* 17.612, ἔχον νέας ἀμφιελίσσας *Od.* 10.91.

139 The real problem, the high frequency of the gen. pl. form νεῶν as opposed to νηῶν, is not even mentioned by Berg and Haug, presumably because it is inconvenient for their thesis. Concerning this issue, Hoekstra (1965: 124–130) has argued that the shortened form νεῶν is in many cases due to modification of an older prototype with νηῶν.

140 Ideas that the hexameter is of very recent origin (Berg and Haug 2000), or even that it was coined by Homer (Tichy 2010), are devoid of all realism.

In my view, Berg's scenario (and similar ones) are clearly inferior to an almost forgotten proposal by Witte (1913), who argued extensively for deriving the hexameter from a combination of a dactylic tetrameter plus an *adoneus*.[141] It has the advantage of accounting for the high general frequency of the bucolic dieresis, and also for the fact that the bucolic dieresis is the place where clause boundaries are most frequent. Furthermore, as Witte shows, the combination of a tetrameter plus an *adoneus* is actually attested in Greek poetry. Also, the two metrical laws that occur in the thesis of the fourth foot, Hermann's Bridge and Wernicke's Law, follow more or less automatically from the scenario. On the other hand, two *caveats* that were mentioned above with respect to other proto-hexameter theories apply to Witte's scenario: it is not easy to test it against the evidence, and we have no idea when the hexameter would have acquired its Homeric form.

One gets the impression that the assertions of belief in Berg's scenario were guided by, among other things, a desire to get rid of the *pre*-Mycenaean origin of the tradition argued for by classicists like Ruijgh and West.[142] Indeed, as we will see the linguistic arguments for *such* an early origin are weak. However, given that the epic tradition is highly conservative in its formulaic language, and that the preservation of archaisms in this language must be understood as a function of the system's thrift, it is difficult to see why the meter itself (which, after all, *caused* this system to develop) would not be equally conservative. Of course, the formulaic language was subject to continuous updating and reworking, as scholars like Hainsworth (1968) and Hoekstra (1965) have shown in detail. However, these modifications can be understood as the poets' response to linguistic changes (they tried to remain comprehensible), combined with an attempt to maintain or even expand the economy and thrift of their system of verse composition. Even if we take into account these modifications, it can hardly be denied (as Hoekstra 1981 has argued in detail) that the formulaic system has a traditional core that goes back generations, and which presupposes the existence of something very much like the Homeric hexameter at an early date. In the course of this book, we will encounter various indications that corroborate this conclusion.

141 Niels Schoubben has recently elaborated this idea in an as yet unpublished Ghent MA-thesis written under the supervision of Mark Janse.

142 Cf. various remarks in this sense in Berg and Haug (2000), e.g. on pp. 9–10.

1.6 Outlook

Leaving aside the environments (discussed in section 1.2) in which an anaptyctic vowel emerged beside *$\mathring{r}$ and *$\mathring{l}$ already in Proto-Greek, my aim is to answer the following three questions:

– What was the regular development of Proto-Greek *$\mathring{r}$ and *$\mathring{l}$ in the major Greek dialect groups?
– Which mechanisms affected the development of forms with etymological *$\mathring{r}$ in Epic Greek?
– What can be inferred, from the vocalization of *$\mathring{r}$ as an isogloss, about the genesis and prehistory of the four main dialect groups, and of Epic Greek?

In view of the possibility that *$\mathring{r}$ and *$\mathring{l}$ vocalized in different ways and at different times, the evidence for *$\mathring{l}$ will be treated separately in chapter 10. I will start, in chapters 2 and 3, with the regular development of *$\mathring{r}$ in all dialects apart from Ionic-Attic and Epic Greek. This requires that all available etymological evidence is evaluated and sifted. Special emphasis will be placed in these chapters on the question concerning the regular slot in which the anaptyctic vowel developed: before or after the liquid.

The treatment of the dual Ionic-Attic reflex (-αρ- beside -ρα-) starts in chapter 4 with one specific morphological category, the so-called 'Caland formations'. This portion of evidence is important in that it illustrates that the majority of forms with -αρ- and -ρα- can be due to analogy, and hence are not probative as regards the regular reflex of Proto-Greek *$\mathring{r}$.

Chapter 5 is devoted to one specific set of 'Caland' formations, the etymological family of κρατερός ~ καρτερός, in which a number of different words occur in doublets, both in the classical language and in Epic Greek. Our goal in this chapter will be to determine the linguistic processes by which the doublets originated.

The conclusions reached in chapters 4 and 5 confirm the point that both -αρ- (ταρφύς, καρτερός, κάρτα) and -ρα- (κραταιός, θρασύς) are regular reflexes of *$\mathring{r}$. At first sight, this seems to confirm the impasse, but the analysis of θρασύς versus θάρσος in chapter 4 and that of καρτερός versus κράτος in chapter 5 have another consequence: they show that the analogical developments leading to doublet forms in Epic Greek were quite different from the developments taking place in the vernaculars.

In chapter 6, a distribution is established for doublets with -ρα- and -αρ-: the occurrence of -ρα- is shown to be limited to Epic Greek, while -αρ- may occur both in Epic Greek and in classical prose. The chapter then considers in full detail all forms with -ρα- occurring in Early Greek Epic. Many Homeric forms with -ρα- are characterized by metrical peculiarities, notably *muta cum liquida*

scansion. An fresh analysis of all instances of *muta cum liquida* in Homer confirms that the phenomenon correlates strongly with the original presence of **r̥*. Thus, combining the distribution of forms with -ρα- with their metrical behavior, I hypothesize that **r̥* was retained longer in the epic tradition in the way sketched in section 1.5.

This new framework is also applied to epic forms with -ρο-: in chapter 7, I investigate the hypothesis that -ρο- is the regular reflex of Epic **r̥* after a labial consonant. This chapter also includes a discussion of the phrases ἀνδροτῆτα καὶ ἥβην and Ἐνυαλίῳ ἀνδρεϊφόντῃ that have played such an important role in previous discussions. 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 several remaining loose ends. I will revisit three specific phonological environments in full detail: **-r̥s-*, word-final **-r̥*, and **-r̥n-*. Also, I discuss the more marginal evidence (uncertain and implausible etymologies) and present an overview of further Ionic-Attic evidence for a regular reflex -αρ- < PGr. **r̥*.

After treating the evidence for **l̥* in chapter 10, including the dialectal reflexes and the possibility of discerning conditioned developments, chapter 11 uses the new insights concerning **r̥* and **l̥* to obtain a relative chronology. This will allow us to draw definite conclusions about the vocalization of **r̥* as an isogloss in the prehistoric development of the Greek dialect groups. In chapter 12, finally, I will take stock on the basis of a summary of my main conclusions, and ask whether the benefits of the new framework outweigh its potential drawbacks.

CHAPTER 2

Mycenaean Reflexes of *$\mathring{r}$ and the Numeral 'Four'

Introduction

It is widely assumed that the regular reflex of interconsonantal *$\mathring{r}$ in Mycenaean was *-ro-*, or that both *-ro-* and *-or-* were possible outcomes. In this chapter, I will argue that this assumption is incorrect: in Linear B, the reflex is regularly spelled with one sign of the shape ⟨*Co-*⟩, which can only represent an outcome *-or-* or unchanged *-$\mathring{r}$-*.

Before we are in a position to evaluate the Mycenaean material, the evidence must be sifted. I will start in section 2.2 by reconsidering forms in which the reflex is supposed to be spelled with signs of the *a*-series, evaluating the treatment by García Ramón (1985). In section 2.3, I will present what I consider to be plausible evidence for the reflex *$\mathring{r}$ written with signs of the *o*-series, and separate this from irrelevant evidence and interpretations that I consider to be less plausible or uncertain. On this basis, I will reconsider two remaining issues: the relationship between *o*-series spellings of the reflex and a few incidental *a*-series spellings (section 2.4), as well as the apparent fluctuation between spellings of the types ⟨*Co-*⟩ and ⟨*Co-ro-*⟩ (section 2.5). Three proposals by previous scholars will be reviewed: the case for an irregular liquid metathesis made by Risch and Hajnal on several occasions; the idea of Heubeck (1972) that *$\mathring{r}$* was preserved in Mycenaean, and finally, the proposal of an accent-conditioned development, revived by Klingenschmitt (1974). In sections 2.6 and 2.7 I provide a detailed account of the Mycenaean and Alphabetic Greek reflexes of the numeral 'four'.

2.1 Preliminary Remarks on the Use of Personal Names

Some preliminary remarks concerning the use of onomastic material, which makes up a large portion of the Mycenaean evidence, are in order.[1]

Since the lexical and referential meaning of anthroponyms is usually not as clear-cut as that of appellatives, etymological interpretations of names must always be treated with caution. Nevertheless, names are not entirely devoid

1 On Mycenaean onomastics, see generally García Ramón (2011).

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of linguistic context: Greek inherited an Indo-European naming tradition that 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-/, a patronymic meaning 'son of Etewoklewēs', and that the underlying name can be identified with Class. Ἐτεοκλῆς, which means "True-Reputation". Similarly, we can be relatively confident about the identification of *a-no-me-de* with Class. Ἀνδρομήδης and its reconstruction as **Anr̥-mēdēs*.[2] This interpretation can be bolstered with two arguments. First, the interpretation of the second element *˚me-de* as /-mēdēs/ corresponding to Class. -μήδης is confirmed by other Mycenaean names with this second member, and by the *s*-stem inflection (dat. *-me-de-i*) attested for some such names. Secondly, that the first member *a-no-* reflects **anr̥-* is virtually certain because, as Mühlestein (1958) saw, it provides a counterpart to the numerous second members in *-a-no* /-ānōr/ and *-a-do-ro* /-andro-/.

At the same time, a considerable portion of the names found in the tablets have no certain interpretation. It is often assumed that names in *-e-u* (alph. -εύς) and *-o* (alph. -ος) can be hypocoristic or truncated forms of compounded names.[3] Although this analysis may be correct in many cases, it must not be forgotten that names ending in *-e-u* were highly frequent in the non-Indo-European substrate language (called Pre-Greek by Beekes), and that a large number of Mycenaean PNs ending in *-e-u* resist interpretation. Another type of uncertainty is due to the ambiguities inherent in the Linear B syllabary. For instance, the PN *ta-ta-ke-u* (PY Cn 655.20), which will also be discussed below, is probably derived from a compound. In theory, its first member might be /start(o)-/ (~ στρατός) or /stāt(i)-/ (~ στησι-), while the second member may have been /-ag-/ (~ ἄγω) or /-ark^{h}-/ (~ ἄρχω). Under such circumstances, the form cannot be admitted as secure etymological evidence.[4]

In what follows, existing analyses of Mycenaean proper names as hypocoristics and truncated forms will be treated with the utmost caution. In other cases, reconstructions of proper names containing **r̥* are included only if one of the following conditions applies:

– there is a direct counterpart in alphabetic Greek (cf. *a-no-me-de* ~ Ἀνδρομήδης)
– the name can be analyzed as containing traditional phraseology, e.g. *a-no-qo-ta* ~ **h$_2$nr̥-* + **g^{wh}en-*, a poetic syntagm for which further evidence is found in Homer, Mycenaean, and Vedic.

2 Cf. García Ramón (2011: 225).
3 Cf. Heubeck (1959), García Ramón (2011: 222–224).
4 Cf. García Ramón (1985: 201–203).

2.2 An *a*-colored Reflex in Mycenaean?

In an influential contribution, Morpurgo Davies (1968) argued that the regular outcome of *r̥ was normally *ar/ra* not only in Ionic-Attic and West Greek, but also in Mycenaean and Arcado-Cyprian.[5] All instances of *o*-vocalism that she considered secure, such as Myc. *wo-ze* 'works' < *u̯r̥gi̯ei*, were in her view conditioned by a preceding *u̯-*.

As noted by García Ramón (1985), however, Morpurgo Davies left one crucial factor out of consideration. In various Mycenaean, Arcadian and Cypriot words which she considered prime evidence for a reflex *ar*, this reflex did not develop between two occlusives (**Cr̥C*), but it arose in specific phonological environments such as **Cr̥HV*, **Cr̥i̯*, **h₂r̥C-*, or word-final **-r̥*. As we have seen in chapter 1, in most of these environments *r̥ may have developed to *ar* in all Greek dialects, and this development probably predates the vocalization of **Cr̥C*.[6] Examples are:

– the root χαρ- may have been generalized from the present stem χαίρω 'to feel good' < **ǵʰr̥-i̯e/o-*, where *r̥ was vocalized early in the context **Cr̥i̯*;
– Cypr. *a-u-ta-re* (Hom. αὐτάρ) where *-tar* reflects **tr̥* with the word-final development;
– The element *-argos* 'white' in the cow names Myc. *to-ma-ko* and *po-da-ko*, which reflects **h₂r̥ǵró-* or **h₂r̥ǵó-* rather than **r̥ǵró-* (as assumed by Morpurgo Davies).[7]

In other cases, the etymology of words with *ar* or the interpretation accepted by Morpurgo Davies is uncertain, e.g. in the case of the PN *ta-su*, for which an interpretation /Tʰarsus/ is just one possibility. After these reductions, García Ramón retains the following evidence for spellings with ⟨*Ca-*⟩ or ⟨*Ca-ra-*⟩ in forms with etymological **Cr̥C*:[8]

– *ka-po* /karpo-/ (KN F 841.5), related to class. καρπός 'fruit, harvest';
– *ra-pte* /ʰraptēr/ 'saddler' (KN Fh 1056+, PY An 172.1+), *e-ra-pe-me-na* /ʰeʰrapmena/, related to class. ῥάπτω 'to sew, stitch', pf. ptc. ἐρραμμένα;
– *ta-pa-e-o-te* (KN B 823), interpreted as /tʰarpʰa eʰontes/, and related to Hom. ταρφύς 'dense';

5 In the present chapter, I discuss the Mycenaean evidence; the Arcado-Cyprian material is treated in chapter 3.

6 See sections 1.2 and 9.5 for a more elaborate discussion.

7 For the developments **CRHV* > **CaRV-* and **HRC-* > **HₐRC-* in Proto-Greek, and also **r̥*, **l̥* > *ar*, *al* | **C_i̯V*, see section 1.2.

8 Throughout this section, 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 cases of *u̯-*.

– *ta-ta-ke-u* (PY Cn 655.20), a PN interpreted as /Start-ageus/ or /Start-ark^{h}eus/ "Army-Leader";
– *tu-ka-ṭạ-ṣị* /t^{h}ugatarsi/ dat. pl. 'daughters' (MY Oe 112.2);
– PN *wa-ra-pi-si-ro* /Wrapsilos/ (PY Cn 436.7, MY Au 102.1), interpreted following Heubeck (1959) as a short form of **u̯rapsi-lāu̯os*. According to García Ramón (1985: 222), this name contains the root of ῥαπίζω, yielding a meaning "who beats the people (with a stick)"; ῥαπ- would reflect a zero grade form of ῥέπω 'to incline'.

At the same time, García Ramón notes that the unconditioned, regular outcome of **CṛC* in Mycenaean was spelled either as ⟨*Co-*⟩ or as ⟨*Co-ro-*⟩. As he points out, the analysis of scribal hands offers no clues for supposing 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*.[9] Since it seems equally impossible to find a phonological conditioning of the *a*-colored outcome, García Ramón concludes that the forms with ⟨*Ca-*⟩ or ⟨*Ca-ra-*⟩ are due to analogical developments. Following an idea by Kuryłowicz (see section 1.4.4), he assumes that they reflect an early, Common Greek secondary zero grade, and concludes that in words deriving from a pre-form **CṛC*, "the spellings *Ta* (…) and *Ta-ra* (…) render /*Tar*/ and /*Tra*/ respectively, with a full *a*-vowel to be interpreted as morphologically conditioned" (1985: 222–223).[10]

As explained in section 1.4.4, Kuryłowicz's idea of a secondary zero grade is difficult to defend. I therefore propose alternative explanations for most of the six cases of ⟨*Ca-*⟩ or ⟨*Ca-ra-*⟩ listed above:

– Concerning *ra-pte*, the verb ῥάπτω has no Indo-European etymology,[11] and given that we are dealing with artisanal vocabulary, it could well be a loanword that never contained **ṛ*.[12]
– The interpretation of the name *ta-ta-ke-u* as /Start-ageus/ or /Start-ark^{h}eus/ has been discussed in section 2.2. García Ramón (1985: 201–203) rightly

9 See Risch 1966 for the distinction *mycénien spécial* vs. *normal*, and for further discussion Hajnal 1997 and Thompson 2002–2003.

10 García Ramón's scenario has been accepted by Hajnal (1997: 145–150), but with a confusing argumentation that will not be considered in detail here.

11 See *GEW*, *DELG*, and *EDG*.

12 García Ramón thinks that a regularly formed middle perfect **se-sṛb^{h}-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). For this reason, he argues, a secondary zero grade **srab^{h}-* would have been introduced in the middle perfect **he-hrap^{h}-toi*, and then also in the aorist **e-hrap^{h}-ē* and the *yod*-present **hrap^{h}-i̯e/o-*.

notes that it could also be interpreted as /Stāt-ageus/ or /Stāt-arkʰeus/, with /Stāt(i)-/ corresponding to alphabetic Στησ(ι)-.

– Heubeck's interpretation of the name *wa-ra-pi-si-ro* /Wrapsilos/ is called "cogent" by García Ramón (1985: 222), but I will exclude it from the compelling evidence, as we are dealing with a hypocoristic. Even if Heubeck's interpretation should be correct, it remains unclear whether the root of ῥαπίζω 'to strike with a stick' ever contained *ṛ.[13]
– The reading *tu-ka-ṭa-ṣi* is the most widely accepted one,[14] but there have been dissenting views: scholars like Mühlestein and Lejeune read *tu-ka-ṭo-ṣi*, which led Haug (2002: 59) to remark that *tu-ka-ṭa-ṣi* is a "lecture peu sûre sur laquelle il serait imprudent de fonder une théorie". We will get back to this form in section 2.4.

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'. Leaving aside straightforward derivatives, καρπός is etymologically isolated within Greek and derives from the ablauting PIE root *kerp- / *kṛp-, as in Lith. *kir̂pti* (1sg. pres. *kerpù*) 'to cut off, shear'.[15] The root is also attested in Hitt. *karp(i̯e/a)-zi* 'to lift, take away; pluck'.[16] The *a*-vocalism of Lat. *carpō* 'pluck' has not yet received a convincing explanation, but this is an inner-Italic issue.[17]

Following Kuryłowicz (1968: 244) in analyzing Lat. *carpō* as a case of secondary ablaut, García Ramón explains καρπός as an old, Pan-Greek replacement of *kṛpó-.[18] However, there is no motivation whatsoever for such a replacement: there was nothing wrong with *kṛpó-, and there is no trace of the full grade root in Greek. We must therefore assume either that Ionic-Attic καρπός displays the regular outcome of PIE *kṛpó-, or (much less likely) that its vocalization was influenced by a now-lost verbal form with full grade root. This means that Mycenaean *ka-po* (instead of expected *ko-po*) must be explained otherwise.

Let us reconsider the context in which *ka-po* appears. It is attested only in KN F 841, of which lines 5–6 read:[19]

13 That is, it may have been borrowed as *u̯rap- and be unrelated to ῥέπω 'to incline'.
14 Apart from García Ramón, cf. *DMic.* (with further lit.), Bartoněk (2003, indices).
15 Cf. *LIV*² s.v. *(*s*)*kerp-*, to which dossier Hitt. *karp(i̯e/a)-zi* must be added.
16 Cf. *EDHIL* s.v., following *HED*.
17 According to a rule of Schrijver's (1991: 429–430), *carpō* could owe its *a*-vocalism to forms in which a consonant follows the zero grade root. See further section 1.4.4.
18 The argument is accepted by Hajnal (1997: 146).
19 García Ramón (1985: 217 n. 82) remarks that the monogram *KAPO* probably has nothing to do with *ka-po*. Indeed, its reference cannot be established with certainty on the basis of the

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 held.[20] However, concerning *su-za* earlier in line 5, 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, another plausible interpretation of *ka-po* , *e-*[would be /kāpos elaiwā^{h}ōn/ 'olive tree plantation', in which case *ka-po* would have the same meaning as κῆπος 'plantation, orchard' in Homer.[21]

Another form to be mentioned in this discussion is *ka-pa*, attested on PY Un 138 and in the Thebes Ft-series (where it invariably stands at the beginning of the tablets in question). This form was interpreted by the editors (*TOP* I: 264–266) as a dat. sg. /skáp^{h}āi/ 'pour le récipient à offrandes', i.e. "for the sacrificial vessel". Meier-Brügger (2006: 116) has suggested that the form could also represent /kárpa/, a neuter plural (collective) corresponding to the masculine /karpós/, of the type κέλευθα beside κέλευθος 'way'. However, in a subsequent discussion of all the attestations of *ka-pa*, Varias García (2008: 784–786) has noted that it always occurs in connection with the ideogram OLIV. He concludes that *ka-pa* can hardly represent the generic designation 'fruits', and that it more likely refers to a particular kind of olives. The interpretation as a collective /kárpa/ therefore remains uncertain.

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attestations (in PY Un 267, it occurs in a list together with the ideograms VIN, AROM, and LANA). Sacconi (1972) proposed to compare *KAPO* 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 9.6.6). More recently, Fischer (2004) has proposed to read the signs in reverse order, *po-ka*, and to interpret this as referring to /pokai/ 'fleece'. This article, which was not available to me, is summarized in Fischer (2006: 63).

20 See e.g. *DMic*. s.v. *ka-po*, *Docs*.[2] 219, *Comp*. I, 341–342. As far as I have seen, the parallel with καρπὸς ἐλαίας 'yield of the olive tree' in Pindar (*Nem*. 10.35) has not been noticed so far. However, this parallel should not carry too much weight, because such a phrase may have been created at any date, given the meanings of its constituents.

21 The interpretation /kāpos/ (proposed without much further argumentation in Van Beek 2013) had in fact been proposed already by Killen (1987: 174–177), as I discovered later. Killen convincingly argues that KN F 841 deals not with food rations, as was assumed up to that point, but with land holdings. He restores line 6 as *ka-po e-*[*ra-wa-o* /kāpos elaiwāōn/ 'olive garden', followed by an indication of its surface and the number of trees. The older meaning of κῆπος may have been 'lot, plot of land', as in Cyprian (cf. Masson, *ICS*[2] 217 and 316), but in the *Odyssey*, κῆπος refers to an ὄρχατος (a plot of land with trees on it) and probably means 'orchard'; in Pindar κᾶπος refers to fertile enclosures (*Ol*. 3.24, *Pyth*. 5.24, *Pyth*. 9.53). The word also occurs in Arcadian and in classical Ionic-Attic prose.

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' (on ταρφύς, cf. Lamberterie 1990: 676–682 and section 4.3.1 below). Starting out from the original interpretation by Ventris and 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/, with a translation "being directly attached ("aggloméré") [to the sanctuary]: 10 MEN; being in the surroundings ("périférique") [of the sanctuary]: 4 MEN".[22] This interpretation is 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 the verb τρέφομαι, meaning 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 (1985: 219) 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 **tr̥p^{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).

García Ramón's reasoning here is not entirely clear to me. On a charitable reading, he may be taken to mean that the *-a-* was imported in *τάρφα 'dense, numerous' from θαμά (with identical meaning), and that κάρτα 'very' may likewise have adopted the root vowel of μάλα 'very'. However, even if such an analogical introduction of *a*-vocalism is accepted, the problem of the wrong vowel slot of **t^{h}arp^{h}a* compared to τρέφω cannot be so easily dismissed.

As I will argue in chapters 4 and 5, -αρ- in κάρτα and ταρφύς must be understood as the regular outcome of **ṛ* in Ionic-Attic. Now, since the regular way to spell the outcome of **ṛ* in Mycenaean was by using the *o*-series, at least before and after labials (*to-pe-za*, *a-no-qa-si-ja*, and others: see below), a puta-

22 In *Docs.*[1] (171 and 408), the pair *ta-pa-e-o-te* beside *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. alph. παρεόντες), 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 adverbially used dat. sg. f. of the demonstrative pronoun. This explanation is itself subject to problems: see García Ramón (l.c.).

tive Mycenaean /tʰarpʰa/ cannot be understood from a pre-form *$t^hr̥p^ha$. It therefore seems unlikely to me that Lejeune's interpretation of *ta-pa-e-o-te* is correct, even if I cannot offer a convincing alternative.

In conclusion, I see no compelling evidence for García Ramón's assumption of an early, Pan-Greek secondary ablaut *TeRT* : *TaRT* that preceded the vocalization of syllabic sonorants in *$*TR̥T$*. Of course, alternations of the type *TeRT* : *TaRT* eventually developed on a large scale in Greek, but only in dialects where the syllabic liquids had an *a*-colored reflex.

On the other hand, García Ramón's second conclusion still stands: there is little compelling evidence for *a*-vocalism as the regular Mycenaean reflex of PIE *$*Cr̥T$*. Nevertheless, we must keep in mind *tu-ka-ṭạ-ṣị* as a relatively strong counterexample. For this form García Ramón already considered /tʰugatr̥si/ (with retained *r̥*) as an alternative interpretation. Another relevant form is *ạ-na-qo-ta* (KN B 798.4), which was interpreted by Heubeck (1972: 67–69) as a variant spelling of *a-no-qo-ta* (KN *passim*), and for which he, followed by García Ramón (1985: 223), considered a synchronic interpretation /Anr̥kʷʰontā-/. Before getting back to these forms (section 2.4), let us first focus on the evidence for reflexes of *$*r̥$* in words spelled ⟨*Co-ro-*⟩ and ⟨*Co-*⟩. Which of these spellings represents the regular reflex of *$*r̥$* before consonants?

2.3 Evidence for an *o*-colored Reflex

According to the basic spelling rules of Linear B, an onset *Cro-* must be spelled ⟨*Co-ro-*⟩ (e.g. *po-ro-* /pro-/ 'before'), while syllables of the structure *Cor-* are spelled ⟨*Co-*⟩ (e.g. compounds in *-wo-ko* /-worgos/ '-maker'). Among words with syllabic nuclei that developed from *$*r̥$*, some present the spelling ⟨*Co-ro-*⟩ (e.g. ins. pl. *qe-to-ro-po-pi* 'cattle' < *$*kʷetr̥-pod-pʰi$*), but in most cases we find a spelling ⟨*Co-*⟩ (e.g. 3sg. pres. ind. *wo-ze* 'works' < *$*u̯r̥gi̯ei$*). This orthographic difference in the syllabary has been related to the phonological reflex of *$*r̥$* in three different ways:

(a) the spelling ⟨*Co-ro-*⟩ represents the regular reflex of *$*r̥$*, to be interpreted as /ro/; the spelling ⟨*Co-*⟩ in other items is due to various causes (e.g. analogy);
(b) the spelling ⟨*Co-*⟩ represents the regular reflex of *$*r̥$*, to be interpreted as /or/; the spelling ⟨*Co-ro-*⟩ in other items is due to various causes (e.g. analogy);
(c) the spellings ⟨*Co-*⟩ and ⟨*Co-ro-*⟩ are different attempts to represent a preserved *r̥*.

Various previous scholars[23] have opted for scenario (a), applying to Mycenaean the widely-held presumption that the anaptyctic vowel regularly developed *after* a syllabic liquid in all Greek dialects. In what follows, we will see that this scenario is contradicted by much of the Mycenaean evidence. Scenario (b) is preferred by Haug (2002: 59) and Thompson (2002–2003: 356–359); this accounts for most of the Mycenaean evidence, but leaves a few forms unaccounted for.[24] Finally, (c) has been championed by Heubeck, who views different types of spelling fluctuations as "attempts to render spoken *r̥* with the insufficient resources of the Mycenaean syllabary" (Heubeck 1972: 73).

In what follows I will argue, like Heubeck, that *r̥* was preserved in Mycenaean. However, in my view the conclusions to be drawn from orthographic fluctuations are less certain than Heubeck thought. I consider it likely that the sequence /Cr̥/ was represented with spellings of the type ⟨*Co-*⟩, whereas the spelling ⟨*Co-ro-*⟩ regularly represents an onset /Cro-/, with an *o*-vowel. On the other hand, while I do not think that the fluctuation between ⟨*Co-ro-*⟩ and ⟨*Co-*⟩ can be used as a cogent argument, I do agree with Heubeck that a few cases of ⟨*Co-*⟩ alternating with ⟨*Ca-*⟩ can be understood better if *r̥* was preserved in Mycenaean. In addition, I agree with Heubeck that the Homeric evidence may hint at a retention of *r̥* in Mycenaean; further arguments in this direction will be developed in section 7.4 and chapter 11.

As far as the relation between orthography, phonetics and phonology is concerned, if *r̥* was retained at the time when an Aegean Linear script was first adapted to write Greek, no separate series of signs would have been available at that point to represent syllables with a nucleus [r̥]. Moreover, in view of the low frequency of *r̥*, one would not necessarily expect a new series of signs to be developed. Under these circumstances, it would be conceivable that phonetic spellings of [r̥] described the position of the tongue. For instance, beside labial consonants this position may have been higher with respect to the default position; in this way the difference between *a-* and *o*-spellings could be accounted for.[25]

I will now list and discuss the evidence for *o*-spellings of **r̥*, divided into two parts. In section 2.3.1, evidence which I consider to be reliable or plausi-

23 Most notably Klingenschmitt (1974).

24 Heubeck (1972) states that option (b) is "generally assumed", but he does not cite any predecessors, and in fact few scholars have explicitly claimed that the regular outcome of **r̥* in Mycenaean was *-or-* rather than *-ro-*. Thompson (2010: 192) again views both *-or-* and *-ro-* (as well as *-ar-*) as regular outcomes.

25 Cf. Berger (1955) on the phonetics underlying the reflexes of *r̥* in Middle Indo-Aryan.

ble is listed in alphabetical order, and each item is given a concise discussion. Section 2.3.2 contains evidence of which the interpretation is subject to various sorts of uncertainties, or which has been wrongly adduced by previous authors. The material has been collected from the treatments by Morpurgo Davies (1968), Heubeck (1972), García Ramón (1985, 2016), Thompson (2002–2003), and Hajnal-Risch (2006). In anticipation of the arguments to be developed later, I will render ⟨*Co-*⟩ as /C̥r̥/. Readers who are hesitant to accept this may read ⟨*Co-*⟩ as /Cor-/ in what follows; the main arguments of this chapter are not affected by this.

2.3.1 *Examples Deserving Consideration*

1. PN *a-no-me-de* /An̥r̥-mēdēs/ (only PY Jn 706.5) and *a-no-qo-ta* /An̥r̥-kʷʰontā-/ (KN *passim*) with a possible variant *a-na-qo-ta* (KN B 798.4).
2. *a-no-qa-si-ja* /an̥r̥-kʷʰasiā-/ '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/ or contains a spelling error.[26]
4. *qe-to-ro-po-pi* ins. pl. /kʷetro-pod-pʰi/ 'cattle' (PY Ae).
5. *to-qi-de* /st̥r̥kʷʰidē/ ins. sg. 'with a spiral' (PY Ta), also in *to-qi-de-we-sa* /st̥r̥kʷʰid-wessa/ 'provided with spirals' (PY Ta) and adj. *to-qi-de-jo*, *-ja* (PY Ta).
6. *o-pa-wo-ta* /op-āwr̥̥ta/ (PY, KN) 'pads' or 'plates' attached to body armor.
7. *to-pe-za* /tr̥̥-peddʲa/ 'table' (PY Ta *passim*, KN V(2) 280).
8. PN *to-si-ta* /Tʰr̥̥sĭtā-/ (PY Cn 719.2).
9. 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) clearly refer to the same locality; they have been analyzed as compounds with a first member reflecting **upr̥̥*, a zero grade form corresponding to ὑπέρ, to be compared with Pamph. υπαρ.[27] The second member is derived from ἄκρις 'top, summit'.
10. *wo-do-we* /wr̥̥do-wen/ 'rose-scented', qualifies fragrant oil (PY Fr 1203 etc.).[28]
11. *wo-ne-we* /wr̥̥(h)nēwes/ (PY Cn 40.2, 643.1, and probably 719.12), nom. pl. m. of a noun or adjective describing flocks of male sheep, probably the precursor of ἀρνειός denoting a specific class of male sheep.

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26 On these forms, see section 2.3.1.

27 Cf. Hajnal 1997: 143–144 with refs.

28 Probably, the word for 'rose' also occurs in derivatives and personal names, but not as a simplex (cf. Thompson 2002–2003: 361).

12. *wo-ze* /wr̥ddʲei/ 'works' (PY *passim*) and other inflected forms of the present stem with the zero grade of this root (both PY and KN).[29]

Comments on the individual items:

1. Since Mühlestein (1958), the PNs *a-no-me-de* and *a-no-qo-ta* are compared with class. Ἀνδρομήδης and Hom. ἀνδρεϊφόντῃ (epithet of Enualios), respectively. An important argument in favor of this advanced by Mühlestein 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 reflect **anr̥-*. The absence of the compositional vowel *-o-* in *a-no-* is clearly an archaism.[30] An overview of all Mycenaean proper names in /-kʷʰontā-/ is given by Leukart (1994: 51–57); he rightly criticizes the interpretations of the first member as /anō-/ 'up, above' (as suggested by Ruijgh and Palmer). The form *a-na-qo-ta* has been identified as referring to the same person as the frequently attested *a-no-qo-ta* (Heubeck 1972: 67–69; Leukart 1994: 54 with lit.). One might argue that the hapax with *a-na-* is a mistake, but alternatively, one may accept that the reflex of **Cr̥-* could also be spelled with ⟨*Ca-*⟩ signs, whether this represents retained /r̥/ (as argued by Heubeck 1972: 68–69) or /ar/ (as admitted by other scholars). This issue will be further discussed in section 2.4.
2. The abstract noun *a-no-qa-si-ja* 'manslaughter' is attested in *e-ne-ka* , *a-no-qa-si-ja* /eneka anr̥kʷʰasiās/ 'on account of manslaughter' (PY Ea 805). This phrase has been convincingly compared with Class. ἕνεκα ἀνδροκτασίας 'id.' by García Ramón (2007a).[31] The underlying pre-form PIE **h₂nr̥-gʷʰén-* may reflect traditional phraseology: cf. Ved. *nr̥-hán-* 'slaying heroes' (which qualifies the Maruts' deadly weapon), the compound ἀνδροφόνος 'man-slaying; murderer' (cf. chapter 7), and also the name *a-no-qo-ta* just discussed.
3. On *ma-to-ro-pu-ro* ~ *ma-to-pu-ro*, see section 2.5.2.
4. The interpretation and etymology of *qe-to-ro-po-pi* are completely transparent: the word refers to cattle and etymologically means 'quadruped'. It has played an important role in previous discussions about the reflex of **r̥*: many scholars view it as a key example of the regular reflex /ro/, one argument being that the loss of **u̯* in the pre-form **kʷetu̯r̥-* would presup-

29 For attestations, see *DMic.* s.v. *wo-ze*.

30 On the collective ἀνδράποδα 'slaves' and ἀνδρακάς 'man by man' (both Hom.+), which do not have a trace of the compositional vowel either, see section 7.3.3.

31 That the root κτα- replaced φα- < **kʷʰa-* is probably due to prosodic or metrical causes: see section 7.3.2.

pose such a reflex. However, as we will see in sections 2.5 to 2.7, another account is possible: the *o*-vowel of *qe-to-ro-* /kʷetro-/ could be analogical, just like the -α- of the Ionic-Attic counterpart τετρα-, and the loss of **u̯* in these forms may have taken place before the vocalization of **r̥*.

5. *to-qi-de* 'with a spiral' refers to a type of decoration used on vessels and furniture. It is normally reconstructed (see *DMic*. s.v. *to-qi-de*) as either **tr̥kʷid-* or **str̥kʷʰid-*, but recently Jiménez Delgado (2017) has argued for an *o*-grade formation.[32] The root ablaut grade cannot be determined from the form *to-qi-de* itself, because the derivational suffix *-íd-* could be attached to any base form. It might be possible, however, to deduce the ablaut grade from the root etymology. There are three options: PIE **trekʷ-* or **stregʷʰ-* (the usual interpretation) and **terkʷ-* (assumed by Jiménez Delgado). The last option is unlikely: the reconstruction of a PIE root **terkʷ-* 'turn' is based mainly on the etymological connection between Lat. *torqueō* 'to twist, turn', Hitt. *taruk-ᶻⁱ* 'to dance', and Toch. B *tärk-* 'turn', the latter attested only in nominal forms. If Greek τρέπω belonged with these forms, its full grade slot would be difficult to account for.[33]
This leaves us with two possible reconstructions, **tr̥kʷid-* and **str̥kʷʰid-*, both requiring a zero grade root. On both accounts, *to-qi-de* is an important piece of evidence against a regular development **r̥* > Myc. *ro*. A widely accepted interpretation is **tr̥kʷid-*, with the root of τρέπω,[34] but in my view a derivation from the root of στρέφω 'to whirl, turn around' (which mostly denotes an ongoing or repeated circular motion) is much

32 Jiménez Delgado (2017: 37) discusses *to-qi-de* along with the form *-to-qo*, found in the phrase *jo-e-ke-to-qo*, *wo-na-si* (KN Gv 863), and which he interprets as a word for 'wine press'. He asserts that they are "best explained as *o*-grade formations", i.e. /torkʷ-id-/ and /torkʷ-ó-/, respectively. His sole argument for this are the *o*-grades found in Class. στροφίς 'band' and τρόπις 'keel', but these words were almost certainly formed independently from Myc. *to-qi-de*, as they have different concretized meanings. In any case they have a different vowel slot.

33 I do not find the idea of a contamination proposed by Jiménez Delgado attractive, and am therefore not inclined to follow his reconstruction **torkʷ-id-*. In fact, since Lat. *torqueō* might also reflect the zero grade of **trekʷ-*, I doubt whether there was a PIE root **terkʷ-* 'to turn' at all. I prefer to operate with only two roots, **trekʷ-* 'to turn' and **trep-* 'to tread, stamp'.

34 This requires that the root of τρέπω was **trekʷ-*, rather than **trep-*. This indeed seems likely in view of Myc. ptc. *to-ro-qe-jo-me-no* /trokʷe(i̯)omeno-/ 'making tours' (PY Eq 213), an old iterative formation which can be compared to alphabetic τροπέω 'turn' (Hom.+, mostly in compounds, e.g. περιτροπέω). Moreover, the alleged root 2. **trep-* 'turn' (distinguished from 1. **trep-* 'tread' in *LIV*²) does not have clear derivatives meaning 'to direct' in other languages (Hitt. *teripp-ᶻⁱ* 'to plough' and epic Skt. *trapate* 'feels ashamed'), and for this reason it seems doubtful to me to reconstruct such a root.

more plausible—that is, if *to-qi-de* indeed denotes a spiral. Note that alphabetic τρέπω 'to direct, turn' primarily refers to a change of direction or a single turn.

6. *o-pa-wo-ta* (KN Sk 5670.2+, PY Sh 737+) /op-āwr̥ta/. Although the exact referent is unclear, it is commonly agreed that at least part of the attestations refer to something like "'plates' or 'pads' attached to body-armour" (*Docs*.², glossary).[35] A clear summary of the attestations and their contexts is given by Vine (1994: 37–39). The pre-form **op-au̯r̥-to-* is a compounded verbal adjective containing the zero grade root of PGr. **au̯er-* 'to hang, attach' that is continued in Homer as ἀείρω. Note, however, that an analogical reshaping of the zero grade **au̯ro-* >> *au̯or-* after the full grade **au̯er-* cannot be excluded—that is, assuming that **r̥* had already vocalized in Mycenaean.

7. The comparison between Myc. *to-pe-za* and alphabetic τράπεζα allows us to reconstruct the form as PGr. **tr̥-ped-i̯a*. This is the feminine of a compound of ποδ- 'foot' (with the old weak stem **ped-*, and hence a clear relic) and a first member **tr̥-*. There are two alternative interpretations of the first element.

   Most scholars assume that **tr̥-* is a reduced form of the numeral 'four', with a double zero grade **kʷtu̯r̥-*.[36] The onset simplification **kʷtu̯r̥-* > **tu̯r̥-* was regular in Proto-Greek; on the further development of **tu̯r̥-* to **tr̥-* see sections 2.5.3 and 2.6.[37] However, this reconstruction is at odds with the fact that **kʷtu̯r̥-* 'four-' had metathesized to **kʷtru-* in PIE, as evidenced by Av. *caϑru-* 'four-' and probably also Lat. *quadru-*. This **kʷtru-* would have yielded τρυ-, certainly not **tr̥-* in Greek.[38] Thus, the form **kʷtu̯r̥-* in

35 Vine (1994) suggests that a heteroclitic neuter **opā-u̯r̥*, **opā-u̯n̥t-* underlies (part of the attestations of) Myc. *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" (1994: 38); the second would indeed be /op-aworta/ (chest-protecting plates or pads). Thus, part of the attestations of *o-pa-wo-ta* would still require the traditional analysis.

36 See, for instance, the list of references in *DMic*. s.v. *to-pe-za*. Thompson (2002–2003: 357) remains skeptical of the connection with 'four', "both from the point of view of the *realia*, and because of its phonological difficulties". On Mühlestein's analysis of Myc. *to-mi-ka*, see section 2.3.2 below.

37 Note that the loss of **kʷ-* in Proto-Greek would be regular only in a triconsonantal onset. In the case **-u̯-* was lost first, the labiovelar would be preserved in **kʷtr̥-*.

38 Indeed, the first part of Hom. τρυφάλεια '(a kind of) helmet' is often analyzed as reflecting precisely this PIE **kʷtru-*: it is commonly compared with τετράφαλος 'with four φάλοι', an epithet qualifying helmets (cf. *LfgrE* s.v.). However, the etymology of τρυφάλεια is not

the supposed pre-form of 'table' would have to be viewed as an analogical creation in late PIE, replacing *$k^{w}tru$-. This assumption is not economical, as we know that PIE *$k^{w}tru$- was replaced in Greek by *$k^{w}et̯u̯r$-, which yielded Class. τετρα-, Myc. *qe-to-ro-*, etc. It is not entirely clear either what the basis for an analogically reshaped (and productively formed) *$k^{w}t̯u̯r$- would have been in late PIE.

An alternative idea is that the first member of *$t̥rpedi̯a$ was not 'four', but a relic form *$t̥r$- of 'three'.[39] There is some evidence for an older form *$t̥r$- 'three' in Ved. $t̥rtī́ya$- 'third' and perhaps in Old Prussian *tīrtis* 'id.'.[40] Taken at face value, these forms suggest that 'three' was originally an *i*-stem *tr-ei-, that the original ordinal form *$t̥rto$- was regularized into *$trito$- in most languages, and that the compounding element *$t̥r$- was preserved only in PGr. *$t̥rpedi̯a$. This analysis may seem far-fetched at first sight, but it is attractive from a geometrical point of view: on uneven floors, tables are stable when they have three feet, but unstable with four feet.[41] More importantly, this analysis makes sense of the tables encountered in the Pylos tablets, where *to-pe-za* are qualified as *we-pe-za* /we(k)s-pedʲa/ 'six-footed' (PY Ta 713.2) or *e-ne-wo-pe-za* /enewo-pedʲa/ 'nine-footed' (PY Ta 713.1 and *passim*), both multiples of three.[42]

Yasur-Landau (2005) has convincingly argued that these *e-ne-wo-pe-za* and *we-pe-za* tables had legs that could be disassembled, and that were stored in disassembled state. This type of tables has parallels, as he shows, in Hittite and Akkadian inventories, and is attested in the archaeological record in Tiryns and on Cyprus. Moreover, Yasur-Landau draws attention to pictorial evidence for three-legged tables in the Aegean, on seals and frescos. As for *e-ne-wo-pe-za* and *we-pe-za*, he concludes that these compounds mean 'with nine leg-pieces' and 'with six leg-pieces', respectively. In sum, there is every reason to believe that *$t̥r$- in 'table' is an old compound form of 'three'. This makes the form *$t̥r$-ped-ih_2 of PIE date.

8. Being a personal name, *to-si-ta* must be treated with caution. It is usually seen as a formation with zero grade root, comparable to Hom. Θερσίτης.

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evidently correct: the reconstruction *$k^{w}tru$- would make the word a highly archaic relic, but the second member looks like a relatively recent introduction into Greek, as it has no Indo-European etymology. Cf. the doubts in Beekes 1973: 388 n. 1.

39 Suggested with skepticism by Morpurgo Davies (1968: 803–804), but defended with more argumentation by Thompson (2002–2003: 357).

40 For the former, cf. *EWAia* s.v. $t̥rtī́ya$-.

41 Cf. Thompson (2002–2003: 357) and *Docs*.^{2} 339.

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

Leukart (1994: 191–194) has suggested to analyze *to-si-ta* as a hypocoristic name derived from */Tʰr̥si-telēs/, the second member of which he derives from τέλος in the sense 'military unit, division' (*LSJ* q.v., mg. I.10). Thus, the compound underlying *to-si-ta* would mean 'whose unit has θάρσος'. This could make sense in view of the PNs Θερσίλοχος and Arc. Θορσυλοχος (name of a man from Eastern Achaea), whose second member is λόχος 'ambush, armed band'. The analysis is conceivable, but as always in Mycenaean onomastics, it requires that we make a number of assumptions. Alternatively, one could envisage to derive *to-si-ta* directly from an inherited adjective **dʰr̥sitó-*, as would be reflected in Ved. *dhr̥ṣitá-* 'strong' (e.g. of weapons) and YAv. *daršita-*.[43] Although there is no further lexical trace of this formation in Greek, this analysis would account for *to-si-ta* from a formal perspective. It does not, however, explain the long -ī- of Θερσίτης (Hom.+), for which Leukart's analysis as a hypocoristic seems relatively plausible. All in all, it is best not to base any conclusions on *to-si-ta*, however tempting the connection with Hom. Θερσίτης may be.

9. 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), which refer to the same locality, have been much discussed. They must be compared to the classical expression τὰ ὑπεράκρια 'the highlands', οἱ Ὑπεράκριοι 'the inhabitants of the poor highlands of Attica'; the adjective ὑπεράκριος literally means "what is beyond the hilltop(s)" (cf. Hom. ἄκρις 'top, summit'). Most scholars acknowledge that the first member of the Mycenaean toponyms reflects a zero grade form **upr̥*, to be compared with Pamph. υπαρ.[44]

Heubeck (1972: 67) proposed to view *u-pa-ra*° and *u-po-ra*° as variant spellings of one and the same underlying form /upr̥-akriā/, and supposes that the prevocalic syllabic liquid is due to the "analogical effect of other compounds in which the second part had an initial consonant".[45] Now, *u-po-ra*° would be the expected spelling of such a form *u.pr̥.rak.ri.ā*; Heubeck assumes that *u-pa-ra*° was written by a scribe who heard the form as *u.prak.ri.ā* (with rapid pronunciation).

Hajnal (1997) does not discuss Heubeck's idea and proposes two different interpretations. On the one hand, he envisages (1997: 151) that the *u-po-ra*°

43 As yet another alternative, Nussbaum (1976: 45) assumed that the pre-form underlying Θερσίτης is a compound **dʰersi-hₓi-tā-* with the root meaning 'go'.

44 Cf. Hajnal 1997: 143–144.

45 Heubeck analyzes the PN *a-no-ra-ta* as /Anr̥-altās/ 'feeder of men' (with the root of Lat. *alere* 'to feed', also reflected in Greek in Hom. ἄναλτος 'insatiable'). This would be another instance of a pre-consonantal allomorph being generalized to pre-vocalic position.

spelling may represent /upor-akriā-/, in which *upor-* would be the preconsonantal reflex of a proclitic form **upr̥-*, and that the *u-pa-ra*˚ spelling could represent /upar-akriā-/, in which *upar-* would be the regular reflex of an independently-used local adverb **upr̥*. He then casts doubts on this very idea by noting that one and the same toponym normally does not have two different variant forms, and proposes (1997: 155) that the scribe of *u-po-ra*˚ in Cn 45 would have used the *o*-vowel as a hyper-Mycenaean spelling. For this idea, he compares *to-si-ta* beside Θερσίτης, where the spelling would have been used "um den Namen älteres Gepräge zu geben". In my view, such a sociolinguistic approach to Mycenaean orthography is fundamentally flawed.

Thompson (2002–2003: 363–365) extensively discusses Heubeck's, Hajnal's, as well as other previous interpretations. In particular, he criticizes Risch's proposal that *u-po-ra-ki-ri-ja* would represent /up°rakriā-/, with an anaptyctic vowel *-o-* identified by Risch as a feature of *mycénien spécial*. Thompson's criticism of Heubeck's analysis is that /upr̥-/ could only have been introduced in this compound as long as it existed as an independent word, whereas an independent local adverb **upr̥* (with *r̥* in word-final position) should already have developed into *upar* or *upor* in Mycenaean. Moreover, Thompson casts doubts on the existence of reflexes of **upr̥*: the only other direct piece of evidence is Pamph. υπαρ, and since other Greek dialects and other Indo-European languages only have reflexes of *(*s*)*upér* (ὑπέρ, Ved. *upári*, Lat. *super*, etc.), he suspects that Pamph. υπαρ also reflects *(*s*)*upér*, with a special development of word-final *-er* in Pamphylian.

Thompson's criticism is to the point, and indeed one may well question the idea that **upr̥* also existed as an independent local adverb. Nevertheless, I think Heubeck's analysis can be reinforced by the following observations. If **upr̥* has a linguistic reality, it will have to be viewed as a proclitic form of **upér* (ὑπέρ), at least in origin. There are other cases of root ablaut in otherwise identical prepositions, such as Myc. *o-pi* beside class. ἐπί 'on', and the most plausible scenario is to view one of these variants as the proclitic, the other as the independent form. This means that in compounds and prepositional phrases, **upr̥-* would have been found before consonants, **upr-* before vowels.

The only natural interpretation of our toponym is, therefore, that its synchronic phonological shape was /uprakriā/, with the prevocalic allomorph, and that this was spelled phonetically as *u-pa-ra-ki-ri-ja*. The question then becomes why Hand 3 consistently uses the spelling *u-po-ra-ki-ri-ja* on tablet Cn 45. It would be plausible if the spelling *u-po-* was

normally reserved for the reflex of pre-consonantal **upr̥-*, but in that case, the question becomes what *u-po-ra*° represents phonologically and phonetically. It is conceivable that all productively formed compounds or prepositional phrases used the form [upr̥] *independent of the following onset*, while the toponym preserved the older prevocalic sandhi variant [upra-]. For this, we may compare e.g. the generalization of πρός from prevocalic position (where it originated) to pre-consonantal position, from which it ousted the older disyllabic form **prosi* (cf. Hom. προτί). If this is correct, Hand 3 may have analyzed the toponym [uprakriā] as a prepositional compound with the synchronic form [upr̥].

As a second option, we might suppose that the synchronic form of the preposition was /upor/, whether by contamination of the outcome **upar* with **(h)upo*, or by a regular development of **r̥* within a phonological word.[46] In this case, we could assume that the scribe identified the toponym /uprakriā/ with the prepositional phrase /upor akrias/ 'beyond the hilltops' (*vel sim.*) or with a compound /upor-akriā/.

In sum, the synchronic form of the toponym was probably [uprakriā]. As far as I can see, the assumption that [upr̥] was the synchronic form of the preposition 'over, beyond' is the most straightforward way of accounting for both different spellings of this toponym, but it cannot be excluded that **upr̥* had already been vocalized to [upor].

10. The alphabetic Greek form of the word for 'rose' is ῥόδον, Aeol. βρόδον. The argument in favor of reconstructing the pre-form of *wo-do-we* as **u̯r̥do-u̯ent-* (rather than **u̯ordo-u̯ent-* or **u̯rodo-u̯ent-*) depends partly on the metrical behavior of formulaic phrases in hexameter poetry, which will be discussed in chapter 7. The possibility is often granted that the diverging dialectal reflexes of this word in Greek are due to borrowing from a Near-Eastern source, e.g. an Iranian **u̯r̥da-*, but even in this case it is preferable to try and explain all Greek forms from **u̯r̥do-*,[47] as this allows us to avoid the assumption of liquid metathesis in Myc. *wo-do*°.

11. *wo-ne-we* (PY Cn 40.2, 643.1, and probably 719.12), nom. pl. m. of a noun or adjective, describing flocks of male sheep. According to various scholars (cf. *DMic.* s.v.), the word represents /wornēwes/ and is derived from a pre-form with **u̯r̥n-* underlying ἀρήν (gen. ἀρνός) 'lamb, sheep'. This interpretation is impossible because the root of the 'lamb' word was **urh₁-* (cf. Beekes 1988a: 74), so that the stem ἀρν- must be analogical after the

46 See sections 1.2.4 and especially 9.5 on the outcome of word-final **r̥*. For an analogical final vowel in prepositions, cf. Myc. *pa-ro* beside class. παρά, Aeol. ὔπα beside Ion.-Att. ὑπό.

47 Cf. Morpurgo Davies (1968: 811).

nom. ἀρήν < *ϻr̥h$_1$-ēn (cf. κύων 'dog', gen. κυνός). Therefore, even if the derivation would be correct and we were to assume that *ϻr̥h$_1$-ēn yielded Myc. *ϻorēn, *ϻorn-,[48] the form would not display the regular reflex of *r̥ between consonants.

In Van Beek 2013: 47 n. 131, I tentatively proposed to interpret *wo-ne-we* as the nom. pl. of a *u*-stem adjective *ϻl̥n-ú- meaning 'woolly, compact' and derived from the stem of the present εἴλομαι 'to be thronged'. While such an interpretation is conceivable for a word denoting a type of sheep as far as semantics are concerned (I compared Hom. οὖλος 'thick, compact, woolly' < *ϻolno-, qualifying animal hair and wool and derived from the same root), it is problematic that *u*-stem adjectives are unproductive in Greek. I had not taken into account the interpretation of Peters (1993b: 387–391), which is more plausible: since *wo-ne-we* is opposed to *pa-ra-jo* /palaioi/ on PY Cn 40, the word may well denote an age class of male sheep, just like ἀρνειός, ἀρνεώς probably does in alphabetic Greek. Peters therefore assumes that *wo-ne-we* reflects *ϻr̥sn-ēϻ- and assumes that ἀρνειός < *ϻr̥sn-ēϻ-ó- is a thematization of this form. The form *ϻr̥sn-ēϻ- was derived from *ϻr̥s-(*e*)*n*- 'male animal' with the suffix *-ēϻ-, which in Peters's view denotes membership of a group.

12. The form *wo-ze* is etymologically clear: it represents /wr̥ddʲei/ from PIE *ϻr̥ǵ-i̯e/o-. However, its vowel slot could be analogical beside the full grade (as in ἔργον and ἔοργα < *ϻeϻorga).

2.3.2 *Uncertain, Doubtful and Irrelevant Examples*

1. The iterative compound *a-mo-ra-ma* 'day by day' was interpreted by Heubeck (1972) as representing /āmr̥-āma/, but clearly preferable is /āmōr-āmar/ reflecting PGr. *āmōr-āmr̥ (cf. Leukart 1987: 349 ff.).
2. The word for 'unguent-boiler' appears in two variants, *a-re-pa-zo-o* and *a-re-po-zo-o* (both PY only). The commonly accepted reconstruction of both forms is *aleip^{h}n̥(*t*)- (see *DMic.* s.v.), with the expected oblique stem of the heteroclitic neuter. The difference in vocalism, however, is not well understood. Heubeck (1972: 69) suggests that the second form derives from *aleip^{h}r̥-, but "only with reserve". This suggestion is morphologically odd, as normally the weak stem is used in first compound members. It seems plausible that *a-re-pa-* was introduced from the simple neuter (dat. *a-re-pa-te*), but the exact origin of the difference is not well understood.

48 With a dialectal coloring of the PGr. *shwa*, as assumed by Peters 1993b: 390. However, it seems more likely to me that *ϻr̥h$_1$-ēn yielded *ϻarēn in all Greek dialects, including Mycenaean.

3. *do-ka-ma-i* (PY An 1282.3), a dat. pl. form of uncertain meaning, occurs on a tablet which records numbers of laborers involved in the production of chariot parts, such as wheels (*a-mo-si*) and halters (*po-qe-wi-ja-i*). The word therefore probably refers to a part of the chariot, but it is unknown to which part exactly. The following interpretations have been proposed:[49] a comparison with δοχμή 'hand's breadth'; a comparison with δραχμή, the later monetary unit, as if reflecting **dṛkʰmā*;[50] and a connection with δοκός 'beam'. As remarked by Chadwick (*Docs.*² 522), the first two options do not yield a satisfactory sense. The third could make sense in the context of the tablet, but it is hard to see how a form **dokmā* could be derived from δοκός or from δέκομαι 'to receive'.

   A fourth possibility would be that *do-ka-ma* is a substantivized feminine of the adjective δοχμός 'oblique, slanted'. The Attic noun δοχμή 'hand's breadth' probably developed from *"the distance across (the hand)" (cf. *DELG* s.v. δοχμός). Likewise, it is conceivable that parts of a chariot frame were designated as 'crosswise, oblique' (cf. the English word *cross-beam*). However, as mentioned in *Docs.*², the group of men assigned on An 1282 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.

   The nodule PY Wr 1480, which is inscribed *pa-ta-jo* / *do-ka-ma*, must also be taken into account. Carlier (1998: 414 n. 58) envisaged an interpretation /paltaiōn dorkʰmai/ 'handful of javelins' corresponding to Class. παλταίων δραχμαί, while agreeing that *do-ka-ma-i* PY An 1282 is of uncertain interpretation. This interpretation cannot be rejected out of hand, but it is not sufficiently certain, and it presupposes that δραχμή reflects a pre-form with syllabic liquid. All in all, *do-ka-ma* is merely a possible piece of evidence.

4. *do-qe-ja*, which occurs several times on a much-discussed tablet (PY An 607), has been interpreted since *Docs.*¹ 167 as the nominative plural of an occupational term, /dorkʷeiai/. This was taken by Ventris and Chadwick to mean 'female reapers', the motional feminine of an agent noun δροπεύς belonging to δρέπω 'to reap'. This requires, however, that liquid metathesis took place in the Mycenaean word (Ventris and Chadwick referred to

49 See *Docs.*²: 522. For other, implausible suggestions, cf. *DMic.* s.v.

50 For the reconstruction of δραχμή and the question whether it contained a syllabic liquid, see chapter 9.

to-no beside θρόνος).[51] Alternatively, scholars have analyzed the form as related to δόρπον, or as the gen. sg. of a female theonym (cf. the refs. in *DMic.*, q.v.).

5. *mo-ro-qa* (PY, KN), a title of high-ranking persons, was compared by Mühlestein (1958) with the classical form βράβης, a variant of βραβεύς 'arbiter'. Since βραβεύς has no convincing etymology, and since the equation of this word with *mo-ro-qa* remains uncertain, there is no reason to suppose that either of these words had **r̥*. Palmer's alternative interpretation of *mo-ro-qa* as /mo(i)ro-kk^{w}ā-/ "holder of a plot" (see *DMic.* q.v. with references) is impossible because the root of class. πέπᾱμαι 'to possess' was not Proto-Greek **kᵘ̯ā-*, but PIE **peh$_2$-s-* 'to guard, pasture' (Van Beek 2017a).

6. *pa-wo-ke*, *pa-wo-ko* (PY), appellative forms denoting female persons, have been interpreted as compounds with a root noun /-wr̥g-/ (related to the verb *wo-ze*) as their second member.[52] This is not excluded, but no convincing interpretation of the first member has yet been given. Possibilities include /pan-/ (cf. class. πανοῦργος 'wicked, cunning'), /par-/ (cf. class. πάρεργον, παρεργάτης), and /p^{h}arwo-/ (cf. Myc. *pa-we-a$_2$* Hom. φάρεα 'clothes').[53] We may safely leave the forms aside in any case, as they provide no new information about the reflex of **r̥* in addition to *wo-ze*.

7. *to-mi-ka* (KN, of clothing) was interpreted as /tor-miska/ "vierfädig, viergezwirnt" by Mühlestein (1968: 115, also *apud* Morpurgo Davies 1968: 813). He suggested that the first syllable reflects **tr̥-* 'four', the same element found in *to-pe-za*, and compared the Pamphylian gloss τριμίσκον· ἱμάτιον. Ἀσπένδιοι (Hsch.), which would contain the numeral 'three' and thus originally mean "dreifädig". He compares the elements /-misko-/ and -μίσκον with the root of class. τρίμιτος 'woven from three threads', and assumes that an original **-mitisko-* was syncopated. According to Mühlestein, a direct Mycenaean counterpart of the Pamphylian gloss is found in *ti-ri*[*mi-ka* (KN Ld 788 A);[54] in his view this shows that **tr̥-* developed out of **k^{w}tu̯r̥-* 'four-'. This proposal contains too many uncertainties to be used in the present discussion (as noted also by Thompson 2002–2003: 357); in any case, it would not add much to the case of *to-pe-za*.

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51 However, note that the etymological connection of δρέπω with Slavic forms like SCr. *dŕpati* 'to tear', Cz. *drpati* 'to pick, scratch, crumble' would preclude a connection with Mycenaean *do-qe-ja* (which has a labiovelar).

52 E.g. Morpurgo Davies (1968: 812); cf. *DMic.* s.v.

53 The latter was proposed by Bader (1965: 163 ff.), 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.

54 In a severely damaged context. On the B-side of this tablet, Mühlestein restores *pa-we*]-*a$_2$*.

8. *to-no* 'throne, ornamented chair' must be primarily compared to alphabetic θρόνος 'throne'. A common pre-form of these words has been reconstructed as **tʰr̥no-* (cf. Lamberterie 2004). However, as we will see in chapter 7 this reconstruction is beset with difficulties, and the prosodic evidence from Homer does not necessarily favor it. Anticipating this discussion, I exclude *to-no* from the compelling evidence for **r̥* in Mycenaean.
9. *to-pa* (PY Ub 1318.3) has been interpreted as denoting a type of basket.[55] As such, it has been compared with the alphabetic words τάρπη 'a type of basket' (Att. inscr., lexicographers) and ταρπός m. 'id.' (Poll.). This etymology has been accepted by Blanc (*CEG* 14 s.v. τάρπη) and Lamberterie (*CEG* 15 s.v. τάρπη).[56] If the identification is correct, it would imply a reconstruction PGr. **tr̥pā*. Two arguments for it has been adduced. First, in discussions of PY Ub 1318, a tablet recording distributions of leather and hides, it has been suggested that *to-pa* in line 3 can be seen in connection with the occurrence of *ka-ne-ja* in line 2, which has been compared with Alph. Gr. κάνεον 'basket'. The occurrence of baskets in the context of leather processing, which is odd at first sight, could then be explained with the assumption that leather straps were necessary for their production (Weilhartner 2014: 203). However, Weilhartner makes this assumption with the utmost caution, noting that there are no further indications to confirm or disprove this hypothesis. Secondly, the Myc. word also occurs in the compound *to-pa-po-ro* (TH), which has been interpreted as 'basket-carriers' in the context of processions, and compared with the classical κανήφοροι, of similar meaning (cf. Weilhartner 2014: 202–204). This presupposes the correctness of Killen's argument that the Thebes Av-series records food stuffs as ratios for the participants in a religious festival (Killen 2006: 98–102). In my view, then, the interpretation of Myc. *to-pa* as referring to a type of basket is possible, but not certain.[57]

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55 See *Docs.*² 490–491, and Weilhartner (2014: 202–204) with further references.

56 Lamberterie (*CEG* 15 s.v. τάρπη) proposes to compare *to-pa* and τάρπη with the rare Armenian words *t'arp'* and *t'arb* (denoting various sorts of containers) and to derive them from PIE **terp-* 'to enjoy', noting that this verbal root may mean 'to use' in certain contexts. The assumed original meaning of **tr̥pā* would therefore be 'utensil'. In my view, this root etymology is unlikely for two reasons: the meaning 'to use' is not attested for τέρπομαι in Greek (and is likely to be secondary with respect to 'enjoy, get satisfaction'), and the semantic narrowing from 'utensil' to a specific type of basket is implausible. However, these objections do not necessarily invalidate the comparison between *to-pa* and τάρπη, which I consider to be possible but uncertain.

57 For a different interpretation of *to-pa* and the context of PY Ub 1318, see Bernabé (2012).

10. The PN *to-ti-ja* has been taken to represent /Stortiā/ and connected etymologically with στρατός, Aeol. στρότος 'army' (cf. *DMic.*, q.v.). This is possible, but uncertain.
11. The dat.pl. *u-do-no-o-i* (PY Fn 187.13) refers to male individuals. It is generally supposed to be a compound meaning something like 'persons who bring in water', with a second member /-noho-/ deriving from the root of νέομαι 'to return'. Heubeck (1972) interpreted the form as /udr̥-nohoihi/, but it is usually assumed that the first member represents the outcome of **udn̥-* 'water',[58] even if **n̥* normally yielded Myc. /a/, the reflex /o/ being mostly limited to labial environments (cf. section 1.3.3). This could speak in favor of Heubeck's proposal, but we must note that no interpretation of the context has found general acceptance (see the discussion of various proposals in *DMic.*, q.v.).
12. *wo-ro-ki-jo-ne-jo* (PY Er 312.7, 718.11) qualifies two types of land property (*ka-ma* and *e-re-mo*, respectively). Its root has been interpreted as reflecting a zero grade **u̯r̥g-* corresponding to *wo-ze* 'works'.[59] It is probably an adjective in *-e-jo* derived from a noun or name in *-iōn-*, but the further analysis of the base form remains unclear (perhaps a PN **Wroikiōn-* who was the owner of the plots in question, see Thompson 2002–2003: 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 /wroneia/ 'lamb's' is adopted by many scholars.[60] However, it is impossible to derive such a form directly from **u̯r̥n-*, because class. ἀρήν reflects a stem **u̯r̥h₁-n-* (see section 2.3.1 on *wo-ne-we*).[61] The interpretation /wloneia/, assuming metathesis from **u̯olno-* (> Class. οὖλος 'woolly') under the influence of **u̯lānos* 'wool' (*Docs.*[1] 323), is implausible.

58 Cf. *DMic.* (q.v.) and Bartoněk (2003, index).

59 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 < **u̯orgāu̯on-*. Bader's assumption that *wo-ro-ki-jo-ne-jo* /wrogiōne(i̯)o-/ was metathesized from earlier */worg-/ is unfounded, as there is nothing to suggest a connection with **u̯erg-* 'work'.

60 See *DMic.* (s.v.) and Thompson (2002–2003: 357–358).

61 Cf. *DMic.* (s.v.) and Hajnal-Risch 2006: 205. Peters (1993b: 390 with n. 74) suggests that /wron-/ arose from /worn-/ by metathesis, assuming that the Mycenaean word for 'lamb' was /worēn/, reflecting **u̯r̥h₁en-* with a dialectal coloring of PGr. *shwa*.

2.3.3 *Synopsis of the Evidence*

From this overview of the evidence, it appears that the strongest candidates to contain the regular outcome of *ṛ have the spelling ⟨*Co-*⟩. These are:

– *a-no-me-de* /Anr̥-mēdēs/ PN
– *a-no-qo-ta* /Anr̥-k^{wh}ontā-/ PN
– *a-no-qa-si-ja* /anr̥-k^{wh}asiā-/ 'manslaughter'
– *ma-to-pu-ro* /Mātr̥-pulos/ TN
– *to-pe-za* /tr̥-pedʲa/ 'table'
– *wo-do-we* /wr̥do-wen/ 'rose-scented'
– *wo-ne-we* /wr̥(h)nēwes/, qualification of male sheep.

Two further forms show *o*-vocalism but may theoretically have an analogical vowel slot:

– *o-pa-wo-ta* /op-āwr̥ta/ denoting parts attached to armor
– *wo-ze* /wr̥ddʲei/ 'works' and related forms.

There are, however, some remaining issues. The forms *ma-to-ro-pu-ro* and *qe-to-ro-po-pi* have a spelling ⟨*Co-ro-*⟩ and have also been argued to show the regular reflex of *ṛ. Another problem concerns the forms *tu-ka-ṭạ-ṣị* and *ạ-na-qo-ta*, where the reflex is spelled with a sign from the *a*-series. Let us first consider this problem, before returning to possible solutions for the ⟨*Co-ro-*⟩ spellings in section 2.5.

2.4 *o*-Series versus *a*-Series Spellings

As we have seen, *tu-ka-ṭạ-ṣị* and *ạ-na-qo-ta* are the two most promising examples of an *a*-colored reflex. Both are attested only once, and *ạ-na-qo-ta* only as a variant of the much more frequent *a-no-qo-ta*. This means that caution is called for, and we must keep in mind that we are dealing with spellings, which do not necessarily provide direct access to the underlying phonological form. Nevertheless, if we take these spellings seriously and try to make sense of them (rather than dismiss them as possible mistakes), two approaches are conceivable.[62]

First, we could take spellings like *tu-ka-ṭạ-ṣị* as evidence for /ar/ as the unconditioned outcome of *ṛ in a non-labial environment (cf. Thompson 2010: 192). In favor of this idea, one might note that there is little secure evidence for the reflex of *ṛ being spelled with signs of the *o*-series between two non-labial

62 According to Risch 1979a: 97, *tu-ka-ṭạ-ṣị* is perhaps a special feature of the dialect of Mycenae. Although such speculations cannot be entirely ruled out, our material is too scanty to allow for testing them.

sounds. The only cases of some plausibility are *do-ka-ma* (in *pa-ta-jo*, *do-ka-ma*, cf. section 2.3.2, point 3.) and the proper names *to-ti-ja*, *to-si-ta* (if these reflect **str̥tiā-*, **tʰr̥sitā-*). However, in this scenario the alternation between *ạ-na-qo-ta* and *a-no-qo-ta* would still require an explanation. One might assume, for instance, that the first compound member **anr̥-* regularly developed into /anar-/ before non-labial consonants, and that this allomorph was introduced analogically in *ạ-na-qo-ta* (Hand 107), while *a-no-qo-ta* (other Hands) would show the regular reflex **anr̥-* > /anor-/ before labialized sounds. This is not entirely impossible, but if *ạ-na-qo-ta* and *a-no-qo-ta* indeed refer to the same individual, it would not be likely that the name occurred in two different phonological forms.[63]

A second possible avenue, which avoids the last-mentioned problem, would be to assume that *ạ-na-qo-ta* and *a-no-qo-ta* are two different *spellings* of an underlying form /anr̥kʷʰontā-/, as assumed by Heubeck.[64] Heubeck's proposal that both spellings occur as simple graphic variants has not met with much favor, because this does not explain why the *a*-spelling is so rare and why there is not more similar variation. An alternative scenario could run as follows. If *tu-ka-ṭạ-ṣị* has an *a*-series spelling of *r̥* in a non-labial environment, it is conceivable that the aberrant spelling ⟨*ạ-na-*⟩ used by Hand 107 was introduced from other compounds with /anr̥-/ in which the second member did not start with a labial sound. In this case, the usual spelling *a-no-qo-ta* could reflect the fact that the syllabic liquid (still intact) was articulated differently before a labial sound. The same would be true of other *o*-series spellings: cf. *a-no-me-de*, *a-no-qo-ta*, *a-no-qa-si-ja*, *ma-to-pu-ro*, *to-pe-za*, *wo-do-we*, *wo-ne-we*, *wo-ze*.[65] For the use of two variant spellings of a 1st compound member, see also 2.3.1 on *u-po-ra-ki-ri-ja* and *u-pa-ra-ki-ri-ja*.

Obviously, all this remains quite uncertain because of the limited amount of evidence. Nevertheless, if *tu-ka-ṭạ-ṣị* and *ạ-na-qo-ta* are indeed reliable instances of the reflex of **r̥* being spelled with the *a*-series, it is possible to view the more frequent spelling ⟨*Co-*⟩ as conditioned by a preceding or following labial consonant, and expressing some phonetic feature of the nucleus, such as lip-rounding or a higher position of the tongue. Alternatively, if we dismiss

63 When different linguistic forms of the same name exist (e.g. *John, Jean, Jan, …*), speakers of different dialects or languages will normally use one specific form of that name (e.g. *John*) to refer to the same individual.

64 Heubeck 1972: 67–69 and also García Ramón 1985: 223, but both without the idea that the spelling *a-no-* could be conditioned by following labial sounds.

65 Note that this conclusion would be different from the one reached by Morpurgo Davies (1968), who proposed that the development to *ar* was regular, that to *or* conditioned by a preceding /w/.

tu-ka-ṭạ-ṣị and *ạ-na-qo-ta* from our reliable evidence, the spelling ⟨*Co-*⟩ can be viewed as the only regular reflex of **Cṛ*.

2.5 Explaining the Orthographic Variation between ⟨*Co-*⟩ and ⟨*Co-ro-*⟩

The main candidates to display an orthographic variation between ⟨*Co-ro-*⟩ and ⟨*Co-*⟩ in the same word are the following:[66]

1. *ma-to-ro-pu-ro* (PY Cn 595.5) ~ *ma-to-pu-ro* (PY Mn 1412.4), which stands for /Mātro-pulos/ or /Māt̥r̥-pulos/ (or both), "Mother-Pylos".
2. *to-no* '(ornamented) chair' (PY *passim*) ~ *to-ro-no-wo-ko* (KN As 1517.11), interpreted as 'chair-makers'.[67]
3. *to-qa* beside *to-ro-qa* (both KN Fh-series), perhaps a technical term referring to the use of oil in the perfume industry, or a personal name denoting the recipient of oil.

Besides, *qe-to-ro-po-pi* (ins. pl.) 'cattle' (PY Ae-series) beside *to-pe-za* 'table' (PY Ta-series; KN V 280) has been adduced in this context, as both words have a pre-form with **ṛ*: PGr. **kʷetr̥-pod-* versus **tr̥-ped-i̯a*.[68]

These fluctuations have been interpreted in many different ways, e.g. as reflecting sociolinguistic differences, evidence for irregular liquid metathesis, a twofold conditioned reflex of **ṛ*, as attempts to represent a retained syllabic liquid, incidental spelling errors, or a combination of two or more of these factors. I will first briefly reconsider the evidence for liquid metathesis in Mycenaean, then consider arguments for the idea that the orthographic variation represents retained *ṛ* (Heubeck 1972), and finally discuss the idea of a conditioned development of **ṛ* (Klingenschmitt 1974).

66 See Heubeck 1972, Haug 2002: 57–58, Thompson 2002–2003: 356–362. Heubeck (o.c. 64–65) regarded *ku-su-to-qa* (PY Ed 847.2) as a scribal error for *ku-su-to-ro-qa* /ksustrokʷʰā/ 'sum, total' (KN, PY *passim*); nowadays *ku-su-to-qa* is generally corrected to *ku-su-qa* (cf. Haug 2002: 57–58). Another case is *po-po-i* (MY Oi 702.3) which Heubeck (o.c. 65) considered as a variant of *po-ro-po-i* (dat. pl., MY Oi 701.4), which refers to recipients of the commodity denoted by **190*. The interpretation /propo-/ 'augur' has some plausibility, and the form *po-po-i* might be an error (Heubeck l.c., Thompson 2002–2003: 361).

67 The interpretation of *to-no-e-ke-te-ri-jo* is unclear: perhaps /tʰorno-hektērion/ (Risch 1972: 18; see also Lamberterie 2004: 242 n. 18), but Hodot (2012) makes a case for /tʰorno-helktēriois/, a festival name corresponding to a phrase 'drawing the robe' (cf. ἑλκεσίπεπλος), with /tʰorno-/ denoting a garment (Hom. θρόνα).

68 For the further reconstruction of the first element **tr̥-*, see section 2.3.1 above.

2.5.1 *Liquid Metathesis in Mycenaean?*

The idea that liquid metathesis took place in Mycenaean was first proposed by Risch (1966: 156) as an offshoot of his attempt to use vowel anaptyxis between stop and liquid as a means to distinguish between *mycénien spécial* and *mycénien normal*.[69] As examples of *o*-anaptyxis he cited two cases: the man's name *o-pe-to-re-u* (PY Ep 704.1), a variant of *o-pe-te-re-u* (PY Ea 805, Eb 294.1), both referring to the same individual (probably /Op^{h}eltreus/),[70] and the toponym *u-po-ra-ki-ri-ja* (PY Cn 45.4–7, 11) with a variant *u-pa-ra-ki-ri-ja* (only PY An 298.1) that was discussed in section 2.3.1.[71] Risch thought that this anaptyxis was due to the avoidance of plosive plus liquid onsets. For this, he compared *ku-su-to-qa*,[72] the form supposed to have been erased by the scribe in PY Ed 847.2, which he interpreted as a metathesized form of *ku-su-to-ro-qa* /ksuntrok^{w}ā/ 'sum, total' that is securely attested in comparable contexts. In a later article (Risch 1979a: 98), he stated more explicitly that *to-pe-za* /torpedd^{j}a/ and *to-no* /t^{h}ornos/ were due to liquid metathesis, while forms without metathesis would be retained in *qe-to-ro-po-pi* /k^{w}etro-pod-/, *to-ro-no-wo-ko* /t^{h}rono-worgo-/.[73] Risch supported this view with the argument that liquid metathesis is typologically common and that it may apply irregularly.[74]

Hajnal (in Hajnal-Risch 2006: 102–103) subsequently proposed to account for the fluctuation in Mycenaean reflexes of **r̥* by means of liquid metathesis. This is based in part on his reconstructions of the words *wo-do* 'rose' and

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69 Cf. also Risch 1979a: 98–99.

70 Hajnal 1997: 155 n. 290.

71 Heubeck (1972) discusses the forms *o-pe-to-re-u* beside *o-pe-te-re-u* and *u-pa-ra-ki-ri-ja* beside *u-po-ra-ki-ri-ja* as possible evidence for a synchronic syllabic liquid. For a discussion of the latter pair, see section 2.3.1 as well as 2.5.2 below. The spelling *o-pe-to-re-u* may either be a mistake ("was für ⟨*to*⟩ und ⟨*te*⟩ grundsätzlich denkbar wäre", Hajnal 1997: 155 n. 290), or it may point to the development of an anaptyctic vowel in a cluster /ltr/, due to a Sievers-like development.

72 Nowadays, the erased form at the beginning of Ed 847.2 is read as [[*ku-su-qa*]].

73 To these examples, Hajnal (in Hajnal-Risch 2006: 102) adds *to-qi-de* /tork^{w}idei/ beside *to-ro-qe-jo-me-no* /trok^{w}e(i̯)omenos/, but this is not compelling: *to-qi-de* may reflect a zero grade of **streg^{wh}-* 'twist', while *to-ro-qe-jo-me-no* probably has an old *o*-grade of **trek^{w}-* 'turn'. Hajnal's suggestion to analyze *qe-to-ro-* as a metathesized form, and to view *to-pe-za* as showing the regular reflex (Hajnal-Risch 2006: 102–103), does not seem to reflect the original views of Risch.

74 "… 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 (…)" (Risch 1979a: 99). This point is reiterated by Thompson (2002–2003: 362), Hajnal-Risch (2006: 203).

to-no 'chair' as containing *r̥. However, the reconstruction *to-no* < *t^{h}r̥no- is quite uncertain, and in fact the evidence for liquid metathesis generally is rather weak. It was subjected to close scrutiny by Thompson (2002–2003: 355–362). Thompson's general conclusion is 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." (o.c. 366). Nevertheless, in Thompson's view an irregular metathesis *may* have operated in some cases, affecting instances of /ro/ with an original *o*-vowel: he mentions *to-no* < /t^{h}rono-/, *to-qa* < /trok^{w}ā/ as well as *wo-do* < */wrodo-/. These doublets are to be viewed, according to Thompson, not as proof of dialect differences within the Linear B archives, but as evidence for language change in progress. The classical language would preserve the older forms (θρόνος, ῥόδος), while the dialect of the tablets is supposed to be undergoing metathesis. Whether this analysis of *to-no* and *wo-do* is correct or not need not be decided here; the relevant point is that there is no evidence for liquid metathesis in Mycenaean words that originally contained *r̥.[75]

The main problem remains that invoking an irregularly operating metathesis has no real explanatory power.[76] If the Mycenaean evidence for *r̥ can be accounted for by regularly operating principles of linguistic change—and I am convinced that they can—then we need not take refuge in this *asylum ignorantiae*.

2.5.2 *Heubeck's Argument for Preserved r̥ in Mycenaean*

Heubeck argued that the orthographic variation in cases like *ma-to-ro-pu-ro* ~ *ma-to-pu-ro* does not reflect a phonological difference, but results from attempts by scribes to represent a syllabic liquid, the allophone of /r/ between two consonants. This proposal is often viewed with skepticism and has been subjected to a detailed criticism by Haug (2002). To my knowledge, the only scholar to have explicitly accepted Heubeck's analysis is García Ramón (e.g. 1975: 62–63).[77]

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75 Thompson (2002–2003: 356) ironically remarks that "the reflexes of *r̥ provide a fertile ground for looking for examples of liquid metathesis".

76 The following remarks by Hajnal are illustrative for the embarrassment: "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" (Hajnal-Risch 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." (o.c. 103).

77 In a later publication, García Ramón remarked that "Heubeck's theory can hardly be

A widely encountered objection to Heubeck is that Linear B does not normally display orthographic variation when representing a single phoneme.[78] This is not entirely to the point: there is fluctuation, for instance, in the representation of word-final occlusive plus /s/.[79] However, before judging such arguments of a more abstract nature, we have to consider the spelling variations as they are actually attested, and ask whether they are really suggestive of a preserved *r̥*.

A first point is that the forms *to-qa* and *to-ro-qa* are of unclear interpretation, and therefore must be excluded from the evidence for **r̥*; how the variation is to be explained, is a different issue (as we have seen, Thompson 2002–2003: 360 assumes that *tork*^{w}*ā* arose by metathesis from an original *o*-grade form *trok*^{w}*ā*). Secondly, the difference between *qe-to-ro-po-pi* and *to-pe-za* is not an example of orthographic fluctuation in the same word. As we have seen (section 2.3.1), it is even quite uncertain that their first members are etymologically related. Moreover, the fact that both seem to contain a reflex of **tr̥* does not ensure that they treated this sequence in an identical way. This leaves us with two cases of alleged orthographic fluctuation that I will now discuss in more detail: *ma-to-ro-pu-ro* ~ *ma-to-pu-ro* and *to-no* ~ *to-ro-no-wo-ko*.

The widespread term *to-no* 'ornamented chair' (PY) is often compared with the *hapax to-ro-no-wo-ko* /t^{h}rono-worgoi/ (KN As 1517) under the assumption that the latter means 'chair-makers'. This is a rash conclusion, however, as it appears to be very difficult to establish the meaning of *to-ro-no-wo-ko*. Let us consider the context in more detail. The first line contains the word *re-qo-me-no* /leik^{w}omenoi/ 'being left'. This is followed by a list of men's names that is concluded by a totaling formula in line 10. After an empty line, there follow the words *o-pi , e-sa-re-we , to-ro-no-wo-ko* "At (the) *e-sa-re-u* [there are the following] /t^{h}ronowworgoi/",[80] and these are followed by the names of three male workers in lines 13 and 14.

Now, it was observed early on (cf. e.g. *Docs*.[1] 172) that the first part of *to-ro-no-wo-ko* could refer not to chairs, but to a Mycenaean counterpart of the Homeric *hapax* θρόνα, which is taken to mean something like 'embroideries'. This possibility is glossed over without much further ado in most discussions

definitively confirmed or disproved" (1985: 196), but recently he still mentions Heubeck's analysis as a distinct possibility: "Tuttavia, non è escluso che notassero entrambe /*r̥*/, suono per il quale non esisteva un segno specifico in lineare B." (García Ramón 2016: 216).

78 For instance, Ruijgh (1978: 420) commented that Linear B "montre en général une économie rigoureuse, qui n'admet guère de graphies alternatives."

79 As argued by Meissner 2007.

80 The meaning of *e-sa-re-u* is unclear, cf. *DMic*. s.v.

of these words (e.g. Thompson 2002–2003: 359–360),[81] but I agree with Haug (2002: 57) that it must be taken into serious consideration. Against it, scholars have objected that embroidering is an unlikely activity for male laborers.[82] In reality, it cannot be excluded that male laborers made embroideries—neither generally speaking, nor specifically in Mycenaean Greece.[83] Indeed, the fact that the word for 'chair' is consistently written *to-no* in Pylos might be an argument in favor of connecting *to-ro-no-wo-ko* with Hom. θρόνα. There is nothing in the context that excludes either interpretation of *to-ro-no-wo-ko*.

In fact, it is quite unclear whether the original meaning of θρόνα was really 'embroideries'.[84] An important discussion of the attestations and semantics of this word is Risch (1972: 19–20). In Hellenistic poetry (e.g. Theoc. 2.59, Nic. *Ther*. 99), θρόνα is used with the meaning 'medicinal herbs', but as argued by Risch, this may have been secondarily derived from the Homeric attestation, where Andromache, still unaware of Hector's death, is weaving a two-layered purple fabric:

> δίπλακα πορφυρέην, ἐν δὲ θρόνα ποικίλ' ἔπασσε
> *Il.* 22.441

> a purple mantle, and she embroidered it with varicolored θρόνα.

The point is that the verb πάσσω 'to sprinkle; apply' is frequently used with φάρμακα as an object. This may have led to a learned reinterpretation of θρόνα as an epic variant of φάρμακα, a common meaning of which is 'drugs, medicinal herbs'.

Examining the Homeric passage more closely, what did Andromache 'apply' to the purple cloth? Hesychius and certain scholia on Theocritus explain θρόνα

81 In the second edition of *Documents* (*Docs.*^{2} 587), Chadwick stated that "derivation from Hom. θρόνα 'embroidered flowers' seems less likely".

82 Cf. Heubeck (1972: 63): "in Mycenaean times, as today, embroidering may have been a task of women".

83 According to Dr. G. Vogelsang-Eastwood of the Leiden *Textile Research Centre* (p.c.), whom I asked about this matter, professional male embroiderers would actually be more likely if the garments in question were destined to be exported. For domestic production, on the other hand, female embroiderers would be more likely.

84 The etymology is unclear. The connection of θρόνα with Alb. *drëri* 'deer', assuming that this is from *d^{h}*roni-* 'varicolored' (*GEW* s.v.), cannot be further substantiated. Various scholars (Furnée 1972: 189, but already Lawler 1948: 81) have suggested that θρόνα is a Pre-Greek word because of the variant τρόνα· ἀγάλματα, ἢ ῥάμματα ἄνθινα 'ornaments, or stitched flowers' (Hsch.).

as referring to flowers or figurines.[85] The older Homeric scholia, however, have the glosses θρόνα· τὰ βαπτὰ ἔρια 'dyed wool' (*sch. vet.* AbT Erbse) and θρόνα ποικίλα· ἄνθη ποικίλα, ἐξ ὧν βάπτουσι "varicolored flowers used for dyeing" (*sch. vet.* A Erbse).[86] This sense is also presupposed by the interpretation of our passage by 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. ἐπεὶ καὶ φαρμακῶνες τὰ βαφεῖα ἐκαλοῦντο, καὶ φαρμάσσειν τὸ βάπτειν ἐλέγετο παρὰ τοῖς παλαιοῖς, …
>
> θρόνα properly denotes useful dyes that sprout [ἀναθορόντα] from animals or from the earth, but here by a particular usage he [Homer] has given the name θρόνα (that is, φάρμακα [in the sense 'dyes']) to dyed linen or wool. For a dyer's workshop was called φαρμακών, and dyeing [or: dipping] was called φαρμάσσειν by the ancients (…).

According to Eustathius, then, the referent of θρόνα are dyed threads of linen or wool (τὰ βεβαμμένα λίνα ἢ ἔρια), but he thinks that the lexical meaning of θρόνα is φάρμακα in its technical sense 'dye'. Indeed, an interpretation of θρόνα as 'dyed threads of wool or linen' would make good sense in the Homeric passage. At the same time, if the proper meaning of θρόνα was 'dye', this explains how the Hellenistic reinterpretation of θρόνα as 'medicinal herbs' could take place: θρόνα came to be viewed as an equivalent of φάρμακα in all senses of the latter word.[87]

The interpretation of θρόνα as referring to a fabric or to dyed threads of wool or linen also throws light on the possessive compounds χρυσόθρονος and

85 According to a scholiast on Theoc. 2.59, θρόνα means τὰ ἀνθινὰ ἱμάτια 'clothes decorated with flowers' in Cyprian, and τὰ πεποικιλμένα ζῶα 'embroidered figures' in Thessalian. Hsch. (θ 774) has θρόνα· ἄνθη. καὶ τὰ ἐκ χρωμάτων ποικίλματα '… embroideries made of χρώματα'. These are probably the sources for Risch's judgment, concerning the Homeric passage, that "aus dem Zusammenhang [sich] am ehesten die Bedeutung 'Stickereien, Figuren irgendwelcher Art', evtl. 'bestimmte Figuren oder Ornamente' [ergibt]" (Risch 1972: 19). However, note that in the Hsch. gloss, χρώματα might well refer to colored threads (as it also occurs as a technical term denoting 'pigments' in the context of dyeing: χρώματα βάπτειν Pl. *Resp.* 429e).

86 See Erbse ad *Il.* 22.441.

87 Note, finally, that Eustathius uses a folk-etymology (connecting θρόνα with the epic verb ἀναθορεῖν) in order to account for the identification θρόνα = φάρμακα. Apparently, he thinks that the primary meaning of φάρμακα is 'useful herbs'.

ἐΰθρονος, which occur in epic formulae. Their second member is traditionally identified with θρόνος 'throne', but incorrectly: as has long been seen, the Homeric phrase θρόνα ποικίλα has a counterpart in ποικιλόθρονος, epithet of Aphrodite in Sappho (fr. 1.1), for which an interpretation 'with varicolored dress' would fit well.[88] Lawler (1948) argued that the epic epithets χρυσόθρονος and ἐΰθρονος are to be analyzed in the same way, and she already drew attention to the fact that χρυσόθρονος is an exclusively feminine epithet, whereas the throne was originally a symbol of masculine power and authority.[89] She was followed in this analysis by the etymological dictionaries (*GEW*, *DELG*) and by West (2007),[90] but not by Risch (1972), Jouanna (1999), and Kölligan (2007b), who maintain the traditional identification of the second member with θρόνος 'throne'.[91]

The image of the sisters Dawn and Night wearing resplendent clothes is also widespread in Vedic poetry, and may well be inherited. In my view, the correctness of Lawler's idea is proven by the formulaic occurrences of these compounds.[92] In Homer, ἐΰθρονος is an exclusive epithet of Dawn,[93] while χρυσόθρονος mostly qualifies Dawn (10×), but also Hera (3×)[94] and Artemis (2×). Since Artemis and Hera also have other traditional epithets, it is likely that χρυσόθρονος was in origin primarily an epithet of Dawn.[95] Indeed, in early Greek Epic

88 The traditional and most widely accepted interpretation is 'on richly-worked throne' (*LSJ* s.v. ποικιλόθρονος), adopted e.g. by Page (1955: 4).

89 Cf. Lawler 1948: 82.

90 "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" (West 2007: 221 n. 90).

91 Risch (1972) wants to derive θρόνα secondarily from a misunderstanding of ποικιλόθρονος. This is problematic because that compound is not attested in Homer, but first in Sappho. 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).

92 While finishing the final draft of this book, I discovered that this point has also been made forcefully by Hodot (2012) in a highly lucid article discussing the philological and pictorial evidence for Eos wearing a robe.

93 In Pindar, ἐΰθρονος is also an epithet of the Horae, the Charites, Cleo, and Aphrodite.

94 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*.

95 Cf. the formulaic verse-final nominatives (θεὰ) λευκώλενος Ἥρη (*Il.*, very frequent) and (βοῶπις) πότνια Ἥρη (*Il.*, also very frequent); both remain current in Hesiod and the hymns. For Artemis, cf. verse-final nom. sg. Ἄρτεμις ἰοχέαιρα (9× Hom., 2× *hymn.*) and Ἄρτεμις ἀγνή (3× *Od.*). The antiquity of the formulaic system of Dawn follows from the fact that the case forms Ἠώ, Ἠοῦς, Ἠοῖ, in which contraction has taken place, are banned from verse-final position. This means that the entire system developed before contrac-

'Ηώς is characterized as χρυσόθρονος, ἐΰθρονος, ῥοδοδάκτυλος, κροκόπεπλος, and she also receives the generic epithet δῖα. Of these, κροκόπεπλος 'with saffron-colored dress' strongly suggests that χρυσόθρονος had a similar meaning.[96] It is also relevant that most other Homeric compounds with a first member χρυσο- denote attributes that are worn on the body.[97]

Against this analysis, one could object (with Jouanna 1999: 114) that Hera is represented as seated on a throne already in Homer, and that the same is true of female deities in later poetry.[98] However, given that θρόνα was an obsolescent technical term, the meaning of -θρονος in these compounds may have become opaque, and a secondary identification with 'throne' would be easy to understand.[99] Only in Lawler's scenario can we understand why the compounds in -θρονος never characterize a male deity, and why they are primarily applied to Dawn in Homer.

Thus, Homeric θρόνα is an old word probably referring to dyed threads. This means that the Mycenaean *to-ro-no-wo-ko* could be dyers of threads, or even producers of dyes; as argued above, the consistent spelling *to-no* for 'chair' at Pylos actually favors an interpretation along these lines.[100] This means that *to-no* ~ *to-ro-no-wo-ko* ceases to be a compelling example for Heubeck's claim, and for the spelling variation ⟨*Co-*⟩ ~ ⟨*Co-ro-*⟩ at large.

The other remaining instance of variation ⟨*Co-*⟩ ~ ⟨*Co-ro-*⟩ is *ma-to-ro-pu-ro* ~ *ma-to-pu-ro*. Both forms are attested just once, but let us—for the sake of argument—consider how the variation could be explained.

According to a widespread view, there are no instances of the thematic vowel *-o-* in Mycenaean compounds.[101] If this is correct, *ma-to-ro-pu-ro* would have to represent the direct outcome of a compound with **mātr̥-*. However, Morpurgo

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tions following the loss of /h/ took place. This also accounts for the irregular violation of Meister's Bridge in verse-final 'Hῶ δῖαν (from older **āu̯oha*).

96 Cf. Hodot (2012), with a lucid presentation of the philological and pictorial evidence showing how compounds in -θρονος and -πεπλος are integrated in a pattern of describing Eos as a deity with a golden or saffron-colored dress.

97 In Homer, cf. χρυσάμπυξ (head-band), χρυσοπήληξ (helmet), χρυσόζωνος (girdle), χρυσοκόμης (hairdo), χρυσοπέδιλος (sandals), χρυσοπλόκαμος (braids), χρυσοστέφανος (wreath).

98 Cf. ὑψιθρόνων … Νηρεΐδων (Pi. *Nem.* 4.65), and ὁμοθρόνου Ἥρας (Pi. *Nem.* 11.2) referring to Hera sharing the throne of Zeus.

99 In fact, Hodot (2012) argues that this reinterpretation is post-Homeric.

100 Hodot (2012) summarizes the argument of a dissertation from 1974 by Probonas, who argued that the Mycenaean term *to-no-e-ke-te-ri-jo* /tʰorno-helktēriois/ might refer to the drawing of a robe or garment. This seems unlikely to me, although I was unable to access the work of Probonas.

101 See e.g. Hajnal-Risch (2006: 103 n. 183); for a general assessment, cf. Meissner and Tribulato (2002: 320–323).

Davies (1968: 803) argued that the compositional vowel is in fact used in compounds. Haug (2002: 55 ff.) adduces the following cases:

– *ko-to-no-o-ko* /ktoino-hokʰos/ 'holder of a *ko-to-na* (a type of land-holding)';
– *o-wo-we* /oʰwo-wens/ 'having a handle';
– PN *i-su-ku-wo-do-to* /(h)Iskʰuo-dotōi/ (dat.sg.), cf. alph. ἰσχύς 'force';[102]
– PN *ke-ro-ke-re-we-o* /Kʰeʰro-klewehos/, cf. χειρ- 'hand' < **kʰehr-*;
– PN *di-wo-pu-ka-ta* /Diwo-P°/, cf. Διός (gen.) 'Zeus'.

In my view, not all these examples are equally convincing. The precise interpretation of the second member of *di-wo-pu-ka-ta* remains uncertain (cf. *DMic.* s.v.), and the same holds for the first member, which could also represent an actual genitive form /Diwos-/ (as in e.g. Διόσδοτος). In the case of *ko-to-na*, its substitution by the 2nd declension form *ko-to-no*° in a compound is completely regular.[103] Haug's interpretation of *o-wo-we* as /ohwo-wen/ 'with handles on it' is accepted and defended with further arguments by Lamberterie (2009), but it is implausible that this form contains a thematic vowel, as no similar case is known from among the other Mycenaean adjectives in /-went-/. Rather, the first part */owho-/ might reflect **ou̯sn̥-* with a syllabic nasal, as argued by Lamberterie.[104]

We are left, then, with the compounded personal names *i-su-ku-wo-do-to* and *ke-ro-ke-re-we-o*. The evidence is slight, but since *ma-to-ro-pu-ro* is also a name (a toponym), I agree with Morpurgo Davies and Haug that it may well belong under the same header. If so, *ma-to-ro-pu-ro* would be an instance of a morphological replacement in progress; *ma-to-pu-ro* would be the more archaic spelling.

In conclusion, it is difficult to cite one firm instance of the orthographic fluctuation ⟨*Co-*⟩ ~ ⟨*Co-ro-*⟩ on which Heubeck bases his argument for the preservation of *r̥*. To this, we may add another point: as Thompson (2002–2003: 358) remarks, "it is surprising that we do not see more variation of this sort" if Heubeck's analysis is correct. Indeed, words that occur frequently in the tablets

102 This interpretation is accepted also by García Ramón (2007b: 326).

103 Cf. Meissner and Tribulato (2002: 322), following Leukart (1994: 315).

104 In Van Beek 2013: 40 I still defended the other traditional interpretation /oiw-ōhwes-/ 'with a single handle'. However, in view of the compelling arguments provided by Lamberterie (2009: 82–87; cf. also the summary by P. Ragot, *CEG* 15, 149–150), I now reject this. The main arguments are as follows. First, as was long seen, *o-wo-we* 'with handles' qualifies a tripod whose ideogram has two handles, not one; secondly, as Lamberterie stresses, οἶος never functions as a numeral in Homer (i.e. 'one' in opposition to 'two'), but means 'alone, on its own'; and finally, within Mycenaean *o-wo-we* clearly pairs with the privative compound *a-no-wo-to* 'without handles'.

such as *to-no*, *to-pe-za*, and *wo-ze* are never subject to this type of variation.[105]

This does not necessarily mean, however, that *$*r̥$* had already developed to *-or-* in the language of the tablets. First of all, the alternative *a*-vowel spellings of the reflexes of *$*r̥$* (section 2.4) might be viewed, with all due reserve, as an argument for the retention of this sound. Secondly, as argued in section 2.3.1, the variation between the Pylian place-names *u-pa-ra-ki-ri-ja* and *u-po-ra-ki-ri-ja* is understood most easily if they represent /uprakriā/ and /upr̥akriā/, respectively. And finally, the claim is based not only on spelling fluctuations within Mycenaean, but also on the idea (cf. Heubeck 1972: 74–79) that certain epic words with -ρο- or -ρα- scan properly only if we restore a pre-form with *$*r̥$*. This part of his argument has been widely criticized, but as I will show in chapters 7 and 11, it is in fact attractive and can be bolstered with new arguments.

For these reasons, I hold that the regular Mycenaean reflex of *$r̥$* was consistently rendered with spellings of the type ⟨*Co-*⟩ (rather than ⟨*Co-ro-*⟩), at least if one of the neighboring sounds was labial, and that this spelling represents a retained syllabic liquid.

2.5.3 *Previous Accounts of qe-to-ro-po-pi and to-pe-za*

We still need to account for the twofold reflex of *$*r̥$* in *qe-to-ro-po-pi* as opposed to *to-pe-za*. Scholars who accept that Myc. *-ro-* is the regular outcome of *$*r̥$* are forced to give a special explanation for *to-pe-za* 'table'. As a lexicalized form, however, *to-pe-za* 'table' is an eminent candidate to present the undisturbed outcome of *$*r̥$*: there is no particular reason to assume that its first syllable was analogically reshaped. To illustrate the embarrassment, let us consider the scenario proposed by Ruijgh (1978: 420).

Ruijgh supposes that *to-pe-za* represents /torpeddʲa/ and that its /or/ was introduced analogically from the cardinal **k*^{w}*etortos* (unattested in Mycenaean). However, given that *qe-to-ro-* /k^{w}etro-/ is in his view the regular reflex of **k*^{w}*et*(*u̯*)*r̥-*, the outcome **k*^{w}*etortos* itself requires an explanation. Ruijgh assumes that the vowel slot of the second syllable in **k*^{w}*etortos* was influenced by yet another unattested form, *τυρτός, allegedly the oldest form of the ordinal that would underlie the PN Τυρταῖος.[106]

The *ad hoc* character of this solution is apparent. The existence of an older form *τυρτός is uncertain, and at any rate it seems highly unlikely that the vocalization of **k*^{w}*etr̥tos* could have been influenced by such a form: wouldn't one expect e.g. **k*^{w}*eturtos* as a result of such contamination? Moreover, if a mor-

105 Cf. also the criticism of Heubeck's argument in Haug (2002: 59).

106 Cf. Ruijgh 1992: 87 (with n. 32) and 1996: 117.

phologically opaque first compound member **tro-* was replaced, one would expect the result to be **kʷetr̥-pedi̯a*, rather than another opaque form **tor-pedi̯a*. Finally, as we have seen there are strong arguments for deriving **tr̥-* in 'table' from the numeral 'three': see section 2.3.1.

Another attempt to save a regular development **r̥* > Myc. *-ro-* was made by Klingenschmitt (1974: 275–276). Extending Kretschmer's rule for alphabetic Greek to Mycenaean,[107] Klingenschmitt accounts for *to-pe-za* by assuming that already in Proto-Greek or Common Greek, the lexical accent influenced the place where an anaptyctic vowel emerged beside word-medial **r̥*. He posits a change **-r̥-* > **-rə-*, but **-ər-* when accented or by analogy, followed by a merger of *ə* with *a* or *o*, depending on the dialect group. He uses this rule to explain the divergence between *to-pe-za* and alphabetic τράπεζα. The latter form has a recessive accentuation, but originally this was true only for the strong case forms, as the weak stem had an accented suffix (PIE **-ih₂* versus **-iéh₂-*, cf. ὄργυια, gen. ὀργυιᾶς). This allows Klingenschmitt to account for Mycenaean *to-pe-za* by assuming the following paradigmatic levelings:

nom.	**tu̯ə́rpedi̯a*	> **tu̯órpedi̯a*	>>	*tórpedi̯a*	=	*tórpedi̯a*
gen.	**tu̯rəpedi̯ās*	> **tropedi̯ās*	=	**tropedi̯ās*	>>	*torpedi̯ās*

For classical Ionic-Attic, on the other hand, he posits the following developments:

nom.	**tu̯ə́rpedi̯a*	> **tu̯árpedi̯a*	>>	**trápedi̯a*
gen.	**tu̯rəpedi̯ās*	> **trapedi̯ās*	=	**trapedi̯ās*

A key argument for Klingenschmitt, as for many scholars discussing these forms,[108] is the claim that the labial glide could be lost only *after* **r̥* had vocalized as *rə*.

This account has been followed in a considerable number of subsequent discussions,[109] but it is highly problematic for several reasons. First of all, assuming a partial analogical reshaping **tu̯órpedi̯a* >> *tórpedi̯a* after **tropedi̯ās* is unsatisfactory, as this introduces a new root shape into an already irregular paradigm. Why not generalize either **tu̯órpedi̯a* or **trópedi̯a*? Secondly, it is not true that the loss of the labial glide presupposes a development **r̥* > **rə*: as I will argue in the next section, **u̯* must have been lost when **r̥* was still in place,

107 For this, see section 1.4.2.

108 Cf. already Szemerényi (1960: 20).

109 See e.g. Leukart (1994: 54 n. 23), Thompson (2010: 190).

in Proto-Greek. Thirdly, Klingenschmitt's scenario presupposes that there was indeed a Common Greek reflex *$r̥$ > *$rə$ in unaccented position. As discussed in section 1.4.2, however, assuming an accent-conditioned double reflex for alphabetic Greek is subject to various problems. And finally, again we must note that the pre-form of 'table' may well have contained a relic form *$tr̥$ of the numeral 'three' (see section 2.3.1).

As a matter of fact, the rest of the Mycenaean evidence does not speak for Klingenschmitt's rule. He adduces Myc. *wo-ze* < PIE *$u̯r̥ǵ$-$i̯e/o$- as an example in favor, but without remarking that its vowel slot may have been influenced by related forms of the root *$u̯erǵ$-. Furthermore, the following Mycenaean words are compelling counterevidence:[110]

– a first member *$anr̥$- 'man; strength' is reflected in the abstract *a-no-qa-si-ja* < *$anr̥$-$k^{wh}$$asíā$- 'manslaughter' and in the names *a-no-me-de* < *$Anr̥$-$mḗdēs$, *a-no-qo-ta* < *$Anr̥$-$k^{wh}$$óntā$-. All three had unaccented *$r̥$ on any account. It is hard to believe that their first member *a-no-* was analogically reshaped from earlier /andro-/ (e.g. after compounds in *-ήνωρ*), given that names with a second member in /-andro-, -andrā-/ are frequent in the tablets (e.g. *a-re-ka-sa-da-ra* /Aleksandrā/) and that /andr-/ was no doubt also the oblique stem of the simplex. Moreover, we have corresponding classical forms with Ἀνδρο-, ἀνδρο-.[111] If a first member Myc. *$andro$- had come into existence by regular sound change, there would have been no motivation to replace it.
– *qe-to-ro-po-pi* < *$k^{w}et(u̯)r̥$-*pod*-, and compounds with a first member *qe-to-ro-* generally: possessive compounds have a recessive accent in alphabetic Greek, and most compounds with 'four-' would therefore have had an accented first member *$k^{w}etŕ̥$-.[112]

It seems as if Klingenschmitt's account of the reflexes of *$r̥$ in Mycenaean was devised specifically in order to explain *to-pe-za*, an important counterexample

110 For more potentially relevant material, see Hajnal-Risch (2006: 102–103, 202–205). Myc. *wo-do-we* /wr̥dówen/ 'rose-scented' is not a counterexample, because it may contain the form of the simplex *wo-do*, where *-ór-* would be the expected reflex if one accepts Klingenschmitt's rule. In *o-pa-wo-ta* /op-ā́wr̥ta/ 'pads or plates attached to armor' and the PN *to-si-ta* < *$T^{h}r̥sítā$-, influence of the respective full grades *$au̯er$- and *$t^{h}ers$- may have played a role.

111 As Mühlestein (1958) already saw, the outcome of *$anr̥$-$k^{wh}$$asiā$- may have been replaced by Hom. ἀνδροκτασίη for metrical reasons; for details, see section 7.3.3.

112 In view of such counterexamples, Hajnal (in Hajnal-Risch 2006: 102–103, 202–205) concludes that the distribution between the spellings *Co-ro-* and *Co-* representing the reflex of *$r̥$ cannot be accounted for by the accent rule alone. In order to save this rule, Hajnal then assumes that an irregular liquid metathesis was operative in forms like *a-no-me-de* and *qe-to-ro-po-pi*. This is clearly *ad hoc*.

against a regular sound-change *ṛ > Myc. *-ro-*. However, his set of assumptions does not account for other crucial pieces of evidence (e.g. *a-no-me-de*, *qe-to-ro-po-pi*) and, contrary to his claims, these assumptions are not needed to explain the lack of a reflex of *u̯ in *to-pe-za*. Furthermore, there is no real basis for ascribing the different vowel slots of alphabetic τράπεζα and Myc. *to-pe-za* to an original difference in accentuation between the strong and weak stems. The analogical leveling posited by Klingenschmitt is a remote possibility at best, and his scenario is contradicted by other evidence.

It follows that *to-pe-za* displays the regular reflex of *ṛ. This means that *qe-to-ro-* must be analogical, a conclusion also reached by Haug (2002: 57). Haug suggests that the scribe tried to express the morpheme boundary between /kʷetor-/ and /pod-/ more clearly by adding the sign ⟨*ro*⟩.[113] In my view, this account is not entirely satisfactory, given that a spelling ⟨*qe-to-*⟩* of the first member would have been relatively unambiguous. Alternatively, Lamberterie (*apud* Haug, l.c.) and Thompson (2002–2003: 359) independently suggest that the vocalization /kʷetro-pod-/ may have been influenced by the prevocalic allomorph /kʷetr-V-/, as in e.g. *qe-to-ro-we* /kʷetr-ohwēs/ 'with four ears/handles'. Indeed, this cannot be excluded.

However, I suspect that something else may be going on. The reflex in *qe-to-ro-po-pi* is not an isolated problem: in Ionic-Attic we also find τετρα- (rather than *τεταρ-) as the compositional form of 'four'. Another possible scenario for the genesis of *qe-to-ro-* and τετρα- would be that both acquired their final vowel from the first compound members of higher numerals (cf. Myc. *e-ne-wo*, Hom. πεντα-, etc.). Before making the details of this scenario explicit, I will now first consider the phonological prehistory of *qe-to-ro-* and other forms of the numeral 'four'. The key question is: how can the loss of *-u̯-* be explained?

2.6 Ion.-Att. τέταρτος and an Early Simplification of *-*tu̯*- before *ṛ

Among the reflexes of PIE **k*ʷ*etu̯ores* 'four' and derived formations, there are three forms without a trace of the labial glide *u̯:[114]

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113 As a parallel Haug adduces the use of <*ro*> in *a-ra-ro-mo-te-me-na* /ararmot-mena/ (pf. mid. ptc. of /armot-/, cf. Att. ἁρμόττω), which seems to mark the reduplicated root more clearly.

114 A noun ταρτημόριον 'a coin worth a fourth part of an obol' is known from Photius, *Lexicon* (τ 70): ταρτημόριον· δίχαλκον· ὁ γὰρ χαλκοῦς ὄγδοον τοῦ ὀβολοῦ· καὶ ταρτημοριαῖόν τινα καλοῦσιν, οἷον διχάλκου ἄξιον "ταρτημόριον: a double χαλκοῦς. For the χαλκοῦς is an eighth of an obol. They also call something ταρτημοριαῖον, as being worth a double χαλκοῦς". The word is also attested epigraphically in Delphi: τα]ρταμοριον (*CID* 2: 110), ταρτ]αμοριον (*CID*

– The first compound member *$k^{w}et\underset{\breve{}}{u}_{\mathring{}}r$- > *$k^{w}et_{\mathring{}}r$- (cf. Ion.-Att. τετρα-, Myc. *qe-to-ro-po-pi*, Thess. πετρο-);
– The dative form *$k^{w}\acute{e}t\underset{\breve{}}{u}_{\mathring{}}r$-*si* > *$k^{w}\acute{e}t_{\mathring{}}rsi$ > τέτρασι (Hes.+);
– The ordinal *$k^{w}\acute{e}t\underset{\breve{}}{u}_{\mathring{}}r$-*to*- > *$k^{w}\acute{e}t_{\mathring{}}rto$- (epic τέτρατος, epic and Ion.-Att. τέταρτος, Arc. τετορτος, Thess. πετροτος, etc.).

In addition, loss of *$\underset{\breve{}}{u}$ has been assumed for the word for 'table', starting from the reconstruction *$k^{w}t\underset{\breve{}}{u}_{\mathring{}}r$-*ped-ih*$_2$ "(object) with four legs" > *$t\underset{\breve{}}{u}_{\mathring{}}rped\underset{\breve{}}{i}a$ > *$t_{\mathring{}}rped\underset{\breve{}}{i}a$ > Ion.-Att. τράπεζα, Myc. *to-pe-za* 'table'. However, as we have seen in section 2.3.1, the reconstruction of 'table' may well have been PIE *$t_{\mathring{}}r$-*ped-ih*$_2$ (with *$t_{\mathring{}}r$- an old allomorph of 'three') rather than *$k^{w}t\underset{\breve{}}{u}_{\mathring{}}r$-*ped-ih*$_2$.

Most treatments of these forms for 'four' claim that the loss of the labial glide can only be explained by positing an intermediate stage *$t\underset{\breve{}}{u}r\partial$, i.e. a regular vocalization *$r_{\mathring{}}$ > -*rə*-.[115] However, a regular development *$r_{\mathring{}}$ > -*rə*- is contradicted by Mycenaean forms like *to-pe-za* and *a-no-qa-si-ja*, as well as by alphabetic Greek forms like the ordinal τέταρτος.

It is usually assumed that Ion.-Att. τέταρτος and Arc. τετορτος were secondarily reshaped under the influence of the cardinal, and that the regular outcome of the ordinal form is seen in τέτρατος.[116] This is problematic for three reasons. First, there would have been no motive to replace τέτρατος, because this form was protected by the first member τετρα-. Secondly, there is no clear model for the replacement: a proportional analogy with the cardinal (Att. τέτταρες, etc.) would normally have yielded Att. *τέτταρτος (etc.).[117] A stem τεταρ- is not found elsewhere, and a contamination which eliminates a perspicuous stem form (τετρα-) and introduces a novel one (*τεταρ-) is hard to motivate. Thirdly, the *a*-vocalism of τέταρτος cannot have been taken from the cardinal form (as in Att. τέτταρες, Hom. τέσσαρες) because τέσσερες, with a more original *e*-vowel, occurs beside the ordinal τέταρτος in Eastern Ionic.[118] The same point is valid for Arca-

2: 112B), both from the last quarter of the 4th c. BCE. Lejeune (1929: 111) suggested that *ταρτη- 'fourth' arose by re-vocalization of *$t\underset{\breve{}}{u}rto$- < *$k^{w}t\underset{\breve{}}{u}_{\mathring{}}rto$-. Oddly, the main etymological dictionaries do not mention ταρτημόριον. Unfortunately, it cannot be excluded that the word, being a frequently-used coin name, arose from *τεταρτημόριον by haplology. Cf. Szemerényi (1960: 79); Schwyzer (1939: 590 n. 2) with further literature.

115 Szemerényi (1960: 20), Morpurgo Davies (1968: 795), Klingenschmitt (1974: 275–276), Leukart (1994: 54 n. 23), Thompson (2010: 190).

116 For this idea, see e.g. Szemerényi (1960: 20 n. 87), Waanders (1992: 379).

117 Cf. also 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) is equally unlikely.

118 The regular form in Herodotus and in Ionic inscriptions is τέταρτος. The Magnesian form

dian, which has τεσσερες beside τετορτος. It is therefore highly implausible that τέτρατος was replaced by τέταρτος under influence of the cardinal. Rather, we must conclude that Ion.-Att. τέταρτος and Arc. τετορτος are the uninterrupted phonological reflexes of the Proto-Greek ordinal form *$k^{w}et\underset{\cup}{u}r̥to$-, in which the glide *-$\underset{\cup}{u}$- had been lost early on.

Which phonetic factor caused the loss of *-$\underset{\cup}{u}$- in such forms? Since PIE *tu followed by a consonant does not normally surface as *$t\underset{\cup}{u}$, the usual formulation of the conditioning ("*$t\underset{\cup}{u}$ > *t before a consonant") is misleading. In reality, all relevant examples of *$t\underset{\cup}{u}$ > *t are found in the position before *$r̥$. I therefore propose that a syllabic *$r̥$, already *prior* to its vocalization, caused the loss of the preceding labial glide in the cluster *-$t\underset{\cup}{u}$-. Phonetically, two factors may have played a role. First, it is relatively difficult to coarticulate labialization with a rhotic.[119] Secondly, labialization frequently occurs together with velarization, and is much less compatible with preceding alveolar segments. Therefore, realizing an onset *$t\underset{\cup}{u}$ (or monosegmental *t^{w}) must have been more difficult before *$r̥$ than before full vowels (as in the cardinal form *$k^{w}\acute{e}t\underset{\cup}{u}eres$ > Ion. Arc. τέσσερες).[120]

Is it possible to assume an unconditioned simplification *$t\underset{\cup}{u}r̥$ > *$tr̥$? This seems to be contradicted by the different reflexes of *$t\underset{\cup}{u}r̥$ in the following forms:

τετταρ[τ]ος is explained by Nachmanson (1904: 146–147) as due to influence of τετταρακοστην in the previous line, a form that is probably due to Attic influence. A similar form is read in Miletus: see Scherer (1934: 58), who remarks that it may have been "durch das Kardinale beeinflusst".

119 Note that *$k^{w}r̥$- may have developed into *kur- early on in certain varieties of Greek, before the elimination of the labiovelars and the regular vocalization of *$r̥$ (cf. section 1.3.2 on the etymology of κυρτός). This would be phonetically similar to the simplification of *$t\underset{\cup}{u}r̥$- proposed here. However, it cannot have been part of the same development, as in that case one would expect *$t\underset{\cup}{u}r̥$ to surface as τυρ. Note, moreover, that onset labiovelars were preserved before consonantal /r/ in Mycenaean, cf. *qi-ri-ja-to* /kʷriato/ 'bought' (> Hom. πρίατο).

120 This scenario also allows us to account for the West Greek cardinal form τέτορες. The loss of *-$\underset{\cup}{u}$- in this form has been ascribed to a dissimilation against the initial *k^{w}- (e.g. Szemerényi 1960: 148), but a similar dissimilation did not take place in the cardinal form in other Greek dialects. In the *Grundriss* (II, 2: 13), Brugmann already assumed that WGr. τέτορες was influenced by τετρα- and τέτρατος, which seems much more logical. Of course, Brugmann also started from the assumption that the vocalization *$r̥$ > -ρα- preceded the elimination of -$\underset{\cup}{u}$- in such forms. Within the present scenario, we may simply assume that the remodeling of WGr. *$k^{w}et\underset{\cup}{u}ores$ to *$k^{w}etores$ took place under pressure of the ordinal form *$k^{w}etr̥to$-, the first member *$k^{w}etr̥$-, and the gen. *$k^{w}eturōm$ (cf. Lillo 1990: 15–16) and dat. *$k^{w}etr̥si$, leading to a single -t- in all case forms.

– Ion.-Att. σάρξ 'meat' < PGr. **tu̯r̥k-*, cf. also σύρξ, mentioned as the Aeolic and Doric form of σάρξ 'meat' in the *Etymologicum Magnum*[121] (cf. also e.g. σύρκεσι· σαρξίν. Αἰολεῖς Hsch.);
– Att. and Cret. σαίρω 'to sweep' < PGr. **tu̯r̥-i̯e/o-*, related to Ion.-Att. σύρω 'to draw, drag' (PIE **tu̯er-* 'to sweep, rush');
– PN Τυρταῖος, supposed to derive from a noun *τυρτή 'fourth day' reflecting a relic form of the ordinal **kʷturtó-* 'fourth' (with re-vocalization of **u̯r̥-*).

What can be deduced from these forms? In section 1.3.2, I have discussed the possibility that σύρξ and σύρω developed directly from **tu̯r̥-*, but on the other hand I argued that a reconstruction of these forms as *o*-grades is not excluded. The vocalism of σαίρω < **tu̯r̥-i̯e/o-* may be ascribed to an early, Pan-Greek vocalization due to the following *yod*, and for this reason the word may have escaped the simplification of **tu̯r̥*. As for Τυρταῖος, I have argued that its etymology is not sufficiently certain.

Therefore, we are left only with the fact that σάρξ appears to reflect **tu̯r̥k-* directly, in which case it would constitute counterevidence to a general simplification **tu̯r̥* > **tr̥* (as in **kʷetr̥-*). With this in mind, I see at least three possible ways to reconstruct the phonetics of the simplification **kʷetu̯r̥-* > **kʷetr̥-*:

– **tu̯r̥k-* 'meat' did undergo regular phonetic simplification to **tr̥k-*, but it was reconstituted as **tu̯r̥k-* on the basis of the *o*-grade **tu̯ork-* elsewhere in the paradigm. In this case, the simplification in **kʷetr̥-* may have been unconditioned. This option crucially depends on the presence and preservation of ablaut **tu̯ork-* / **tu̯r̥k-* within the paradigm of 'meat'.
– **tu̯* developed differently in word-initial and word-internal position.[122] An earlier date for the word-initial development is supported to some extent by the fact that word-internal **-tu̯-* yields -ττ- in Attic (τέτταρες) but -σσ- in Ionic (τέσσερες, Hom. τέσσαρες), whereas word-initial **tu̯-* yields σ- in both Attic and Ionic. We might then assume that the word-initial development **tu̯-* > **tˢu̯-* > **tˢ-* took place in Proto-Ionic or even Proto-Greek.[123]
– In **kʷetu̯r̥-* the labialized cluster *tu̯* underwent dissimilation against the initial labiovelar. This dissimilation took place only in forms of 'four' containing

121 *EM* s.v. σαρκάζω (Kallierges 708): Ἐτυμώτερον δὲ λέγουσιν οἱ Αἰολεῖς σύρκα, παρὰ τὸ ἀποσύρεσθαι τὸ δέρμα ἀπ' αὐτῆς· τὰς γὰρ σάρκας σύρκας οἱ Δωριεῖς λέγουσι· παρὰ τὸ σύρω σύρξω, σὺρξ καὶ σάρξ.

122 For such a scenario, see Van Beek 2013: 53.

123 Both σάρξ and σαίρω occur in Attic; cf. also Att. σάττω 'to stuff, coerce' < PGr. **tu̯n̥k-i̯e/o-* (Cret. σαδδω) and probably σάος 'safe and sound' < PGr. **tu̯áu̯o-*. If the name Ζαο[τ]ύχ[αι(?)] (Crotona, 500–475 BCE, see *SEG* 4.75 and Arena 1996, Nº 53.6) contains a first member related to σάος, it shows that **tˢ-* of this origin was retained relatively long in West Greek.

the sequence *tu̯r̥*, but not in forms where *tu̯* was followed by a full vowel. This explains why all ascertained cases of the simplification of *tu̯r̥-* are found in forms of 'four'. In this scenario the word for 'table' can no longer contain 'four' as a 1st compound member, but this is not a big loss (see section 2.3.1).

Some final remarks about the prehistory of the ordinal 'fourth'. The oldest PIE form had *k*ʷtur-*, as reflected in Ved. *turī́ya-* 'fourth', YAv. *tūiriia-* (cf. also Av. *āxtūirīm* 'four times', preserving the onset cluster).[124] The full-grade form *k*ʷetu̯r̥-* had developed into *k*ʷetru-* by metathesis already before PIE; cf. the first compound member Av. *caϑru-*, Lat. *quadru-*. Against this background, it is questionable whether a pre-consonantal first compound member *k*ʷtu̯r̥-* (usually assumed to be reflected in τράπεζα and/or τρυφάλεια) or an ordinal *k*ʷtu̯r̥tó-* (assumed to be reflected in Τυρταῖος) could still be productively made in PIE. It is far more economical to assume that the original ordinal *k*ʷtur-(H)o-* (*vel sim.*) was replaced by Proto-Greek *k*ʷetu̯r̥to-* straightaway.

In sum, positing a Pan-Greek simplification *tu̯r̥ > *tr̥* in forms with *k*ʷetu̯r̥-* (either as an unconditioned change, or by dissimilation against the initial *k*ʷ-*) is the only straightforward way of accounting for the single -τ- in Ionic-Attic τέταρτος, Arc. τετορτος, as these forms cannot be explained by analogy. This also explains the occurrence of *k*ʷetr̥-* in other forms of this numeral, including the dat. *k*ʷetr̥si* > τέτρασι, and it may account for the generalization of the form without *u̯* in West Greek τέτορες (cf. footnote 120).

It now remains to account for the reflexes -ρα- (Ion.-Att. τετρα-, τέτρατος, τέτρασι) and *-ro-* (Myc. *qe-to-ro-po-pi*) in forms reflecting *k*ʷetr̥-*.

2.7 A New Account of Myc. *qe-to-ro-* and Ion.-Att. τετρα-, τέτρατος

The numeral first members of several possessive compounds derive from a preform ending in a syllabic nasal: ἑπτα-, εἰνα- (< *enu̯a-*), and δεκα-.[125] In Epic Greek, this -α- has been extended analogically to 'five', 'six' and 'eight':

– πενταέτηρος 'five years old' (*Il.* 2.403 *et passim*), πεντάετες 'five years long' (*Od.* 3.115);
– ἑξάετες 'six years long' (*Od.* 3.115), replacing the outcome of *su̯eks-u̯et-es* (cf. Myc. *we-pe-za*);

124 The suffix of *turī́ya-* may be secondary after *tr̥tī́ya-* 'third', cf. Szemerényi (1960: 81).

125 Cf. e.g. ἑπτάπυλος 'seven-gated' (*Il.* 4.406, etc.), εἰνάετες 'nine years long' (*Il.* 18.400), δεκάχιλοι 'ten thousand' (*Il.* 5.860, 14.148), etc.

– ὀκτάκνημος 'eight-spoked (wheel)' (*Il.* 5.723), ὀκτάβλωμος 'consisting of eight pieces' (Hes. *Op.* 442), ὀκταπόδης 'eight feet long' (Hes. *Op.* 425).

In Epic Greek, there are no exceptions to this analogical spread of -α-. The picture is confirmed by later sources: even if there are some forms with ὀκτω- (e.g. ὀκτώπους), the first members in πεντα-, ἑξα- and ὀκτα- are normal in the classical language.[126] We may therefore assume that τετρα- could arise due to the influence of these higher numerals, especially when πεντα- had come into being.[127]

We may now explain Myc. *qe-to-ro-po-pi* as follows. The compositional form of the numeral 'nine' is attested as *e-ne-wo* /e(n)newo/, probably with the reflex of a syllabic nasal in a labial environment (section 1.3.3). It may therefore be assumed that Mycenaean carried out a levelling similar to the one just described for Ionic-Attic, but generalizing *-o-* rather than -α-.[128] A spread of *-o-* through the numerals is indeed found in several other dialects, including Arcadian, where δεκοτος 'tenth' and thence πεμποτος 'fifth' are attested (cf. Morpurgo Davies 1968: 795); recently the form ενϝοτος has also been discovered in an archaic Arcadian festival calendar.[129] It is therefore likely that Mycenaean had /deko-/ 'ten-' and /dekotos/ 'tenth',[130] and we may plausibly assume that the *o*-vowel had also spread to /k^{w}etro-/ 'four-'.[131]

One could object that not all Mycenaean numerals between four and ten were affected by this spread, for we do find the form *we-pe-za* /$^{(h)}$we(k)s-pedʲa/ 'with six feet'. However, taken by itself this preservation of /$^{(h)}$we(k)s-/ does not exclude the possibility that a vowel was introduced in /k^{w}etro-/: along-

126 Cf. ὀκτακόσιοι (Th., Hdt.), ὀκταπλάσιον 'eightfold' (Ar.), ὀκτάμηνος 'lasting eight months' (X.), beside ὀκτώπους (old com.), ὀκτωδάκτυλος (Ar.). It is unclear whether compounds with ὀκτω- are archaisms or younger poetic forms, created for metrical reasons.

127 A similar spread occurred in the collective numeral abstracts in -άδ- (e.g. τετράς 'fourth day', Hes.+), which took the suffix from δεκάς -άδος 'group of ten' < **dekḿ̥-t-*. The change **-ḿ̥t-* > -άδ- may have been regular under the accent (Olsen 1989: 242–245, cf. Van Beek 2017b, contra Rau 2009: 13 n. 2).

128 Ruijgh (1996: 118) draws the opposite conclusion: in his view, ἑξα- and πεντα- are analogical after τετρα-. His does this in order to explain the *o*-vocalism of Myc. *e-ne-wo-pe-za* 'nine-footed' as analogical after *qe-to-ro-*. Thompson (1996–1997: 319) objects to Ruijgh's scenario that influence from 'four' on 'nine' is only plausible if the other numerals also underwent it. This objection would also apply to the analysis proposed here—but see the main text for a possible answer.

129 Carbon-Clackson 2016.

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

131 The evidence for the numerals in the Aeolic dialects must also be reconsidered in this light; see the discussion in section 3.3.1.

side ἑξα- 'six-' before consonants, alphabetic Greek preserves the older form ἑκ-, e.g. in ἔκπους, ἑκδάκτυλος 'measuring six feet/fingers' (Att. inscr.); furthermore, the ordinal remains ἕκτος 'sixth' throughout classical Greek. What could have been the reason to remodel 'four-', but not 'six-'? One answer could be that the Proto-Greek form of 'four-' was perhaps **kʷetru-*, an archaism that had arisen from **kʷetu̯r̥-* already in PIE (cf. Av. *caϑru-*). In this case, 'four-' would have been influenced by 'nine-' and 'ten-' because it ended in a vowel, while **(h)u̯eks-* was left untouched because it did not have a final vowel.[132] This would imply that 'five' and 'seven' also received an *-o-* in Mycenaean. Future finds may corroborate or disprove this scenario.

We now have to consider whether a similar explanation is possible for the ordinal τέτρατος. While this form is normally viewed as the regular outcome of **kʷetr̥to-*, 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 and Attic is τέταρτος.[133] In the previous section, several objections have been made against an analogical account of τέταρτος. In my view, the opposite possibility must be considered: that τέτρατος was analogically created within Epic Greek, under the influence of δέκατος and εἴνατος. The variation between τέταρτος (14× in Homer) and τέτρατος (8×) is metrically useful, and metrically-induced 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. Occurrences of these forms in -ατος are all but limited to hexameter poetry, and they were clearly created in order to facilitate the use of certain case forms in the hexameter (forms like ὀγδόην, ἑβδόμην were unfit, while τρίτην required the use of *muta cum liquida*).[134]

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132 An objection to this could be the *McL* scansion in the line-end τετράκυκλον ἀπήνην 'four-wheeled wagon' (*Il.* 24.324), with its word-internal *McL* suggestive of a reconstruction **kʷetr̥-* (chapter 6). On the other hand, no other case of *McL* is attested for τετρα-: cf. in particular the traditional verse-ends κυνέην θέτο τετραφάληρον (*Il.* 5.743 and 11.41), σάκος θέτο τετραθέλυμνον (*Il.* 15.479, *Od.* 22.122), and the epithets τετράφαλος, τετράγυος. We might therefore be inclined to view the phrase τετράκυκλον ἀπήνην as a one-off creation, noting that τετράκυκλον would contain a cretic sequence without applying *McL*, and that the only other instance of τετράκυκλος (*Od.* 9.242) has an irregular metrical lengthening of -α-. The issue is difficult to decide.

133 The only post-Homeric attestations of τέτρατος until the end of the classical period 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, implying that they could be epicisms).

134 Cf. also Waanders (1992: 379–380). The forms ὀγδόατος and ἑβδόματος are restricted to Homer and Hesiod. In 5th c. poetry, τρίτατος is only found in B. *Epin.* 1.112 and E. *Hipp.* 135. If τερτάτοις 'third' 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: 50–51), but the basis for this

It is not self-evident, however, that a metrically unproblematic pre-form **kʷetr̥to-*, scanned as an anapest, would have been extended to yield a dactylic form **kʷetrato-*. An analogical spread of -ατος to τέτρατος would have been well-motivated if the pre-form already had a dactylic shape. However, it would be *ad hoc* to posit a pre-form **kʷetruto-* (with the metathesis also found in the first compound member **kʷ(e)tru-*) only in order to account for Hom. τέτρατος.[135]

An alternative scenario is that Hom. τέτρατος before vowels reflects a metrically lengthened form of the tribrach **kʷetr̥tos*. Indeed, in Homer τέτρατος only occurs as a nom. sg. m. (*Il.* 23.615) and acc. sg. n. τέτρατον (7×), whereas τέταρτος is found in various different case forms. This suggests that τέτρατος is a formulaic remnant, while τέταρτος is the productive form. The assumed metrical lengthening may have occurred in a phrase like τέτρατον ἦμαρ ἐήν "it was the fourth day" (2× *Od.*) or τὸ δὲ τέτρατον ἵκετο τέκμωρ "and at his fourth try he reached his goal" (*Il.* 13.20). I will further elaborate this suggestion in section 6.8.4.

In conclusion, Ionic-Attic τέταρτος and Arcadian τετορτος must be the regular outcomes of **kʷetu̯r̥to-* in these dialects because they cannot be explained by analogy. The compounding first member τετρα- may have analogically acquired its -α- from higher numeral first members; it perhaps replaces the outcome of inherited **kʷetru-* or else reflects a reshaping **kʷetrə-* based on the prevocalic allomorph **kʷetr-*. Returning to Mycenaean, we may conclude that *qe-to-ro-po-pi* /kʷetro-pod-pʰi/ may have analogically introduced *-o-* from *enewo-* and **deko-*, whereas *to-pe-za* < **tr̥pedi̯a* has the regular reflex of **r̥*.

2.8 Conclusions on Mycenaean

Having sifted the evidence for word-internal **r̥* in Mycenaean, I conclude that its outcome was certainly not *ro*, but either *or* (perhaps as a conditioned outcome beside *-ar-*) or preserved *r̥*. The following material conclusively proves that the reflex of **Cr̥* was spelled in Linear B as ⟨*Co-*⟩ (or perhaps ⟨*Ca-*⟩), and thus that **r̥* was not regularly reflected as *ro* (or *ra*):

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restoration is rather shaky. It is evident why artificial epic forms in -ατος are not found for 'fifth' and 'sixth': the metrical structure of πέμπτος and ἕκτος was unproblematic.

135 The ordinal form reconstructed as **kʷetu̯r̥to-* (cf. also OCS *četvrьtъ*, Lith. *ketvir̃tas*, Lat. *quārtus* < **kʷadu̯orto-*) is probably a reshaping of post-PIE date, in view of the Indo-Iranian evidence (Skt. *turī́ya-*, YAv. *tūiriia-* 'fourth', *ā-xtūirīm* 'four times') reflecting PIE **kʷtur-*.

– PN *a-no-me-de* /Anr̥-mēdēs/ and PN *a-no-qo-ta* /Anr̥-kʷʰontās/;
– *a-no-qa-si-ja* /anr̥-kʷʰasiā/ 'manslaughter';
– *to-pe-za* /tr̥peddʲa/ 'table';
– *to-qi-de* /str̥kʷʰidē/ or /tr̥kʷidē/ 'with a spiral';
– *wo-ne-we* /wr̥hnēwes/ denoting a class of male sheep.

The spelling with an *o*-vowel is corroborated by further evidence, such as the inherited present stem of *wo-ze* 'works', the noun *o-pa-wo-ta* 'plates attached to armor' < **op-au̯r̥ta* (with the root **au̯er-* of Homeric ἀείρω 'to connect; hang'). Moreover, the difference between *wo-do-we* /wr̥do-wen/ 'rose-scented' and its direct Homeric cognate ῥοδόεντι can be understood much easier if their common pre-form contained a syllabic liquid.[136]

There are no cases of a spelling ⟨*Co-ro-*⟩ that must have developed from a form with **r̥* by regular sound change. Among the few potential examples discussed in section 2.7, the first compound member *qe-to-ro-* can be explained by analogy with higher numerals such as *e-no-wo*; *ma-to-ro-pu-ro* 'Mother Pylos' may contain a linking vowel *-o-*; and the first member of *to-ro-no-wo-ko* /tʰronoworgoi/ may well be a counterpart of Hom. θρόνα 'dyed threads' (*vel sim.*) rather than of Myc. *to-no* 'ornamented chair'. The philological analysis of the alphabetic form θρόνα provided in section 2.5.2 helps us understand how these products could be produced by male *to-ro-no-wo-ko* in Knossos. Another conclusion to be drawn from our discussion of *to-ro-no-wo-ko* beside *to-no* and similar cases is that there is no compelling reason to assume liquid metathesis on a large scale.

An open question remains whether Mycenaean also regularly used *a*-spellings to write the reflex of **r̥*. In section 2.2, I have argued that a morphologically conditioned secondary *a*-grade, as assumed by García Ramón (1985) for forms like *ka-po* and *e-ra-pe-me-na*, is not an acceptable scenario. In the process, we have seen that the forms *ka-po* and *ka-pa* are not to be identified with Alph. καρπός 'fruit; yield'. While most forms with *a*-spellings can be accounted for in a different manner, two stubborn pieces of evidence for *a*-vocalism remain: *tu-ka-ṭa-ṣi* and *a-na-qo-ta*. In section 2.4 it was tentatively suggested to view these not as reflecting an *a*-colored *outcome* of **r̥* in a non-labial environment, but to interpret the interchange between *a-na-qo-ta* and *a-no-qo-ta* as reflecting a synchronically underlying [ɤ], as Heubeck (1972) had already proposed. I have suggested that the choice between *a-na-* and *a-no-* (both representing *anr̥-*) may have depended on the initial consonant of the second compound member (labial or not). Likewise, I follow Heubeck's idea that the spelling of the

136 For this point concerning 'rose', see also section 7.2.9.

toponym *u-po-ra-ki-ri-ja* reflects underlying *upr̥-*, and propose that this form had been generalized from preconsonantal to prevocalic position.

When discussing the prosodic evidence for Homeric forms with -ρο- in chapter 7, we will return to the question whether Mycenaean may have preserved **r̥*. For now, I note that nothing in Mycenaean itself cogently speaks against such an assumption. The lack of a reflex of **u̯* in *qe-to-ro-* 'four' should no longer play a role in the discussion, as a new conditioning factor for its loss has been proposed in section 2.6: **kʷetu̯r̥* was regularly simplified to **kʷetr̥* already in Proto-Greek. Phonetically, we may be dealing with the combined effect of the phonotactically awkward sequence **tu̯r̥* and a dissimilation of *-tu̯-* against the initial **kʷ-*. The word for 'table' (**tr̥pedi̯a* > Myc. *to-pe-za*, τράπεζα) is probably not an instance of the simplification **tu̯r̥* > **tr̥*, as there are linguistic and archaeological reasons to believe that Mycenaean tables had three feet. My linguistic reconstruction of this word as a relic adjective PIE **tr̥-ped-ih₂* 'having three legs' suggests that the Proto-Indo-Europeans were also familiar with three-legged objects.

CHAPTER 3

Reflexes of *$\mathring{r}$ in the Alphabetic Dialects

Introduction

This chapter discusses and evaluates the evidence for the regular outcome of *$\mathring{r}$ in the alphabetic Greek dialects other than Ionic-Attic.[1]

The first aim is to determine under which conditions and in which dialects *o*-colored reflexes are regular. There is currently no consensus on this matter. The case for *a*-colored reflexes in dialects like Arcadian and Cypriot has been overstated: Morpurgo Davies (1968), though an influential treatment, suffers from a lack of clarity about Pan-Greek developments that yielded -αρ- at an early date, such as those involving laryngeals. This issue has been clarified by previous scholars (García Ramón 1985, Haug 2002) and will not be discussed in all its details here.

The second main aim is to determine, for each dialect, the regular place of the anaptyctic vowel. Surprisingly, only few previous discussions have paid attention to this issue: the main focus is usually on determining the vowel color of the regular reflex. There is a broadly-shared presupposition that the apparent hesitation between -αρ- and -ρα- in Ionic-Attic was also characteristic of other Greek dialects. In fact, some scholars suppose that in most lexemes the place of the anaptyctic *shwa* was fixed already in Proto-Greek; this *shwa* would have merged with /a/ or /o/ later, depending on the dialect and in some cases on further phonetic conditioning factors. However, in the previous chapter we encountered examples where the dialects have a diverging vowel slot in the same etymon, e.g. Hom. τέτρατος, Thess. πετροτος 'fourth' as opposed to Ion.-Att. τέταρτος, Arc. τετορτος. Moreover, we have seen that the regular Mycenaean reflex of *$\mathring{r}$ was either *-or-* or preserved *-$\mathring{r}$-*, and that there is no need to assume

1 The inscriptional evidence for Ionic-Attic hardly adds anything to the picture obtained from literary sources, and will therefore not be treated separately in this chapter. In Western Ionic, the development of the syllabic liquids was identical to that in the rest of Ionic-Attic (cf. del Barrio 1991). The Euboean colonies in Italy yield the form αγαρρις 'assembly' (Naples), which probably reflects a zero grade root, whereas the literary Ionic-Attic form ἄγερσις 'mustering of an army' (Hdt.) was rederived from the verb with an *e*-grade root. See the discussion of Arc. παναγορ(σ)ις in section 3.4.3. As for Attic, Threatte (1980) has no separate treatment of the syllabic liquids. An exceptional instance where Attic inscriptions add to the literary evidence is φαρχσαι (inscr.) beside φράξαι 'to fence in, fortify' (mss. of literary authors); it will be discussed in section 9.2.3.

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a separate outcome *$\mathring{r}$ > *-ro-* for that dialect. The evidence for the vowel slot in the other dialect groups (West Greek dialects, Aeolic, Arcado-Cyprian) must be reconsidered in this light.

3.1 The Alleged Cretan Liquid Metathesis

The West Greek reflex of *$\mathring{r}$ is normally assumed to be identical to that of Ionic-Attic: -ρα- is regular, -αρ- arose by analogy with related forms. On Crete, however, we find a number of forms with -αρ- for which an analogical explanation is difficult to find. They are the following (for places of attestation, see Bile 1988):[2]

– δαρκμα 'drachm' (Knossos), also δαρκνα (Ion.-Att. δραχμή);
– καρτερος 'prevalent' (cf. Ion.-Att. καρτερός 'strong', Hom. κρατερός) and the following related words:
– καρτος 'force' (cf. Ion.-Att. κράτος);
– PNs with -καρτης and Καρται- (cf. Ion.-Att. -κρατης, Κραται-);
– καρταιποδ- 'cattle' (cf. Pi. κραταίποδ-);
– προτεταρτον adv. 'on the fourth day before' (*Lex Gortyn* XI.53);
– σταρτος 'band; clan', also in proper names (cf. Ion.-Att. στρατός 'army; camp').

Since Hirt (1901: 232–238), most scholars have accepted that -ρα-, -ρο- was metathesized to -αρ-, -ορ- in Cretan.[3] At first sight, this claim seems reasonable because of the Cretan forms πορτι 'towards, against' (cf. Ion.-Att. πρός, Hom. προτί) and Αφορδιτα (Ion.-Att. Ἀφροδίτη).[4] If metathesis must be assumed for these forms anyway, Hirt's reasoning goes, it follows that -αρ- < *$\mathring{r}$ may have developed through -ρα-. The argument presupposes, however, that the *o*-vocalism of προτί and Ἀφροδίτη is old and did not develop from *$\mathring{r}$. As I will show below, this is not evident at all.

2 Cret. καρπος 'yield, revenue' could be the regular reflex of its pre-form, PGr. **kr̥pó-*, but since this word shows -αρ- in all dialects where it is attested, its evidential value is limited.

3 In the words of Bechtel (1921–1924, II: 710–711), "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" Cf. also Thumb-Kieckers (1932: 160), who think that the same phenomenon is found in Argolic, Elis, Pamphylian, and Arcado-Cypriot.

4 For the compounded names in -μορτος, which are well-attested in Cretan and correspond to -βροτος in most other dialects, see section 3.1.2 (with further discussion). Another piece of evidence cited by Hirt is Pamphylian περτι, which allegedly reflects **preti* and is related to προτί, πρός. However, the dialectal affiliations of Pamphylian are unclear, and the same holds for the regular reflex of *$\mathring{r}$ in this dialect (see section 3.5).

The major problem with the assumption of liquid metathesis in Cretan is the existence of forms with -ρα- and -ρο-, such as the following:

– pres. inf. αποτραχεν 'to run away' (Olous, 3rd c., cf. Class. τρέχω 'to run');
– pres. opt. τραποι (Eleutherna, 6th c.), inf. τραπεν (*Lex Gortyn* III.49), impv. 3pl. τραφοντων (3rd c.), all from τράφω 'to feed' (cf. Class. τρέφω 'id.');
– pres. γραφω 'to write' (= Class. γράφω 'id.');
– κρονος 'time' (Class. χρόνος 'id.');
– τετρα- 'four' in compounds such as τετραποδ- 'cattle' (*IC* IV 41, III 8–9);
– τετραδ- 'fourth day' (= Class. τετράς);
– δρομος 'course; race track' (= Class. δρόμος) and δρομευς 'young adult'.

Hirt (1901: 235) discusses some of these examples. He notes that τραφω may have been influenced by the full grade τρεφ-, and that γραφω, as a technical term, does not carry much weight. Furthermore, he does away with κρονος and δρομος with the remark that liquid metathesis never operates on a fully regular basis, and makes the *ad hoc* suggestion that they were borrowed from another dialect. This is clearly unsatisfactory. Bile (1988: 125) proposed that -ρα- and -ρο- were metathesized in open syllables, but preserved as such in closed syllables. This idea is contradicted by the forms just listed, as well as by δαρκμα / δαρκνα.

Thus, there is no satisfactory explanation of the fluctuations.[5] It is true that the present stems τραχω and τραφω can be explained as secondary (see below), and that γραφω is a problematic form on any account.[6] However, the forms κρονος, τετραποδ-, τετραδ-, and δρομος cannot all be done away with as mere "exceptions" (Bile 1988: 125); they strongly militate against the idea of liquid metathesis. Moreover, if some form of liquid metathesis was operative, one would expect to also find examples of ρε, ρι, ρυ appearing as ερ, ιρ, υρ in Cretan. There is no apparent reason why the metathesis would have been restricted to back vowels.

In view of these problems, let us now investigate whether -αρ- and -ορ- in Cretan can be viewed as the regular outcomes of *$\underset{\circ}{r}$.

5 O'Neil (1971: 43–44) posits a liquid metathesis in Central Cretan only before dental or velar stops, but not before labial or (original) labiovelar stops. This is phonetically unmotivated and also contradicted by αποτραχεν 'to run away'.

6 The Pan-Greek *a*-vocalism of γράφω speaks against a reconstruction PIE *$\hat{g}\underset{\circ}{r}b^{h}$-*e/o*-. Moreover, there is evidence for an *o*-grade in nominal formations like γροφεύς 'scribe', and it cannot be excluded that γράφω obtained its vowel slot from a (no longer existing) verbal form with *$grep^{h}$- or *$grop^{h}$-. See section 9.2.2.

3.1.1 *Cretan -αρ- < *r̥: Evidence and Counterevidence*

Positing a regular Cretan development *r̥ > -αρ- immediately explains the following forms: καρτερος < *kr̥teró-, σταρτος < *str̥tó-, and προτεταρτον < *-kʷetr̥to-.[7] The retention of δρομος 'track' and κρονος 'time', forms with an original *o*-vowel for which an analogical explanation seems out of reach, also finds a natural explanation. It remains to account for the Cretan forms with -ρα-.

The reflex seen in τετρα-ποδα 'cattle' and other compounds seems to contradict that of the ordinal τέταρτος. However, just as in Ionic-Attic, the linking vowel of τετρα- may have been taken over from the higher numerals ἑπτα-, ἐννεα-, δεκα- (see section 2.7). The collective numeral τετραδ- 'quartet' (which also exists in Ionic-Attic) has a suffix -άδ- that originated in δεκάδ- 'group of ten' and derives from a pre-form with syllabic nasal, PIE *deḱm̥-t-.[8]

The remaining counterevidence concerns the so-called "Doric presents" of the type τράχω, corresponding to class. τρέχω. There are four such verbs in Cretan (see Bile 1988: 124). A zero grade thematic present stem is directly attested in forms of τραφω and τραχω (see above). In addition, the formation seems reflected in the PN Στραψιμενης (Pylorus, 2nd c.; cf. class. στρέφω) and the future [ε]πιτραψιω (Lyttos; cf. Class. τρέψω 'will turn').[9] The corresponding Ionic-Attic verbs have an *e*-grade present stem and sigmatic aorist, as opposed to *a*-vocalism in the η-aorist. A possible scenario would be reconstruct a zero grade root for the thematic root present, i.e. pres. *d^{h}r̥ǵ^{h}-*e/o*-, beside an *e*-grade root in the aor. *d^{h}reǵ^{h}-*s*-. If so, Cretan and other West Greek dialects then generalized the *a*-colored reflex throughout the verbal paradigm, while Ionic-Attic extended the *e*-grade root to the present stem.[10]

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7 The form καρπος could also be regular from *kr̥pó-, but it must be conceded that this word has the same form in all dialects where it is attested. As for δαρχμα, δαρχνα (if from PGr. *dr̥k^{h}mnā), there are various problems in the reconstruction of this word; cf. below on the dialect of Elis.

8 In Van Beek 2017b, I have argued that the δ in -άδ- can be due to voicing of an occlusive after an accented Proto-Greek syllabic nasal. Cf. also Olsen (1989).

9 Comparable epigraphic forms from other West Greek dialect areas are aor. αποστραψαι (Delphi, *CID* 2:34, col. II, 31; 4th c. BCE) and εξστραφεται (*SEG* 30:380, no. 6, l. 1, Tiryns, ca. 600–550 BCE?). There is also evidence from literary sources: in Aristophanes (*Ach.* 788), τράφω for τρέφω is reputed to be Megarean, and the form is also well-attested in Pindar and perhaps in Theocritus (ἔτραφε Theoc. 3.16, but with v.l.). Moreover, Pindar uses both τράχω and τρέχω, and ἔτραχον occurs at Theoc. 2.147 (with v.l. ἔτρεχον).

10 See Letoublon & Lamberterie (1980: 324–325) for further discussion, also on the aspectual status in PIE of formations like *d^{h}r̥ǵ^{h}-*e/o*-. Willi (2018: 351–355) now argues against the antiquity of zero-grade thematic root presents in Greek, and in Indo-European more generally.

In sum, the Cretan evidence for -ρα- < *r̥ is easily reconciled with a regular development to -αρ- in that dialect. It is unnecessary to assume that -ρα- underwent liquid metathesis on an irregular basis. In order to further strengthen this conclusion, let us now consider the three forms with -ορ- for which liquid metathesis has been assumed.

3.1.2 *Cretan -ορ- < *r̥ after a Labial Consonant*

Must Cretan πορτι 'towards, against' and Αφορδιτα really have developed by metathesis from the forms προτί and Ἀφροδίτᾱ as attested elsewhere, or might they directly reflect forms with *r̥? As we have just seen, Cretan δρομος (δρομευς) and κρονος never contained *r̥, and therefore speak against the assumption of metathesis. Therefore, even if only a plausible case can be made that πορτι and Αφορδιτα may have a pre-form with *r̥, it is attractive to think that *r̥ became Cretan -ορ- after labial consonants, but -αρ- in all other positions.

The evidence for the alleged pre-form PGr. **proti* consists of Ion.-Att. and Lesb. πρός, Hom. προτί, and Central Cretan πορτι.[11] On the other hand, PGr. **poti* is reflected in Thessalian and Boeotian, perhaps in Arc. πος and Myc. *po-si*,[12] as well as all in West Greek dialects other than Central Cretan. Wyatt suggested that Ion.-Att. πρός might reflect the prevocalic outcome of **poti* contaminated with the *-r-* of πρό. In Wyatt's view Homeric προτί arose in the same way; he also shows that πορτι only occurs in Central Cretan, whereas the rest of Crete (like West Greek generally) has ποτι. He accounts for Cretan πορτι by assuming that it represents a contamination of ποτι with περί (Wyatt 1978: 121 n. 78), and concludes that Proto-Greek had only **poti*.

At first sight, Wyatt's scenario offers an attractive reduction of the West Greek situation. However, it is unlikely that Proto-Greek had only **poti* because in Homer προτί cannot be secondary beside ποτί. A fuller treatment of the Homeric evidence (including *muta cum liquida* scansions in πρός and related forms) will be given in section 7.2.5. Anticipating the conclusions to be reached there, the Homeric evidence favors a reconstruction **pr̥ti*, and the precursors of πρόσω 'forward' and πρόσωπον 'face' also continue a form starting with **pr̥tḭ-*. This means that Proto-Greek had both **poti* and **pr̥ti*,[13] and that Central Cretan πορτι can be a retained archaism. The reconstruction **pr̥ti* also accounts for the

11 The existence of προτι in Argolic is doubtful (cf. Wyatt 1978: 89 n. 1).

12 However, Mycenaean *po-si* could also represent /porsi/ or /pr̥si/, and Arcadian πος could be the regular reflex of *πορς before a consonant. To my knowledge, this has not been noted before.

13 And possibly also orthotonic **préti*, but that is irrelevant here.

scansion of πρός and related forms in Homer, while the form πρός in Ionic and Attic prose may be ascribed to the influence of another local adverb, either πρό or **poti*, on the vocalization of **pr̥ti*. Furthermore, a zero grade **pr̥ti* could also account for a related adverbial element in Hittite, *parza* '-wards'.[14]

The assumption that Aphrodite's name contained **r̥* may come as a surprise, as it has no established etymology. However, positing a pre-form with **r̥* would be the only reasonable way of accounting for the structural *muta cum liquida* scansion of Ἀφροδίτη in Epic Greek, since that metrical license is extremely rare in word-internal position, especially when plosive plus liquid does not follow a synchronic morpheme boundary.[15]

A third potential instance of a Cretan development -ορ- < **r̥* after labials are the proper names in -μορτος, which are especially frequent on Crete, but also appear in Lesbian and two West Greek dialects (Theran, Aetolian). Nothing crucially depends on including or excluding this example, but the evidence is suggestive. The simplex is attested only in post-classical sources:

– μόρτος· ἄνθρωπος. θνητός. μέλας, φαιός. οἱ δὲ μορτόν φασι "human being, mortal; dark, grey; others: μορτόν" (Hsch.);
– Call. fr. 467, taken from Ammonius' (5th c. CE) commentary to Aristotle's *De interpretatione* (38.16): διὸ καὶ τὸ "ἐδείμαμεν ἄστεα μορτοί" φησιν ὁ Κυρηναῖος "therefore the Cyrenaean poet says: we mortals have built cities".[16]

The evidence as regards the accentuation is conflicting, and it is possible that the gloss in Hesychius refers to more than one attestation. Still, the Callimachus fragment confirms the existence of a word meaning 'mortal, man'. Is it possible that both βροτός and this μορτός (if that was its accentuation) continue PGr. **mr̥tó-*? This depends on the evaluation of the names in -μορτος and Μορτο-, the evidence for which was collected and discussed by Masson (1963: 219):

14 Kloekhorst (*EDHIL*, q.v.) already reconstructs the Hittite form as PIE **pr̥ti*, directly comparing Cretan πορτι but without accounting for Ionic-Attic πρός; the analysis proposed here and in chapter 7 may justify this idea.

15 In section 7.2.8, I argue that Aphrodite must be an inherited Greek epithet of the planet Venus (the evening and morning star), and tentatively propose to reconstruct PGr. (or common Greek) **ap^{h}r̥-dītā* 'who appears forthwith' (at sunset). The reconstructed compound consists of the precursor of the adverb ἄφαρ 'forthwith' and a derivative in *-to-* of the PIE root **dih$_2$-* 'appear', otherwise preserved in the Homeric aorist δέατο 'appeared'. On the Pamphylian forms Αφορδισιυς, Φορδισιυς, see section 3.5.

16 The grammarian Orion (5th c. CE) cites the fragment as ἐδείμαμεν ἀστία μορτοί. If the *lectio difficilior* ἀστία is the genuine Callimachean form, it would show the common dialectal change ε > ι before a vowel and a different accent (secondary, or directly from **ἀστέα?*).

– Αγεμορτος (Lesbos, 4th c. BCE+);
– Κλεομορτος (Aeolis, 2nd c. and Cyclades, 3rd c. BCE);
– Μνᾱσιμορτος (probably a Cretan mentioned on Abydos);
– Χαριμορτος (Lato, *IC* I, 16, 34); name of an Aetolian (3rd c. BCE);
– Μορτονᾱσος (Thera, early 5th c. BCE).

Starting from the assumption that -μορτος can only be an Aeolic reflex of *-*mr̥tó-*, Masson reconstructs a pre-form **mórto-* beside **mr̥tó-* for Proto-Greek in order to account for the West Greek names.[17] This would imply that Greek preserved more than one inherited word for 'mortal' from this root. Now, the PIE words for 'mortal' and 'dead' are notoriously hard to reconstruct,[18] but Masson's identification of -μορτος and Ved. *márta-* is not evidently correct. It has been submitted that Ved. *márta-* derives not from **mórto-*, but from **mérto-*,[19] but in any case, there is no unambiguous evidence pointing to PGr. **mórto-* (or **mortó-*) rather than **mr̥tó-* among the forms just discussed. Masson claims that the names in -μορτος are general Aeolic and West Greek, but all secure examples of these names are attested in Lesbian, Theran, and Cretan.[20]

It is therefore attractive to suppose that -μορτος is the regular outcome of **mr̥tó-* in Cretan and Theran. One might then think that the simplex μορτός in Callimachus stems from the dialect of his native town Cyrene, a colony of

17 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. **mr̥tó-*, mais avec ορ au lieu de ρο. La forme correspond plutôt à un i.-e. **mórto-*, avec vocalisme *o* de la racine **mer-*." Masson's judgment is followed by *DELG* (s.v. μορτός) and was already anticipated in Boisacq 1916 and *GEW* (both s.v. βροτός).

18 Indo-Iranian has three forms for 'mortal': (1) Ved. *márta-* and OAv. (*hapax*) *maśa-* < PIIr. **márta-*, (2) OAv. *marəta-* < PIIr. **martá-*, and (3) Ved. *mártya-*, Av. *mašiia-*, OP *martiya-* < PIIr. **mártia-* (cf. *EWAia* s.vv. *MAR* and *márta-*). Furthermore, Ved. *mr̥tá-* and Av. *mərəta-* mean 'dead', not 'mortal'. However, since Indo-Iranian preserves the verbal root *mar-* 'to die', it cannot be excluded that at least some of these formations were later derivations.

19 Katz (1983) argues that Finno-Ugric borrowings from Indo-Iranian 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-* < PIE **mérto-* cannot be directly compared with the putative Proto-Greek **mórto-* assumed by Masson. See further the discussion in Mayrhofer, *EWAia* s.v. *márta-*.

20 The 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 BCE). The same person is mentioned by Strabo and Polybius. Even if this relatively late piece of evidence is taken into account, one wonders whether enough is known about reflexes of the syllabic liquids in Aetolian to accept Masson's conclusion that PGr. had a separate form **mórto-*.

Thera.[21] As for the Lesbian names in -μορτος, an *o*-colored reflex of *$*r̥$ needs no further explanation, but the vowel slot is awkward (because *$*r̥$ > Aeolic -ρο-, see section 3.3). One would then have to assume influence of the verbal root **mer-* on the vocalization to -μορτος for a pre-stage of Lesbian.[22] In this context, the gloss ἔμορτεν· ἀπέθανεν (Hsch. ε 2399) deserves attention, as it shows that a reflex of the verbal root **mer-* was indeed preserved in some (probably poetic) form of Greek.[23]

In sum, since reconstructing an additional form **mórto-* 'mortal' (beside *$*mr̥tó-$) for Proto-Greek would be uneconomical, Cretan names in -μορτος could be an additional argument for a conditioned reflex -ορ- < *$*r̥$ in Cretan.[24] The conditioning factor "after labials" for the reflex -ορ- would make good sense from a phonetic point of view.[25]

3.2 Other West Greek Dialects

In this section, we will turn our attention to Laconian and its colonies (especially Theran and Cyrenaean, section 3.2.1), then consider the evidence from Literary Doric (section 3.2.2), and finally make some remarks on the dialects of Elis (section 3.2.3) and the Argolid (section 3.2.4). I have found no noteworthy details for the dialects of Megara (and colonies), for Cos, Rhodes, Karpathos and the other Doric-speaking islands in the Dodecanese, nor for Messenia. For other regions (Achaea, North West Greek), the details are not very interesting

21 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.

22 For analogical -ορ- in Lesbian, cf. Alc. ἐμμόρμενον 'having as a share' corresponding to Ion.-Att. εἵμαρται.

23 According to Klingenschmitt (*apud* LIV² s.v. **mer-*), ἔμορτεν reflects an older middle in **-to* that was reinterpreted as an active form.

24 For the outcome 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 and 53, Polyrrhenia, dated between the 3rd and 1st c. BCE) and Θορυσταρτω (*IC* II, 13.7, Elyros, 2nd c. BCE). But in Masson's view (1972: 292, accepted by Leukart 1994: 191), these names with Θορσυ- are an "élément … du substrat pré-dorien ou "achéen" en Crète". That would presuppose, however, that Mycenaean (or its continuation in the sub-Mycenaean period) had an *o*-colored reflex also in a non-labial environment, which is possible (cf. the Arcadian reflex in τετορταυ). On the possibility that Myc. PN *to-si-ta* reflects /T^{h}r̥sitās/ *vel sim.* < *d^{h}r̥si-*, see section 2.3.1.

25 A similar conditioned reflex has been proposed for Mycenaean and Arcado-Cyprian (e.g. Morpurgo Davies 1968, see section 3.4 below).

either, as appears from the respective dialectal grammars.[26] I will not present a complete overview for all West Greek dialects, but merely try to illustrate the precarious nature of the evidence.

3.2.1 *Laconian and Colonies*

The dialect of Sparta itself is not very well documented in the (pre-)classical period, but its colonies have produced more inscriptions. In Magna Graecia, Heraclea and Tarentum have yielded important epigraphic material; in the Eastern Mediterranean, Thera was probably colonized by Laconians, and Theran settlers then founded Cyrene in Libya.

The evidence for Theran consists mainly of personal names. As far as names are trustworthy evidence, they may provide evidence for the vocalization to -αρ- (and perhaps also -ορ- after a labial consonant) that we just established for Cretan:[27]

– Θαρυπτολεμος (*IG* XII,3 787) and Θαρρυ[μαχ (*IG* XII,3 814), both from the archaic period.[28]
– Καρτι- is attested in Καρτιδαμας (*passim*) and in Καρτινικος (*IG* XII,3 419, 3rd c.), see Bechtel (1917: 256).[29]
– 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-*.

Θαρρυ- may be the regular outcome of **t*^{h}*r̥su-* or it may have an analogical full grade, so it is not entirely probative.[30] The forms with Καρτι-, Σταρτο-, and Μορτο-, however, are absent from most other Greek dialects. The fact that attestations of these forms are concentrated in Cretan and Theran could suggest a common development of these dialects, but it could also be due to language contact or migrations of the bearers of these names.

The inscriptions from Cyrene, a colony founded by Theran settlers, have been edited by Dobias-Lalou (2000). She discusses the outcome of the syllabic

26 For North-West Greek, see Méndez Dosuna (1985); for the colonies in Magna Graecia, see the various dialect grammars by Arena and Dubois.

27 That -αρ- was regular in Theran was already suggested by Bechtel (1921–1924, II: 534 and 556).

28 These forms show that Theran underwent the development -ρσ- > -ρρ-. The -ρσ- found in Θαρσικρατης on another Theran inscription is probably a Koine form. Generally speaking, forms with Θαρσι- may replace older forms with *Θερσι-, as in Hom. Θερσίλοχος.

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

30 See chapter 4 for further details.

liquids on pages 34–35. Not too much can be deduced from the evidence in appellatives:

– The noun καρπος 'harvest, yield' (frequent from the 5th c. onwards, Dobias-Lalou 2000: 195) has the same form in all other dialects; therefore a Koine form or an early borrowing cannot be excluded.
– In view of its special meaning 'chaff' in Cyrenaean, καρφος could well be a genuine dialectal form (Dobias-Lalou 2000: 195–196). For the reconstruction of *$\mathring{r}$ in the root καρφ-, see section 9.6.6.
– The form γροφευς 'secretary' (*SEG* 9.13, 16) is otherwise peculiar to the Peloponnese and Crete, but it probably does not reflect a pre-form with *$\mathring{r}$ (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 show the influence of Koine or Epic Greek.[31] This does not apply, however, to the first compound member Καρτι- (Dobias-Lalou 2000: 34) in Καρτισθενης,[32] Καρταγορας,[33] and Καρτιμαχος.[34] With the exception of Theran, names with Καρτι- are not found in other Greek dialects, not even in Cretan.[35] They could therefore contain information about the regular Theran and Cyrenaean development of *$\mathring{r}$, and they outweigh στραταγος, because that form could easily be due to Koine influence. Since Cyrene was colonized from Thera, the vocalization *$\mathring{r}$ > -αρ- would have taken place before the settlement of Cyrene. Cyrenaean provides no further counterevidence to this assumption. It is true that evidence gained from personal names must be used with caution, but it is not unlikely that the names in Καρτι- constitute an archaism, as opposed to Cretan Καρται- and Ionic-Attic

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

32 Frequent from the 4th c. BCE–2nd c. CE. Bechtel (1917: 256) could only ascribe it to the Imperial period.

33 In *SEG* 9.45, 48 (5th c. BCE) and *SECir.* 244 (4th c. BCE).

34 Attested in two lists of temple servants, around the beginning of the CE. The sequence -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 festival belongs to the Laconian heritage of Cyrenaean, but it is unclear whether -αρ- reflects a syllabic liquid in this word.

35 Names with Κρατι- are attested sporadically in other dialects: Κρατιππιδας (*IG* v,1 1385.22, Thuria, 2nd c. BCE), Κρατι-δημος (Erythrae, No. 57, 5th–4th c. and No. 60, early 3rd c. BCE, cited from McCabe, *Erythrai inscriptions, text and list*).

Κρατ̣αι-, both reflecting a remodeled form *kr̥tai-.[36] A regular Cyrenaean reflex -αρ- is possibly confirmed by the form καρφος 'chaff'.

3.2.2 *Literary Doric*

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

For Laconian, the closest relative of Theran, the epigraphic material is sparse, but the literary evidence may perhaps offer some clues about the dialectal reflex. In Alcman (worked in Sparta, late 7th c.), Epicharmus (worked in Syracuse, a colony of Corinth, early 5th c.), Sophron (Syracuse, 2nd half 5th c.) and some other literary sources, we find the comparative κάρρων 'better', from an earlier *kr̥ṭ̥ōn.[37] In Cretan, this comparative has been restored as καρτον-.[38] 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 specific dialect(s) was κάρρων taken?

It is likely that κάρρων was not the regular outcome of *kr̥ṭ̥ōn in all Doric vernaculars. The Syracusan mimographer Sophron used a middle perfect ptc. ἐμβραμένα· εἰμαρμένα (fr. 114 K-A, acc. to *EM* 334.10, cf. ἔμβραται· εἵμαρται Hsch. ε 2313) as well as an aorist 2sg. ἔπραδες 'you farted' (fr. 136 K-A, contrast ἔπαρδον in Attic comedy). This could suggest that Syracusan has a regular reflex *r̥ > -ρα-, and that κάρρων was taken from another Doric dialect to become the form of the literary Koine. This dialect may have been Laconian, given that the oldest literary attestation of κάρρων is in Alcman, and given the prestige of his poetry. According to Hinge (2006: 38), a Laconian context is also suggested by two other sources for κάρρονες.

If this is correct, Laconian would agree with the Spartan colony Thera (and with Cretan) in having the vocalization -αρ-, and differ in this respect from

36 A first member Κρατ̣αι- is attested in inscriptions from various regions. The name Κρατ̣αιμένης occurs in Athens, Euboea, Ionia, and in an early example (*SEG* 22.345, 6th c.) that is perhaps from an Achaean colony in Magna Graecia; Κρατ̣αιβιος occurs on Delos. Cretan has Καρταιδαμας (Bile 1988: 183 n. 133) with the expected reflex -αρ- (contrast Theran Καρτιδαμας; the Cretan form with -αι- is due to a specifically Epic metrical lengthening). In section 5.2.11, I propose that Καρτι- < *kr̥th₁-i- is the old compounding allomorph of καρτερός, and that the latter reflects *kr̥th₁-ró-.

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

38 See section 5.2.1.

at least Syracusan (colony of Corinth).[39] The occurrence of κάρρων in the two Syracusan poets Epicharmus and Sophron is not decisive for the development in that dialect. In the glosses ἐμβραμένα and ἔπραδες taken from Sophron, -ρα- may well be the genuine Syracusan (and therefore Corinthian) vocalization.[40] Once again, all this is quite uncertain in view of the limited evidence.

3.2.3 *The Dialect of Elis*

There is some evidence for **r̥* > -ρα- also in the dialect of Elis, but it is slight. 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 θαρρεν (Minon Nº 20.1) derives from **tʰers-* or from **tʰr̥s-*, because -αρ- may reflect **-ερ- in Elis. As in other dialects, the verb γράφω and its derivatives appear (cf. section 9.2.2 for further discussion). The value of most Elean glosses in Hesychius (discussion in Minon 2007: 549–560) is unclear.

There is, however, one good pair of candidates to show the regular reflex in Elis. The gloss βρατάναν· τορύνην. Ἠλεῖοι ('stirring ladle', Hsch.) must be an instrument noun in -άνη derived from a root **u̯rat-*.[41] In view of the meaning 'stirring ladle', a derivation from the root **u̯ert-* 'to turn' suggests itself. The same root is attested in the 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 probably presupposes the existence of a thematic aorist **u̯rate/o-* (cf. βλαστάνω : βλαστεῖν, ἁμαρτάνω : ἁμαρτεῖν). It is conceivable that a causative *s*-aorist **u̯ert-s-* (presupposed by Hom. ἀπόερσε 'drove off course')[42] coexisted with an intransitive thematic aorist **u̯r̥t-e/o-* in Proto-Greek. If so, the latter form developed into **u̯rate/o-* in Elean, and the noun βρατάνα was also built on the zero-grade root allomorph.

If these two glosses are considered reliable evidence, **r̥* may have yielded -ρα- in Elis even after a labial glide. The disagreement with the treatment in Cretan would be remarkable: the latter dialect has the outcome -αρ-, and probably -ορ- after labials. However, since the evidence comes from just two glosses, we

39 The reflex -αρ- was perhaps also regular in Argolic, given forms like φαρξις (on which see section 3.2.4 and 9.2.3).

40 I have found no relevant examples in the evidence for non-Attic vase inscriptions (Wachter 2001).

41 Also attested as ῥατάναν· τορύναν (Hsch.), without dialect identification, but clearly not from Ionic-Attic.

42 As argued by Forssman (1980), in Ionic-Attic this root may be reflected in Homeric ἔρρω 'to be lost' < **u̯ert-i̯e/o-*. The verb is attested in many dialects (in Elean as ϝαρρω, with secondary lowering of *er*).

must be careful. It must also be taken into account that the word for 'drachm' is attested in Elis (Minon 2007: 355): several times as δαρχμα and once as δαρχνας, possibly reflecting a pre-form *$d\mathring{r}k^hmnā$-.[43] However, the word for 'drachm' could well be an inter-dialectal loan. Under these conditions, it would not be wise to base any firm conclusions on the evidence at our disposal.[44]

One epigraphic form from Elis is highly relevant for the development of *$\mathring{l}$: αϝλανεōς 'completely, all together' (Minon Nº 4.4 and 8.3). The same form is attested in the gloss ἀλανέως· ὁλοσχερῶς. Ταραντῖνοι ('entirely, completely', Hsch.), proving that this form is old in West Greek. As I will argue in section 10.6, these forms show that *$\mathring{l}$ yielded -λα- in Elean and Laconian even before nasals. Moreover, since the Cretan outcome may have been -λο- after a labial consonant (cf. sections 10.3.1 and 10.6.1), it is possible that Proto-West-Greek preserved not only *$\mathring{r}$, but also *$\mathring{l}$.

3.2.4 *The Dialects of the Argolid*

The evidence for the development of the syllabic liquids from Western and Eastern Argolic is presented in full detail by Nieto Izquierdo (2008: 145–151 and 380–381). It comprises the following forms:

- The verb γραφω 'to write' (e.g. impf. [ε]γραφε, ptc. γεγραθμενος) and the derivative γραθμα / γρασσμα 'letter' < *$grap^hma$;[45]
- The nouns γροφευς 'scribe', γροφις 'stylus', and deverbal forms such as γροφα, αγγροφα, εγγροφα, συγγροφος, etc. (see section 9.2.2 for further analysis, especially of the *o*-vocalism);
- WArg. εξστραφεται (Tiryns, *SEG* 30:380, no. 6.1, ca. 600–550 BCE(?)) corresponding to Att. ἐκ-στρέφω;
- Epid. κραμασαι (*IG* IV^2,1 122.3, ca. 320 BCE) corresponding to Att. κρεμάσαι 'to hang';
- The root στρατ- 'army' in στρατηα 'army, expedition' (*Del.*^{3} 84, Tylisos, 460–450 BCE), στραταγος 'general' (*SEG* 29:361, Argos, appr. 400 BCE), and often in personal names;
- EArg. τραπεζιτας 'money-changer' (Epidaurus, 3rd c. BCE);

43 All the relevant inscriptions are dated to slightly before or after 500 BCE, so it is impossible to tell whether the form with -μ- or -ν- is older.

44 The noun καρπός 'harvest' is also attested twice in Elis, but it has the same form in all dialects where the word appears. Therefore, we cannot be certain that it reflects PGr. *$k\mathring{r}pó$-.

45 With Lejeune (1972: 76) and against Nieto Izquierdo (2008: 381–382), I prefer to view Arg. γραθμα and γεγραθμενος as due to dissimilation of *-p^hm- at a morpheme boundary. As Nieto Izquierdo shows, attestations of the *Koine* form γράμμα are later than those of γραθμα, γεγραθμενος and γρασσμα.

– WArg. φαργμα 'fence' (*Del.*³ 89.8, cf. *SEG* 37:279, Argos, ca. 350 BCE);
– EArg. φαρξιν 'fence' (Epidaurus, *IG* IV²,1 102 B, l. 75, 400–350 BCE);
– EArg. φαρχματα 'id.' (Epidaurus, ibid. l. 253);
– EArg. διαφρ̣α̣γ̣[μά]τ̣ων (Epidaurus, *IG* IV²,1 115, l. 22, cf. *SEG* 25:393, ca. 330–300 BCE).

The forms with a root φαρχ- have older attestations than διαφρ̣α̣γ̣[μά]τ̣ων; hence the latter must represent a Koine form. This is confirmed by the unassimilated root-final stop of φαρχματα in Epidaurus. Likewise, the form τραπεζιτας may well be a Koine form, as it is attested relatively late and is a normal word in the Koine. Both γράφω (and derivatives) and forms with γροφ- are genuine Argolic dialect forms, and the same probably holds for εξστραφεται, κραμασαι and the forms with στρατ-.

With these reductions in mind, it appears that Argolic has a reflex -αρ- in φαρξιν, φαργμα, φαρχματα, as against -ρα- in κραμασαι, γραφ-, στρατ- and στραφ-. Clearly, κραμασαι and στραφ- may have an analogical vowel slot (cf. Att. κρεμάσαι, στρέφω), and the same may be true of γραφ- (beside γροφ-). The reflex στρατ- cannot be analogical and therefore seems to prove a regular reflex -ρα- in this dialect. However, it must be taken into account that all Greek dialects except for Cretan and Cyrenaean use the root στρατ-, so some caution is in order. In the case of φαρξιν, φαργμα, φαρχματα, much depends on the reconstruction and etymology of the verb φράσσω, which will be discussed in section 9.2.3.

Thus, no definite conclusion concerning the regular place of the anaptyctic vowel can be drawn for the dialects of the Argolid.

3.2.5 *Conclusion on the West Greek Dialects*

The only West Greek dialect for which we have clear-cut evidence is Cretan. In this dialect, **r̥* yields -αρ-, and perhaps -ορ- after a labial consonant. There is slight evidence for a regular outcome -ρα- in glosses from Elis and 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, kept **r̥* intact. If so, the vocalization may well have taken place during the Dorian migrations in the early Dark Ages. The different reflexes can be ascribed to the different situations of linguistic contact between speakers of West Greek and the earlier populations in the regions where they settled.

3.3 The Aeolic Dialects

Our ability to reconstruct the prehistory of the Aeolic dialects is hampered in several respects. 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.[46] Epigraphic material from Lesbian has already undergone considerable Koine influence at a time when inscriptions start to become numerous. Most Thessalian evidence is also late and much of it suffers from the same problem. Boeotian is a mixed dialect which contains many West Greek features. Finally, a large part of the evidence consists of personal names, where influence of other dialects or even the poetic language is a factor to be reckoned with.

In addition to these factual problems, there are practical ones. As yet, there is no comprehensive grammar of the Thessalian dialects, nor of Boeotian.[47] The generative description of the Aeolic dialects by Blümel (1982) is of some use, but has no separate treatment of the reflexes of *r̥.

Notwithstanding all these problems, the combined evidence of our sources does allow us to draw a definite conclusion: the regular reflex was -ρο-, without further conditioning, in all Aeolic dialects. I will now first review the epigraphic evidence, and after that turn to the extant fragments of Sappho and Alcaeus. Homeric words with -ρο- will not be discussed here, but in chapter 7, as their Lesbian or Aeolic provenance is not certain.

3.3.1 *The Numerals in the Aeolic Dialects*

Let us start with the variation between ρα/αρ and ρο/ορ in numeral forms in the Aeolic dialects. The attestations are conveniently listed in Blümel (1982: 271–275). Concerning the variations in form, he notes that "die Einzelheiten der Abgrenzung zwischen phonologischen und morphologischen Ursachen sind noch nicht übereinstimmend geklärt" (Blümel 1982: 52–53).

In section 2.7, it was proposed that the numerals in Aeolic dialects underwent analogical modifications similar to those taking place in other dialects. For instance, the Boeotian forms πετρατος and πετρα- are usually explained as contaminations of original Aeolic *πετροτος, *πετρο- with Attic or West Greek forms (e.g. Waanders 1992: 379), but it is more likely that they underwent the

46 The problems are clearly stated in Ruijgh (1961: 194). Cf. generally on these issues Hooker (1977) and Bowie (1981).

47 A grammar of Thessalian by García Ramón and Helly is still in preparation. Vottéro (1998, 2001) announced the publication of a book on the phonetics and phonology of Boeotian, but to my knowledge, this has not yet appeared.

same analogical influence of higher numerals (such as ἑπτα-, δεκα-) that yielded Ionic-Attic τετρα-. Another parallel for this influence is Arcadian πεμποτος 'fifth', which was clearly reshaped on the basis of δεκοτος 'tenth' and ενϝοτος 'ninth';[48] Note that the forms δεκατος and ενατος are actually attested in Boeotian inscriptions, contrasting with δεκοτος and/or ενοτος as attested in Lesbian and Thessalian inscriptions.

The same explanation can be applied to the Thessalian forms πετρο-ετηριδα and πετροτος. In the ordinals, Thessalian has δεκοτος with a medial *o*-vowel that may have spread from 'nine' or even 'eight' (cf. the shortened form οκτο in Boeot. and Lesb.). In compounds, Thess. εξομεινον 'period of six months' (*IG* IX,2 506.4) is another clear instance of the spread of -ο- as a linking vowel, comparable to the spread of -α- in Ionic-Attic πεντα-, ἑξα- (after ἑπτα-, …, δεκα-).[49] Therefore, it is not completely certain that Thess. πετρο- is the regular outcome of *$k^{w}etr̥$- before consonants.

3.3.2 *Epigraphic Evidence* (*Boeotian, Thessalian, Lesbian*)

I start from the forms given in the dialect grammars.[50] Most discussions of the Boeotian reflex of *$r̥$ cite just two forms: the compound elements -στροτος and Βροχ-, which are widespread in proper names from the region.[51] Importantly, the word for 'army; campaign' does not only appear in names, but also in the verbal form εσστροτευαθη (*IG* VII, 3174 and *passim*).[52] 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.

As for Lesbian, a first important piece of evidence is στροταγος, denoting a magistrate. As Hodot (1990: 56) remarks, this title is in the process of being replaced by στραταγος, a hybrid form consisting of dialectal (-αγος) and Koine

48 The Arcadian form ενϝοτος has recently come to light on an archaic festival calendar (Carbon-Clackson 2016).

49 Thess. πετραγουνος (Larisa, late 3rd c.), corresponding to Class. τετράγωνος 'rectangle', may be ascribed to Koine influence.

50 Bechtel (1921–1924, I: 242–243), Thumb-Scherer (1959); Blümel (1982); Hodot (1990).

51 E.g. Βροχυλλος (*IG* VII, 1908, Thespiae, 450–400 BCE). In the overview of Boeotian characteristics by Van der Velde (1929), the attestations of these forms are presented per locality; see also García Ramón (1975: 62–63). A third form usually mentioned in this connection is ερotις (plus names in Ερoτο-, corresponding to Ionic-Attic 'Ερατο-), but this word does not derive from a pre-form with *$r̥$, and the difference in vocalism must have another cause. The alleged PN Θρ]οσιουστροτος is based on a false reading (see Masson 1972: 293).

52 This is the 3pl. pf. mid. of a verb στροτευομαι, with the athematic ending -αθη < *-αται (with secondary -θ- and monophtongization of αι).

(στρατ-) elements. The real Koine form στρατηγός, with Ionic -η-, never occurs in Lesbian inscriptions. Other forms derived from this lexeme introduced *a*-vocalism much earlier, e.g. στρατεια (Hodot, NAS 01, 4th c.). In the literary tradition, στρότος is attested in Sappho. Apparently, in the classical period the genuine dialectal form στρότος was preserved only in the title στροταγος.

The second important epigraphically attested form is αμβροτην 'to transgress' (*IG* XII,2 1.5), which again has a counterpart in literary Lesbian, ἄμβροτε (on which see below). There is no further relevant evidence: the root γραφ- (in forms like αντιγραφευς, γραφην) is well-attested, as it is in all other dialects, but it need not have contained *r̥. The attestation of σαρξ (Hodot 1990, MAT 03.11 and 05.16, 21, end of 3rd c.) is relatively late, so it could be a loanword from Ionic. In conclusion, both στροταγος and αμβροτην are trustworthy evidence for the development *r̥ > ρο in Lesbian.

In Thessalian, the root **mr̥kʰ-* 'short' is attested as a personal name Βροχυς (*IG* IX,2 460.13, Krannon, Pelasgiotis, 2nd c.) and in its older form in the female name Μροχō (*SEG* 24.406, Perrhaebia, 500–450 BCE). The name Βορχιδας (*SEG* 26, 672.32, Larisa, Pelasgiotis, early 2nd c.) may be due to a later metathesis, if it is indeed related. 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 πετροετηριδα (*RPh.* 1911, 123.26, Larisa, 1st c.). Since this form has an unexpected spelling ⟨η⟩ of the outcome of **ē* (which is otherwise spelled as ⟨ει⟩ in this dialect), and since the inscription has a number of Koine features, the evidential value of this form used to be questioned. Later, however, the form πετρο- has been confirmed by πετροετειριδα (*SEG* 17.288 *passim*, Larisa, 1st c. BCE or later) and by the ordinal πετροτος (*SEG* 43.311, Skotoussa, Pelasgiotis, early 2nd c.).

Nevertheless, it is not completely certain that these forms contain a reflex of *r̥: we must take into account that Myc. *qe-to-ro-* and Class. τετρα- may be remodellings of the older form PIE **kʷetru-* based on the compositional form of 'ten-' (see sections 2.7 and 3.3.1). The same could be true of Thess. πετρο-, as a linking vowel *-o-* also occurs in Thess. εξομεινον 'period of six months' (*IG* IX,2 506.4). Moreover, an *o*-vowel is attested for the ordinals δεκοτος 'tenth' (at Larisa and Skotoussa, *SEG* 27.202, *passim*) and ενοτος 'ninth' (*SEG* 43.311, Skotoussa). Therefore, given the model of the 1st compound members πετρο-, εξο-, it cannot be completely excluded that an older form *πετορτος was changed into πετροτος.[53]

53 This was not a necessary development, however: Ionic-Attic preserves τέταρτος, πέμπτος,

Another Thessalian piece of evidence has been adduced by García Ramón (1999: 11–13): he argues that Θροσια, an epiclesis of Artemis at Atrax and Larisa in the Hellenistic period, is derived from *θρόσις < *$d^hr̥$-*ti*- 'support'.[54] In his opinion, Θροσια refers to Artemis in her function as a supporter and protector of youngsters in a rite of initiation. An alternative derivation from the root *d^hers- of θρασύς has been proposed (see e.g. *LSJ*), but García Ramón objects that this adjective was continued in Thessalian as θερσυς (with full grade root) on account of a different epiclesis, Αθανα Θερσυς.[55] In either case, whether the underlying etymon is *$d^hr̥$-*ti*- or *$d^hr̥s$-, Θροσια would be an example for the vocalization of *$r̥$. Being a name, however, the form must be handled with due caution.

For García Ramón, Θροσια is an important form because it would show that the *o*-colored reflex in Thessalian occurs not only in contact with labial sounds.[56] 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. I would add that, contrary to what is often stated, the *$r̥$ in πετροτος did not stand in a labial environment either: the simplification *$tu̯r̥$ > *$tr̥$ took place early on (section 2.6).

We may conclude that there is secure evidence for *o*-coloring of the Thessalian reflex, but the regular vowel slot is less clear than in Boeotian or Lesbian. The only direct piece of evidence for -ρο- is the epiclesis Θροσια. The names Μροχō, Βροχυς may have a levelled vowel slot (PGr. *$mrek^h$-, cf. section 4.3.3), and for πετροτος we cannot exclude that it was influenced by the compounding form πετρο-, which itself may have taken its *o*-vocalism from higher numerals. In the unpublished form ορσεν, ὀρ- may be an inner-paradigmatic restoration from ῥο- after the full grade seen in ἔρσην, or it could show a special development of *$r̥$ in word-initial position (see section 9.1.7 for further discussion).

Thus, although the evidence does not completely exclude -ορ-, the word-medial reflex in Thessalian was most probably -ρο-, as in Lesbian and Boeotian.

ἕκτος while also having τετρα-, πεντα- and ἑξα- (with spread of the linking vowel -α-) in compounds. On Homeric τέτρατος, see section 6.8.4.

54 Cf. also García Ramón & Helly (2007: 305–306).

55 In my view, this objection is not cogent. 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 Lamberterie 1990: 887–888). If the *u*-stem adjectives had root ablaut in Proto-Greek (see section 4.1.1), this substantivized form may have been derived from the full grade stem at an early date, before the adjective generalized the zero grade reflex.

56 "lässt sich der *o*-Vokalismus bei der Vertretung von *$r̥$ als nicht durch die phonetische Umgebung bedingt erkennen." (García Ramón 2007c: 106).

3.3.3 *The Relation between Lesbian Lyric and Ionian Epic*

Linguistic evidence from the poems and fragments of Sappho and Alceaus is to be used with caution for more than one reason. As remarked above, this material may not only contain Ionic words with *a*-vocalism; it may also have undergone hyper-aeolicization at the hands of later editors or copyists. After the work of Lobel, it was thought for some time that Sappho composed her poems not in a literary dialect, but in the Lesbian vernacular (cf. the discussion in Bowie 1981: 60 ff.). In order to maintain this thesis, Lobel had to reject a number of Sapphic fragments as ungenuine, and to assume a large number of emendations in the other fragments. As Bowie remarks, however, 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 emending forms or rejecting entire fragments lacked a solid basis.

Since the monographs by Hooker (1977) and Bowie (1981), two things have become much clearer. First of all, there has been substantial Ionic influence on the language of Sappho and Alcaeus. This influence can be ascribed, to a large extent, to the epic tradition, but it is equally possible that vernacular Lesbian vocabulary used by Sappho and Alcaeus had been influenced by that of the neighboring Eastern Ionic vernaculars (Bowie 1981). Secondly, Sappho and Alcaeus used a literary dialect for their genre which had a tradition of its own, as follows from the meters they use. Aeolic lyric may owe part of its vocabulary and phraseology to this tradition, but it is unclear what exactly the Lesbian contribution was.[57]

The influence of Ionic on the language of the Lesbian poets was clearly 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 that is irrelevant for present purposes.[58] Both Lesbian poets make use of a fair number of epic lexemes and grammatical characteristics, especially (though not exclusively) in poems with epic subject matter. Convincing cases of Ionic or epic influence include the following:[59]

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57 In the words of 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".

58 Bowie is reluctant to explain words that occur both in Lesbian poetry and in Homer as epicisms. The fact that a word is shared by Lesbian poetry 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.

59 In what follows, fragment numbers refer to Voigt's edition of Sappho and Alcaeus (Voigt 1971).

– the long vowel *s*-aorist subjunctive (e.g. φαρξώμεθα, Alc. 6.7), which is typical for Ionic-Attic;
– ἀδελφέα 'sister' (Sapph., Alc.) < **ha-gʷelpʰehā-*, with a dental reflex of the labiovelar (Bowie 1981: 89–90);
– the form Πέραμος (Sapph. 44.16), a compromise between the Lesbian form Πέρραμος and the metrical structure of Homeric Πρίαμος (Bowie 1981: 58).

Bowie (1981: 137) further mentions as epicisms the forms περιτέλλεται, πίλναται, γαῖα (vernacular Lesbian γᾶ), ῥῆα (for Hom. ῥεῖα, contrast vernacular Lesbian βρᾶ), ἀμφί governing the dative, ποτέονται (with thematic contract verb inflection), and ἐστυφέλιξε (velar flexion of the *s*-aorist). This list could easily be extended.[60] As candidates to have been borrowed from spoken Ionic into the Lesbian vernacular, i.e. forms for which it is unnecessary to assume epic influence, Bowie (1981: 136) mentions ἴερος, τοιαύτα, κάρτερος, the 3pl. ind. aor. ending -σαν, the pf. ptc. ἐοίκοτες (in Aeolic, one would expect -οντες), and ἤπερ (enclitic -περ is otherwise absent from Lesbian).

Like φαρξώμεθα, a number of forms with ρα/αρ < **r̥* that are found in Sappho and/or Alcaeus may stem from Ionic (for a full list, see section 3.3.5 below). For this reason, I disagree with O'Neil (1971) and Wyatt (1971) that ρα/αρ is the regular reflex in Lesbian under certain conditions.

3.3.4 *Evidence for o-vocalism in Literary Lesbian*

The only potential evidence for the reflex of **l̥* is ἀόλλεες (Alc. 348.3) This form may be either an epicism or an instance of **l̥* > -ολ- before nasals; see section 10.5.4 for further discussion. I will therefore focus on the reflex of **r̥*.

The following forms from Sappho and Alcaeus, in alphabetical order, must be considered as potential evidence for -ρο- as a regular reflex (and -ορ- as analogical):

– βρόχε(α) (Sapph. 31.7)[61]
– δρό[μωμεν (Alc. 6.8)
– δρόπ̣[ω]σιν (Alc. 119.15)
– ἐμμόρμενον (Alc. 39a.7)
– τρόπην (Alc. 70.9), ὀνέτροπε (Alc. 72.8), πεδέτροπ[ε (Alc. 75.11)
– στρότον (Sapph. 16.1, Alc. 382.2).[62]

60 For instance, the productive epic adjective suffix -αλέος (cf. section 4.2.2) is found in ὀτραλέως (Sapph. 44.11), and Alcaeus is fond of ἀργαλέος 'painful'.

61 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. ἔβραχε 'resounded'.

62 Perhaps also in]ν στροτ[(Alc. 300.1).

The following forms are well-attested in Epic Greek and can be analyzed as epicisms in Lesbian lyric.[63] For this reason, they cannot be used as secure evidence in the present discussion (even if the form ἄμβροτε is confirmed for Lesbian by epigraphic evidence: see above):

– ἄμβροτε aor. 3sg. (Sapph. 5.5), cf. Hom. aor. ἤμβροτε;
– ἀμβροσίας (Sapph. 141.1), cf. Hom. adj. ἀμβρόσιος;
– Ἀφροδίτα (Sapph. 1.1 and *passim*), cf. Hom.+ Ἀφροδίτη;
– βρόδων (Sapph. 55.2), βρόδοισι (Sapph. 2.6), βροδοπάχεες (Sapph. 53; 58.19), βροδοδάκτυλος (Sapph. 96.8): cf. the traditional epithets ῥοδοδάκτυλος (Hom.+) and ῥοδόπηχυς (Hes.+).

I also leave aside the following forms:[64]

– ὄρπετον 'beast, creature' (Sapph. 130.2) beside Ion.-Att. ἑρπετόν: the original vocalism of the Lesbian form is unclear. In his monographic treatment of this form and the suffix -ετό-, Vine (1998: 74) concludes that ὄρπετον may have been contaminated with a form *ὀρπό- 'creeper' that is perhaps also presupposed by ὄρπηξ 'young shoot, sapling';
– μόλθακος 'soft' (Sapph. 46.1, Alc. 338.8) has no convincing etymology, see section 10.1.7;
– the forms γρόππατα and γρόπτα (Balbilla) are probably hyper-Aeolisms in view of the universal occurrence of γραφ- in Lesbian inscriptions;
– The sequence].τροπτε σίδαρ[(Alc. 179.12) may well contain the Aeolic form corresponding to epic ἀστράπτω 'to flash (of lightning)', but the reconstruction of this etymon is uncertain;
– ποικιλόθρον' (Sapph. 1.1) probably contains the word θρόνα (to be kept distinct from θρόνος 'throne'): cf. the discussion in section 2.5.2.

Returning to the potential evidence, the forms βρόχε', ἐμμόρμενον, στρότον, and the thematic aorists δρομε/ο-, δροπε/ο-, and τροπε/ο- cannot be due to epic influence, as Homer attests these forms in a shape with -ρα- or -αρ-. These words with a reflex -ρο- were at home in the Lesbian poetic tradition, and they probably entered this tradition as Lesbian vernacular forms. Indeed, the following forms with -ρο- are backed up by epigraphic evidence from Lesbian or other Aeolic dialects:

– ἄμβροτε (αμβροτην *IG* XII,2 1.5);
– βρόχεα (Thess. Μροχō, Boeot. Βροχυλλος, see above);
– στρότος (Lesb. στροταγος, Boeot. εσστροτευαθη, names in -στροτος).

63 Note also ἀόλλεες (= Epic ἀολλέες).
64 On ὄνοιρος (Sapph.), see the next section.

As has already been noted, στρότος (beside Homeric and class. στρατός, Cret. σταρτος) shows that the *o*-colored reflex was regular also in a non-labial environment.

What does this evidence teach us about the regular place of the epenthetic vowel in Lesbian? In order to answer this question, let us now discuss some of the attested forms in more detail:

– Like Ionic βραχύς, Aeol. βρόχεα and Thess. Βροχυς (*IG* IX,2 460.13) may have leveled the old full grade slot (attested in Lat. *brevis*; cf. section 4.1.1 and 4.3.3).
– There are three examples of thematic aorists with *o*-vocalism in Lesbian poetry. Of these, τρόπην is well-attested (prefixed forms ὀνέτροπε, πεδέτροπε); besides, δρόπ̣[ω]σιν and the restored form δρό[μωμεν also clearly speak in favor of *o*-vocalism. Clearly, the vowel slot of τροπ- could be analogical: cf. fut. ὀντρέψει, pres. inf. ἐπιτρέπην. The same goes for the vowel slot seen in δρόμωμεν and δρόπωσιν.
– As for ἐμμόρμενον, the corresponding Attic form εἱμαρμένος guarantees the antiquity of the formation, a middle perfect **he-hmr̥-toi* with zero grade root. However, ἐμμόρμενον does not constitute compelling evidence for a regular alternative treatment **r̥* > -ορ- in Lesbian, because in Homer we also find the older active perfect ἔμμορε (normally viewed as an Aeolism). Since the substitution of middle for older active perfect forms is widespread (cf. τετυγμένος beside older Myc. *te-tu-ku-wo-a*$_2$),[65] the vowel slot of Aeol. ἐμμόρμενον may have been influenced by that of ἔμμορε.

The remaining forms clearly show that the regular Lesbian outcome of **CrT-* was *CroT-*. The clearest instances are ἄμβροτε (epigraphic αμβροτην), στρότος (epigraphic στροταγος), and the thematic aorist forms (ὀνέτροπε, πεδέτροπεν). The epenthetic vowel regularly appears *after* the liquid in the isolated forms ἄμβροτε, αμβροτην, and στρότος.[66] This reflex *-ro-* is a clear characteristic of Lesbian and Aeolic generally. In this respect the Aeolic dialects differ from Mycenaean, and also from Arcadian, where the regular reflex was *-or-* (as we shall see below).

3.3.5 *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:

– βράδινος 'supple' (Sapph. 44A(b).7, 102.2, and 115)
– ἔαρος 'spring' gen. (Alc. 296b.3), contracted ἦρος (Sapph. 136, Alc. 367)

65 On the relation between middle-passive and active perfect forms and the replacement of active perfects, see Van Beek and Migliori (2019).

66 The vowel slot of thematic aorists like ὀνέτροπε may, of course, be analogical.

– καρδία 'heart' (Sapph. 31.6, Alc. 207.9)
– κάρπος 'harvest' (Alc. 119.10)
– κάρτερος '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)
– πάρθενος 'maiden' (Sapph. 56 *passim*, Alc. 42.8)
– τάρβημι 'to be scared' (Alc. 206 and 302.12)
– τράγος 'he-goat' (Alc. 167.5).

A number of these forms must be left out of consideration: ἔμαρψε and πάρθενος are pan-Greek forms without a convincing etymology (cf. section 9.7.2). For τράγος, a pre-form with *$\underset{\circ}{r}$ is uncertain as we might be dealing with a secondary zero grade beside the present τρώγω, from a root *$treh_3g$- (section 9.1.4). The epic verb ταρβέω was also utilized in Lesbian poetry and in the Attic tragedians; its *a*-vocalism may point to an Ionic-Attic origin, if the derivation from a zero grade of PIE *$terg^w$- is correct (cf. section 4.2.1). Furthermore, κάρτερος is certainly a borrowing from Ionic, whether from the vernacular or from Epic Greek; see the arguments adduced by Bowie (1981: 99–100).[67] It is also conceivable that Aeol. κάρπος is of epic or Ionic origin, but this word is difficult to evaluate in any case, as it has the same form in all dialects where it is attested.

Examples for -αρ as the word-final treatment of *$\underset{\circ}{r}$ are ὄναρ, νέκταρ, ὄνηαρ, and ἔαρος. Given that it displays the change *$\bar{a}$ > η, ὄνηαρ must be a borrowing from Ionic.[68] The three other forms also occur in Homer, and especially ὄναρ and νέκταρ are liable to an analysis as epicisms. The gen. sg. ἔαρος is commonly thought to have been built on the nom. ἔαρ (Hom.+) < PIE *$\underset{\circ}{u}es$-$\underset{\circ}{r}$. The two instances of contracted ἦρος may be of Ionic origin, and uncontracted ἔαρος may be an epicism. Thus, there is no direct evidence for the Lesbian vernacular development of *$\underset{\circ}{r}$ in word-final position.[69]

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67 Bowie's analysis, however, is misguided to some extent by O'Neil's (1971) poor linguistic treatment of the evidence.

68 On Aeol. η corresponding to Ionic ει in prevocalic position, see Slings (1979; p. 251 n. 36 on ὄνηαρ).

69 Ruijgh (1961) proposed that the regular Lesbian (and also Achaean) outcome of *$\underset{\circ}{r}$ in word-final position was -ορ, adducing ἦτορ 'heart' and ὄνοιρος 'dream' (Sapph. fr. 63.1) as examples. In fact, the attestation of ἦτορ in Lesbian (Alc. fr. 6.20) is highly uncertain (cf. the edition by Voigt), so that only the Sapphic form ὄνοιρος would remain as an indirect piece of evidence for the Lesbian development. This form has been compared to Arm. *anurǰ* 'dream' and derived from *$onōr$-$\underset{\circ}{i}o$-, a reconstruction that is not without problems. However, the idea that ὄνοιρος is a contamination between ὄνειρος (the normal Greek form) and Lesb. *ὄνορ < *$on\underset{\circ}{r}$ deserves full consideration. Cf. section 9.5 on word-final *-$\underset{\circ}{r}$.

Two remaining forms require a more elaborate discussion. Both Lesbian poets use καρδία as a word for 'heart'. On account of στρότος beside Ionic στρατός, which is a secure example, it can be excluded that καρδία contains the regular reflex of *$r̥$ in Lesbian. Since καρδίη was certainly the regular vernacular form in neighboring Ionic dialects, we must assume that this form was borrowed into Lesbian. There is another possible, but rather uncertain attestation κ]ορδίαν (Alc. 130A.4, initial κ- suggested by Diehl).[70] If this is indeed the correct reading, it could be a hyper-Aeolic form, as the vocalization -ορ- would be at odds with the otherwise clear evidence for -ρο- as the Lesbian reflex.

The adjective βράδινος occurs three times in Sappho, and its βρ- certainly represents earlier *$\mu̥r$- (see the discussion in Bowie 1981: 80–84).[71] The word has two main types of referent: (1) soft or supple body parts of women, e.g. feet, hands, cheeks, and also Aphrodite herself; (2) shoots, branches, and a whip that are 'supple, tapeable'. An etymological connection with Ved. *vrad* 'become soft' could therefore be envisaged, but this remains uncertain as the suffixation in -ινος remains without a good parallel.[72] There are two options to explain -ρα- in this clearly poetic word. First, it is conceivable that βράδινος stems from the Ionian epic tradition. Secondly, since βράδινος has no secure etymology, it can be argued that a pre-form with *$r̥$ is not ascertained. In this case the word could be genuine Lesbian or belong to the Aeolic poetic tradition.

3.3.6 *Evidence for Aeolic o-vocalism in Ancient Grammarians*

As various previous authors have noted, much of the evidence from the ancient grammatical tradition cannot be relied upon. In many cases, there is no dialect indication: for instance, a gloss like μορνάμενος· μαχόμενος (Hsch., cf. μάρναμαι 'to fight') need not be Aeolic, but could instead stem from Arcadian or Cyprian.

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70 The Cyprian reflex of this word is attested as κορζία, in a gloss in Hsch. ascribed to the Paphians (see section 3.4.1).

71 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 initial β- (reflecting 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). Bowie thinks that words spelled with βρ- are poetic archaisms of Lesbian: they preserve a reflex of *$\mu̥$- insofar as this was metrically useful, while in the vernacular, *$\mu̥r$- had already developed to *r*- by the time of Sappho.

72 See Chantraine (1933: 200–201) for the suffix *-inó-*, and Mayrhofer (*EWAia* s.v. *VRAD*) for the suggestion to compare this with ῥαδινός, Aeol. βράδινος.

In other cases, the sources of the ancient grammarians cannot be determined. For instance, the adverb θροσέως and the noun πτόρμος (for πταρμός 'sneeze') are cited as 'Aeolic' in the *Compendium* περὶ διαλέκτων attributed to Johannes Grammaticus, and they do not contradict the conclusions obtained so far: θροσέως has the expected Aeolic reflex of *r̥, and if πτόρμος is a real form, various accounts are conceivable.[73] The middle perfect forms τέτορθαι, μέμορθαι and ἔφθορθαι (wrongly referred to as 'Homeric' by O'Neil 1971: 26) are cited as Aeolic in (pseudo-)Herodian's *On Iliadic Prosody* 67.[74] If such forms indeed once existed, the analysis of ἔφθορθαι is clear enough, but τέτορθαι and μέμορθαι are difficult to interpret etymologically. Now, ἔφθορθαι may have an analogical vowel slot (φθερ-, φθορ-, φθαρ-) and does not speak against a regular development to -ρο- anymore than does ἐμμόρμενον in Alcaeus (cf. above); the same may be true of τέτορθαι and μέμορθαι, whatever their etymology is.

Having said that, one pair of glosses attested in Hesychius clearly supports the Aeolic development of *o*-vocalism that we have just established on the basis of the literary and epigraphic evidence: πορνάμεν· πωλεῖν 'to sell' and πορνάμεναι· κεντούμεναι, πωλούμεναι (Hsch. π 3042 and 3043).[75] The forms reflect the nasal present-stem *$p\mathring{r}$-*n*-h_2- that is also continued as Ionic πέρνημι 'to sell', with the difference that in the latter form, the root vowel was secondarily adapted to that of the aorist περάσαι.[76] In πορνάμεν, the *o*-vocalism in combination with the infinitive ending -μεν clearly suggests an Aeolic origin. The vowel slot -ορ- could be conditioned by the following nasal, or be analogical after the aorist περάσαι.[77]

3.3.7 *Conclusions on Aeolic*

The forms στρότος 'army' and αμβροτην 'to err' provide clear evidence for the development of an anaptyctic vowel -*o*- after the liquid in Aeolic dialects. This development is shared by at least Lesbian and Boeotian. Furthermore, στρότος

73 For instance, the *o*-grade root could be original, or an onset /ptro-/ (with the expected Aeolic reflex) may have been avoided.

74 These forms are adduced in the context of a discussion of the *accentuation* of the Homeric middle perfect infinitive ἐγρήγορθαι, and are intended to serve as parallels for an infinitive ending in -ορθαι with proparoxytone accent (instead of the expected paroxytone). According to (pseudo-)Herodian, such an accentuation is seen only the forms τέτορθαι, μέμορθαι, ἔφθορθαι in Aeolic (τῇ Αἰολίδι).

75 In 3042, the codex has the accentuation πόρναμεν; in 3043, the gloss κεντούμεναι probably belongs elsewhere.

76 The -α- in the gloss πορνάμεν may have been long or short: the acute accentuation need not be original.

77 For further discussion, see section 9.4.

proves that the *o*-coloring was not conditioned by a neighboring labial sound. The Thessalian evidence is somewhat less straightforward, but all attested forms are compatible with the development established for Boeotian and Lesbian: Θροσια and πετροτος render this likely. We may therefore reconstruct *$r̥$ > -ρο- for Proto-Aeolic.

It is important to state this conclusion in clear terms, especially given the discussion of the reflexes of *$r̥$ in the Aeolic dialects by Parker (2008: 446–447). Parker's general tenet is that the Aeolic dialects have no shared innovations: he describes most of the typical Aeolic features as choices made independently by Boeotian, Lesbian and/or Thessalian. However, García Ramón (2009) has shown convincingly that Parker's arguments are misguided. Not only are there at least two shared innovations between Lesbian and Thessalian, but the three dialects in fact share a bundle of features (often non-trivial choices between alternatives) that cannot be due to language contact at a *recent* stage, as the dialect regions are geographically non-contiguous.

Now, the development *$r̥$ > -ρο- is perhaps the most salient of all common phonological innovations of the Aeolic dialects, especially now that it has been shown that the vowel /o/ regularly follows the liquid *only* here, not in Mycenaean (cf. chapter 2) or in Arcadian (section 3.4). When Parker states that "*$r̥$ > ρο/ρα is a comparatively late change in various Greek dialects" (2008: 447), I agree that *$r̥$ may well have been retained until the late (or sub-)Mycenaean period in many dialects, including Ionic-Attic (cf. chapters 6 till 9) and West Greek (sections 3.1 and 3.2). However, this does not imply that the change is "not very important for grouping Greek dialects", as Parker states with a misleading reference to Cowgill. Apart from Boeotian, Lesbian and probably Thessalian, there is no other dialect for which we know for certain that the reflex of *$r̥$ was -ρο-. Moreover, it is uncommon in other IE languages for the anaptyctic vowel to develop after the liquid: the only clear example of such a treatment is Celtic, where *$Cr̥T$- developed to *$CriT$- (cf. OIr. *cride* 'heart' < *$kr̥dio$-). Given that Thessalian, Boeotian and Lesbian are not geographically contiguous, the only logical conclusion is that the isogloss *$r̥$ > -ρο- is an innovation of their common ancestor, which we may call Proto-Aeolic.[78]

78 According to García Ramón (1975: 63), who starts from the position that *$r̥$ was still intact in Mycenaean, "la conclusion s'impose d'elle-même: le proto-thessalien a développé *$r̥$ > ορ, ρο à une époque 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 further phonological and morphological arguments in favor of positing a Proto-Aeolic stage, see García Ramón (1975: 60–68) and (2009: 232–234).

It is difficult, however, to determine the date of this Proto-Aeolic vocalization to -ρο- more precisely. In my view, it is likely that the change took place *before* the end of the Mycenaean period: this allows us to understand why the Aeolic dialects did not develop an *a*-colored reflex, as Ionic-Attic and neighboring West Greek dialects did. Another important common Aeolic innovation, the generalization of -εσσι as a general 3rd declension dative plural ending (except in the *s*-stems), may also have taken place in the Mycenaean period, as I hope to show elsewhere.

3.4 Arcado-Cyprian

Fraenkel (1911: 250–251) was one of the first scholars to explicitly state that the *o*-colored outcome is regular in Arcado-Cyprian. 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 proposed that the instances of *o*-coloring were conditioned by a preceding *μ̥-*. In her words, "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 Arcadian and/or Cyprian. For instance, Egetmeyer (2010: 144) remarks that the Cyprian outcome is uncertain because of a lack of clear examples. However, much of the alleged evidence for *a*-vocalism in both dialects was adduced for incorrect reasons, notably in Morpurgo Davies (1968). In my view, scholars like García Ramón (1985) and Haug (2002: 49–67) are right to insist that only the *o*-colored outcome is regular in Arcadian and Cyprian. Nevertheless, whether the two dialects underwent a common development of **l̥r* remains, in my opinion, an open question.

The evidence below has been collected from Morpurgo Davies (1968), Haug (2002) and the dialectal grammar by Egetmeyer (2010: 144–147).

3.4.1 *Cyprian: Evidence for o-vocalism*

There are five more or less reliable forms with *o*-vocalism in Cyprian, three of which are attested in glosses ascribed by Hesychius to the dialect of Paphos (εὐτρόσσεσθαι, κορζία, and στροπά), against two forms attested in the syllabary (*ka-te-wo-ro-ko-ne*, *to-ro-su-ta-mo-se*). Another form that was previously adduced (θόρναξ· ὑποπόδιον Hsch.) has no bearing on the discussion.

– *ka-te-wo-ro-ko-ne* /kat-ĕworgon/ or /kat-ĕwrogon/[79] 'they besieged' (*ICS*^{2} 217.1, Egetmeyer 2010: 481) is a zero grade thematic 3rd pl. from the root of εἴργω (Hom. ἐέργω) 'to shut in; keep away'. According to the traditional interpretation, this form is an aorist (cf. *GEW* s.v. εἴργω).[80] Morpurgo Davies (1968) doubted whether the form reflected a zero grade root with the argument that there is no independent evidence for a thematic aorist from this verb, and she followed a suggestion by Schwyzer (1939: 777) to compare it with ἄνωγον, a thematic pluperfect found in the next line of this inscription (*a-no-ko-ne* 'they ordered' *ICS*^{2} 217.2). However, since ἄνωγον is clearly an exceptional case and is also attested in Homer, the interpretation of *ka-te-wo-ro-ko-ne* as a thematic aorist or imperfect must be preferred. Thus, the form serves as reliable evidence for an *o*-colored reflex.
– A PN *to-ro-su-ta-mo*, either /T^{h}rosu-dāmō/ or /T^{h}orsu-dāmō/, occurs in an inscription from Paphos that was dated to 750–600 BCE (cf. Neumann 2004: 138–139 for the reading). The antiquity of the inscription suggests that we are dealing with a genuine reflex of **r̥* in Cyprian. Egetmeyer (2010: 146) argues that /T^{h}rosu-/ is the correct interpretation of the first member, but as Neumann (l.c.) remarks, there is no way to exclude /T^{h}orsu-/.
– The gloss εὐτρόσσεσθαι· ἐπιστρέφεσθαι. Πάφιοι (Hsch.), 'to turn around or towards', is mostly thought to derive from a *yod*-present **-tr̥k^{w}-i̯e/o-*.[81] Although scholarly opinion is still divided concerning the assumed equivalence of Cypr. εὐ- (as a preverb) and Ion.-Att. ἐπι-,[82] the most widely accepted interpretation of εὐτρόσσεσθαι recognizes in it the root **tr̥k^{w}-* underlying

79 On the basis of the syllabary, all four interpretations are possible, though a long vowel (an augmented form of the root **eu̯erg-*) is in my view more likely.

80 Tichy (1983: 287 n. 165) views *ka-te-wo-ro-ko-ne* as the imperfect of a root PGr. **u̯erg-* 'to shut in, lock up', which she distinguishes (1983: 286–288) from PGr. **eu̯erg-* 'to shut out, drive away' < **h$_2$u̯erg-* (Skt. *vr̥nákti, ávr̥nak*). Together with Att. ἔργω, ἕργω (forms with a short root vowel) and the Avestan opt. *vərəziiąn* 'to fence in', she derives the Cypriot form from an ablauting athematic root present. Whether this is correct or not is not directly relevant for present purposes, because *ka-te-wo-ro-ko-ne* would have a zero grade root also in Tichy's interpretation.

81 See e.g. Egetmeyer (2010: 146).

82 For extensive discussion and further literature on Cypr. εὐ-, *u-*, cf. Egetmeyer (2010: 450–452). The best piece of evidence for **ud-* as a relic alternative form of ἐπι- is *u-ke-ro-ne* (*ICS* 217.A 5, 15), interpreted as a gen. pl. /u-k^{h}ērōn/ lit. "what is on the hand", i.e. 'supplementary payment'. This interpretation is attractive in view of ἐπίχειρα· τὰ ὑπὲρ τὸν μισθὸν διδόμενα τοῖς χειροτέχναις "what is given to craftsmen on top of their wages" (Hsch. ε 5418). It remains unclear to me, however, how *u-* < **ud-* would relate to εὐ- in the glossed form εὐτρόσσεσθαι.

τρέπω.[83] Morpurgo Davies (1968: 800) claimed 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*-grade thematic nouns are in -έω.[84] The most plausible reconstruction remains **-tr̥k^{w}-i̯e/o-*, even if some doubts persist concerning the analysis of εὐ- as a preverb. The vowel slot of εὐτρόσσεσθαι may be analogical, cf. τρέπω.

– The gloss κορζία· καρδία. Πάφιοι (Hsch.), a betting reading than κόρζα,[85] was disqualified by Morpurgo Davies (1968: 801, 812) with the remark "but this is a gloss attested only in Hesychius". If the other available evidence spoke against *o*-vocalism, this would perhaps be a legitimate way of arguing, but since there is no compelling evidence for *a*-vocalism in Cyprian (see below), it is best to take the gloss seriously, especially given its remarkable ⟨ζ⟩.
– στροπά· ἀστραπή. Πάφιοι (Hsch., Hdn.) 'flash of lightning'.[86] The related gloss στορπάν· τὴν ἀστραπήν (Hdn., Hsch., without dialect indication) might well be Arcadian in view of Διος Στορπαο in an Arcadian inscription (gen.sg., *IG* v,2 64, 5th c.). The aspirated stop in the gloss στροφαί· ἀστραπαί (Hdn., Hsch.) might be folk-etymological after στρέφω. As for the real etymology, Beekes (1987) has convincingly criticized the reconstruction **h$_2$str-h$_3$k^{w}-* "star-eye", which is not evident semantically and, even worse, does not explain the forms without prothetic vowel or the lacking reflex of **h$_3$*.[87] Still, since forms with *o*-vocalism appear precisely in Arcadian and Cyprian, a reconstruction with syllabic liquid might be considered. One would then have to reconstruct a Proto-Greek root **str̥p-ā*, of unknown etymology, with a variant **astr̥p-ā* continued in the Classical form ἀστραπή and in the epic denominative verb ἀστράπτω. In this case, the reflex -ρα- in the Classical Attic form would be difficult to rhyme with the claims made in this book. However, the

83 "**tr̥k^{w}-i̯é/ó-* … reste l'hypothèse la plus solide" (Egetmeyer 2010: 464). See there for other, less likely proposals.

84 Cf. Myc. *to-ro-qe-jo-me-no* /trok^{w}e(i̯)omeno-/ 'making tours of inspection'.

85 As it is usually cited, the form κόρζα would presuppose a desyllabification of *-i-* and the subsequent development of **-di̯-* to ⟨ζ⟩ in Cyprian. However, as Egetmeyer (2010: 125–126, with discussion of earlier literature) remarks in his discussion of the gloss, the codex of Hesychius has κορζία. He interprets this as an intermediary stage between κορδία and disyllabic /kord^{z}ā/. Whether this interpretation is correct or not, the reading κορζία must be maintained.

86 García Ramón and Helly (2012: 61–63) read the form Στροπικα as an epithet of the Thessalian goddess Ennodia in a dedication from Larisa (*SEG* 54, 561; 3rd quarter of the 5th c.). If this is correct, the variant στροπά is also secured for Thessaly.

87 The last point is not addressed by Peters (1980: 208 fn. 160), who thinks that the absent reflex of the initial **h$_2$-* can be due to laryngeal loss in a compound.

word may well be of non-Indo-European etymology: the variation between forms with and without prothetic ἀ-, and the difference in vocalism between Homeric στεροπή, ἀστεροπή and ἀστραπή (with 'reduced' vocalism) are both typical substrate phenomena (Beekes l.c.; Schrijver 2001: 419). Furthermore, it cannot be excluded that contaminations took place between two or more different pre-forms. In view of this, no conclusions can be based on these forms.[88]

– The gloss θόρναξ· ὑποπόδιον 'footstool' (Hsch. θ 647 Latte) at one point received the addition Κύπριοι (thus e.g. *GEW*), but Latte no longer prints this because he thinks the ethnicon was wrongly taken over from the preceding gloss (cf. Egetmeyer 2010: 147). The word is clearly derived from Myc. *to-no* /t^{h}ornos/, alph. θρόνος, but its pre-form may not have contained *$*r̥$* at all (see chapter 7).[89]

3.4.2 *Cyprian: Evidence for a-vocalism*

Morpurgo Davies (1968: 799–801) and Egetmeyer (2010: 145) list several pieces of evidence for *a*-vocalism, but none of them is compelling.

First of all, as explained in section 1.2, we must leave aside all forms where *$*r̥$* may have been vocalized as part of a Common Greek development, e.g.:

– Cypr. *a-u-ta-ra* /autar/ < PGr. *$*autr̥$* (Hom. αὐτάρ);
– Cypr. *ka-i-re-te* /k^{h}airete/ < PGr. *$*k^{h}ar̥i̯e/o-$* < PIE *$*ǵ^{h}r̥-i̯e/o-$*.

Forms for which there is no clear reason to reconstruct a syllabic liquid can also be disregarded:

– the gloss ἔαρ· αἷμα. Κύπριοι (Hsch. ε 31), which derives from PGr. *$*ehar$* < PIE *$*h$_1esh_2r* (cf. Hitt. *ēshar* 'blood');
– the verb μάρπτω (Morpurgo Davies 1968: 801) appears in the γλῶσσαι κατὰ πόλεις in the form Κυπρίων. ἔμαρψεν· ἔλαβεν. However, the word also occurs in both epic and Lesbian lyric, and has no clear etymology (see section 9.7.2).

Some of the Cyprian forms with *-ar-*, *-ra-* look like imports from Ionic-Attic:

– Personal names in -κράτης are also attested in Ionic-Attic and appear only late in Cyprian; they must therefore be borrowings (see Egetmeyer 2010: 327–330 and already Morpurgo Davies 1968: 800);

88 Thus also Haug (2002: 60). Note that the interpretation of Myc. *to-pa-po-ro-i* as /storpāp^{h}oroihi/ 'for the torch-bearers' (thus e.g. Waanders 2008: 37, Egetmeyer 2010: 146) is uncertain; for an alternative interpretation /torpā-p^{h}oro-/, connecting Att. τάρπη denoting a type of basket, see chapter 2.

89 Compare the skepticism of Egetmeyer (2010: 147) on this gloss; I disagree with him, however, on the inclusion of θρόνα 'varicolored embroideries' among the Cyprian evidence for *$*r̥$* (on this word, see section 2.5.2).

– κάρπωσις· θυσία Ἀφροδίτης ἐν Ἀμαθοῦντι 'festival of Aphrodite in Amathous' (Hsch.) is derived from the problematic word καρπός, which has this very shape in all Greek dialects where it is attested.
– The form ταρβεῖ is ascribed to Cyprian by the γλῶσσαι κατὰ πόλεις (cf. Ruijgh 1957: 163). However, in spite of Bowra (1959), this list of dialectal words is in my view not fully trustworthy as a source for the spoken dialects of Ancient Greek.[90] The verb ταρβέω is frequent in Homer, but also in the tragedians; it is therefore not excluded that the word is of Ionic-Attic origin. The reconstruction of the root as PIE *$terg^w$- (with ταρβέω reflecting *$tr̥g^w$-eh_1-) is possible, but not compelling.[91]

There are two Cyprian forms containing a sequence ⟨*Ca-ra*⟩ for which a pre-form with syllabic nasal may be reconstructed:

– As I will argue in section 9.1.4, the imperative *ka-ra-si-ti* /grast^{h}i/ 'eat!' can be the regular outcome of a pre-form *$gr̥n̥s$-d^hi.
– The form *ta-ra-ka-ma-ta* /dragmata/ 'sheaves; first fruits' (*ICS*^{2} 318 A III, 2) corresponding to alphabetic δράγματα belongs to the root of δράσσομαι, which did not have ablaut and whose -α- may reflect a vocalized nasal (see section 9.2.1).

3.4.3 *Arcadian: Evidence for o-vocalism*

The epigraphic evidence unambiguously proves that Arcadian had an *o*-colored regular reflex, independent of the preceding consonant. This was already argued clearly by Haug (2002: 60); moreover, two forms that were recently discovered in an archaic Arcadian festival calendar (*editio princeps*: Carbon-Clackson 2016) must be added to the dossier.[92] The forms 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 find the stone in the museum of Dimitsana, but as he remarks (ibid., n. 212, cf. also Haug 2002: 60), "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 in the forms of comparison, like that of Class. βραχύς (cf. section 4.3.3).

90 Leumann (1950: 273) thinks that the ascription Κυπρίων of glosses (e.g. those in the κατὰ πόλεις list) may conceal the fact that these words occurred in the epic poem with the title *Cypria*. Although some of Leumann's views are in my view far-fetched, a skeptical attitude towards the glosses marked as 'Cyprian' seems in order.

91 For further discussion of ταρβέω and cognates, see section 4.2.1.

92 Unfortunately, the more precise provenance of this text within Arcadia is unknown.

– 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 influenced by the older root perfect (Att. δι-έφθορα). However, as Haug (2002: 60) remarks, the classical κ-perfect was normally derived from a middle perfect (cf. Attic ἔφθαρκα from ἔφθαρμαι). Moreover, 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 probably implies the existence of an Arcadian middle perfect *εφθορμαι, with an *o*-colored reflex of **r̥*.
– Θορσυλοχου (Dubois 1988: II, 171) is attested on a 3rd c. proxeny decree from Orchomenos. Morpurgo Davies (1968: 794) remarks that the name refers to a person from Achaea and excludes the form as evidence. Haug (2002: 60) prefers to see in Θορσυ- the regular development of a zero grade, and 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 man's name *to-ro-su-ta-mo* (see above) and the Cretan PNs Θορυσταρτος and Θορσυς (Masson 1972, Leukart 1994: 191). It is hard to base any conclusions on this form, because it is a name.
– Arc. παναγορσις name of a festival, lit. "all-gathering" (*IG* V,2 3.26 = *Del.*³ 654), also in the month name παναγορσιον (ibid. 3.3), τριπαναγορσιος (ibid. 3.7). The word is now also attested in its expected dialectal form παναγορι (Carbon-Clackson 2016) with simple spelling of the geminate resulting from the dialectal development ρσ > ρρ. Finally, cf. also ἄγορρις· ἀγορά, ἄθροισις 'gathering' (Hsch., without dialect identification). A zero grade reflex is also attested in the form αγαρρις 'meeting' (*IG* XIV, 659, lines 12 and 16) found in a Western Ionic colony.[93] As a comparison between Arcadian and Western Ionic confirms, the original form was **agr̥-ti-*.[94] As Dubois remarks, Eastern Ionic ἄγερσις (Hdt.+; epigraphically in Miletus) must contain the restored root of ἀγείρω, while Arcadian παναγορσις / παναγορ(ρ)ις and Western Ionic αγαρρις show the etymologically expected zero grade root.
  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

93 In Van Beek 2013 I suggested that the Mycenaean month name *a-ma-ko-to me-no* /ham-agortō mē(n)nos/ "in the month of the assembly" (cf. Taillardat 1984) reflects PGr. **sm̥-* plus **agr̥-to-*. However, the underlying form could also be an *o*-grade formation PGr. **ágor-to-* of the type νόστος.

94 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.

is "quite possible" that αγαρρις arose by vowel assimilation from ἄγερρις, but this is clearly an *ad hoc* assumption.[95] The fact that both αγαρρις and φρητρια seem to denote institutions peculiar to this colony 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. Finally, as Haug (2002: 60) remarks, an *o*-grade root is excluded in an abstract noun in -σις.

– The Arcadian form of the word for 'male' (with ρρ < ρσ) has been known for a longer time in a form with *crasis*, τορρεντερον (Mantinea, 5th c., Dubois II, 94ff. and 105). It remained unknown, however, whether this form had resulted from *το αρρεντερον or *το ορρεντερον. This question may now finally be resolved after the appearance of ορεν, with single spelling of the geminate, on a newly published festival calendar (Carbon-Clackson 2016). The form αρσενα (Tegea, 4th c.) must be a Koine form: see below.
– As for Arc. Στορπαο, epithet of Zeus, see the discussion of the Cyprian gloss στροπά above. It remains uncertain whether the pre-form contained *$\underset{\circ}{r}$.
– Arc. τετορτος (Dubois 1988: 42–43). The form is attested twice as a gen. sg. τετορταυ and probably once in a broken attestation as a nom. τετ]ορτα. As a man's name, Τεταρτος is attested only once. As with Attic τέταρτος, Arcadian τετορτος cannot be explained by analogy, because the cardinal form is τεσσερες.[96] I cannot accept the reasoning of Morpurgo Davies (1968: 795) that the single -τ- (from *-*tu̯*-) in τετορτος can only be explained from an earlier form *τέτροτος or *τέτρατος. As argued in section 2.6, *-*tu̯*- was simplified before *$\underset{\circ}{r}$ in this word *prior to* the vocalization of the syllabic liquid.

3.4.4 *Arcadian: Evidence for a-vocalism*

As Haug (2002: 59–61) makes clear, the counterevidence to a regular vocalization *$\underset{\circ}{r}$ > -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 a Doric borrowing.

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95 See Van Beek (2011a) for a criticism of "vowel assimilations" in Greek, and cf. also the doubts expressed by Dubois (1988: 44 with n. 219).

96 Note, in this connection, that τετόρταιος (Theoc. 30.2) is inadmissible as evidence for a Lesbian form τέτορτος*. The form in Theocritus (of unknown dialectal origin) may be analogical and based on the Doric cardinal τέτορες.

– The root of γράφω has *a*-vocalism in all Greek dialects, except in the agent noun γροφεύς 'scribe' attested in various dialects, mainly on the Peloponnese (see section 9.2.2 for a discussion of the details). Arcadian has γραφε̣̇α̣̇ (*IG* V,2 343.31–32), συγγραφο̣̇ν̣̇ (*IG* V,2 6.53), and γ]ραφης (*IG* V,2 8.4), whereas γροφεύς is only known from Koine texts.[97] 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 from another dialect. 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.[98]
– The form αρσενα 'male' (*Lex sacra* from Tegea, 4th c., Dubois I, 80; II, 34 ff.) cannot be used as evidence, because the genuine Arcadian form with -ρρ- < -ρσ- is reflected in τορρεντερον and ορεν (see above). Consequently, αρσενα must be a literary or Koine form.[99]

3.4.5 *Conclusions on Arcado-Cyprian and Achaean*

As Haug (2002) has convincingly shown, Morpurgo Davies was mistaken in positing a regular vocalization **r̥* > -αρ-, -ρα- for Arcadian. The forms παναγορσις and τετορτος, and now also παναγορι and ορεν in the festival calendar, clearly show that the *o*-colored reflex was regular in this dialect also in non-labial environments. The *o*-vowel of εφθορκως further supports for this conclusion. The situation in Cyprian is a bit less clear, but here too, the gloss κορζία and the verbal form *ka-te-wo-ro-ko-ne* point to regular *o*-coloring. The gloss εὐτρόσσεσθαι and the PN *to-ro-su-ta-mo* support this conclusion.

As for the vowel slot, Arcadian τετορτος can only point to a regular and unconditioned vocalization to -ορ-. The same outcome is found in παναγορ-

97 According to Minon (2007: 301–302), the Elean alphabet was taken over 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?

98 Haug (2002: 61) proposes to assume influence of the present stem of δράσσομαι < **drn̥gʰ-* on δαρχμα in Arcadian and Aeolic, but this does not explain the deviating vowel slot in comparison with Class. δραχμή. One might therefore think that δραχμή underwent the influence of the present stem, while δαρχμα, δαρχνα contain the regular outcome of PGr. **dr̥kʰmnā*. See section 9.2.1.

99 *Pace* Morpurgo Davies (1968: 796), whose speculations on geographically different treatment of *-rs-* are not supported by the evidence; cf. Dubois (1988: 80–83), who argues that -ρρ- is found until the late 5th c., and that it later developed (from the 4th c. onwards) into a form with compensatory lengthening.

σις (παναγορις), ορεν (τορρεντερον) and Στορπαο, although it must be noted that Στορπαο has no clear etymology, that ορεν is a unique example for *$\underset{\circ}{r}$- in word-initial position, and that the vowel slot in παναγορ(σ)ις may have been influenced by that of the full grade form. In order to determine the regular vowel slot in Cyprian, we have to rely on glosses in view of the nature of the Cyprian syllabary. The evidence is meagre: κορζία points to -ορ-, and εὐτρόσσεσθαι to -ρο-, but the latter form might be analogical.

Although the evidence is less extensive, 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 reliable evidence for *o*-vocalism.[100] In view of these similarities, one could be tempted to reconstruct a Proto-Achaean vocalization *$\underset{\circ}{r}$ > *-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 *$\underset{\circ}{r}$ (chapter 2), and the forms *tu-ka-ṭạ-ṣị* and *ạ-na-qo-ta* perhaps support this (cf. section 2.4). Furthermore, a Cyprian outcome *-ro-* cannot be completely excluded on the basis of our evidence. It thus remains unclear whether Mycenaean and Cyprian had an outcome *-or-* in the first place.

If Mycenaean did preserve *$\underset{\circ}{r}$, 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 Peloponnese. The Cyprian reflex (if it was indeed *-or-*) may then be an isogloss with Arcadian, but since a development to *-or-* is phonetically more natural than a development to *-ro-*, an independent vocalization in both dialects is difficult to exclude.

3.5 Pamphylian

The view that Pamphylian, like Cretan, could undergo liquid metathesis has been codified in Brixhe's grammar (1976: 61–63). He adduces five items as evidence:

– PN Αφορδισιιυς, Φορδισιιυς ~ Hom. Ἀφροδίτη, Cret. Αφορδιτα;
– PN Πορσοπα, corresponding to a hypothetical Ionic name *Προσώπης 'Face';[101]
– Πρειιας, Πρειϝυς, Πρεεως ~ Ion. Πέργη;
– περτ- ~ Ion.-Att. πρός, Hom. προτί, Cret. πορτι;

100 The regular outcome of *$\underset{\circ}{l}$ is unclear in all three dialects.

101 Brixhe's comment, "qui sans doute est une forme partiellement extra-dialectale pour *Προσόπα" (1976: 61), is difficult to understand. Does he mean that the liquid metathesis points to extra-dialectal origin?

– Στλεγιυς, Εστλεγιυς, supposed to derive from a pre-form **sleg-* with *t*-epenthesis ~ non-Pamph. Σέλγη.[102]

In Brixhe's view, these five forms show that liquid metathesis may work in both directions, and that the phenomenon affected not only the outcome of **r̥* or **l̥*, but also other sequences consisting of a vowel and liquid.

Upon closer consideration, however, these claims appear to be unfounded. The toponym Pamph. Πρειια < *Πρεγα alternates with Πέργη in Ionic, and the ethnic designation Στλεγιυς denotes an inhabitant of the town called Σέλγη in Ionic. Rather than proving metathesis, the alternations suggest that the Anatolian place names contained syllabic liquids in the donor language, and that these sounds were vocalized in two different ways in the Greek dialects in Asia Minor. This scenario is confirmed by the reflexes of the self-designation of the Lycians, not cited by Brixhe in this context. The Lycian form *trm̃mili-* probably represents /tr̥mili-/, at least originally.[103] The Ionic counterpart is Τερμίλαι (Hdt. 1.173, 7.92, a form also attested epigraphically in Pisidia), but Pamphylian also shows the form Τρεμιλας in a PN derived from the ethnonym. This exactly mirrors the distribution found in Pamph. Πρειια ~ Ion. Πέργη and in Pamph. Στλεγιυς ~ Ion. Σέλγη. Thus, certain sounds in names of Anatolian origin are reflected as -ερ-, -ελ- in Ionic, but as -ρε-, -λε- in Pamphylian. Moreover, since an Anatolian pre-form with **r̥* is ascertained in Lycian *trm̃mili-*, we may hypothesize that the other toponyms were also borrowed from a language with syllabic *l̥* and *r̥*. I propose the following scenario.[104] When the borrowing into Pamphylian and Ionic took place, inherited PGr. **l̥* and **r̥* had already vocalized in these dialects. The sounds *l̥* and *r̥* from the donor language were initially rendered as [əl], [ər] in Ionic, but as [lə], [rə] in Pamphylian. Subsequently, the *shwa* in these renderings was identified as the phoneme spelled ⟨ε⟩ in both dialects.[105]

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102 Brixhe (1976: 62) further mentions the forms κεκραμενος, Τρεκουδας, Θρεκουδας, and Στρατοκλιτους. An uncertain piece of evidence is the gloss κορτάφοις· ⟨κροτάφοις⟩ ὑπὸ Περγαίων (Hsch. κ 3659 L-C), which is an emendation by Latte of κοράφοις ὑποπαργαίων in the codex.

103 Melchert (2004: 595) thinks that an anaptyctic vowel had developed before syllabic nasals and liquids in attested Lycian spellings like *hrppi* [hərp.pi], as this would explain the use of a geminate spelling *-pp-*.

104 This scenario was proposed also in Van Beek 2013. Skelton (2017: 113), apparently without having seen my dissertation, also concludes from the forms Πρειιας, Στλεγιυς, and Τρεμιλας that they were taken from a Lycian-like Anatolian language with syllabic liquids. However, her claim that Pamphylian speakers still pronounced these syllabic liquids, and that ρε is an attempt to render this in Greek alphabet, is clearly untenable: in this way one cannot explain the emergence of an epenthetic stop in Στλεγιυς.

105 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-*).

Leaving aside these ethnonyms and toponyms, the potential evidence for inherited Greek *$\mathring{r}$ consists of the forms περτ-, Αφορδισιυς, and Πορσοπα. As we have seen in our discussion of the Cretan material, it is conceivable that both πορτι and Αφορδιτα derive from a pre-form with syllabic liquid; and in chapters 6 and 7 we will encounter metrical evidence that supports this claim. This means that the outcome of *$\mathring{r}$ in Pamphylian (at least after labials) was -ορ-.[106] However, in this way the form περτ- for προτί would remain unexplained. Assuming liquid metathesis from PGr. **preti*, as *per* Brixhe, has the disadvantage that an *e*-grade form of this preposition is not directly attested anywhere else in Greek. Bechtel (1921–1924, II: 820) proposed that περτι reflects **porti* < **pṛti* in proclitic contexts, which deserves consideration. Wyatt (1978) suggested that περτι might be a cross between περί and ποτί.

In sum, there is not enough evidence to draw firm conclusions about the outcome of *$\mathring{r}$ or *$\mathring{l}$ in Pamphylian. If my scenario for the origin of Homeric *muta cum liquida* scansions (chapters 6 and 7) is correct, Αφορδισιυς and Πορσοπα are suggestive of a development *$\mathring{r}$ > ορ at least after labial consonants. However, the difference in vocalism between περτ- and Πορσοπα would still remain problematic (there is no compelling reason to assume that the former reflects **preti* with liquid metathesis); in general, the inherited material is too scanty to allow for a definite conclusion. It is clear, on the other hand, that syllabic liquids in words borrowed from Lycian and related Anatolian languages are reflected as -ρε- and -λε- in Pamphylian.

3.6 Conclusions

In chapter 2, it appeared that either *-or-* or preserved *-$\mathring{r}$-* is the regular reflex of *$\mathring{r}$ in Mycenaean. A scrutiny of the epigraphic evidence for the first millennium dialects (with the exception of Ionic-Attic dialects) has yielded the following results:

– Arcadian τετορτος 'fourth' shows that this dialect has an *o*-colored reflex even in non-labial environments, and that the anaptyctic vowel regularly devel-

106 Skelton (2017: 113) suggests that the spellings περτ' and Αφορδισιυς may actually "represent an attempt to write a syllabic liquid", but this seems risky in view of the scanty evidence. She also asserts that the forms "could very well have come from Cretan", which would fit the foundation myth reported by Herodotus (1.173) "that the Lycian Sarpedon led a group of Cretans to settle in Lycia." (Skelton 2017: 110). However, as she equally admits, the difference between περτ' and Cretan πορτι "requires some explanation".

ops before the liquid. As far as the vowel color is concerned, this conclusion is corroborated by the forms παναγορ(σ)ις 'assembly' and ορεν / τορρεντερον 'male'.

- In Cyprian, the verbal form *ka-te-wo-ro-ko-ne* 'they beleaguered' and the personal name *to-ro-su-ta-mo-se* display a regular *o*-colored reflex, the latter in a non-labial environment. The vowel color is supported by the forms κορζία 'heart' and εὐτρόσσεσθαι attested for Paphos in Hesychius, and there is no secure evidence for an *a*-colored outcome. However, the regular vowel slot remains uncertain in view of the orthographical ambiguity of the syllabary.
- The Aeolic dialects have regular *o*-coloring and develop the vowel after the liquid. This appears most clearly from Lesbian and Boeotian. The conclusions for Lesbian rely heavily on evidence from literary sources, but this is relatively clear-cut and is backed up by evidence from inscriptions. The Thessalian evidence is less conclusive: πετροτος 'fourth' may point in the same direction, but numeral forms are generally difficult to evaluate because analogical remodeling may have played a role.
- Central Cretan did not undergo a liquid metathesis, as is widely believed, but developed the vowel before the liquid. The regular reflex in Cretan dialects is -αρ-, and probably -ορ- after a labial consonant.[107] The situation on Thera (and in its colony Cyrene) seems to be similar, but the evidence is slight and consists mainly of personal names.
- The situation in most other West Greek dialects is similar to that in Ionic-Attic (general *a*-coloring), but the precise details may differ per dialect, and the evidence is often too scanty to allow for solid conclusions. In Elis (βρατάναν 'ladle', βρατάνει 'stirs' in Hesychius) and Syracuse (middle pf. ἔμβραται 'is fated', aor. ἔπραδες 'farted') there is some evidence for -ρα- as a regular reflex. The divergence between Central Cretan on the one hand, and the dialects of Elis and Syracuse on the other, shows that **r̥* had not yet vocalized in Proto-West Greek. The situation in other West Greek dialects could benefit from a more detailed investigation.
- There is no clear evidence for the outcome of PGr. **r̥* in Pamphylian, nor any compelling evidence for liquid metathesis in this dialect.

More generally, the results of this chapter can be summarized as follows. First of all, not all Greek dialects developed a vowel *after* the liquid, nor was there a fluctuation between both positions. Rather, the evidence suggests that in each

107 In chapters 6 and 7, I will argue that Epic Greek had a special reflex **r̥* > -ρα-, but -ρο- after a labial consonant. The conditions for this change are the same as in Cretan, but the outcome is different. I therefore see no reason to assume a special relation between the Cretan development and that of Epic Greek.

individual dialect, there was only one regular position where the anaptyctic vowel developed. It developed after the liquid in Proto-Aeolic and some West Greek dialects, but before the liquid in Central Cretan and Arcadian. Secondly, Aeolic, Arcadian and Cypriot have unconditioned *o*-colored reflexes, but Central Cretan probably shows a conditioned outcome (ορ after labial sounds, αρ elsewhere).

CHAPTER 4

Reflexes of *$\mathring{r}$ and *$\mathring{l}$ in 'Caland' Formations

Introduction

In chapter 2, it was argued that an analogical account of the vocalism of τέταρτος runs into problems. Moreover, in chapter 1 καρτερός and ταρφύς have been identified as problematic forms for the idea that -ρα- is the regular reflex of word-internal *$\mathring{r}$ in Ionic-Attic. I therefore hypothesize that the regular Ionic-Attic reflex is -αρ-. This means that a considerable number of forms with -ρα- < *$\mathring{r}$ must be accounted for. This is the objective of chapters 4 till 9.

Within this context, it is of the utmost importance to systematically examine the analogical processes that may have influenced forms with -ρα- and -αρ-. In this chapter, I discuss forms with -ρα- and -αρ- belonging the so-called 'Caland system'.[1] I will first give a descriptive overview of this system from a Greek point of view, focusing on reconstructible ablaut patterns (section 4.1) and the productivity of derivations (section 4.2). After that, a detailed account of the reflexes of *$\mathring{r}$ and *$\mathring{l}$ in individual formations, notably *u*-stem adjectives (sections 4.3 to 4.5), will be given. The etymological family of καρτερός, κράτος and related forms is treated separately in chapter 5.

4.1 The Root Vocalism of 'Caland' Formations in Greek and PIE

According to Caland's original formulation of the phenomenon that bears his name, Indo-Iranian adjectives in *-ra-*, *-ma-*, or *-ant-* replace these suffixes with *-i-* when appearing as a first compound member.[2] Caland's prime examples from Avestan included *dərəzra-* 'firm' beside *dərəzi-raθa-* 'having a firm chariot', and *xrūra-* 'bloody' beside *xruui-dru-* 'having a bloody weapon'. Wackernagel (1897) then extended the substitution rule from Indo-Iranian to Greek, adducing cases like κυδρός 'glorious' beside κυδι-άνειρα 'bringing fame to men'. Crucially, he argued that the phenomenon is inherited from PIE in

1 For introductions to the Caland system of derivational morphology, the reader is referred to Meissner (2006) and Rau (2009).

2 The following paragraphs on the history of scholarship on Caland's Law and the Caland system closely follow Meissner's overview (2006: 14–16). See there for a full discussion of all scholars who significantly contributed to the subject.

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view of the equation Ved. *ŗjí-śvan-* PN "who has swift dogs" beside ἀργι-κέραυνος 'with bright/swift lightning' (*Il.*+) and ἀργίποδας κύνας 'swift-footed dogs' (*Il.* 24.211; cf. also Hom. κύνες ἀργοί and κύνες πόδας ἀργοί).[3] Furthermore, Wackernagel remarked that other suffixes participated in the alternation as well: notably *s*-stems (ἐν-αργής 'bright' beside ἀργι-, κῦδος 'glory' beside κυδρός) and *u*-stem adjectives (Ved. *ŗjú-* 'straight' beside *ŗjí-pya-* 'flying straight', epithet of the eagle).[4]

Although the use of *-*i-* as a compounding allomorph of *-*ro-* played a key role in the discovery of 'Caland' morphology, this archaic substitution rule has lost its central place in more recent discussions. Scholars like Risch and Nussbaum have stressed that 'Caland' morphology is primarily a *system* of regularly alternating affixes that must be studied as a historically developing entity, with its own dynamics in the individual languages. Thus, Meissner speaks of the 'Caland system' as a "regular and well-defined set of correspondences of derivational affixes" (2006: 3).[5] What is remarkable about these correspondences is that roots which combine with 'Caland suffixes' do not normally take other derivational suffixes (such as *-*ti-*, *-*mn̥-*).

In Greek, a model 'Caland system' consists of a primary adjective (often in -ύς or -ρός, though other suffixes are possible too), forms of comparison in -ίων and -ιστος, compounded adjectives in -ης, and a neuter noun in -ος.[6] Sometimes, a compounding first member in -ι- is found. Thus, the following Greek forms containing the root κυδ- are attested:

– Adj. κυδ-ρός
– Comp. κῡδ-ίων, superl. κύδ-ιστος
– Neuter abstract κῦδ-ος
– Cpd. ἐρι-κῡδ-ής
– Cpd. κῡδ-ι-άνειρα.

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3 Wackernagel also claimed that ἀργός originated from **arg-ró-* by dissimilation; this has in more recent times been doubted by Nussbaum; see Vine (2011) for discussion.

4 As Meissner (2006: 11–14) shows, this discovery had already been made by Parmentier (1889), who was actually the first to recognize the systematic nature of the alternations involved, but only failed to see that *-*i-* in compounding first members also took part in the alternations.

5 The term 'Caland system' was coined by Nussbaum (1976: 5). Rau, closely following Nussbaum, speaks of "a certain subset of IE roots that take a more or less well-defined subset of IE nominal suffixes that stand in a close derivational relationship and can be thought of as mutually implying one another" (2009: 70).

6 Cf. Meissner (2006: 18), although he does not include the comparative and superlative forms in the Caland alternations, because "the more we go back in time the more universal the use of the inherited suffix *-*i̯os-* for the comparative becomes".

From a Greek point of view, these suffixes (as well as adverbial -α, on which see section 5.2.9) can be called 'central', as opposed to 'marginal' suffixes (such as -νό- and -μο-).[7] In addition, several verbal formations have close ties to these nominal forms. In Greek, these are notably the stative verbs in -έω (with a Homeric aorist in -ησ-) and the factitive verbs in -ύνω and/or -αίνω. The only Greek root to attest all nominal and verbal formations just mentioned is that of κράτος 'might'; derivations from this root will be extensively discussed in chapter 5. Most Greek 'Caland' roots, however, have one or several gaps in their 'system'.

Already before our first attestations, many Greek 'Caland' roots generalized one root vowel throughout the entire system of derivations.[8] Thus, beside the adjective ταχύς 'quick, swift', we find a comparative θάσσων, a superlative τάχιστος, a neuter abstract τάχος 'speed', and an adverb τάχα, all of which are attested from Homer onwards. As we will see below, there are good arguments for reconstructing an original non-ablauting *e*-grade root in the forms of comparison and in the neuter abstract, at least for the variety of late PIE from which Proto-Greek developed.[9] This suggests that the forms θάσσων, τάχιστος, and τάχος were influenced in their root vocalism by the positive ταχύς, which can be considered the basic formation.

A second example is furnished by the following Greek forms derived from the PIE root **pleth$_2$-*: πλατύς 'wide', πλάτος 'flat open surface', and compounds in -πλατής. An *e*-grade root would be expected in the *s*-stem noun and adjective (cf. Ved. *práthas-*),[10] but again, Greek has forms with *a*-vocalism. The system has clearly been reshaped on the basis of the adjective.[11]

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7 The terminology is that of Nussbaum (1976: 6). For the root κυδ- in question, another positive κυδνός is found beside κυδρός, but first in Hesiod. In the following discussion, I will leave most 'marginal' Caland suffixes out of consideration, though some instances (such as -αλέος) will treated in more detail.

8 See Meissner (2006: 71).

9 The old strong stem of ταχύς may well have been **t^{h}āk^{h}-*, in view of the Eretrian PN Τήχιπος "with swift horses" (first connected with ταχύς by Bechtel; cf. *GEW*, *DELG*). This interpretation is appealing in view of the Homeric phrases ταχέ' ἵππω and ταχέες δ' ἵππῆες. The alternative etymology advocated by Lamberterie (1990: 584–590) seems less attractive to me.

10 The form πλαταμών 'flat stone or rock' (with root-final -α- < **h$_2$*) does not belong to the Caland system in Greek, but it has an immediate formal counterpart in Ved. *prathimán-* 'extension'. As a morphologically isolated and lexicalized item, πλαταμών must be of considerable antiquity. On the basis of the comparison with Ved. *prathimán-*, a PIE pre-form **pleth$_2$-món-* has been reconstructed (cf. *NIL* 564). However, as Jesse Lundquist points out to me, the latter form may well be of inner-Vedic date (created as an alternative for the older abstract formation *práthas-*; the Vedic form is discussed by Rau 2009: 121, 133). Consequently, one might also derive πλαταμών from PIE **pl̥th$_2$-món-*.

11 A possible reflex of the full grade **pleth$_2$-* in Greek has been identified by Blanc (2012) in

These fairly trivial examples teach us that nominal forms with -ρα-, -λα- or -αρ-, -αλ- need not (or do not) directly continue a pre-form with *$\mathring{r}$ or *$\mathring{l}$. Thus, in order to judge the provenance of Caland forms and their pertinence as evidence for the regular reflex of *$\mathring{r}$ or *$\mathring{l}$, we must first obtain a clearer picture of the expected ablaut paradigms, in PIE and in early Greek, of the formations involved. Before turning to the reconstruction of these paradigms, however, an important *caveat* must be made. Many Caland roots are considered to be primarily adjectival or nominal, either because verbal forms are unattested or because they are morphologically marked (with suffixes like *-*eh*$_1$-).[12] The root of ταχύς offers an illustrative example. However, as stressed by Lamberterie (1990: 38–39), many IE languages have examples of deverbal *u*-stem adjectives; in these cases, influence of verbal forms on the root shape of the adjective (and other nominal fomations) must be reckoned with. For instance, Lith. *platùs* 'extended' beside *iš-plečiù* 'I stretch out' follows the model of e.g. *badùs* 'sharp' beside *bedù* 'I sting'. An important consequence of this observation is that forms like Lith. *platùs* do not allow us to reconstruct an *o*-grade root allomorph in the PIE *u*-stem adjectives.[13]

Within Greek, too, there is some evidence for the derivation of *u*-stem adjectives from intransitive verbs. Lamberterie (1990: 414–417 and 542–544, cf. 957) adduces the examples Hom. βριθύς 'heavy' (from Hom. βρίθω, βέβριθα 'to be heavy') and Hom.+ τρηχύς 'rough' (beside Hom. τάρασσω 'to stir up', pf. τέτρηχα 'to be in upheaval'). Risch (1974: 65), too, observed that Caland forms are often derived from verbs, quoting ἐλέγχω 'to put to shame', ἔλεγχος 'disgrace', superl. ἐλέγχιστος 'most shameful'. More recently, Meissner (2006: 186–197) has demonstrated that Greek *s*-stem adjectives are frequently derived from intransitive verbal formations like the aorist in -ην and (following Tucker 1990) from stative verbs in *-*ē*-, and Blanc (2018) has adduced abundant evidence for -ης as a general deverbal compound suffix.[14]

It was thought for a long time that such deverbal Caland formations were innovations of Greek. However, Rau shows that a deverbal origin can also be assumed for a large number of Caland adjectives in Indo-Iranian, where "the

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ἄπλετος 'immense', which he derives from *$s\mathring{m}$-*pleth*$_2$-*eto*-, a doublet of *$s\mathring{m}$-*pleth*$_2$-*es*- as reflected in Ved. *sáprathas*- 'extended'.

12 Balles, who is followed in this by Rau (2009) and various other scholars, has introduced into Indo-European Linguistics the descriptive framework developed by Dixon (1982). According to this view, most Caland adjectives belong to the class of 'property concept adjectives', i.e. they "predicate some non-verbal and non-relational property concept state" (Rau 2009: 78). Typical examples are adjectives for dimensions, physical properties, and speed.

13 As was done by Kuiper (1942: 55), who compared neuter nouns of the type *dór-u*, **dr-éu-s*.

14 For the deverbal nature of adjectives in -ρός, see now Van Beek 2021a.

vast majority of Caland system adjectives (…) pair with stative/inchoative and factitive formations that are to all appearances primary" (2009: 138–139). Frequently, the primary verb is a full-grade thematic formation, mostly an intransitive middle, sometimes accompanied by a secondary causative active form. In the example used earlier, PIE **pleth$_2$-*, Vedic has an intransitive primary verb *práthate* 'spreads'. In Greek, too, many individual Caland systems stand beside primary thematic middle presents (see the overview in Rau 2009: 152–155). Cases of interest in the present context are primary τρέφομαι 'to coagulate, grow fat' (cf. ταρφύς 'thick, numerous', τραφερός 'thick, solid') and μέλδομαι 'to become soft' (cf. βλαδύς* 'weak').[15] Clearly, such cases are archaisms: it was no longer possible to derive an adjective in -ύς within Greek.

After these preliminary remarks, let us consider in more detail the ablaut paradigm of the most important primary formations: *u*-stem adjectives, forms of comparison, and *s*-stem nouns and adjectives.

4.1.1 *The u-stem Adjectives*

In Greek *u*-stem adjectives we generally find a zero-grade root and suffixal ablaut. For instance, the suffix of βαρύς 'heavy' is -υ- in the nom.-acc. sg. of the masculine and neuter, and reflects **-eu̯-* elsewhere in the paradigm. A similar situation is reflected in cognate Indo-Iranian adjectives of the type *urú-* 'wide', *pṛthú-* 'broad', in which the suffix of the m. and n. oblique stem derives from **-eu̯-*. Since this type of suffix ablaut is at home in the proterodynamic (PD) accent/ablaut-paradigm, the reconstruction of a regular PD *u*-stem adjectival paradigm for PIE (including root ablaut, i.e. strong stem **CéRC-u-*, weak stem **CRC-éu-*) is widely accepted.[16]

Since this ablaut pattern could play an important role in accounting for the root vocalism of adjectives like κρατύς, πλατύς, etc., let us first review the reasons for reconstructing it. Within Greek, an important piece of evidence is δασύς 'hairy; densely grown'. The main question here is how to explain the retention of intervocalic -σ-; this 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.[17] The formation is clearly inherited, because a stem **dn̥s-u-* is also presupposed by

15 See sections 4.3 and 4.4 on these words.

16 See e.g. Fischer (1991), Rix (1992: 123 and 147), Meissner (2006: 35), Beekes (2011: 221). However, the acceptance is not universal: a different view is expressed by Lamberterie (1990, e.g. 953), who argues that instances of a full grade root in *u*-stem adjectives were introduced from coexisting verbal forms.

17 Szemerényi accepts Meillet's view "that -σ-, earlier -σσ-, is due to expressivity", while deriving δαυλός from **dn̥sulo-*. This view is accepted by Lamberterie (1990: 702).

the near-synonym δαυλός (or perhaps rather δαῦλος) 'dense, hairy, shaggy' < *dn̥s-u-ló-.[18] In Latin we find *dēnsus* 'thick, dense', and Hittite has *daššu-* 'strong, powerful; heavy, well-fed; difficult, important' (among other meanings). The latter form is important because its geminate *-šš-* can only be explained if we reconstruct **déns-u-* rather than **dn̥s-u-* (EDHIL, s.v. *daššu-*). Like the verbal forms δαῆναι 'to learn', δέδαε 'taught', and the relic first compound member of δαΐφρων 'prudent', δαυλός shows that PGr. **-n̥sV-* was regularly lenited to **-n̥hV-*. This makes the retention of *-σ-* in δασύς an even more urgent problem.

The retention can be explained, however, if we suppose that δασύς continues an ablauting paradigm **déns-u-*, **dn̥s-éu̯-*,[19] and that intervocalic **-s-* was lenited earlier than intervocalic **-Ns-*. In this case, **dn̥h-eu̯-* could be restored to **dn̥s-eu̯-* on the basis of the strong stem **dens-u-*. In δαυλός, on the other hand, the *-s-* was not restored, presumably because the paradigm did not have ablaut. Thus, the pair δασύς beside δαυλός provides indirect evidence that *u*-stem adjectives preserved paradigmatic root ablaut in Proto-Greek; in addition, the presence of an *e*-grade in the PIE paradigm is proven by Hittite *daššu-*.

There is some further suggestive Greek evidence for the presence of forms with an *e*-grade root within the original paradigm. Willi (2002) attractively derives Att. εὐθύς 'straight at' and Ion. (Hom.+) ἰθύς 'id.' from a single preform PGr. **i̯eut^{h}u-*.[20] He compares this Proto-Greek form with Lith. *judùs* 'belligerent'[21] and derives both from the verbal root **(H)i̯eud^{h}-* 'to go straight at', reflected in Ved. *yudh* 'to fight', Lat. *iubeō* 'to order' (OLat. *ioubeō* 'to sanction'), Lith. *jùsti* 'to get moving', *judéti* 'to be agile, stir (intr.)'.[22] Since this verbal root is unattested in Greek, it is likely that forms with *e*-grade root were originally present in the paradigm, i.e. PIE **(H)i̯éud^{h}-u-*, **(H)i̯ud^{h}-éu-*.

As for PIE **su̯eh$_2$d-u-* 'agreeable, tasty', all IE languages that continue this formation agree in showing the reflex of a full grade root: Gr. ἡδύς, Ved. *svādú-*, Lat. *suāvis*, OE *swōt*, etc. Since zero grade forms of this root are found in Vedic (caus. *sūdáyati* 'to make acceptable', *sū́da-* 'sweetness'), we know that it could undergo

18 On δαυλός vs. δαῦλος, see Radt (1982; 1994), who argues that the barytone accentuation is old; but according to Probert (2006: 368) "the case is by no means clear-cut". For the reconstruction, see Lamberterie (1990: 702), GEW and DELG (both s.v. δαυλός).

19 For this idea, see also Nikolaev (2010: 238–239, 241, with references to earlier literature).

20 With dissimilation to **eit^{h}u-* in Ionic, the intermediary stage **eit^{h}u-* being attested in the derivative ειθυ[νη]ν 'fine' (Chios, 5th c.); see Willi (2002: 129).

21 The correctness of this identification with Lith. *judùs* is suggested by Homeric phraseology: ἰθὺς μάχεσθαι means 'to fight face to face'.

22 Willi, however, explains the full grade of PGr. **i̯eut^{h}u-* by assuming that it replaced the (in his view expected) outcome **ὐθύς < **(H)i̯ud^{h}ú-* on euphonic grounds. This seems an emergency solution to me.

ablaut in the proto-language.[23] The question remains whether one can exclude that the lexical entry **sṷeh₂d-u-* had a non-ablauting root already in the particular chronological phase that corresponds to reconstructed PIE. In my view, the most natural scenario would be to reconstruct a PD paradigm for PIE itself, with subsequent generalization of the full grade root in the daughter languages. Indeed, there would have been a clear motive for this generalization. After the loss of laryngeals, the outcome of the zero grade **suh₂d-* was **sūd-* in most languages; and since the resulting ablaut **sṷād-* : **sūd-* was anomalous, it would not be surprising if all daughter languages eliminated it independently.[24] One also wonders whether the vocalism of ἡδύς was perhaps influenced by the primary thematic verb underlying ἥδομαι 'to enjoy oneself' (cf. Ved. *svádate*, *svā́date* 'to become tasty'). This explanation is conceivable for Greek, but it is less evident for most other branches that have a trace of **sṷeh₂d-u-*, as they show no trace of the primary verb. We must therefore assume that the PIE adjective contained an *e*-grade root at least in the strong case forms.

In various different daughter languages, there are scattered remains of original *u*-stem adjectives with an *e*-grade root. Examples:

– Lat. *brevis* 'short' < **mreǵʰṷi-* << **mréǵʰ-u-*;[25]
– Lat. *gravis* 'heavy; important' < **gʷraṷ-* plus *-i-* << **gʷreh₂-u-*;[26]
– Arm. *metʻk* 'soft' < **meldṷi-* << **meld-u-* 'weak; soft';[27]
– Hitt. *tḗpu-* 'little, few' < **dʰébʰ-u-*.[28]

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23 The Vedic forms with *guṇa* root (pres. *svádati*, caus. *svadáyati*) can be explained by Lubotsky's Law (Lubotsky 1981).

24 It is even possible that a trace of **suh₂d-u-* is found in Goth. *sutis* 'quiet, peaceful', but there are various problems with this idea: see Lamberterie (1990: 487–489) with further literature.

25 See Fischer 1982 and 1991. I do not consider it likely that the root vocalism of *brevis* was taken over from the comparative *brevior* (Sihler 1995: 358); one expects the base form (adjective) to influence the derivative (comparative). This is in fact precisely what happened in Latin, because comparatives like *brevior* contain the **-u-* of the positive.

26 For this reconstruction of Lat. *gravis*, see Fischer (1982), Nussbaum (1976: 41, 68). Greek βαρύς, Ved. *gurú-*, Av. *gouru-*, Goth. *kaurus* (etc.) all point to a zero grade root **gʷrH-u-*.

27 For this reconstruction and for different possibilities, see NIL 483–484. A zero grade root is found in Ved. *mṛdú-* 'soft, weak', Gr. βλαδεῖς (see section 4.4) and other cognates. The reconstruction of Lat. *mollis* 'weak; soft' is debated. Nussbaum (1976: 67) claims that **mḷdṷi-* would turn up as Latin **molluis*, and concludes from this that the pre-form of *mollis* must have been **mḷd-i-*. I fail to see, however, how the alternative reconstruction **meldu-* plus *-i-* can be excluded: in **meldṷi-*, with a larger consonant cluster, the *d* may well have been lost before the development of intervocalic *-dṷ-* to *-ṷ-* (as in *suāvis*) took place. In that case, the development was **meldṷi-* > **melṷi-* > **melli-* > **molli-*. Thus, Lat. *mollis* possibly represents an old *e*-grade, too.

28 See Kloekhorst 2014: 184 on the distribution between plene and non-plene spellings in *tepu-*.

Like εὐθύς in Greek, these forms can be taken as evidence for the presence of an *e*-grade root somewhere in the original *u*-stem paradigm. It must be granted, however, that the evidence is indirect. As for Lat. *brevis* and *gravis*, the exact derivational history of this type of Latin *i*-stems is disputed,[29] but in my view it cannot be doubted that the type ultimately developed from PIE *u*-stem adjectives, as there are too many precise lexical correspondences between Latin and the other languages. Thus, the Latin forms can be taken as evidence for proterodynamic ablaut (with Fischer 1991: 7).

In sum, the case of δασύς (and δαυλός) beside Hitt. *daššu-* suggests that *u*-stem adjectives had PD inflection with root ablaut in PIE. Additional corroboration comes from εὐθύς, *$s\underline{u}eh_2d$-*u*-, and outside Greek from cases like Lat. *brevis*. If the explanation proposed here for the retained sibilant in δασύς is correct, it proves that the root ablaut was retained up till Proto-Greek.

In Van Beek 2013, I went one step further, assuming that the root ablaut was retained as late as Proto-Ionic. I used this to argue for an analogical origin of the reflex -ρα- in Greek adjectives like βραχύς. When the weak stem *$m\mathring{r}k^h\acute{e}\underline{u}$- vocalized as *$mark^h\acute{e}\underline{u}$-, it would have been analogically changed into *$mrak^h\acute{e}\underline{u}$- under influence of the strong stem *$mrék^hu$-, after which it would have ousted the latter. This assumption is rather costly, however, and in section 4.3.3 I will propose to account for the leveled zero-grade reflex in an alternative way, by means of influence of the forms of comparison.

4.1.2 *Primary Comparatives and Superlatives*

The reconstruction of the so-called primary comparatives and superlatives is important for our purposes for more than one reason: the formations are unproductive in Greek, and their root vocalism shows traces of ablaut with respect to the positive. As we will see, a fair amount of analogical reshaping must have taken place in these formations at a relatively shallow time-depth.

According to the most widespread view,[30] PIE primary comparatives had an *e*-grade root with ablaut in the suffix, whereas primary superlatives regularly had a zero grade root. This is motivated as follows by Schwyzer (1939: 538):

> Die Wurzel hatte ursprünglich bei den Komparativen mit -ίων Starkstufe, bei den Superlativen auf -ιστος Schwachstufe, z.B. κρατύς, κρέσσων (wie

29 Nussbaum (1976: 67–68) explained Lat. *-vi-* as a complex suffix consisting of the 'central' suffixes *-u-* and *-i-*. In more recent times, however, he has revoked this idea (cf. Weiss 2009: 315).

30 It is found, for instance, in Meier-Brügger (1992a: 84, less explicitly 2010: 357–358), Rix (1992: 168), Chantraine (1961: 109–110).

> 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 (…).

In Schwyzer's view, the case of κρέσσων : κράτιστος proves an original difference in root vocalism between the PIE comparative and superlative. In order to maintain this, it must be assumed that some superlatives acquired the *e*-grade root of the comparative at an early date.[31] To this, one may object that the reconstruction of a zero grade root in the superlative is based mainly on κρέσσων : κράτιστος. In Vedic, there is no clear-cut evidence for an ablaut difference between comparative and superlative: both formations regularly have a full grade root.[32] Moreover, the superlative κράτιστος (from earlier **kretisto-*) may in fact have taken over the root vocalism of the positive κρατύς, while the comparative κρέσσων remained untouched by this development.[33] Thus, the only direct piece of evidence for the alleged difference in root ablaut between the PIE comparative and superlative falls away.

Apart from κρέσσων : κράτιστος, Greek has only one other clear instance of an ablaut difference between primary comparative and superlative: μήκιστος 'longest' beside μακρός, comp. μάσσων.[34] The root vocalism of μάσσων may well have been influenced by the positive μακρός, replacing an older **mākḭos-* or

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31 See Ruijgh (1992: 91 n. 50), who speculates that this leveling of ablaut grades could start when instances like comp. **h₂er-ios-* : superl. **h₂r-is-tHo-* developed to PGr. **arḭos-*, **aristo-* by regular sound change.

32 A review of the problem and the history of early research on it can be found in Seiler (1950: 21–22), who does not reach a definite conclusion. The idea that the PIE superlative had a zero grade root comes from Osthoff (1910), who drew attention to the oxytone accentuation of some Vedic superlatives (e.g. *kaniṣṭhá-* 'youngest', *daviṣṭhám* 'far away'). Such forms are probably archaic: in Classical Sanskrit, they are lost or replaced by root-accented forms. However, the final accent of these superlatives is not necessarily related to their root vocalism: even if the suffix was accented (PIE *-tHó-*), the root may have had a full grade, because the PIE superlative (**CeC-is-tHo-* or **-mHo-*) was in all probability derived from the weak stem of the comparative. The latter can be reconstructed as **CeC-is-* on account of forms like Goth. *mais* 'more' < **meh₂-is-*.

33 See chapter 5 for further discussion of these forms.

34 The Attic pairing of a comparative ὀλείζων beside a superlative ὀλίγιστος also looks archaic at first sight. However, given that Homer has ὀλίζων, Attic ὀλείζων is rather to be analyzed as secondarily influenced by its counterpart μείζων (which itself replaces older μέζων). This analysis is confirmed by the fact that Att. ὀλείζων, like μείζων, has a spurious diphthong (see Seiler 1950: 101–103).

**mākios-* (or its outcome).[35] The superlative μήκιστος, on the other hand, is suggestive evidence for an original *e*-grade root in this formation.[36]

It is much more attractive, then, to reconstruct an *e*-grade root for both the comparative and the superlative paradigm. This not only directly explains the Vedic forms, but also accounts for isolated Greek cases like κερδίων 'more profitable, better', κέρδιστος 'most crafty' and πλείων 'more', πλεῖστος 'most' < **pléh₁-ios-*, **pléh₁-ist(H)o-* (beside πολύς 'many, much'). These *e*-grade formations were preserved because they were not (or could not be) influenced by a positive with different root vocalism. The case of κερδίων, κέρδιστος is telling: the older zero-grade root is preserved only in the non-Ionic-Attic form κορδύς· πανοῦργος 'wicked; cunning' (Hsch.), while Ionic-Attic only has κερδαλέος 'wily; profitable' (Hom.+), with a secondary Caland suffix and an *e*-grade that was probably taken from κέρδος. These examples corroborate the idea that zero grade root vocalism normally spread from the positive to the forms of comparison (cf. βαθύς 'deep', superl. βάθιστος, as opposed to the archaism βένθος 'deep place').

A remaining issue concerns the possibility that the PIE comparative had paradigmatic root ablaut. This paradigm is often reconstructed with an accented, non-ablauting *e*-grade root, and its weak stem is supposed to underlie the superlative formation.[37] This matches the situation in Indo-Iranian, e.g. Ved. *ugrá-* 'strong', comp. *ójīyas-*, superl. *ójiṣṭha-*, or *yúvan-* 'young', superl. *yáviṣṭha-*. Root accentuation in the comparative is also required for a pre-stage of Germanic, as indicated by the preserved reflexes of Verner's Law in Goth. *juggs* 'young' ~ comp. *juhiza*, from PGmc. **jungá-*, **júnh-iz-*.

As for suffixal ablaut, it is common to reconstruct the oldest paradigm as having qualitative ablaut: **CéC-i̯os-* versus *C(e)C-i̯és-* (and, in Beekes' view, also **C(e)C-is-*). Indeed, an *e*-grade suffix somewhere in the paradigm would help to

35 The long root vowel of the neuter and adverb μᾶσσον does not derive from **māki̯ōn*, but is secondary; cf. Barber (2013: 169–170).

36 Seiler (1950: 75–76, following Brugmann) thought that μήκιστος was influenced by the neuter *s*-stem μῆκος, but this assumption is both unmotivated and unnecessary. My main objection is that a replacement of a putative *μάκιστος by μήκιστος would distantiate the superlative from comparative μάσσων and positive μακρός (i.e. this analogy would lack all motivation). Besides, it would entail a change in prosodic structure, a problem which does not exist if we assume a replacement of **māki̯ōn* by **maki̯ōn*. It is quite possible that the neuter μῆκος exerted influence on the superlative μήκιστος, but only in the sense that it helped to *preserve* it against the pressure of μακρός, μάσσων.

37 So strong stem **CéC-i̯os-* vs. weak stem **CéC-is-* in the comparative, and **CéC-is-t(H)o-* for the Greek and Indo-Iranian superlative: see Seiler (1950: 21: "Niemand bestreitet dies", with reference to Meillet and Brugmann); Sihler (1995: 358); Weiss (2009: 356).

explain Lithuanian comparatives of the type *gerèsnis* 'better' (to *gẽras* 'good').[38] Another argument is Lat. *maiestās* 'power', which seems based on a Proto-Italic comparative stem **mag-i̯es-*. Finally, the Skt. comparative suffix *-īyas-* does not show the effects of Brugmann's Law and may therefore have to be traced back to **-i̯es-* as well.[39] Still, whatever the exact reconstruction of the PIE paradigm, the Greek comparatives are understood best from a (post-PIE) paradigm nom. **CéC-i̯ōs*, acc. **CéC-i̯os-m*, gen. **CéC-is-os*,[40] because only in this way do the distributions discussed above receive an account.[41]

In conclusion, the vocalism of Greek primary comparative and superlative formations is explained most economically on the assumption that both had a non-ablauting *e*-grade root in (early) Proto-Greek. In most adjectives, the zero grade reflex of the positive subsequently ousted this *e*-grade, which was retained only in a number of relic forms.

4.1.3 *The s-stem Nouns and Adjectives*

As is well known, Schindler (1975) argued that neuter *s*-stem nouns originally had proterodynamic inflection in pre-PIE, i.e. a strong stem **CéC-s* beside a weak stem **CC-és-*. He also sketched a way to derive the standard paradigm to be reconstructed for PIE (nom. **CéC-os*, gen. **CéC-es-os*) from this earlier paradigm. In the late proto-language, the full grade root would have been generalized in most individual *s*-stem neuters, and the root accent was also generalized. Following this reasoning, Stüber (2002: 19) concluded that "für die Grundsprache ein intakter Wurzelablaut angenommen werden muss". Her main addi-

38 Slavic has *-ьs-* (continuing zero grade **-is-*) and Old Prussian has forms deriving from **-is-*, too (cf. Stang 1966: 267–268).

39 See Barber (2013: 157).

40 That is, a paradigm with non-ablauting *e*-grade root and *o*/zero suffix ablaut. In Greek, the suffix allomorph **-is-* was subsequently eliminated in favor of **-ios-*, a process paralleled in other 3rd declension paradigms.

41 In other words, the appearance of *e*-grades and zero grades in Greek forms of comparison is not at all random. I therefore do not share Barber's pessimism (2013: 157–158) regarding the possibility to draw conclusions about the original root ablaut of specific comparative formations in Greek. For instance, when Barber remarks concerning Ion. κρέσσων vs. Doric κάρρων that "it seems arbitrary to give one historical priority over the other on the basis of ablaut grade alone, if there is a good chance that there was some sort of root ablaut alternation in the first instance" (2013: 158), he fails to note that the vocalism of κρέσσων is aberrant within the adjectival paradigm (and is therefore an archaism), whereas that of κάρρων can be easily explained by analogical leveling (see chapter 5 for further details). In other words, while it is theoretically possible to explain κρέσσων beside κάρρων as reflecting original root ablaut in the comparative paradigm, it is much less costly to explain this difference from a paradigm without root ablaut.

tional arguments for this claim are inherited *s*-stems with a zero-grade root that are attested in more than one daughter language (e.g. ῥῖγος 'shiver' beside Lat. *frīgus* 'cold'), and the word for 'mouth' in Hittite.

Within Greek, however, there is no direct proof of root ablaut in the neuter *s*-stems. Important observations on this issue have been made by Meissner (2006). For instance, it has been argued since Brugmann (for references see Meissner 2006: 72) that the coexistence of *s*-stem neuters like πάθος 'experience' and πένθος 'suffering, grief' must reflect a PIE paradigm with root ablaut.[42] However, Meissner convincingly shows (2006: 65–68) how post-Homeric βάθος 'depth' replaces Homeric βένθος, and how πάθος starts to appear at the side of the relic form πένθος. His chronological observations are strengthened by his semantic analysis of the forms: πάθος, derived from the aorist παθεῖν (aided by *s*-stem adjectives like Hom. αἰνοπαθής 'who has experienced terrible things'), has the same broad range of meanings as the verb, whereas πένθος only means 'suffering'; and βάθος functions as a deadjectival abstract to βαθύς, whereas βένθος is a noun with concrete referents. Since πάθος and βάθος are secondary creations, πένθος and βένθος may simply reflect a Proto-Greek paradigm with a non-ablauting root.

In similar cases, it must be borne in mind that neuter *s*-stems could be synchronically derived from verbal roots throughout Greek prehistory. For instance, Stüber (2002: 199–200) discusses the etymology that derives κῆδος 'worry; thing to take care of' (Hom.+) with Goth. *hatis* 'hate' and Welsh *cawdd* 'rage, grief' from an inherited root-ablauting neuter **kéh$_2$d-os*, **kh$_2$d-és-*. This analysis is unfounded because the Greek form can be derived from the verb κήδομαι 'to mourn; take care of' synchronically: such a derivation dispenses us from the task of accounting for the semantic and morphological divergence between κῆδος and the alleged cognate formations. A similar explanation can be given for the zero grade root in ῥῖγος, which stands beside an intransitive verb ῥῑγέω, pf. ἔρριγα 'to shudder at'.

Stüber (2002: 199–200) discusses the case of κῆδος together with two other examples: Indo-Iranian **u̯árH-as-* 'width' beside **úrH-as-* 'breast', and the word for 'mouth' (Hitt. *aiš*, gen. sg. *iššaš*, Ved. ins. sg. *āsā́*, Lat. *ōs*, OIr. *á*). But: "Damit ist allerdings die Zahl derjenigen neutralen *s*-Stämme, für die Wurzelablaut gesichert ist, auch schon erschöpft".[43] Moreover, even if **úrH-as-* 'breast' evi-

42 Likewise, it has been claimed that θάμβος 'stupefaction' beside τάφος 'id.' reflects a paradigm containing the root shapes **d^{h}emb^h-* and **d^{h}m̥b^h-*: cf. Hackstein 2002: 237. On this problematic word, see below.

43 Beside the inherited *s*-stem νέφος 'cloud' (cf. OCS *nebo*, Hitt. *nēpiš*, Ved. *nábhas-*), forms like Ved. *ámbhas* 'water', Arm. *amb* 'cloud' have been interpreted as containing the out-

dently has a claim to antiquity, it would be difficult to exclude that the form **Hu̯árH-as-* arose beside the adj. **HurH-ú-* as a productive adjectival abstract within Proto-Indo-Iranian. Finally, the reconstruction of the Anatolian word for 'mouth' is beset with difficulties (see *EDHIL* s.v. *aiš*). It is therefore likely that PIE (that is, nuclear PIE at least) had already eliminated most, if not all traces of root ablaut in the *s*-stem neuters.

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 comparative 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. Hom. αἰνοπαθής 'who has suffered terrible things'. As Tucker (1990), Meissner (2006) and recently Blanc (2018) have shown in detail, the derivation of *s*-stem compounds from intransitive verbs was productive in Greek. In such derivations, the second compound member naturally took the vocalism of the synchronic verbal stem: thus, αἰνοπαθής was derived from the aor. παθεῖν 'to experience'. This is also the origin of forms with zero grade vocalism in the simplex: πάθος originated as a backformation from compounds like αἰνοπαθής (Meissner 2006: 88). There is no reason, then, to reconstruct root ablaut for PIE *s*-stem adjectives either.

4.2 Analogical Reshaping and Re-derivation

Having reviewed the ablaut schemes to be reconstructed for the relevant formations, we may now embark on a more detailed discussion of forms that have a bearing on the development 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 in more detail how *a*-vocalism of the root spread from these adjectives through entire derivational systems (section 4.2.1), discuss examples of the general tendency of Homeric Greek to avoid *u*-stem adjectives and replace them with new formations (section 4.2.2), and comment on the origin of factitive verbs of the type θαρσύνω (section 4.2.3). The main purpose of these preparatory discussions is

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come of a zero grade root **n̥bʰ-* with a re-introduced nasal. However, since an ablauting root existed in PIE (cf. Ved. *abhrá-* '(thunder-)cloud', Av. *aβra-* 'rain-cloud' < **n̥bʰ-ró-*, Lat. *imber* 'rain (shower)' < **n̥bʰ-ri-*), it cannot be proven that the *s*-stem paradigm originally harbored a zero-grade root allomorph.

TABLE 3 Replacement of *e*-grade 'Caland' forms in Ionic-Attic

Original *e*-grade	**Replaced with *a*-vocalism**
κρέτος (Alc.)	κράτος (Hom.+)
-κρέτης in names (Aeol., Arc.-Cypr.)	ἐπικρατέως, ἀκρατής; Πολυκράτης, etc. (Ion.-Att., Hom.+)
κρέτησαι (Sapph. fr. 20.5, Alc. fr. 351)	κρατέω (Hom.+)
θέρσος (Alc. fr. 206.2)	θάρσος (Hom.+)
Ἁλιθέρσης, Πολυθερσεΐδης (Hom.)	πολυθαρσής (Hom.+)
θέρσεισ' (Theoc. 28.3)	θαρσέω (Hom.+)

to show that many apparent zero grade forms cannot be used to determine the regular outcome of liquid vocalization. Furthermore, it appears that alternations between -αρ- and -ρα- in formations derived from the same root are never random reshufflings: usually a precise model can be indicated for newly formed derivatives.

4.2.1 *The Spread of a-vocalism across 'Caland' System Formations*

As we have already seen, not every form with -αρ- or -ρα- can be used as evidence for the outcome of *$\underset{\circ}{r}$, because many of them contain a generalized *a*-vowel. The question to be answered in this section is how exactly the *a*-vocalism started to proliferate in Ionic-Attic. Two important examples are Aeolic κρέτος (Alc.), which was replaced by κράτος (Hom.+), and θέρσος (Alc. fr. 206.2), which was replaced by θάρσος (Hom.+). The same replacement took place in the derivationally connected *s*-stem compounds and 'stative' verbs in -έω (Tucker 1990: 54). See Table 3.

It is generally agreed that the root vocalism of *s*-stem neuters was influenced by that of *u*-stem adjectives. Meissner's comment on this replacement deserves to be quoted in its entirety (Meissner 2006: 71):

> … 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 gener-

> alized (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 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.

Not only may the adjectives be considered as more basic than neuter abstract nouns; it is difficult to indicate another source of the *a*-vocalism in the relevant *s*-stem neuters.[44] Meissner makes the important observation that πένθος could be preserved in Homer (and even later) because it was not accompanied by an adjective. As we have seen above, it was eventually replaced by πάθος, but this may have happened as late as the tragedians, perhaps as a backformation to compounds in -παθής. Another crucial example is κερδαλέος 'wily; profitable' (κερδίων, κέρδιστος) beside κέρδος 'ruse; profit', where the *u*-stem adjective (preserved only in the gloss κορδύς· πανοῦργος 'wicked; cunning' in Hsch.) was apparently eliminated so early from Proto-Ionic that it could not influence the root vocalism of the other forms.

In my view, the zero grade reflex of the *u*-stem adjective first spread to other adjectival forms (the forms of comparison), and later to the noun. The pair βαθύς : βάθιστος is illustrative. While the pre-form *βένθιστος of the superlative has apparently been replaced already in Homer, the neuter βένθος was preserved. Although this may be due to its occurrence in formulaic material (e.g. βένθεσι λίμνης, see Meissner 2006: 65–66), the absence of βάθος (first encountered after Homer) is noteworthy. When the vocalism of *s*-stem neuters like κράτος had been levelled, the same replacement took place in derived *s*-stem adjectives (*in casu* -κρατής).[45] Indeed, for all roots with an internal liquid, *s*-stem compounds are attested whenever an *s*-stem abstract is affected by the replacement: -πλατής, -κρατής, -θαρσής, and -ταρβής.

The 'stative' verbs in -έω, -ησα (with suffix PIE *-*eh*$_1$-) appear to behave as primary (underived) formations. They differ from denominative verbs derived from neuters in -ος, in that the latter have a different type of aorist in -εσ(σ)α

44 The adverb in -α may have played a role in the case of μάλα : μᾶλλον : μάλιστα, where we only have adverbial forms.

45 Meissner (2006: 182–186) argues that there was no derivational link between adjectives in -ύς and compounds in -ης.

(e.g. τελέω, τελείω 'to accomplish, fulfil', aor. ἐτέλεσ(σ)α derived from τέλος).[46] Originally the 'stative' verbs in -έω had a zero grade root, cf. Lat. *rubēre* 'to be red' as opposed to the full grade in Gr. ἐρεύθω 'to make red'. In Homeric verbs like βαρέω (pf. ptc. βεβαρηότ-), θαρσέω, κρατέω and ταρβέω, the root vocalism is equal to that of the accompanying *s*-stem nouns and adjectives (cf. Tucker 1990: 57–63). However, since these *s*-stems originally had *e*-grade, the question arises whether the archaic category of 'statives' in -έω may have exerted analogical influence on derivationally associated formations such as *s*-stem adjectives. This indeed seems plausible,[47] and the implication is that 'stative' verbs in -έω (just like the adjectives in -ύς) are candidates to show the regular outcome of *$\underset{\circ}{r}$.

On the other hand, as appears from Table 3, in Lesbian the leveling seems to have gone the other way: cf. κρετέω 'to have power' with the vocalism of τὸ κρέτος 'power'. In this connection, the root ταρβ- requires further comment. The forms τάρβος 'fear, apprehension', ἀταρβής 'intrepid', and ταρβέω 'to fear' are usually derived from a PIE verbal root *$terg^{w}$-, continued in epic Skt. *tarjati* 'to threaten' (whose active voice may reflect an oppositional causative), Lat. *torvus* 'grim', and perhaps Hitt. *tarkuu̯ant-* 'looking angrily'.[48] Since no *e*-grade forms

46 See Tucker (1990: 28–33), following Watkins (1971).

47 Cf. also θάμβος 'amazement, stupefaction' beside θαμβέω, θαμβῆσαι 'to be stupefied'. Tucker (1990: 42–43) proposes to derive the verb θαμβέω from the *s*-stem noun. The argument is that the root shape θαμβ- cannot represent the development of a syllabic nasal (as in aor. ptc. ταφών 'stupefied'), and that it must therefore be a remodeling of *θεμβ-. That root shape, however, cannot be original in the stative verb in -έω, but it would be at home in a neuter noun. However, a problem with this argument based on θαμβέω, θαμβῆσαι is that the reconstruction of the verb's phonetic developments remains uncertain. Szemerényi (1954) argued for comparing θαμβέω, aor. ταφών and pf. τέθηπα 'to be stupefied' with Goth. *dumbs* 'mute' and cognates (PGmc. **dumba*-, PIE *$d^{h}emb^{h}$-). In subsequent discussions, Barton (1993) and Hackstein (2002: 237–238) have tried to account for the difference between θαμβ-, ταφ- and θηπ-. The etymology is semantically plausible, but Szemerényi's reconstruction of θαμβέω presupposes that Greek -μβ- may derive from PIE *-mb^{h}-, a development rendered uncertain by ὀμφαλός 'navel, center; hub' < PIE *h_3nb^{h}-*l*-*ó*- and ἀστεμφές 'firmly' (cf. Ved. *stambh*, and Van Beek 2018 for the reconstruction of *ἀ*-). The explanation of τέθηπα instead of expected τέτηφα (attested in Hsch.) given by Barton (1993) is not without problems either. Beekes (*EDG* s.v. θαμβέω) argues that the variation between θαμβ-, ταφ- and θηπ- can be understood if the words were borrowed from the Pre-Greek substrate: in such words, interchanges between stops and pre-nasalization are more frequently attested. Although this no longer seems likely to me in view of the archaic morphology of these verbs (cf. also Barton 1993: 2 with n. 3), the reconstruction of θαμβέω involves too many problems to base an account of the derivational history of statives in -έω on it.

48 Hitt. *tarkuu̯ant-* may alternatively be derived from *$d\underset{\circ}{r}\acute{k}$-*u̯ent-* "with [angry] gaze", cf. Hom. ὑπόδρα 'looking askance'. The comparison of Middle Welsh *tarfu* 'to disturb, trouble, scare' with ταρβ- is not without problems (cf. *EDPC* q.v.).

of this root are directly attested in Greek, we must ask to what extent ταρβ- can be seen as an analogical vocalization replacing the older *e*-grade allomorph; for instance, τάρβος might be viewed as a remodeling of older *τέρβος (thus Tucker 1990: 43). However, in this case we must ask in which formation the *a*-vocalism originated. The adjective attested to this root is ταρβαλέος 'fearful' (*h. Herm.* 165, S. *Tr.* 957), but its formation is most probably secondary after the antonym θαρσαλέος.[49]

One might try to resolve this issue by positing an original adjective **tr̥g^{w}-ú-* 'fearful', which would have yielded *ταρβύς and then imposed its *a*-vocalism on the other forms.[50] However, this remains speculation, as there is no further evidence for such a form. Moreover, it is quite uncertain that the neuter τάρβος is a primary formation, and that the verb ταρβέω is derived from it.[51] Stüber (2002: 47–48) argues that ταρβέω is the oldest formation, and that zero grade root was introduced from there into the *s*-stem noun. In support of this, Meissner (2006: 94) suggests that τάρβος, which in Homer occurs only in Book 24 of the *Iliad*, may actually be a backformation from ἀταρβής (or ταρβέω) because these forms are much more frequent in Homer. Thus, we may suspect that ταρβέω is the regular outcome of **tr̥g^{w}-ē-*, and that *e*-grade forms of this root had been lost before the vocalization of **r̥*.

In sum, the *s*-stem nouns πλάτος, κράτος, θάρσος, τάρβος and their counterparts in second compound members cannot be used as evidence for the regular development of the syllabic liquids, as their vocalism may have been influenced by that of *u*-stem adjectives (πλατύς, κρατύς, cf. also θρασύς) or inchoative verbs in -έω (θαρσέω, ταρβέω). These primary and unproductive formations constitute the main body of evidence for the vocalization of **r̥*. In addition to *u*-stem adjectives, there are also productive thematic adjective types in -ερός and -αλέος. Establishing the derivational prehistory of these forms will put us in a better position to judge their relevance for the vocalization of **r̥*.

4.2.2 *Replacement of u-stem Adjectives*

In Greek, *u*-stem adjectives are unproductive generally, and in Epic Greek they even seem to be avoided.[52] For instance, the inherited form βραχύς 'short' is unattested in Homer, who uses σμικρός and ὀλίγος instead. Moreover, beside an

49 *Pace* Chantraine (*DELG* s.v. ταρβέω), who thinks that ταρβαλέος "pourrait être ancienne".

50 As I did in Van Beek 2013: 92.

51 *LIV*^{2} 632, Anm. 1.

52 In Classical Attic prose (and presumably in the spoken vernacular), only the following 14 *u*-stem adjectives were current: βαθύς, βαρύς, βραδύς, βραχύς, δασύς, δριμύς, εὐρύς, εὐθύς, θρασύς, παχύς, πλατύς, πραΰς, ταχύς, τραχύς.

expected adjective in -ύς or even in place of it, we find adjectives in -ερός (after light root syllables) or in -αλέος and -άλιμος (after heavy root syllables). Many such forms are found in Epic Greek only, and they occasionally penetrated into other poetic genres.

A key factor accounting for the underrepresentation of adjectives in -ύς in Epic Greek is related to meter and verse composition. Let us consider some instances of suffix competition. While κρατύς appears only in one single name-epithet formula (verse-final κρατὺς Ἀργεϊφόντης), the form κρατερός 'fierce, vehement, strong, etc.' is extremely frequent. Another well-known pair is γλυκύς 'sweet, pleasant' beside γλυκερός.[53] In Classical prose there is no trace of γλυκερός; the only current form is γλυκύς. Since the poetic variant γλυκερός is highly convenient in dactylic rhythms, it may well have an artificial origin within Epic Greek. Indeed, in Homer γλυκύς occurs exclusively in the strong stem γλυκύ- (γλυκύς, γλυκύν, γλυκύ), while γλυκερός is used in many different cases. This is related in part to the problematic shape of various case forms of γλυκύς: for instance, the feminine γλυκεῖα could be used in hexameter verse only with tautosyllabic scansion of *muta cum liquida*, which is still relatively rare in Homer and was probably avoided to a large degree (see sections 6.5 and 6.6). A more general problem with adjectives in -ύς is the fact that the metrical shape of the feminine forms is different from the masculine/neuter for every single case form. Poets frequently resorted to inflection and/or transformation of phraseological material, and in such cases (for instance when an adjective had to modify a noun with a different gender) it was convenient to keep it in the same metrical position. This means that using adjectives in -ερός or -αλέος gave epic poets much more flexibility than using adjectives in -ύς, with their suffix ablaut and metrically different feminine formation.[54] Given this metrical incentive, it is likely that γλυκερός was created analogically within Epic Greek, possibly on the model of κρατύς : κρατερός or θαλύς : θαλερός.[55]

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53 Lamberterie (1990: 470) shows that there is no clear semantic difference between γλυκύς and γλυκερός.

54 Some Homeric *u*-stem adjectives with a heavy root syllable are very numerous as tokens, e.g. ὀξύς and ὠκύς, but this is mainly due to their frequent occurrence in formulaic cola (cf. ὀξὺν Ἄρηα, ὀξὺν ἄκοντα, ξίφος ὀξύ, φάσγανον ὀξύ, ὀξέϊ δουρί, ὀξέϊ χαλκῷ, all of which belong to traditional war narrative).

55 See chapter 5 for the antiquity of κρατερός, and note that γλυκερός (denoting quiet, i.e. non-violent, activities) was more or less its antonym. Also, note that θαλερός 'abundant' is probably an inner-Greek innovation, too: the correspondence with Arm. *dalar* 'green, fresh' is rightly criticized by Clackson (1994: 118–120), who notes the semantic distance and points out that *dalar* cannot be derived from a pre-form in *-*ero*-. Thus, the pair κρατύς : κρατερός may also have induced the creation of θαλερός beside θαλύς (of which Homer

As for the adjectives in -αλέος, although their origin remains hard to establish, it is widely accepted that they were productive synchronically beside *s*-stem nouns.[56] In Homer, we find examples like κερδαλέος 'wily' beside κέρδος 'ruse; profit' and the frequent ἀργαλέος 'painful; difficult' (dissimilated from **algaléo*-) beside ἄλγος 'pain; hardship'. Some adjectives in -αλέος took the place of an original *u*-stem adjective, or were created in order to supply for its loss. For instance, the gloss κορδύς· πανοῦργος 'wicked; cunning' (Hsch.) is clearly of non-Ionic origin, and an archaism. The lack of a corresponding adjective *καρδύς in Ionic-Attic suggests that the *u*-stem form was lost before κερδαλέος was derived from κέρδος, or at least before *καρδύς had the chance to influence the vocalism of the other forms.[57]

There are three forms in -αλέος with an apparent zero grade reflex: θαρσαλέος, ταρβαλέος and ἁρπαλέος. We have already encountered ταρβαλέος 'fearful' (*h. Herm.*) beside ταρβέω and τάρβος, ἀταρβής. Most probably, ταρβαλέος is not an old adjective (*pace* DELG s.v.). Instead, it was derived from τάρβος, and the latter's vocalism was taken over from the stative verb ταρβέω and/or the deverbal adjective ἀταρβής.[58] The form ἁρπαλέος 'with pleasure, eager' (3× Hom.) is from **ϱalpaleo*- by liquid dissimilation (cf. ἀλπαλέον· ἀγαπητόν 'cherished', Hsch.), containing the root of ἔλπομαι 'to reckon; hope, expect'. In this case, no neuter abstract is attested from which **ϱalpaleo*- could be derived. However, *a*-vocalism is also found in the superlative ἄλπιστος (A., Pi.) and may stem from a primary adjectival formation, such as a *u*-stem adjective.[59]

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preserves relics, f. θάλεια and probably gen. pl. n. θαλέων). On the other hand, τραφερός 'thick, solid' was derived not from the adjective ταρφύς (which has a different vowel slot and meaning), but directly from the verbal root of τρέφομαι (ἐτράφην) 'coagulate; form a crust': see section 4.3.2 below.

56 E.g. Tucker (1990: 55–56): "their vocalism or phonological shape suggests that they were created on the basis of *s*-stem nouns". Rau (2009: 128 n. 9) observes that this process "generally results from the derivational association of morphologically unrelated formations". A number of adjectives in -αλέος acquired the suffix by contamination with semantically close forms, such as ἀϋσταλέος 'dry', ἀζαλέος 'id.' (after καρφαλέος) and their antonym μυδαλέος 'moist'; cf. also ὀπταλέος and λεπταλέος. For an overview of such forms, see Debrunner (1917: 165–168).

57 For this interpretation of κορδύς, and on the question why the adjective was lost so early, see Lamberterie (1990: 867–874), following R. Schmitt. The reflex -ορ- points to an Aeolic or Arcado-Cyprian origin.

58 The adverb ὀτραλέως 'quickly' (after Homer also adj. ὀτραλέος) was formed beside ὀτρύνω 'to spur on' after the semantically close model of θαρσαλέος : θαρσύνω. Note that ὀτρύνω has no convincing etymology (the traditional comparison with Skt. *tvarate* and OHG *dweran* is criticized by Beekes, EDG s.v. ὀτραλέως).

59 These forms and their reconstruction are further discussed in section 10.2.1.

An important form is θαρσαλέος 'persevering, audacious; confident' (Hom.+; Att. θαρραλέος). The vocalism of θαρσαλέος was influenced by that of θάρσος (from which it was derived) after the latter had replaced the older form *θέρσος. The question is how the last-mentioned replacement could take place if θαρσαλέος did not yet exist. An archaic adjective formation is θρασύς 'bold, reckless', but this has a different root shape θρασ-. As I will argue below, it is likely that another form *θαρσύς 'daring, confident' once existed in Proto-Ionic, and that this form influenced the vocalism of θάρσος before it lost currency and was ousted by θαρσαλέος.[60]

In sum, the evidence suggests that the vocalism of forms in -αλέος was adopted from their base forms: ταρβέω, θάρσος (θαρσέω), and κέρδος (in the case of ἀρπαλέος, the base form is unknown). It is therefore not possible to use the vocalism of ταρβαλέος, ἀρπαλέος and θαρσαλέος as evidence for the regular outcome of liquid vocalization.

4.2.3 *Derivational History of the Factitives in -ύνω*

Homer has a remarkable asymmetry in root shape between the stative verb κρατέω 'to be mighty' (with the vocalism of κράτος, -κρατής) and the factitive καρτύνω 'to make firm'. Later Ionic prose writers do not have the same asymmetry: they use κρατύνω, derived from the original adjective κρατύς. The same derivation cannot explain καρτύνω: as far as we know, there was never a by-form καρτύς*. This, in combination with the fact that κρατύνω was metrically inconvenient in Epic Greek (it necessitated tautosyllabic scansion of *muta cum liquida*), apparently provided the motive for creating καρτύνω.

However, was it possible to replace -ρα- with -αρ- just like that? Most scholars seem to make this assumption.[61] I suspect that mere metrical convenience was not a sufficient reason for swapping the liquid and the vowel. The reason is that the occurrence or non-occurrence of doublets often cannot be predicted, as appears from the following examples:

– κραταιός 'violent' was not avoided, nor reshaped to *καρταιός, but simply tolerated (with its aberrant scansion) in the old formula Μοῖρα κραταιή.

60 It is not excluded that the vocalism of θαρσαλέος and θάρσος was influenced by that of θαρσέω, which could directly reflect an inherited 'stative' *$t^hr̥s$-$ē$-. However, the derivation of adjectives in -αλέος from nouns in -ος seems more robust (cf. κερδαλέος, κέρδος) than that from verbs in -έω.

61 This view is widespread, see e.g. the casual remark by Strunk (1975: 286), regarding καρτύνω, that "inlautendes -αρ- < *-$r̥$- vor Konsonant (…) auch sonst gelegentlich statt oder neben -ρα- vorkommt."

– The superlative κράτιστος, on the other hand, is avoided in Homer and replaced by κάρτιστος 'fiercest'.[62]
– There is no by-form *καρτύς to κρατύς, and there are no compounds in *-καρτής accompanying those in -κρατής.
– The aorist (ἐ)κράτησα 'gained victory/the upper hand' is absent from Homer. Since this form is common in later poetry, and given that other members of the small group of Homeric stative verbs in -έω are frequent especially in the aorist stem (cf. Tucker 1990: 39), it is natural to suppose that epic poets avoided (ἐ)κράτησα for metrical reasons. They never created an alternative form κάρτησα*, even if this would have been metrically useful.[63]

Apparently, simply replacing -ρα- with -αρ- was not always a viable option. My working hypothesis is that by-forms with -ρα- or -αρ- could be created only if they were the product of an inner-epic proportional analogy or derivation. In other words, in order to account for καρτύνω and κάρτιστος we must determine a model and a motive.[64]

Given that καρτύνω cannot be derived directly from the adjective κρατύς, we have to ask whether the derivation of verbs in -ύνω from neuter abstracts was already productive in Homer. Tucker (1981) discusses the spread of the Greek factitive verbs in -όω, -ύνω, and -αίνω.[65] Among the factitive verbs in -ύνω she distinguishes three types according to the base form:

(1) based on *u*-stem adjectives (βαρύς 'heavy' → Hom. βαρύνω 'to weigh down on')
(2) based on *s*-stem nouns (μῆκος 'length' → Att. μηκύνω 'to lengthen')
(3) based on *o*-stem adjectives (λεπτός 'thin, delicate' → Att. λεπτύνω 'to make thin').

As the chronology of the attestations confirms, the -ύνω factitives originated beside *u*-stem adjectives (cf. also Hom. βαθύνω, ἰθύνω). Therefore, types (2) and (3) are generally considered to be later derivational patterns.

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62 An explanation for these distributions is proposed in chapter 6.

63 However, creating *(ἐ)κάρτησα was not strictly necessary from the viewpoint of verse composition, as the meaning 'to obtain victory' was expressed already by metrically equivalent νίκησα (cf. formulaic νικήσῃ κρείσσων τε γένηται, 4× Hom.).

64 The absence of *(ἐ)κάρτησα can be explained if we accept that κρατέω functioned, from a synchronic viewpoint, as a primary formation. I now disagree with Tucker's suggestion (1990: 62–67) that statives in -έω could be derived from *s*-stem compounds, and revoke what I said about this in Van Beek 2013: 92. In fact, if compounded adjectives in -ης are derived from statives in -έω, as I now think, the absence of *καρτέω accounts directly for the absence of compounds in *-καρτής.

65 The classic study of Greek denominatives is Fraenkel (1906).

Derivation type (2), factitives in -ύνω beside *s*-stem neuters, is clearly productive in Attic. Tucker (1990) argues that this type started to become productive already in Homer. She remarks (1990: 47) that in Homer 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. She also points to θαρσύνω and καρτύνω as further possible Homeric examples of derivations from *s*-stems, as the adjectives θρασύς and κρατύς have a different vowel slot, while the correct vowel slot is found in the corresponding *s*-stem neuters θάρσος and Hom. κάρτος. If it is possible to derive θαρσύνω and καρτύνω from these *s*-stem nouns, the distribution of -ρα- and -αρ- over the attested forms would indeed make sense.[66]

Although this is definitely an improvement over the view that the interchange between -ρα- and -αρ- is randomly induced by metrical utility, there are serious problems with Tucker's concrete suggestions. First of all, the evidence for derivation (2) as early as Homer is not clear-cut: ἐντύνω 'to prepare (a meal)' cannot have been reanalyzed as derived from τὰ ἔντεα, which is a lexicalized form with a concrete meaning 'gear, tools, equipment', especially 'arms'.[67] The second example ἀλεγύνω 'to attend a meal' cannot count as evidence either, because ἀλεγεινός and δυσ-ηλεγής have a markedly different meaning, 'hard to deal with'. It is more likely that ἀλεγύνω is a contamination between ἀλέγω 'to take care of, attend to' and ἐντύνω, ἀρτύνω 'to prepare a meal'.[68] The main problem is that Tucker is unable to point out a convincing pivotal form, i.e. a verb in -ύνω beside an *s*-stem neuter *and* a *u*-stem adjective. Her best example is τὸ εὖρος 'breadth' beside εὐρύς and εὐρύνω, where the idea seems to be that εὐρύνω was originally derived from εὐρύς, but secondarily reanalyzed as derived from εὖρος. The problem is that εὖρος occurs only once in Homer (*Od.* 11.312), whereas εὐρύς is frequent. It is questionable whether a transparent derivation εὐρύς → εὐρύνω could fall into disuse as long as εὐρύς existed.

Notwithstanding these issues, Tucker is right to emphasize that καρτύνω was not derived directly from κρατύς (because the latter has a different vowel slot), but from 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 pair θαρσύνω : θάρσος itself? *A priori*, one expects a sec-

66 For καρτύνω, the same suggestion was made by Strunk (1975: 296): "Vermutlich ist κάρτος sogar die wirkliche morphologische Basis für die epische Verbalableitung."

67 The root of ἔντεα has no convincing etymology. In spite of *DELG* (s.v. ἔντος), the connection with ἀνύω 'to accomplish' < *snh_2-u-* is difficult to maintain because that root ended in a laryngeal.

68 Compare Chantraine's judgment, "après ἐντύνω" (*DELG* s.v. ἀλέγω).

ondary association of *s*-stem nouns and -ύνω verbs to have started in one or two (preferably frequent) cases where an original *u*-stem adjective has been lost or replaced by a different form. Subsequently, a derivational relation between a neuter abstract noun 'X-ness' beside a factitive in -ύνω 'to provide with X-ness' could easily be established. The root θαρσ- would be an excellent candidate for this reanalysis, because the base form **t^{h}r̥sú-* had turned into θρασύς, with the wrong vowel slot. Moreover, there are independent indications that θαρσαλέος ousted an older form *θαρσύς (see section 4.5). Finally, the derivation θάρσος → θαρσύνω 'to encourage, reassure' is transparent in Homeric Greek, and θαρσύνω is frequent and semantically close to καρτύνω.

In sum: the later, Classical derivational pattern μῆκος → μηκύνω has not yet acquired full productivity in Homeric Greek, but it is already present in an embryonic stage in the pair θάρσος : θαρσύνω, combined with the absence of an adjective *θαρσύς.

4.3 Reflexes of **r̥* and **l̥* in the *u*-stem Adjectives

The following *u*-stem adjectives with a root shape *CLaC-* are attested in Homeric Greek and/or Classical Ionic-Attic: βραδύς 'slow', βραχύς 'short', θρασύς 'bold', κρατύς 'firm' (*vel sim.*), and πλατύς in its distinct meanings 'broad' and 'salty'. In Homer, none of these adjectives is frequent, and βραχύς is even absent; as we have seen, this tendency can be ascribed to the metrical inconvenience of ablauting paradigms. An adjective βλαδύς 'weak' is frequently cited; it is attested only as a gloss βλαδεῖς (Hsch.), along with 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.[69] Given that the evidence is so meagre, it is remarkable that these treatments systematically ignore another *u*-stem adjective with an original syllabic liquid: ταρφύς 'numerous'. Derived from the same root (that of τρέφω) is the rare adjective τραφερός 'solid, thick'

69 Examples are Lejeune (1972: 196, citing βλαδαρός ~ ἀμαλδύνω and "θαρσύς, θρασύς"; but note that the first form θαρσύς is not directly attested), Rix (1992: 65, citing πλατύς), and Sihler (1995: 94–95, citing θρασύς, βλαδύς, and πλατύς). *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 may well be true, but the form should be asterisked in any case. Sihler not only cites θαρσύς, but also "Lesb. θορσέως", which does not exist at all (the form is correctly cited as θροσέως by Lejeune (1972: l.c.), and is attested as such only in Joh. Gramm. 2.11, where it is labelled Aeolic).

(Hom.+), with an interchange that 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, and we will therefore turn to these forms first. There are two questions to be answered: Why do we find -αρ- in ταρφύς, as against -ρα- or -λα- in all other *u*-stem forms?[70] And: What was the derivational basis for τραφερός?

4.3.1 *r̥ > αρ *is Regular in* ταρφύς

The Homeric adjective ταρφύς 'thick, dense, close together' modifies nouns for 'snowflakes' (e.g. ταρφειαὶ νιφάδες *Il.* 19.357) and 'arrows' (e.g. ταρφέες ἰοί *Il.* 11.387).[71] Its acc. pl. n. ταρφέα is used as a temporal adverb meaning 'again and again, one right after the other', e.g. ταρφέα τε στρέφεται στίχας ἀνδρῶν πειρητίζων, "(the boar) turns round again and again, putting the ranks of men to the test" (*Il.* 12.47). Lamberterie (1990: 676–680) gives solid arguments for deriving ταρφέες from the intransitive verb τρέφομαι (pf. περιτέτροφε) in its older meaning 'to form a layer, become thick, coagulate' (Hom.+).[72] The development of meaning from 'thick' to 'frequent' is common, too. For instance, English 'thick' may also be used as an adjective or adverb denoting a frequent occurrence, as in *thick and fast*; in Dutch, *dikwijls* means 'frequently, often'.

A striking fact about the attested forms and their meanings is that Homer appears to have used ταρφέες, ταρφειαί as a *plurale tantum*. This usage is continued in post-Homeric poetry.[73] The singular form ταρφύς is attested in literary texts twice in Aeschylus, and much later once in Lucian, in a parody; other Hellenistic poets again use only the plural form.[74] Another remarkable feature is the accentuation of the feminine ταρφειαί, which is paralleled in the synonymous *plurale tantum* θαμέες, θαμειαί. This accentuation is clearly a retained

70 An exception could be made for the gloss κορδύς· πανοῦργος (Hsch.), but this is of non-Ionic-Attic origin: see above. As I have argued in section 2.2, the Mycenaean form *ta-pa-e-o-te* is too uncertain to be used in this discussion.

71 Lamberterie (1990: 665–666) remarks that this use is intimately related with that as a qualification of snowflakes, the image being that of a rain of arrows.

72 An extensive study of the semantics of τρέφω is Demont (1978).

73 The adverb ταρφέως (only B. 13.53) is a trivial reshaping of the Homeric acc. n. pl. ταρφέα.

74 The two Aeschylean passages are discussed by Lamberterie (1990: 671). In *Pers.* 926, ταρφύς τις is a plausible conjecture for γὰρ φύστις, because φύστις would be a *vox nihili*. Lucian uses the gen. sg. ταρφέος modifying ἐχέτλης. Remarkably, in all three cases the adjective modifies a feminine noun. Moreover, note that in both ταρφὺς … θρίξ 'thick hair' (A. *Sept.* 535) and the conjecture ταρφύς τις μυριὰς ἀνδρῶν 'thronging myriads of men' (A. *Pers.* 926), ταρφύς qualifies a singular noun with plural or collective sense. I therefore claimed in Van Beek 2013: 101 that the singular of ταρφύς was a secondary creation by Aeschylus. I still consider this plausible, but there is no need to insist on it.

archaism: presumably, it was not aligned with the productive type of accentuation (βαρύς βαρεῖα βαρύ) because the forms ταρφειαί and θαμειαί were no longer current in the spoken language.

Most dictionaries (e.g. *LSJ*) cite another form with the root shape ταρφ-: the neuter *s*-stem τάρφος. However, as Meissner has demonstrated (2006: 110–111), the singular τάρφος is only found in ancient grammarians, commentaries and scholia; all real attestations in primary sources are in the plural.[75] It is therefore possible to assume that these forms are substantivizations of the *u*-stem adjective, with a corresponding accent retraction.[76] This hypothesis is corroborated, as Meissner remarks, by the parallel case of τὰ βράχεα, attested from Thucydides and Herodotus onwards in the lexicalized meaning 'shoal, sandbank'. The absence of contraction of -εα in the Attic form proves that we are dealing with an old *u*-stem form, with subsequent retraction of the accent accompanying the lexicalization as a substantive.[77] 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', attested in Hdt. 4.179.

We may conclude that τάρφος can be ignored for purposes of reconstruction. This puts us in a better position to judge the origin of -αρ- in ταρφύς. 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 illustrate the embarrassment of earlier scholars concerning the reflex -αρ-. In reality, in view of the full-grade slot of the root (τρέφομαι, PIE *d^hr̥eb^h-), the outcome ταρφ- cannot have an analogical origin. That the vowel slot of ταρφύς was not aligned with that of τρέφομαι is not surprising, given the lexicalized nature of this adjective.[78] Apparently, it did not

75 βαθείης τάρφεσιν ὕλης 'in the thicket of the deep forest' (*Il.* 5.555), βαθέης ἐν τάρφεσιν ὕλης (*Il.* 15.606), and μνιόεντα βυθοῖο τάρφεα 'the mossy thicket of the depth' (A.R. 4.1238).

76 Already before Homer, following the loss of intervocalic digamma, the *u*-stem adjectives in Ionic-Attic had generalized the dat. pl. ending -εσι by a proportional analogy with the *s*-stems, with which they shared the nom. pl. n. in -εα.

77 From an older *s*-stem form, one would expect Att. βράχη (Meissner 2006: 108–109).

78 In Van Beek 2013: 101, I claimed that ταρφ- was protected from analogical replacement by τραφ- because ταρφέες would have become a *plurale tantum* early on. I explained the difference with other *u*-stem adjectives (e.g. κρατύς, βραχύς), in which analogical influence of the full grade did take place, with the assumption that paradigmatic root ablaut was still preserved in the *singular* paradigm when *r̥ was eliminated in Proto-Ionic. However, while I still consider it plausible that the singular form ταρφύς was created anew beside ταρφέες after Homer (cf. above), I now renounce on the idea that the adjectives in -ύς retained paradigmatic root ablaut until as late as Proto-Ionic.

undergo the influence of comparative or superlative forms: no such forms are attested for ταρφύς, which may well have to do with its lexical semantics.[79]

We may conclude that ταρφέες (and its feminine ταρφειαί, with relic accentuation) is the regular outcome of PGr. *$t^hr̥p^hém̥es$. It is a prime piece of evidence for a regular development *$r̥$ > -αρ- in Proto-Ionic.[80]

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 1999), literally 'over the solid and the liquid'. After that, τραφερός first reappears in Hellenistic poetry,[81] and Oppian is especially fond of the word in his *Halieutica*.

Ancient 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).[82] That the juxtaposed forms ὑγρός and τραφερός are antonyms is confirmed by the following Homeric simile, which illustrates how Paeëon heals wounded Ares:

> ὡς δ' ὅτ' ὀπὸς γάλα λευκὸν ἐπειγόμενος συνέπηξεν,
> **ὑγρὸν ἐόν**, μάλα δ' ὦκα **περιτρέφεται** κυκόωντι,
> ὣς ἄρα καρπαλίμως ἰήσατο θοῦρον Ἄρηα.
>
> *Il.* 5.902–904

> 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.
>
> tr. WYATT 1999

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79 This is not to say that no comparative or superlative forms of ταρφύς ever existed, but only that they were apparently too marginal (at the relevant time) to influence the vocalization of the adjectival root. Since being clotted or curdled is an aggregation state, its meaning does not easily lend itself to the expression of degree: what matters most is the binary opposition between 'thick' and 'liquid'.

80 Incidentally, note that the absence of forms like *τραφειαί with *muta cum liquida* scansion (which would be the expected outcome of *$t^hr̥p^heu̯iai$ in Epic Greek, according to the scenario to be put forward in chapter 6) can be ascribed to the availability of the synonymous form θαμειαί.

81 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'.

82 *LSJ* (s.v. τραφερός) remarks that τραφερός is from τρέφω in the meaning 'to make thick'. The connection with τρέφομαι 'to curdle' is also corroborated by glosses like τραφερόν· πηκτόν. τρόφιμον. λευκόν. ξηρόν. πεπηγμένον (Hsch. τ 1284).

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. What was the model for creating τραφερός? At first sight, the most logical option would be a proportional analogy with the *u*-stem adjective, given the existence of other similar pairs: κρατερός beside κρατύς, θαλερός beside (*)θαλύς, and γλυκερός beside γλυκύς. However, the shape of the *u*-stem adjective is ταρφύς, not *τραφύς, and this means that the model breaks down. Even if one were to assume a prolonged retention of root ablaut in *u*-stem adjectives, it would not be feasible to argue that the root allomorphs ταρφ- and τραφ- once coexisted within the same paradigm.

Fortunately, an alternative base form for the creation of τραφερός can be pointed out: the verbal stem. A number of adjectives in -ερός pair with primary verbs: apart from κρατερός 'strong' beside κρατέω 'to be strong', cf. the Homeric cases στυγερός 'horrible' beside στυγέω 'to abhor', and θαλερός 'abundant' beside θάλλω 'to be abundant'. Remarkably, after Homer we find a couple of cases where -ερός pairs with an inagentive aorist in -ῆναι: e.g. τακερός 'soft, tender' (Alcm.+) from τήκομαι, τακῆναι 'melt', βλαβερός 'damaging' (Hes.+) from βλάπτω, βλαβῆναι 'hinder, damage', φανερός 'clear, evident' (Pi.+) from φαίνομαι, φανῆναι 'appear', and σφαλερός 'that makes one stumble' (A.+) from σφάλλω, σφαλῆναι '(make) stumble' (Hom.+). Apparently, the adjectival suffix -ερός could be added to the verbal root (in its weak form, when available) with some productivity.

The derivation of τραφερός from τρέφομαι 'to curdle' fits well in this series, as the verb has an old intransitive aorist ἐτράφην. From a semantic perspective, too, this derivation of τραφερός 'solid' works better than a connection with ταρφέες: the verb τρέφομαι actually has the meanings 'to become solid, form a crust', while ταρφέες had probably lexicalized its metaphorical meaning 'thick' > 'frequent, in large numbers' early on (before the vocalization of *$\dot{r}$).

In conclusion, while ταρφέες, ταρφειαί contains a precious vestige of the regular development of *$\dot{r}$, the adjective τραφερός has a different root shape because it was derived from the verb τρέφομαι, ἐτράφην at a later time.

4.3.3 *Analogical Root Vocalism in the Structure *CraCu-*

If ταρφέες provides compelling evidence for *$\dot{r}$ > αρ, we are left with the other *u*-stem adjectives. How to explain the vowel slot of βραδύς, βραχύς, κρατύς, πλατύς, θρασύς (beside θέρσος) and βλαδεῖς (beside μέλδομαι)? While the more problematic cases θρασύς and βλαδεῖς will be dealt with later, the vocalization in βραδύς, βραχύς, κρατύς, and πλατύς can be analogical after full grade forms. Before discussing the evidence for these forms and their cognates, let us pause and ask in which ways such analogical influence may have taken place.

As we have seen above, there is some evidence for the reconstruction of proterodynamic root ablaut in PIE *u*-stem adjectives. The retention of -σ- in δασύς gives reason to assume that this ablaut remained intact as late as Proto-Greek. In Van Beek 2013, I assumed that it was even preserved as late as Proto-Ionic, and that the outcome -ρα- in βραχύς and κρατύς is due to inner-paradigmatic levelling of the vowel slot (**mark^{h}eu̯-* >> **mrak^{h}eu̯-* after **mrek^{h}u-*). While this assumption gives us some leeway in explaining the vocalized zero grades, it is a rather costly assumption in the absence of further positive evidence, and especially when viewed against the general trend in Greek to eliminate inner-paradigmatic root ablaut. Moreover, if we assume that βραχύς and κρατύς underwent reshaping, we also have to explain why θρασύς and βλαδεῖς escaped this alleged influence of the strong stem.

As an alternative, one could assume that the full grade root attested in other formations (e.g. the neuter abstract) influenced the vocalization of the adjective. For instance, κρατύς (**krətus*) would have supplanted *καρτύς (**kərtus*), with the regular vowel slot, under the influence of κρέτος as attested in Lesbian. However, we must take into account that the root vocalism of the adjective usually spreads to derived formations (hence, κρέτος was replaced by κράτος). Moreover, θρασύς did not undergo the influence of θέρσος.

For these reasons, I prefer to ascribe the analogical reshuffling of the root vowel to the forms of comparison. Indeed, most adjectives stand in a close relation with their forms of comparison.[83] It is straightforward to assume that the adjective **mr̥k^{h}u-* was vocalized as **mrək^{h}u-* rather than **mərk^{h}u-* because the comparative and superlative were originally **mrék^{h}i̯os-* (or its outcome) and **mrék^{h}isto-*. Given the lexical meaning 'short', the superlative would be frequent enough to exert such influence. In the case of **kr̥tu-* there is actual evidence that the comparative and superlative retained the original root shape **kret-* longer (κρέσσων, κράτιστος << **krétistos*; see chapter 5 for further discussion).

With this in mind, let us now discuss in more detail the development of several individual adjectives in -ύς, together with their cognate formations.

κρατύς is attested exclusively in the formula |$_H$ κρατὺς Ἀργεϊφόντης (4× Hom., 5× *h. Herm.*), which refers to Hermes. Its meaning is therefore somewhat uncertain, but the etymological connection with κρείσσων, κρατερός (etc.) cannot be doubted. The reflex -ρα- may have been influenced by the comparative κρέσσων 'stronger, superior' (**krét-i̯os-*). The cognate form κρατερός cannot be used

83 Whether the relation between the forms of comparison and the basic adjective is seen as inflectional or derivational is a theoretical issue that need not detain us here.

as evidence for the development of **r̥* because the variant καρτερός, which is also the Ionic-Attic prose form, displays the regular reflex. This means that κρατερός may well have been influenced by κρατύς, but not the other way around. More extensive argumentation and discussion of these claims will be provided in chapter 5; for the reflex -ρα- in Homeric κραταιός, κραται-, see also section 6.8.3.

βραχύς is the normal word for 'short' (of time) in Classical Greek, but it is unattested in Homer.[84] The adjective is first attested in its Aeolic form as an adverb βρόχεα n.pl. (Sappho fr. 31.7),[85] and from Pindar onwards in its Ionic-Attic and West Greek form. The primary superlative βράχιστος is attested a number of times in poetry, but in classical prose the forms of comparison have generally been replaced by βραχύτερος, βραχύτατος (Hdt.+).[86] In view of the full grade in Lat. *brevis* 'short', the PIE root was **mreǵʰ-*.[87] As just explained, it is a distinct possibility that a zero grade PGr. **mr̥kʰ-u-* adapted its vocalization to the root shape **mrekʰ-* to be reconstructed for the forms of comparison. In Aeolic, βροχ- < *mrokʰ-* has the regular dialectal reflex; note that names like Thess. Μροχῶ (*SEG* 24: 406.1, ca. 460–450 BCE) prove that initial μρ- was preserved until a relatively late date.[88]

βραδύς 'slow' is rare in Homer but normal in the classical language, both in Attic prose and in poetry.[89] Primary forms of comparison are only marginally attested. The comparative βράδιον (Hes. *Op*. 528) is probably analogical, because in an inherited form one would expect to find -ζ- < **-di̯-* after a light root syllable. An inherited *βράζων may underlie the hapax βράσσων (*Il*. 10.226), if this form acquired its -σσ- from the antonym θάσσων 'faster'.[90] The primary superlative is attested only twice as βάρδιστος (*Il*. 23.310 and 530); after

84 On the *hapax* comparative βράσσων *Il*. 10.226, which may belong to βραδύς, see immediately below. It seems that (σ)μικρός 'short', ὀλίγος 'small', and the adverb μίνυνθα 'for a short time' are used instead of βραχύς in Epic Greek. This may be due to a general preference for using thematic forms in hexameter Greek (see section 4.2.2); besides, the superlative βράχιστος was metrically unfit.

85 Cf. also βρόσσονος· βραχυτέρου (Hsch. β 1193), probably of Aeolic origin.

86 On the question whether βραχίων '(upper) arm' is related, see section 6.9.5.

87 A reflex of the zero grade root is found in Ved. *múhur* 'instantly', Av. *mərəzu-jīti-* 'short-lived', OHG *murg*(*i*) 'short', Goth. *gamaurgjan* 'to shorten' (denom. verb).

88 For this point, see further section 7.2.1.

89 Only 3 attestations in Homer: βραδύς (*Od*. 8.329 and 330), βραδέες … ἵπποι (*Il*. 8.104).

90 Cf. Seiler (1950: 43 and 56 f.); differently Barber (2013: 160 with n. 23). 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' on phonological grounds, but semantically βραδύς would fit much better (cf. Nordheider, *LfgrE* s.v. βράσσων).

Homer, βραδύτερος and βραδύτατος are generalized. The neuter *s*-stem βράδος is a nonce formation based on τάχος, and can be left aside for purposes of reconstruction.[91]

Since βραδύς may refer both to physical slowness (in running or racing) and to lack of mental alertness, it probably has a cognate in Baltic: Lith. *gurdùs* 'weak, slow, uncommunicative', Latv. *guŗds* 'tired, weary', both from **g^{w}r̥d-ú-*.[92] The reconstructed form is peculiar because it violates the constraint that a single PIE root may not contain two *mediae*. Nevertheless, given the perfect formal and semantic match between Greek and Baltic and the relic status of *u*-stem adjectives in Greek, it cannot be doubted that the form is inherited.[93] Moreover, since no other adjective denoting physical slowness can be reconstructed for PIE (as far as I am able to discern), it seems probable that **g^{w}r̥d-ú-* fulfilled this function.

In view of its isolation, one could be tempted to take βραδύς as a key example for the regular vocalization of **r̥*. It is difficult, however, to establish the original full grade slot of the root. In Proto-Ionic, a full grade may have been around in the forms of comparison. At first sight, the Homeric superlative βάρδιστος could be taken as evidence for **g^{w}erd-*. However, βάρδιστος could be an artificial epic creation because, as Chantraine (1958: 24) already remarked, *βράδιστος "ne pouvait entrer à aucune place du vers homérique". While metrical utility alone was not a sufficient reason to substitute αρ for ρα (see section 4.2.3 above), a model for an analogy is available: βάρδιστος may have been formed to βραδύς on the model of another artificial Homeric superlative, κάρτιστος to κρατύς. This idea receives support from the fact that both roots are used 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),[94] and the horses of

91 Cf. Lamberterie (1989) and Meissner (2006: 102–103).

92 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 certain (cf. Lamberterie 1990: 594–595). For further literature on these etymologies, see *NIL* 195–196.

93 One may compare the situation with that of PIE **b*, for which there is hardly any evidence and where the reduction of certain clusters may perhaps explain the occurrence of **b* in initial position, as Sasha Lubotsky has suggested in unpublished conference papers. 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. There is, therefore, no reason to doubt the Indo-European pedigree of this root.

94 Cf. also the application of the formula κρατερὸν μένος to the stamina of mules (*Il.* 17.742). For further connections of the root κρατ- with horse-riding, see chapter 5.

Antilochus are called βάρδιστοι θείειν (*Il.* 23.310) by his father Nestor. Finally, if βράσσων indeed replaced *βράζων, this form probably recovers an earlier *$^*g^wred$-$i̯os$-.[95]

As for the abstract βραδυτής (Hom.+), its accented suffix only occurs in four Greek abstracts in -της (Pike 2011: 148). Since the *s*-stem abstract τάχος may denote both speed and swiftness, whereas the -της abstract βραδυτής is the regular form to refer to slowness (cf. Lamberterie 1989), it is likely that βραδυτής is older than ταχυτής 'swiftness', which has the same accentuation. However, this does not imply that βραδυτής is the regular outcome of a PGr. *$^*g^wr̥du$-$tāt$-: it is possible that the form was secondarily re-derived from (or influenced by) its base form βραδύς.

Thus, none of the forms βραδύς, βράσσων, βάρδιστος provides unambiguous evidence for the regular vocalization of *$^*r̥$, because the original full grade slot of the root is not known with certainty. If this was *$^*g^wred$-, it may have influenced the outcome of *$^*g^wr̥d$-$ú$-.

The adjective πλατύς 'broad, extended; flat' is cited as a prime example of the development of the syllabic liquids in most manuals.[96] It is well-attested from Homer onwards, and also attested in Lesbian poetry (πλάτυ, Alc. fr. 74). The forms of comparison were secondarily rebuilt as πλατύτερος, -τατος. Related 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.). As will be discussed in chapter 10, -λα- may well be the regular reflex of *$^*l̥$, but in πλατύς it could also be explained in the same way as in κρατύς and βραχύς, i.e. as an adaptation to the original full grade slot (PIE *$^*pleth_2$-).[97] Though no reflex of this full grade is attested in Greek, it may have been eliminated in the *s*-stem noun at a relatively recent date. Outside of Greek, the same formation is attested in Ved. *práthas*-, Av. *fraθah*- 'breadth', and OIr. *leth* 'side'; cf. also the primary verb Ved. *práthate* 'extends'.

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95 I assume that the comparative βαρδύτερος, attested in Theocritus, is also an artificial poetic creation.

96 It is possible that πλατύς 'brackish' is a different adjective, both synchronically and historically: see Lamberterie (1990: 452–463). Proponents of the historical identity of both lexemes 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. *GEW* 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, never salty water.

97 According to Blanc (2012), this full grade is reflected in ἄπλετος 'immense', which would have arisen from *$^*sm̥$-$pleth_2$-eto- by haplology.

In sum, the forms βραδύς, βραχύς, κρατύς, and πλατύς can no longer be viewed as compelling evidence for the regular reflex of the syllabic liquid.[98] The forms θρασύς and βλαδεῖς, on the other hand, constitute serious evidence for -ρα- and -λα- as the regular vocalizations of the respective syllabic liquids: they cannot have been influenced by cognate full grade forms. There is, however, also evidence for a different reflex of the zero grade: the factitive verbs ἀμαλδύνω 'to erode, weaken' and θαρσύνω 'to encourage'. As we have seen, verbs in -ύνω were productively derived only from *u*-stem adjectives until a relatively recent date (section 4.2.3). Therefore, ἀμαλδύνω and θαρσύνω seem to imply the earlier existence of adjectives *(ἀ)μαλδύς and *θαρσύς. We have to account for the coexistence of both vocalizations.

4.4 *βλαδύς versus ἀμαλδύνω

Traces of the zero grade reflex βλαδ- < **mḷd-* are attested only in glosses (Hsch., β 54–59):

– βλαδά· ἄωρα, μωρά AS.[99] ὠμά ('untimely; dull, stupid'; 'raw, uncooked')
– βλάδαν· νωθρῶς ('slothful')
– βλαδαρά· ἄωρα AS. μωρά. ὠμά AS
– βλαδαρόν· ἐκλελυμένον, χαῦνον ('flaccid, porous')
– βλαδόν· ἀδύνατον ('powerless, weak')
– βλαδεῖς· ἀδύνατοι. ἐξ ἀδυνάτων.[100]

Thus, an adjective βλαδύς is only attested in the plural form βλαδεῖς.[101] The appurtenance of the first three glosses is not straightforward: ὠμός 'raw' means

98 For the same reason, the form κορδύς· πανοῦργος (Hsch.) beside κερδίων, κέρδιστος can play no role in this discussion: κορδύς may have replaced the regular zero grade outcome *κροδ-, in an Aeolic dialect, under the influence of an older strong stem *κερδύς. Theoretically, however, κορδύς could also stem from Arcadian or Cypriot (see section 3.4).

99 Words provided with these sigla may have been incorporated later into the text of Hesychius from the lexicon of Cyrillus of Alexandria (5th c.); A and S denote two manuscripts of that lexicon. See Cunningham (2018: x).

100 The alphabetical order of these glosses (βλαδεῖς following βλαδόν) may confirm that βλαδεῖς is from a *u*-stem adjective *βλαδύς. Sometimes βλαδαρός is quoted as attested in Galen (e.g. Rau 2009: 153), but there the form is actually a conjecture for transmitted βλαβεραί (cf. Lamberterie 1990: 356). Lamberterie also includes the gloss βλάζειν· μωραίνειν 'to act foolishly', but its appurtenance to *βλαδύς seems uncertain to me.

101 It has been suggested that βλαδόν· ἀδύνατον should be corrected to βλαδύν (*GEW*, *DELG*), but this is rejected by Lamberterie (1990: 356 n. 4), who also convincingly argues against the necessity to restitute βλαδύς for the transmitted form βραδύς at Hp. *Aër.* 20 (o.c. 356–358).

almost the opposite of 'weak, soft', and the meanings contained in the glosses ἄωρα, μωρά and νωθρῶς could have developed from 'weak', but this is not evident. The glosses ἐκλελυμένον, χαῦνον and ἀδύνατον, on the other hand, can be understood quite well as having developed from 'weak, soft'.

The verb ἀμαλδύνω is attested from Homer onwards, but in various different meanings. The philological evidence for this verb has been extensively discussed by Lamberterie (1990). From his discussion, I retain the following conclusions:

(1) In Homer, ἀμαλδύνω occurs three times in a similar context. On each occasion, the Achaean wall is reduced to dust, corroded, by the erosion of wind and water. The meaning 'to make invisible', found in post-Homeric poetry, is ultimately based on reinterpretations of the Homeric passages. In the Hippocratic Corpus, ἀμαλδύνω means 'to weaken' (*vel sim.*); sometimes, ἀμαλδύνω is even used as an equivalent of ἀμβλύνω 'to make blunt' (cf. Lamberterie 1990: 364–368).

(2) The ἀ- of ἀμαλδύνω may be due to contamination with ἀμαθύνω 'reduce to sand' (Hom.+), which may itself owe its factitive suffix -υν- to ἀμαλδύνω (cf. Lamberterie 1990: 363).[102] It is noteworthy that the ἀ- of the gloss ἀμέλδειν· τήκειν. στερίσκειν 'to melt; deprive of' (Hsch.) was also secondarily added: cf. μέλδομαι 'to become soft by boiling or heating' (*Il.* 21.363, Nic.), from the same root as ἀμαλδύνω.[103]

(3) As Lamberterie (1990: 372–373) shows, the PIE root was **meld-* rather than **mled-* in view of Gr. μέλδομαι, PGmc. *(*s*)*meltan-* 'to melt', Arm. *metk* 'soft' < **meld̥i-*.[104] The full grade of Ved. *ví mradā* (RV, *hapax*) and *ū́rṇa-mradas-* 'soft like wool' is an innovation of Indo-Aryan.[105]

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102 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. Lamberterie (1990: 362) also draws attention to the gloss ἀβλαδέως· ἡδέως 'in a pleasant way, agreeably' (Hsch.). The meaning of the gloss may derive from 'soft', in which case the addition of ἀ- would have to be secondary (as with ἀμαλδύνω). For semantic reasons this seems preferable over assuming a privative *s*-stem compound **n̥-mld̥-es-*; besides, a zero grade root would be unexpected as a second compound member.

103 The second gloss στερίσκειν suggests that the glossator was confused by the similarity with ἀμέρδω 'to deprive (of eyesight)'.

104 Armenian *metk* confirms that the root did not have an initial laryngeal. Unclear to me is the claim of Hamp (1988: 89) that Arm. *metk* is a "revocalization" of **matk*.

105 Within early Vedic, the root *mrad* 'to soften' is semantically distinct from *mard* 'to crush', even if both roots were confused early on (Mayrhofer *EWAia* s.v. *MRAD*). Mayrhofer reconstructs PIE *(*h*$_2$)*mled-* 'to become weak, dissolve' as against **merd*(*H*)- "zerdrücken, zerreiben" (comparing this with Lat. *mordeō* 'to bite'). However, it would not be wise to base

(4) ἀμαλδύνω presupposes the earlier existence of an adjectival stem *(ἀ)μαλδύ- 'reduced to dust' (Lamberterie 1990: 364).

A semantic problem must now be taken into consideration. All reflexes of the adjective PIE *$m\mathring{l}d$-*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* 'to crush', which is both etymologically and synchronically distinct from the root *mrad* 'soften'. Lamberterie answers this problem by assuming that the meaning 'to reduce to dust' displayed by the Homeric factitive is old, claiming that it "reflète directement le sens fondamental de la racine *$mel(H_2)$- 'broyer, moudre' (…)" (1990: 364). This forces him to consider the meaning 'weak, soft, tender', attested in all branches that have a reflex of the *u*-stem adjective, as a secondary development from 'crushed, pulverized'. It does not seem very likely, however, that this semantic development took place independently in various different branches. Although it is possible that the roots *$meld$- and *$melh_1$- were identical at a pre-stage of PIE (via the '*effet Kortlandt*'), the meaning of *$meld$- 'to become weak or soft' was clearly distinct from that of *$melh_1$- 'to crush' in PIE itself.[106] We may assume that the meaning of *(ἀ)μαλδύς developed from 'weak, soft' to 'flaccid, porous' (as in βλαδαρόν· ἐκλελυμένον, χαῦνον Hsch. discussed above);[107] and from *(ἀ)μαλδύς the factitive verb ἀμαλδύνω 'to make porous, corrode' could be derived.

It remains to explain the different vocalizations in *(ἀ)μαλδύ- and *βλαδύς. It would not help to start from an adjective *$méld$-*u*-, *$m\mathring{l}d$-*éu*- with root ablaut, for it would be difficult to derive both *μαλδ- and *βλαδ- from it within the same dialect.[108] Moreover, it is uncertain whether root ablaut was preserved in adjectives in -ύς until the vocalization of *$\mathring{l}$.

As a way out of this dilemma, one might surmise that the forms with βλαδ- are not from Ionic-Attic, but from a different dialect. The glosses provide no

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the reconstruction *$(h_2)mled$- solely on the Indo-Aryan evidence, because this branch lost not only the difference between *l* and *r*, but also has no reflexes of 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_2merd- 'to crush, bite' (~ Lat. *mordeō*) could be kept apart by the creation of a novel full grade in *mrad* 'to soften', once full-grade forms deriving from *$meld$- had been lost.

106 Cf. *LIV*^{2}, *$meld$- 'weich werden' versus *$melh_2$- 'zerreiben, mahlen'. I reconstruct the latter root as *$melh_1$- on account of Myc. *me-re-ti-ri-ja* 'female corn grinders', among other reasons.

107 Note that German *weich* may mean both 'weak, soft' and 'flaccid'.

108 After *$m\mathring{l}déu$- > *$mladéu$-, one would expect an analogical reshaping either to (1) *$méldu$-, *$maldéu$- and hence levelling to *$maldú$-, *$maldéu$-, or directly to (2) *$mladús$, *$mladéu$-. Neither scenario can explain βλαδύς and ἀμαλδύ- at the same time.

clue about their provenance, but since lexical meanings such as 'flabby' and 'porous' would be compatible with medical terminology, one could hypothesize that forms with βλαδ- are from the Hippocratic Corpus (a considerable number of treatises belonging to this corpus are known to have been lost). In that case, it may be wondered whether these forms could be of Doric origin: Hippocrates and his pupils lived and worked on the island of Cos. This speculation may receive some support from the adjective πλαδαρός: one of its meanings is 'flaccid', which is also how βλαδαρός is glossed, and πλαδαρός is mainly attested in the Hippocratic corpus. It is not unthinkable that πλαδαρός is a secondary reshaping of βλαδαρός in Ionic, perhaps under the influence of πλάσσω 'to knead'. In this case, βλαδαρός could well stem from a different dialect, and the same might then hold for βλαδύς.

In conclusion, the adjective *(ἀ)μαλδύς that seems to be presupposed by the factitive verb ἀμαλδύνω 'to corrode' would be the expected Ionic-Attic continuant of PIE *$m\!\!\!^{\circ}ld$-ú- 'weak, flaccid', provided that its vocalization was influenced by the full grade (as found e.g. in the forms of comparison and the primary verb μέλδομαι). On the other hand, in glosses with βλαδ- we find a direct reflex of *$l\!\!\!^{\circ}$. The main problem is posed by the gloss βλαδεῖς, which seems to be the plural of an adjective βλαδύς: why did this form coexist with *(ἀ)μαλδύς? There is no obvious explanation, but it is conceivable that one of these forms is of non-Ionic-Attic origin. In any case, βλαδ- reflects a zero grade *$m\!\!\!^{\circ}ld$-; this conclusion will be bolstered with further arguments in chapter 10.

4.5 θρασύς versus θαρσύνω

The adjective θρασύς 'bold' < *$d^{h}r\!\!\!^{\circ}s$-ú- is attested from Homer onwards, both in poetry and in prose. Given that the root had a full grade θερσ-, it seems a strong counterexample against *$r\!\!\!^{\circ}$ > -αρ- as the regular Ionic-Attic development. However, θρασύς is different from other *u*-stem adjectives with a similar root structure in that its zero grade reflex does not show the influence of the original full grade root, θερσ-. If κρατύς, βραχύς, and βραδύς are indeed due to leveling, one would expect *$d^{h}r\!\!\!^{\circ}s$-ú- to end up as θαρσύς* under influence of *$d^{h}ers$-. Although some historical grammars cite a form θαρσύς,[109] it is not attested as an appellative, nor as a simplex, but only as a first compound member Θαρσυ-, Θαρρυ- in personal names; moreover, these names occur in West Greek dialects,

109 Lejeune (1972), Sihler (1995); Chantraine's reference to a "θαρσύς (attesté en composition)" (*DELG* s.v. θάρσος) is more precise but may still give rise to confusion.

not in Ionic-Attic.[110] A key question is whether an adjective *θαρσύς indeed existed at some pre-stage of Ionic-Attic.

In the following pages I will therefore consider all derivatives of this root, first in Homer, then in Classical Attic and Ionic. The semantic values of the attested formations play a key role: they may help us establish the historical and synchronic derivational relationships.

4.5.1 *The Roots θρασ- and θαρσ- in Homer: Attestations*

Table 4 (next page) contains all forms containing the root shapes θρασ- and θαρσ- as attested in Homeric Greek.

It appears that there are no true doublets in Homer. The only exception is the neuter abstract θάρσος ~ θράσος, but the variant θράσος may well be a one-off creation, analogical to κράτος ~ κάρτος.[111] Leaving aside this *hapax* θράσος, the root shape θρασ- only occurs in θρασύς and compounds with θρασυ-, for which no variant with θαρσ- exists. It is therefore not true that -αρ- could always be substituted for -ρα- in Homer, or *vice versa* (*pace* Lamberterie 1990: 849 and 852).

The allomorph θαρσ- can be due to the secondary introduction of *a*-vocalism in a pre-form with *θερσ-. Thus, the full grade root of θέρσος, attested in Alcaeus, has been replaced by θάρσος in Ionic-Attic. Similarly, in πολυθαρσής the second member replaces -θερσής, which is preserved in Homer only in the personal names Ἀλιθέρσης and Πολυθερσεΐδης. The question then remains where θαρσ- originated: does it also reflect an older zero grade in some forms, whether by regular sound change or analogical reshaping?

In the first member of compounds (including personal names), the two variants available in poetry were θρασυ- and θερσι-. They serve as counterparts of both θρασύς and θαρσαλέος, θάρσος. While θερσι- is a clear archaism, it seems as if θρασυ- may have been introduced in compounds at any time. However, since the distinction between these first members was utilized for metrical variation, and since both θερσι- and the reflex of *$t^h\underline{r}su$- are widespread in epigraphic onomastic material,[112] the *coexistence* of θερσι- and θρασυ- (earlier *$t^h\underline{r}su$-) is bound to be old as well.

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110 I regard the interpretation of the Mycenaean man's name *ta-su* as uncertain.

111 As we will see in chapter 5, the alternations κράτος ~ κάρτος and κρατερός ~ καρτερός in Epic Greek are structural and have a real linguistic basis.

112 In epigraphic onomastic material we also encounter a variant Θαρσυ- or Θαρρυ-, especially on Crete and in archaic Theran graffiti. In these dialects these forms may well regularly reflect *$t^h\underline{r}su$-, but in other dialects it is difficult to exclude that Θαρσυ- replaced Θρασυ- under the influence of θαρσ- in related formations such as θάρσος. Cf. sections 3.1.2

TABLE 4 Forms with the root shapes θρασ- and θαρσ- in Homer

θρασ-	θαρσ-
θρασύς 'dauntless, brave, reckless'[113]	
θρασυκάρδιος 'brave-hearted'	
θρασυμέμνονα 'id.'	
PNS Θρασυμήδης, Θρασύμηλον	
	θαρσύνω 'to instill courage'
	θάρσυνος 'confident'[114]
	θαρσαλέος 'dauntless, brave; persevering, audacious; confident'
	πολυθαρσής 'dauntless'
θράσος 'courage' (only *Il.* 14.416)	θάρσος 'perseverance, stamina; courage'
	θαρσέω 'to hold on; gain courage'

In sum, leaving aside the *hapax* θράσος, the root allomorph θρασ- is limited in Homer to the adjective θρασύς and the compounds with first member θρασυ- (including personal names). This distribution calls for an explanation. In what follows, I argue that there is evidence for a lost adjective *θαρσύς in Proto-Ionic, and suggest that θρασύς reflects an archaism not of the spoken language, but of the epic tradition. Not only is θρασύς morphologically isolated, but it is also semantically detached from most forms with θαρσ-.

and 3.4.3 on names in Θορσυ- attested in Cretan and Arcadian inscriptions, and section 3.4.1 on Cyprian *to-ro-su-ta-mo*.

113 Forms of comparison of θρασύς are not attested in early Greek epic. If the Classical forms θρασύτερος and θρασύτατος already existed, they could not have been used in epic meter. The *hapax* θράσιον (Alcm. fr. 87) is a secondary formation (cf. Barber 2013: 161).

114 θάρσυνος 'confident' only occurs twice in Homer. Its derivational morphology is unclear. According to Nussbaum (1976: 76) it is a composite Caland formation, with *-no-* stacked onto *$*d^{h}\text{ŗ}rs$-u-*; older suggestions are listed in Risch (1974: 150–151), with further literature. Since the meaning of θάρσυνος matches that of the other θαρσ- forms, and since it only occurs in Homer, I suspect that it was created as a metrical alternative for πίσυνος 'confident' (Hom.+), the only other adjective in -υνος and one with an almost identical lexical meaning. Since the root meaning 'confidence' of θαρσ- is innovative, it is unwarranted to use θάρσυνος as evidence for *$\text{ŗ} > -αρ-$.

4.5.2 *The Roots θρασ- and θαρσ- in Homer: Semantics*

It is usually thought that there was not yet a tangible semantic or lexical distinction between θαρσαλέος and θρασύς in Homer. In his dictionary treatment of this etymon, Chantraine (*DELG* s.v. θάρσος) claims that Homeric θρασύς means 'brave' as an epithet of Hector and other heroes, 'courageous' in the phrase πόλεμον θρασύν, and 'intrepid' as an epithet of arms that throw spears. A lexical split allegedly first occurs in Classical Attic, which (generally speaking) makes a distinction between θαρραλέος 'confident' and θάρρος 'courage, confidence' on the one hand, and θρασύς 'audacious, reckless', θράσος 'arrogance' on the other. This semantic specialization is thought to be of post-Homeric date and supposed to have developed by the lexicalization of a pragmatic difference between a pejorative sense 'reckless' and a laudatory meaning 'confident, courageous'.[115]

In reality, the Homeric evidence may point in a different direction. In his extensive discussion of the semantics of this root, Lamberterie (1990: 854) shows that θαρσαλέος, not θρασύς, serves as the productive adjectival counterpart of θάρσος, θαρσέω, and θαρσύνω. He compares the following items of Homeric phraseology:

– θαρσαλέον νύ οἱ ἦτορ ἐνὶ φρεσίν (*Il.* 19.169);
– θάρσυνον δέ οἱ ἦτορ ἐνὶ φρεσίν (*Il.* 16.242, θάρσυνον = 2sg. impv. aor.);
– θαρσύνοντ' ἑτάρους καὶ ἐποτρύνοντα μάχεσθαι (*Il.* 13.767; 17.117, 683).

This observation is corroborated by a closer consideration of the two Homeric forms and their semantics. In Homer θαρσαλέος has the same range of meanings as the abstract noun θάρσος, from which it was probably derived (cf. section 4.3.2):

(1) 'persistence' (whether in a positive sense 'stamina', or pejorative 'obstinacy, perseverance, audacity'), cf.

115 In the words of Chantraine (*DELG* s.v. θάρσος), "Cette spécialisation est secondaire comme le prouvent les faits homériques et les composés anciens avec θρασύς au premier membre (…)"; cf. also Lamberterie (1990: 849 and 855–859). Meissner (2006: 71), however, adds a different nuance: "It is important to note that θράσος has the same negative connotation that the basic adjective θρασύς had developed much earlier. Already in Homer θρασύς is attested in the meaning 'over-bold', 'rash' (cf. *Od.* 10.436, where Eurylokhos tries to hold back the companions, warning them against rash Odysseus through whose ἀτασθαλίαι many have perished), though θρασύς can, of course, be positive as well." In my view, however, the distinction between positive and negative connotations is epiphenomenal.

καί οἱ μυίης **θάρσος** ἐνὶ στήθεσσιν ἐνῆκεν,
ἥ τε καὶ ἐργομένη μάλα περ χροὸς ἀνδρομέοιο
ἰσχανάᾳ δακέειν, λαρόν τέ οἱ αἷμ' ἀνθρώπου·
τοίου μιν **θάρσευς** πλῆσε φρένας ἀμφὶ μελαίνας
Il. 17.570–573

and she [Athena] put into his [Menelaus] heart the perseverance of a mosquito, which even when brushed off keeps trying to bite in the human skin; it likes the taste of human blood; with a similar endurance did she fill him in his dark lungs.

σὺ δ' ἔσω κίε μηδέ τι θυμῷ
τάρβει· **θαρσαλέος** γὰρ ἀνὴρ ἐν πᾶσιν ἀμείνων
ἔργοισιν τελέθει, εἰ καί ποθεν ἄλλοθεν ἔλθοι.
Od. 7.50–52

But do you enter the palace and do not be timid at heart: for a man who perseveres has more success in all matters, even if he comes from somewhere else.

ὥς τις **θαρσαλέος** καὶ ἀναιδὴς ἐσσι προΐκτης
Od. 17.449

such an obstinate and shameless beggar you are

(2) 'courage, confidence', cf.:

τῇ γὰρ Ἀθήνη
θάρσος ἐνὶ φρεσὶ θῆκε καὶ ἐκ δέος εἵλετο γυίων.
Od. 6.140

and in her [Nausicaä] heart Athena put courage and she took fear out of her legs.

θαρσαλέον νύ οἱ ἦτορ ἐνὶ φρεσίν, οὐδέ τι γυῖα
πρὶν κάμνει πρὶν πάντας ἐρωῆσαι πολέμοιο.
Il. 19.169

The heart in his chest is courageous, and his limbs do not get tired before everyone else has stopped fighting.

On the other hand, in pre-classical poetry θρασύς usually means 'bold, intrepid', and this is clearly an older meaning than 'courageous, confident' or 'audacious'.[116] However, already in Homer there are restrictions on the use of θρασύς. The positive nuance 'intrepid, dauntless' is retained in compounds and in the archaic formula θρασειάων ἀπὸ χειρῶν, where it qualifies the persevering arms of warriors (that keep throwing spears). The negative nuance 'reckless' is predominant when θρασύς qualifies human beings: Hector (whose recklessness is thematic throughout the *Iliad*), his charioteers, and Odysseus in a passage where his foolhardy eagerness to confront the Cyclops is criticized by one of his companions.[117] Finally, the phrase πόλεμον θρασύν (3×) is used twice when Helen's abduction is mentioned as the cause of the Trojan war (cf. also *Il.* 10.27–28):

> ὅτ' ἐμεῖο κυνώπιδος εἵνεκ' Ἀχαιοὶ
> ἦλθεθ' ὑπὸ Τροίην, πόλεμον θρασὺν ὁρμαίνοντες
> *Od.* 4.145–146
>
> when you Achaeans came to the walls of Troy on account of me, bitch-face, waging a stout-hearted/reckless war

Thus, in spite of some potential overlap between θαρσαλέος and θρασύς in Homer, there are in fact clear differences between the two in meaning and use. While θρασύς never means 'confident, courageous', θαρσαλέος and θαρσύνω are readily used in this sense. If the phrase θαρσαλέον … ἦτορ is paralleled by the compound θρασυκάρδιος, this is due to the fact that θρασυ- is still the productive 1st compound member corresponding to θαρσαλέος and θάρσος, θαρσέω. Furthermore, θαρσαλέος, θάρσος, θαρσέω and θαρσύνω are frequently opposed to words for fear (τάρβος, δέος; ταρβέω, δείδω) or restraint (αἰδώς), but θρασύς is never used in such oppositions.[118]

In sum, the derivational connection in Homer between θαρσαλέος (but not θρασύς) and θάρσος, θαρσέω, θαρσύνω suggests that θρασύς is a poetic archaism.

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116 I disagree with Chantraine's claim (*DELG* s.v. θάρσος) that the original root meaning is 'to be confident'.

117 *Pace* Lamberterie (1990: 850), who thinks that θρασύς, with the exception of *Od.* 10.436, always has a positive nuance in Homer. Cf. also Meissner (2006: 71).

118 For Thucydides, Huart (1968: 426) 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".

The use of θρασυ- as a first compound member corresponding to both θαρσαλέος and θρασύς confirms this. The relic status of θρασύς and θρασυ- may explain why their root was not adapted to θαρσ-.

On the other hand, θαρσαλέος was probably derived from θάρσος. But what caused the replacement *θέρσος >> θάρσος? It would be problematic to assume that the vocalism of θρασύς was responsible, as one expects analogical influence to reduce the number of different root shapes, not to increase them. Therefore, the root vowel of θάρσος must have been introduced from a different form, preferably from an adjective.[119] We must now pose the question: is it possible that an earlier stage of Ionic-Attic had an adjective *θαρσύς? This would immediately account for the vocalism of θάρσος *and* for the vowel slot of the factitive verb θαρσύνω in one time (cf. section 4.2.3). Before further discussing this issue, let us first consider the situation in Classical Greek.

4.5.3 *The Roots θρασ- and θαρσ- in Classical Greek*

The attested formations and the distribution of the allomorphs θρασ- and θαρσ- in Classical Greek are listed in Table 5 (on the following page). It distinguishes Ionic from Attic, and poetic forms from prose forms.

In Classical Greek, the allomorph θρασ- is no longer limited to the forms θρασύς and θρασυ-: we also find the forms of comparison θρασύτερος, θρασύτατος, a denominative verb θρασύνω, and an abstract θράσος. Thus, unlike Homeric Greek, the Classical language has the variants θρασύνω ~ θαρσύνω (Attic θαρρύνω) and θράσος ~ θάρσος (Attic θάρρος).[120] As we will see in the next chapter, the situation for κρατ- ~ καρτ- is exactly the reverse: doublets κρατερός ~ καρτερός and κράτος ~ κάρτος are found in Epic Greek, but not in Classical prose.

The alternation θρασ- ~ θαρσ- in Classical Greek reflects a phenomenon of the spoken language, while that between κρατ- and καρτ- in Homer belongs to the artificial language of epic. In Homer the alternation is utilized for metrical purposes, but in Classical Attic the two roots θρασ- and θαρσ- are semantically distinct. As is well-known,[121] Attic prose generally makes a distinction between

119 I have played with the idea that θαρσέω, which could well be an inherited 'stative' verb, directly reflects PGr. *$t^{h}\mathfrak{z}s$-$\bar{e}$- and, after its vocalization, influenced the vocalism of θάρσος. Although such a scenario is possible, I see no clear way to rigorously prove it at present. Moreover, the earlier existence of an adjective *θαρσύς must be posited in any case: see below.

120 Excepting the one-off instance of θράσος in Homer, see above. In the remainder of this chapter, I will refrain from citing the Attic forms with their proper dialectal outcome -ρρ- and refer to them only in the form with -ρσ-.

121 See Lamberterie (1990: 849–859), and also Huart (1968: 426–431), with a special focus on Thucydides; for a concise discussion, see Meissner (2006: 70–71).

TABLE 5 θρασ- vs. θαρσ- in Classical Greek prose and poetry

θρασ- 'bold, brave, reckless'	**θαρσ- 'courageous, assertive'**
θρασύς 'bold, reckless; audacious' (poetry and prose)	
1st CM θρασυ-, Θρασυ- (poetry, Pi.+)[122]	
θρασύτερος, -τατος (never in poetry)	
θρασύνω 'to embolden' (Attic, Hp.)	θαρσύνω 'to encourage' (Ion. prose, Att. poetry, Th.), θαρρύνω (X.)
	θαρραλέος 'self-assured, assertive, confident; audacious' (Attic prose; θαρσ- in Th., Hp. and poetry)
θράσος 'audacity, insolence' (Attic, e.g. Ar., X., Pl.; never in Ionic)	θάρσος 'courage, confidence' (Pi., trag., Hdt., Th., Pl.), Att. θάρρος (X., Pl.)
κυνο-θρασής 'impudent as a dog' (A.)[123]	εὐ-θαρσής 'courageous' (A.)
	θαρσέω (Att. θαρρέω) especially in impv. θάρρει 'hold on!'

θράσος 'audacity, boldness, recklessness' and θάρσος 'courage, (self-)confidence', and also between θρασύνω 'to embolden' and θαρσύνω 'to encourage, give confidence'.[124] Generally speaking, this distinction is respected in Classical poetry,

122 In the extant *Odes* of Pindar, we find 14 compounds with θρασυ- (including 7× a proper name), as against 7 attestations of the adjective θρασύς. Names in Θρασυ- are common in inscriptions and compete with names in Θερσι- (for an outdated overview, see Bechtel 1917: 207 and 211–213). The latter form also occurs in the appellative compound θερσι-επής 'with audacious words' (in Bacchylides). The distribution between θερσι- and θρασυ- was probably metrically conditioned (see above); names in Θαρσυ- and Θορσυ- are found only in certain West Greek dialects and Arcadian.

123 In view of its meaning, κυνοθρασής was based on θράσος (Meissner 2006: 185).

124 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 (2006: 71) formulates, "The negative connotation [of θρασ-] becomes more frequent in Attic, and as early as in tragedy the meaning 'arrogant', 'audacious' prevails (…). Thus, θράσος follows θρασύς not only in form but in meaning as well." Lamberterie (1990: 856–857) argues that the pejorative connotation may have developed, in particular, in the frequent use of θρασύς qualifying impudent words. Yet, as Huart (1968) convincingly shows, this

too, even if there are some instances where θρασ- is used instead of expected θαρσ-, perhaps for metrical reasons.[125] It is plausible that θράσος and θρασύνω were productively created to the old adjective θρασύς as an adjectival abstract and factitive verb, respectively.

For θρασύς, the Homeric meaning 'bold, daring' continues to be the normal one in early Classical poetry, also in poetic compounds with θρασυ- (see Lamberterie 1990: 851). In Classical prose the predominant meaning becomes 'audacious', but we must note, with Huart (1968: 430), that θρασύς and θράσος do not have an exclusively pejorative meaning in Thucydides.[126] This does not imply, however, that Thucydides made no distinction between θρασύς and θαρσαλέος (as Huart claims): θρασύς means 'bold; reckless' as against θαρσαλέος 'confident, self-assured'.[127]

Both Ionic and Attic retain θαρσύνω (already Homeric), but we also find θρασύνω, based on θρασύς or on θράσος. It is noteworthy that the -έω verb only appears in the form θαρσέω 'to gain courage; hold on'; the stative-inchoative verb corresponding to θράσος was not *θρασέω, but expressed by means of the middle of the factitive, θρασύνομαι 'to be(come) bold or audacious'. Thus, the only old verbs are θαρσύνω and θαρσέω; θρασύνω is a more recent creation. This means that Homeric θαρσύνω is not a metrical replacement of a vernacular form *θρασύνω 'to encourage', but that it was linguistically real already at an early date. In view of the difference in root vocalism, we may conclude with some confidence that θαρσύνω was not directly derived from θρασύς. The deriva-

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distinction between pejorative and laudatory uses does not hold for Thucydides. On the other hand, Huart 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, but not necessarily, with the connotation of surplus: 'recklessness'), whereas θάρσος means 'confidence, assurance' (either justified or unjustified: see Huart 1968: 427).

125 Lamberterie (1990: 856) mentions A. *Supp.* 772 πρὶν ὅρμῳ ναῦν θρασυνθῆναι "before the ship has reached a safe haven", where one would expect a form in θαρσ-. It is perhaps on the basis of such instances that *LSJ* (s.v. θράσος) remarks that "θαρσύνω and θρασύνω are used indifferently", but that clearly goes too far.

126 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.

127 As for θαρσαλέος, see 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 noted by Plato, *Leg.* 649c (see *DELG* s.v. θάρσος), although θαρραλέος does not mean 'self-confident' there, but is rendered with ἀναίσχυντος 'audacious'.

TABLE 6 The oldest distribution of the root shapes θρασ- and θαρσ-

Archaic forms and meanings	Innovative forms and meanings (Homer)	Innovative forms and meanings (Attic)
θρασύς 'bold, daring, reckless'	θαρσαλέος 'audacious; courageous'	θρασύς 'audacious, arrogant'
θάρσος 'persistence'	θάρσος 'courage, confidence'	θράσος 'audacity, insolence'
θαρσέω 'persevere'		
	θαρσύνω 'give courage'	θρασύνω 'embolden', θρασύνομαι 'be bold, take courage'

tion of θαρσύνω probably took place before the vocalization of *$\underset{\circ}{r}$, and before the ancestor of θαρσαλέος ousted that of θρασύς.

In sum: in Homer θρασύς retains its archaic meaning 'bold, reckless'; it did not take part in the semantic development to 'courageous, self-assured' that θαρσαλέος, θαρσύνω and other derivations with θαρσ- had already undergone in Homer. In Classical Greek, θρασύς further specializes in pejorative meanings like 'audacious; arrogant, insolent' and serves as the basis for new derivations: a factitive verb θρασύνω and an abstract θράσος. See Table 6.

4.5.4 *Reconstruction*

Let us now review the arguments for positing an older adjective *θαρσύς.

First of all, the shape of the factitive verb θαρσύνω seems to presuppose a base form *θαρσύς for the adjective.[128] Against this, both Tucker (1990) and Strunk (1975) have objected that θαρσύνω may have been derived from the abstract θάρσος already in Homer. However, we have seen (section 4.2.3) that the basis for this derivation, as early as Homer, is very slim. The main question

128 This was first proposed by Chantraine (*DELG*, s.v. θάρσος): "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." Although I concur with Chantraine concerning the priority of *θαρσύς, I disagree with his claim that *θαρσύς and θρασύς were simply doublets: "… la forme [θρασύς] pouvant être analogique de θαρσύς (attesté en composition) qui présente le traitement -αρ- de *$\underset{\circ}{r}$, θέρσος, etc. (…)." For this, Chantraine refers to Lejeune (1972), who ascribes the double reflex of *$\underset{\circ}{r}$ to liquid metathesis.

is: how did the derivational pattern originate which links factitives in -ύνω to neuter abstracts? Homeric καρτύνω was derived from κάρτος (a form *καρτύς never existed), but this derivation presupposes the existence of a model. Given the absence of alternatives, it is attractive to think that the pair θαρσύνω : θάρσος was pivotal in the emergence of the new derivational pattern, i.e. that the original base form *θαρσύς of θαρσύνω was lost before our first attestations.[129] This is corroborated by the pair ὀτραλέως : ὀτρύνω 'to incite', which is clearly based on θαρσαλέος : θαρσύνω 'to encourage'.

Secondly, except for the fact that θρασύς is actually attested, there is every reason to believe that *$d^hr̥s$-*ú*- would indeed have resulted in *θαρσύς, whether its vocalism arose by analogy with the full grade root *d^her- or by regular sound change. If we suppose that this *θαρσύς was supplanted by θαρσαλέος (derived from θάρσος), all pieces suddenly fall into place. First, *θαρσύς (perhaps assisted by θαρσέω) induced the reshaping θέρσος >> θάρσος. Next, after *θαρσύς had fallen in disuse and was replaced by θαρσαλέος, a new derivational pattern θάρσος → θαρσύνω emerged.

If this account is accepted, it still remains to account for the form θρασύς. Its deviant root shape can only be explained as the regular phonetic reflex of a preform *$t^hr̥s$*ú*-. It can be excluded, however, that both θρασύς and *θαρσύς resulted from the same paradigm in the same dialect. In my view, a promising solution is that θρασύς has a special epic reflex of *$r̥$; it was borrowed from epic into the spoken language with its archaic meaning 'bold, intrepid' (whence 'audacious; reckless'). It would not be unexpected if an adjective meaning 'bold, daring, reckless' was borrowed from heroic poetry. This scenario will be bolstered with further arguments in chapter 6, where I propose that -ρα- was a regular outcome of what I shall call 'Epic *$r̥$', i.e. *$r̥$ which was retained in Epic Greek longer than in the vernaculars and then underwent its proper vocalization.

Such a suggestion may appear random at this point, especially since the isolated adjective ταρφέες (with its reflex -αρ-) is also limited to Epic Greek. In order to effectively counter this objection, we must analyze more material. I will start with a discussion of the root of κρατύς and καρτερός in chapter 5, and then turn to the Homeric evidence for *muta cum liquida* scansion in forms with -ρα- or -ρο- in chapter 6. At this point, we may already take into account the fact that θρασύς occurs in Homeric material that is clearly traditional: cf. the

129 The alternative would be to assume that the expected form *θρασύνω was replaced by θαρσύνω under the influence of the neuter θάρσος and the stative-inchoative verb θαρσέω. This is unlikely because (i) usually the root shape of the adjective (as the basic form for derivation) wins out, and (ii) as long as the adjective continued to exist in the shape θρασύς, a reshaping *θρασύνω >> θαρσύνω would be unlikely.

formulaic verse-end θρασειάων ἀπὸ χειρῶν, the phrase πόλεμον θρασύν, and the metrically governed alternation between θρασυ- and θερσι- as first compound members and in names.

4.6 Conclusions

Starting out 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 most forms belonging to the following categories:

– *s*-stem nouns (e.g. πλάτος, θάρσος, κράτος) and compounded adjectives (e.g. -πλατής, -θαρσής, -κρατής); these originally had a full grade root and secondarily introduced the zero grade reflex of a simplex adjective;
– the *u*-stem adjectives πλατύς, κρατύς, βραχύς, βραδύς, whose vocalization may have been influenced by the full grade slot of the root (as in the forms of comparison);
– a number of adjectives in -αλέος like θαρσαλέος, ἁρπαλέος, ταρβαλέος, which may owe their vocalism to earlier *s*-stem abstracts or stative verbs.

The so-called 'stative' verbs in -έω (e.g. κρατέω, θαρσέω, ταρβέω) play an ambiguous role. Etymologically, they have a zero grade root, but synchronically they have derivational ties with *s*-stem nouns and adjectives, witness the fact that the Lesbian poets use κρετέω beside τὸ κρέτος (contrast Ionic-Attic κρατέω). For this reason a form like θαρσέω is difficult to use for the purpose of reconstruction, although it may in theory display the direct reflex of zero-grade *$t^hr̥s$-. In the case of ταρβέω, τάρβησα it is quite plausible that its aorist directly reflects *$tr̥g^w$-*ē*-*s*-.

Returning to the *u*-stem adjectives, we have seen that three forms show the regular vocalization of a syllabic liquid. PIE *$ml̥d$-*ú*- 'soft' is reflected in the plural form βλαδεῖς, attested as a gloss in Hesychius. The factitive verb ἀμαλδύνω 'to corrode' is a denominative based on another reflex of *$ml̥d$-*ú*-, *ἀμαλδυ- with secondary ἀ-, whose vocalization was influenced by the full grade **meld*- (cf. μέλδομαι 'to melt'). It is uncertain how this divergence is to be explained (possibly a dialectal difference). For further evidence for *$l̥$ > -λα-, see chapter 10.

We have discussed θρασύς and ταρφέες as the only two cases of a reflex of *$r̥$ for which analogical reshaping is excluded. *Ex hypothesi*, the two reflexes cannot both be regular in the same variety of Greek. The form ταρφέες, an archaic *plurale tantum* in Homer, with an aberrant accentuation of the feminine ταρφειαί, shows the regular Proto-Ionic reflex. The cognate adjective τραφερός 'solid', with its alternative vocalization, was productively derived from the

verb τρέφομαι, ἐτράφην 'to thicken'. In chapter 5, we will see that *r̥ > -αρ- in the Ionic-Attic vernaculars is also supported by καρτερός 'firm' and κάρτα 'very', while *r̥ > -ρα- is found in epic vocabulary derived from this root (κρατερός, κραταιός).

This leaves us with the task of accounting for θρασύς. Excepting some cases in poetry, there was never a free allomorphy between θρασ- and θαρσ-, neither in Homeric Greek nor in Classical prose. I have argued that an alternative form *θαρσύς once existed: this underlies the factitive verb θαρσύνω, and crucially, it would be hard to understand why and how the allomorph θαρσ- spread through all other derivatives (replacing θερσ-) if θρασύς had always been the current form of the adjective. The adjective corresponding functionally to θάρσος and θαρσύνω is θαρσαλέος (not θρασύς), and it would make good sense if *θαρσύς was ousted by θαρσαλέος. The pre-Homeric loss of *θαρσύς would also explain how the derivation of factitives in -ύνω from *s*-stem neuter abstracts started (namely from the pair θαρσύνω : θάρσος).

In view of these considerations, I suppose that *θαρσύς is the regular Proto-Ionic reflex of *$t^hr̥su$-, and that θρασύς did not develop in spoken varieties of Ionic-Attic. In chapter 6, I will further elaborate the idea that its reflex -ρα- arose within the prehistory of Epic Greek.

CHAPTER 5

Reflexes of *$\mathring{r}$ in καρτερός, κράτος and Related Forms

Introduction

Among the evidence for the regular outcome of *$\mathring{r}$ in Ionic-Attic, the root of καρτερός, κρατύς, κράτος and related forms is of crucial importance. Several formations have doublets, the most prominent ones being καρτερός ~ κρατερός, κράτος ~ κάρτος, and κράτιστος ~ κάρτιστος. In chapter 1, we have seen that the forms with -αρ- are troublesome for accounts arguing for a regular development *$\mathring{r}$ > -ρα- in Proto-Ionic, in view of the full grade attested in Aeol. κρέτος and Ion. κρέσσων. Indeed, by a process familiar from chapter 4, forms like κράτος have secondarily introduced an analogical zero grade κρατ- from a related adjective, replacing the original full grade κρετ-. This is a very important argument for viewing -αρ- as the regular reflex.

However, the analysis of doublets like καρτερός ~ κρατερός is complicated by two issues that must be clarified before we draw this conclusion. One approach to such doublets has been to claim that κρατ- and καρτ- were freely interchangeable allomorphs.[1] This is in my view an *ad hoc* strategy designed to save the idea of a regular development *$\mathring{r}$ > -ρα-. For one thing, it does not explain why doublets are attested only for a subset of the attested formations. For instance, the adjective κραταιός has no by-form *καρταιός, in spite of the fact that using κραταιός in hexametrical Greek necessitated the use of *muta cum liquida* scansion, an uncommon phenomenon in Homer. Moreover, some variants appear to be limited to specific genres: for example, κρατερός never occurs in prose.

Apparently, then, doubles with καρτ- beside κρατ- could be created only under certain conditions. One main goal of this chapter is to show, by a fresh etymological analysis of the evidence, in which respective formations the root shapes κρατ- and καρτ- originated and by which mechanisms they spread. This analysis is reinforced by a close consideration of synchronic derivational relations: once we take the lexical meanings of base form and derivative into account, we may infer with more plausibility that certain formations were analogically or even artificially created in the epic language. For instance, we will see that the epic form κάρτος is only used as an adjectival abstract meaning

1 For instance, Lejeune (1972: 196) invokes a "mobilité générale" of liquids within the syllable; Strunk (1975: 286) remarks that "inlautendes -αρ- < *-$\mathring{r}$- vor Konsonant (…) auch sonst gelegentlich statt oder neben -ρα- vorkommt".

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'strength, violence' (i.e. the fact of being καρτερός ~ κρατερός), and that it never means 'power' or 'superiority', the default meanings of κράτος. This strengthens the idea that κάρτος was derived from καρτερός within Epic Greek.

A second question is: how certain are we about the original shape of the full grade? Two different etymologies have been proposed. The mainstream view holds that κράτος is related to the Indo-Iranian noun meaning 'will-power' (Ved. *krátu-* m.); an alternative proposal (Lamberterie 1990: 346–353) compares Goth. *hardus* 'hard' and derives the Greek and Germanic words from PIE **kert-* 'cut'. The second proposal is problematic in view of the root shape of forms like Aeol. κρέτος, but Benveniste (1969: II, 71–83) suggested that the Greek group may be a conflation of both roots, and thus have a dual etymological origin. Benveniste based this suggestion on the semantics of καρτερός (and its doublet κρατερός), the adjective that seems to have served as the derivational basis of most other attested formations.

If Benveniste's thesis were correct, it could be assumed that the vocalization of **r̥* (and hence the emergence of two root allomorphs καρτ- and κρατ-) took place at a time when these roots were still lexically distinct. Thus, if we wish to utilize forms like καρτερός as evidence for the regular reflex of **r̥*, we must be able to exclude a dual etymological origin as proposed by Benveniste, or at least to render this idea unlikely. For this purpose, a careful study of the semantics of the attested forms will be necessary.

5.1 Semantics and Etymology

In this section, I will first review the existing etymologies and their problems, and explore the semantics of καρτερός ~ κρατερός in more depth. The analogical spread of κρατ- and καρτ- across the attested formations will be studied in section 5.2.

5.1.1 *The Competing Etymologies*

There is no generally accepted etymology for κρατερός and related forms. Since the early days of Indo-European studies, the Greek lexical family has been compared to two different formations.[2] On the one hand, the epic adjective κρατύς has been equated with Goth. *hardus* 'hard' and its Germanic cognates,

2 As far as the Greek evidence is concerned, previous treatments include Trümpy (1950: 202 ff.), Frisk (*GEW* s.v. κράτος), Benveniste (1969), Strunk (1975), Breuil (1989), Lamberterie (1990: 323–353). For an overview of the older literature, see Strunk (1975: 265–266).

the root of which is PIE **kert-*. On the other hand, it has been compared to an isolated Indo-Iranian masculine noun, Ved. *krátu-* m. 'will-power, resolve' and Av. *xratu-* 'id.', a *u*-stem to a different PIE root of the shape **kret-*.[3]

The connection with Goth. *hardus* is advocated by Lamberterie (1990: 323–350). On the basis of an extensive discussion of the Greek attestations and their semantics, he claims that the basic meaning of κρατερός and κρατύς can be reconstructed as 'hard, firm, solid'.[4] He proposes (1990: 349) to derive the Greek and Germanic forms from the verbal root PIE **kert-* 'to cut'.[5] The semantic development would lead from 'cutting' to 'sharp' and then, independently in Greek and Germanic, to 'hard'.[6] However, there are serious problems with this etymology. For one thing, the root of the Germanic adjective (quasi **kortú-*) has a different full grade slot compared to Aeol. κρέτος, Ion. κρέσσων.[7] Moreover, as I will argue below, it is unlikely 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 accepted without hesitation.[8] 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 (the widely-used translation 'strong' may well be off the mark). Strunk (1975: 269–270) argued that κρατύς in this formula must have referred to a characteristic trait of Hermes, such as cleverness, quick wits, or dexterity, and he claims that an older meaning of PIE **krétu-* was 'magical power'. However, even if we suppose

3 The meaning of the Indo-Iranian word has been much discussed; the best rendering seems to be 'will-power, resolution, resolve' (German *Entschlossenheit*), which is close to a basic meaning of βουλή in Homeric Greek. The connection with κρατύς is accepted by Mayrhofer (*EWAia* s.v. krátu-), Risch (1974), and also (with some hesitation) by Frisk (*GEW* s.v. κράτος).

4 Lamberterie (1990: 336) 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 »."

5 Attested as a verbal root in Hitt. *kartae-zi* 'to cut off', Ved. *kart* 'to cut (off), split, break' (pres. *kr̥ntáti*, them. aor. *kr̥tá-*, both RV+), Lith. *kiřsti* 'to hew, hit, cut' (pres. 1sg. *kertù*), and PSlav. **čersti* 'to carve, slash' (ORu. *čьrsti*), and probably in Hom. ἔκερσε 'cut (off)'.

6 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 having *o*-vocalism of the root; but as Strunk (1976) remarks, *o*-vocalism of the root can be old in neuter nouns (cf. δόρυ, γόνυ), but hardly in an adjective. According to Lamberterie (1990: 349) it was secondarily adopted from a related action noun of the type φόρος, attested in Lith. *kařtas*, OCS *kratъ* 'once, time' < **kórt-o-* (*'cutting').

7 This problem is not discussed by Lamberterie.

8 For example Nussbaum (1998: 147), Widmer (2004: 123 ff.).

that magic played a role in Indo-Iranian **krátu-*, this is rather implausible for the Greek concept of κράτος.[9]

There is also a morphological problem: the side-by-side existence of an adjective (κρατύς) and a derivationally isolated noun (Ved. *krátu-*) requires an explanation. Strunk envisaged two possible ways to connect them. On the one hand, he considers the possibility that the Indo-Iranian noun was originally an adjective. He deems this unlikely, because Ved. *krátu-* is inflected according to a different accent and ablaut paradigm (gen. *kratváḥ*, ins. *kratvā́*) compared to the adjectives in -ú́s (gen. -éos). Strunk therefore suggested that κρατύς may have originally been an abstract noun. Assuming that the formula κρατὺς Ἀργεϊφόντης is comparable to cases like βίη Ἡρακληείη "the Heracleid force" (for 'Heracles') and that it had the meaning "the Argos-killing power", he suggests that κρατύς could be reinterpreted as an adjective in such instances. However, since we do not really know the underlying synchronic meaning of κρατὺς Ἀργεϊφόντης, this is mere speculation at best. Moreover, it would be highly problematic for the entire 'Caland system' of κρατερός, the most extensive of its kind in Greek, to be based on one single form which is itself seen as the product of a reanalysis.

Nowadays, the similarity between κρατύς and Ved. *krátu-* is often accounted for within the framework of internal derivation, under the assumption that Ved. *krátu-* reflects a so-called acrostatic paradigm, **krót-u-* / **krét-u-*.[10] However, κρατύς beside Ved. *krátu-* is in reality one of the very few examples for the supposed derivational scheme. Moreover, the semantic connection between these two items, though possible, is not as clear-cut as some scholars make us believe. It therefore seems best to suspend judgment on this point.

In Van Beek 2013: 151–155, I have proposed a new etymology according to which καρτερός ~ κρατερός 'powerful; firm' is related to Vedic *śrathⁱ* 'to loosen', *śithirá-* 'loose'. Semantically, the idea is that in the *Rigveda*, *śithirá-* still means 'loose' in the sense 'agile, moving freely'. While *śithirá-* may refer to the unbridled motion of horses and the Maruts, κρατερός in Homer often denotes the powerful motion of warriors, animals or weapons, and hence their capacity to have impact or to deal damage. Thus, 'loose, unrestrained, unbridled' would have developed into 'fierce, violent' and hence 'powerful, firm' (see below for further discussion of the semantic developments in Greek). In terms of phonology and morphology, the etymology is attractive because the Greek and Vedic

9 The same problem applies to the proposal of Benveniste (1969): see below. It is true that κράτος is often granted by a god in Homer, but that does not make it a magical force.

10 See e.g. Nussbaum (1998: 154 n. 189), who refers to κρατύς as an "item (…) that is demonstrably an internal derivative of an acrostatic substantive".

adjectives can both directly derive from the same PIE pre-form **ḱr̥th₁-ró-*.[11] In this way, we may account not only for the suffix -ρός (instead of -ύς) but also for its extended form -ερός: as we will see, **kr̥teró-* is reflected in three different dialect groups.

Although I still consider this etymology to be at least as attractive as the connection with Vedic *krátu-*, I will not insist on its correctness here, as the present argument does not depend on it. Instead, since our main task is to establish that the only full grade of the root was PGr. **kret-*, let us turn to the arguments advanced by Benveniste (1969). Benveniste based his etymological analysis on the polysemy of 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-*.[12] According to Benveniste, the original difference between these groups is preserved faithfully in the semantics of most Greek formations. For instance, he claims that the abstract κράτος means only 'superiority, prevalence' (and that it is related to Vedic *krátu-*), while the adjective κραταιός would mean only 'hard, harsh, cruel' (and is supposedly related to Goth. *hardus*). The two sets of meanings are supposed to coexist only in κρατερός.[13]

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11 The outcome *śithirá-* is the result of a regular dissimilation of **śr̥thirá-* (see Lubotsky 1994: 96, with reference to Narten). I accept the view that aspiration of a preceding stop in Indic could be caused not only by **h₂*, but also by **h₁* (see Lubotsky 2011: 115). The most important piece of evidence is Ved. *sphāyate* 'to become fat' < PIE **sph₁-oi-e/o-*, which belongs with Hitt. *išpāi* (3sg. pres.) 'eats to satiation' < **sph₁-oi-ei*; the color of the laryngeal is proven by OCS *spěti* 'to succeed', Ru. *spet'* 'to ripen', Lith. *spėti* 'to be in time', OE *spōwan* 'to prosper' as well as by Lat. *spēs* 'hope' (see Kloekhorst, *EDHIL* s.v. *išpāi-*[i]). The root **speh₁-* also formed an adjective **sph₁-ró-*, reflected in Ved. *sphirá-* 'fat' and Lat. *prosperus* 'prosperous'.

12 Lallot has summarized Benveniste's chapter about κράτος as follows (Benveniste 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 »."

13 "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).

Various objections must be made to this analysis (the details will be elaborated in the sections that follow). First of all, it remains unclear *why* the original semantic difference would have been preserved only in καρτερός ~ κρατερός, and why, for instance, only one of the roots formed an abstract. Given the system of derivatives attested in Greek, the default assumption must be that we are dealing with just one etymon, and the burden of proof is on Benveniste. Moreover, several of the semantic claims made by Benveniste appear to be incorrect or incomplete once we consider them more closely:

– 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 5.2.6).
– κράτος ~ κάρτος refers not only to human warriors (Benveniste, o.c. 78), but also to animals (*Od.* 3.370, the endurance of horses) and iron (*Od.* 9.393).
– it is unlikely that κραταιός means 'hard, cruel' when occurring as an epithet of sons in the formula υἷε κραταιώ 'strong sons', or when Odysseus applies the term to himself (*Od.* 18.383).

Finally, it is difficult to account for the assumption that two originally different etyma independently made an adjective in -ερός.

As we have seen, the proposed etymological connections with Indo-Iranian and Germanic both have their own morphological and semantic issues. There is also widespread disagreement on the meaning of the Homeric formations. For instance, κράτος is translated as 'strength, force' by some scholars, but as 'superiority, prevalence' by others;[14] again others stress that κράτος seems to refer to the hardness of iron in one Homeric passage.[15] Indeed, given this wide range of meanings, Benveniste's proposal of a dual etymological origin may seem less surprising. We therefore have to ask how the various meanings of all derivatives can be derived from a single, more basic meaning. In sections 5.1.2–3, I will first deal with this question for the adjective καρτερός ~ κρατερός in Homer. After that, it will be possible (in section 5.2) to combine semantics and derivational morphology in our analysis of the root allomorphy in other formations like κράτος ~ κάρτος.

14 The translation 'strength, force' is 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*"). For 'superiority, prevalence', see e.g. Benveniste (1969).

15 Trümpy (1950: 202–206), Lamberterie (1990: 329).

5.1.2 *The Semantics of καρτερός ~ κρατερός in Epic Greek*

Classical scholars have traditionally posited 'strong' as the basic meaning: see e.g. *LSJ* (s.v. κρατερός): "*strong*, *stout*, *mighty*, in Hom. mostly of bodily strength (…)".[16] This rendering is not incorrect, but it needs further qualification. First of all, considering the Homeric evidence, there is every reason to think of more specific translations than 'strong'. As a general qualification of warriors or monsters, κρατερός means 'fierce, violent', and when qualifying concrete motion or applied strength, it means 'mighty, impetuous, overwhelming' (cf. also κρατέω 'to be rampant' and ἐπικρατέως 'impetuously'). While κρατερός occasionally qualifies "bodily strength", to use the words of *LSJ*, it more often denotes a propensity towards violence or an applied force. In addition, it means 'solid, firm' when qualifying e.g. shields, bonds, or oaths.[17] Thus, although the translation 'strong' may serve as a common denominator, it is often inexact and not sufficiently specific.

In my view, two basic sets of meanings must be distinguished for Homeric κρατερός ~ καρτερός:

1. 'fierce, mighty, vehement, violent' (e.g. of warriors, arrows, winds);
2. 'steadfast; enduring, firm, solid' (e.g. of warriors, chains, oaths, shields).

First, these lexical meanings will be illustrated with examples.[18] After that, I will argue that 1. 'fierce' is the oldest meaning of the root that we can reconstruct within Greek, and then show how 2. 'steadfast; firm' secondarily developed. Those interested only in the last-mentioned point may flip over to section 5.1.3.

Sense 1. 'fierce, mighty' is frequently attested as a qualification of warriors (or violent mythical beings).[19] I will limit myself here to a brief discussion of two telling instances. In the first instance, the Trojan Helenus refers to Diomedes, who is at the summit of his *aristeia* at this point, as:

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16 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. *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 reflected in the Ancient lexicographical tradition.

17 Breuil (1989) forcefully translates κρατερός as 'prévalent'. In doing so, he gravely oversimplifies the Homeric situation, for instance when speaking of the "dents prévalents" of a lion (1989: 34), or translating κρατερὴ ὑσμίνη as "lutte prévalente" (o.c. 35).

18 When appropriate or necessary, I will adduce examples of other derivatives such as κράτος, but the focus is on determining the basic meaning of the adjective.

19 Cf. Nordheider, *LfgrE* s.v. (shortened and 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*."

ἄγριον αἰχμητὴν κρατερὸν μήστωρα φόβοιο,
ὃν δὴ ἐγὼ κάρτιστον Ἀχαιῶν φημι γενέσθαι.
οὐδ' Ἀχιλῆά ποθ' ὧδέ γ' ἐδείδιμεν ὄρχαμον ἀνδρῶν,
ὅν πέρ φασι θεᾶς ἐξέμμεναι· ἀλλ' ὅδε λίην
μαίνεται, οὐδέ τίς οἱ δύναται μένος ἰσοφαρίζειν
Il. 6.97–101

(that) savage spearman, a fierce causer of rout who, in my view, 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 excessively, and no one is able to 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 Hector (once) and Diomedes (twice) are called κρατερὸν μήστωρα φόβοιο 'fierce deviser of rout'.[20] These routs are ascribed, here as elsewhere, to a μένος 'drive' which is so vehement (λίην μαίνεται) that no one present is able to vie with Diomedes in this respect.[21] He can no longer be contained by mere human effort.

Likewise, if Achilles is repeatedly called κρατερός, this is primarily because of his fierce fighting spirit. When, during his own *aristeia*, he fights the river god Scamander, the latter calls his brother Simoeis for help:

ἵνα παύσομεν ἄγριον ἄνδρα
ὃς δὴ νῦν κρατέει, μέμονεν δ' ὅ γε ἶσα θεοῖσι
Il. 21.314–315

so that we may stop the wild man who is now rampant; this man's rage is equal to that of the gods

Some hundred lines earlier, Scamander has directly addressed Achilles as follows:

ὦ Ἀχιλεῦ, περὶ μὲν κρατέεις, περὶ δ' αἴσυλα ῥέζεις
ἀνδρῶν
Il. 21.214–215

20 Similarly, Phobos (personified Rout) is called ἅμα κρατερὸς καὶ ἀταρβής "both κρατερός and fearless" (*Il.* 13.299).

21 For the μένος of κρατερὸς Διομήδης, cf. *Il.* 5.135–143 and 239–256.

> of all men you are the most violent, and you do the most abominable deeds

The violent deeds of Achilles are characterized in exactly the same terms as the berserk battle rage of Diomedes: both are rampant and know of no restraint.[22] Note, in particular, the verbal correspondences ἄγριον ἄνδρα ~ ἄγριον αἰχμητήν and μαίνεται / μένος ~ μέμονεν. In the case of Achilles, this almost elemental force is explicitly related to his divine descent. Only the forces of nature can contain his fierce might, here described with the verb κρατέει.[23]

The examples adduced here can easily be multiplied.[24] They show that κρατερός and related words are consistently applied to warriors that are fierce or mighty, either as a general characteristic, or at a 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 force) is called κρατερός.[25] 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

22 Later in the same book, during the episode relating his encounter with Agenor, Achilles and his rage receive the qualification κρατερός on three occasions: λύσσα … κρατερή (*Il.* 21.542–543), ὑπὸ κρατεροῦ Ἀχιλῆος (21.553), λίην γὰρ κρατερὸς περὶ πάντων ἔστ' ἀνθρώπων (21.566).

23 When applied to a champion, the sense of κρατέω is 'to be rampant', cf. also *Il.* 5.175 (Diomedes) and *Il.* 16.124 (Patroclus). 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 keep Lycaon in check (οὐδέ μιν ἔσχε, 21.58), and he adds: "Let us see whether the grain-growing earth will hold him back, which restrains even the fierce [warrior]" (ἥ τε κατὰ κρατερόν περ ἐρύκει, 21.63). Once again, only the elemental forces of water and earth are considered capable of restraining a mighty warrior.

24 Two other telling passages are the following. In *Il.* 17.206–213, Zeus takes pity on Hector and decides to grant him μέγα κράτος. As a consequence, a violent battle spirit (personified as Ares) enters Hector, and his limbs are filled with fighting spirit and might, ἀλκῆς καὶ σθένεος. Very close to this is *Il.* 13.59–61, when the two Aiantes are filled with fierce battle rage by Poseidon (πλῆσεν μένεος κρατεροῖο). The effect is that they get "light hands and feet". In two short character speeches (*Il.* 13.73–80), both warriors express this effect 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 (and several others) show us that κράτος is a combination of physical might and mental prowess.

25 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).

Typhoeus (*Th.* 824). For all these monstrous 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 Heracles, but in Hesiod (*Th.* 378) it appears as an epithet of the three winds. The frequent phrase κρατερὸν μένος qualifies not only the fierce 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 'powerful missile' (*Il.* 5.104), βολάων τε κρατεράων (*Th.* 683, thrown by the Hundred-Arms and Titans). In such instances, κρατερός denotes the momentum and destructive impact of the missiles.[26] It is conceivable 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).[27]

In another set of instances, κρατερός 'vehement, violent' qualifies a powerful movement, drive or emotion. Very frequent in formulae is κρατερὴ ὑσμίνη, where the epithet refers to the ardor or fervor of battle. The same sense can be recognized in the phrases κρατερὸς τρόμος 'vehement trembling' (*Il.* 6.137), κρατερὴ λύσσα 'vehement rage' (*Il.* 9.239, 21.543), κρατερὸν δέος 'vehement fear' (*Od.* 14.88), κρατερὸν μένος 'fierce drive' (*passim*) and κρατερ' ἄλγεα 'vehement suffering' (*passim*). Finally, when κρατερός describes the physical qualities of a warrior or his body parts, it underlines the extreme nature of an applied force or violence,[28] e.g. κρατερῇφι βίηφι(ν) 'with mighty violence' (*Il.* 21.501, *Od.* 9.476, 12.210), cf. also κάρτεϊ χειρῶν 'vigor of the arms' (*Il.* 8.226 and 11.9).[29]

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26 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 (Pi. *Ol.* 1.112), χερμάδας κραταιβόλους (E. *Ba.* 1096), ἐκ χερὸς μεθέντα καρτερὸν λίθον (E. fr. 1044 Nauck).

27 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.* 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 suggests that this may be an old collocation: cf. Hes. fr. 343, Pi. *Isthm.* 8.34, fr. 70b.15 and 155.1, A. *PV* 922–923, S. *OT* 201.

28 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."

29 From post-Homeric poetry, cf. κρατερὸν σθένος (B. *Dith.* 4.40), κρατερῇ … ἰσχύϊ (B. *Epin.* 5.21, of Zeus' eagle), χειρῶν ὕπο κρατερᾶν (Pi. *Pyth.* 11.18, of the hands of Clytemnestra).

In its second sense, κρατερός ~ καρτερός means 'steadfast, enduring, tough' or 'firm, solid'. In the following examples it refers to the stamina or resilience of warriors: 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 κρατερήν 'tough defense' (*Il.* 5.623), φάλαγγες καρτεραί 'steadfast phalanxes' (*Il.* 5.591–592, 13.126–127), κρατερὰς … φάλαγγας (*Il.* 13.90) and κρατεραὶ στίχες ἀσπιστάων (*Il.* 4.90, 201) 'the steadfast ranks of the shield-bearers'. This meaning is shared by Homeric Greek and the Classical language.[30] Benveniste and Lamberterie have argued that phalanxes were called κρατεραί because they were 'hard, massive, solid' like a wooden log. However, I agree with Strunk (1975: 270–275) that κρατερὰς … φάλαγγας must refer 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: 273–274

The sense 'firm, tenacious' can also be recognized in the following cases: κρατερῷ ἐνὶ δεσμῷ 'in a firm bond' (*Il.* 5.386),[31] χερσὶ πίεζε νωλεμέως κρατερῇσι "he tenaciously checked (his mouth) with his firm hands" (*Od.* 4.287–288, Odysseus seals the mouth of Anticlus as they lie in ambush in the Trojan horse), κρατερὴ δ' ἔχεν ἶς Ὀδυσῆος (*Il.* 23.719–720, Odysseus puts a check on Menelaus during their wrestling match), and καρτερὸν ὅρκον 'firm oath'. In several cases we are dealing with a force that continues to be applied, and this meaning may well be more original than 'hard, solid' as a qualification of materials.

In fact, examples where κρατερός qualifies a material as solid or hard do occur in Homeric Greek, but they are rare: ἀνεγνάμφθη δέ οἱ αἰχμὴ / ἀσπίδ' ἐνὶ κρατερῇ 'the point of his spear was bent away in the tough shield' (*Il.* 3.349 =

30 It is reflected in *LSJ*'s translation *stout* (as in the archaizing English expressions *stout resistance* and *stout supporter*); in present-day English it could be rendered as 'tough'.

31 Cf. also καρτερὰ δεσμά (*h. Herm.* 409), κρατεραῖς ἐν γυιοπέδαις ([A.] *PV* 168). It is possible that κρατερή has a similar meaning when qualifying ἀνάγκη 'coercion, constraint' (κρατερῆς ὑπ' ἀνάγκης Hes. *Th.*; *Cypr.*; Parm.).

17.45) and θώρηκες κραταιγύαλοι 'harnesses with hard breastplates' (*Il.* 19.361).[32] This sense remains current after Homer,[33] but various alleged instances in early Greek epic are ambiguous at best. For example, ῥαιστῆρα κρατερήν (*Il.* 18.477) is not a 'hard hammer', but rather the 'powerful hammer' of the smith Hephaestus (note that ῥαιστήρ is an old 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 qualities in action. Finally, the traditional epithet κρατερῶνυξ (of horses and mules) is normally understood as 'with hard hoofs',[34] but 'with fierce hoofs', referring to the violent kick of a horse's leg, would be at least as appropriate.[35]

A special case is the verse-end κραταίπεδον οὖδας (*Od.* 23.46). This is normally translated as 'ground with hard soil', assuming that the second member is πέδον 'ground', but that assumption is not obvious. In my view, it would be more attractive to assume that the second member reflects πέδη 'shackle, hobble', so that κραταίπεδον means 'which has firm shackles', to be compared with the phrase κρατερῷ ἐνὶ δεσμῷ. Moreover, Hades is regularly called the 'firm gatekeeper' (πυλάρταο κρατεροῖο) of the Netherworld, Achilles refers to the Earth as restraining even men who are κρατερός (ἤ τε κατὰ κρατερόν περ ἐρύκει, *Il.* 21.63); and Moira is said to 'shackle' warriors when they are killed (verse-final Μοῖρα πέδησε, *passim*). In the episode containing κραταίπεδον, 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 to the earth as having fetters that will restrain the suitors forever.

5.1.3 *Reconstruction of the Semantic Developments*

In the view of Lamberterie (1990), 'hard, solid' was the basic meaning of κρατύς before this form went out of use. One piece of evidence in support is the post-Homeric factitive verb κρατύνω 'to harden, solidify, confirm'.[36] He also claims that the original meaning of κρατερός is 'hard, firm, solid', and that this adjec-

32 As we will see, κραται- functions as an allomorph of κρατερο- (see section 5.2.11).

33 After Homer: Hermes leads the cows he has stolen χῶρον ἀνὰ κρατερόν "over solid ground" so that they will leave no footprints (*h. Herm.* 354), κραταίλεως 'consisting of solid rock' (A., E., containing λᾶας 'stone' as its second member), κραταίρινος 'with a hard shell', of a turtle (oracle in Hdt. 1.47), καρτερὸν τεῖχος 'solid defense wall' (Class. prose).

34 Cf. 'strong-hoofed, solid-hoofed' (*LSJ*) and also Delebecque 1951: 148–150.

35 Cf. Nordheider (*LfgrE* s.v. κραταίπους) for different suggestions: "kann auf Trittsicherheit, Ausdauer oder *harte Hufe* gehen" (emphasis in original).

36 Lamberterie (1990: 328–331) stresses that κρατύνω belongs to the technical vocabulary of medicine, metallurgy and warfare, where archaic meanings may be preserved.

tive is a replacement of κρατύς. Finally, he shows that κραταιός is semantically equivalent to κρατερός, and analyzes it as reflecting the old feminine of κρατύς (1990: 337–343). This allows him to derive all meanings of κρατερός ~ κρατύς directly from the root meaning of PIE **kert-* 'to cut': 'cutting, sharp' would have developed to 'severe' and 'violent' on the one hand, and to 'hard, solid' on the other.

Lamberterie's assessment of the different meanings and their relations is intriguing, but as remarked above, the wrong vowel slot of **kert-* 'to cut' with respect to Aeol. κρέτος and Ion. κρέσσων remains an insurmountable objection to the etymology he defends. As a matter of fact, the meanings 'enduring, steadfast' (of animate beings) and 'firm, solid' (of inanimate entities) may well be secondary with respect to 'fierce, mighty', as the Homeric material allows us to retrace possible intermediate stages. For instance, the traditional phrase 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. On the other hand, κρατερὸν μένος can also qualify an arduous stamina, as in the following passage. Menelaus and Merione carry the corpse of Patroclus towards the ships as they are protected by the Aiantes from the assault of the Trojans. They are compared to a pair of mules that draw heavy wooden logs from the mountains:

> οἵ 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.* 17.742–746

> Like mules that have put on enduring spirit drag forth from a mountain down a rugged path a beam or a large piece of ship-timber; as they struggle, their spirit 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, 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 this meaning 'enduring' also occur with derived formations. Athena tells Nestor to provide his guest Telemachus with horses that are ἐλαφρότατοι θείειν καὶ κάρτος

ἄριστοι (*Od.* 3.370), 'swiftest in running and best in stamina'.[37] A beautiful testimony for κραταιός in the meaning 'enduring, tough' is *Od.* 18.383 (see section 5.2.11).

Concerning the possible pathways of semantic development, it is not difficult for 'enduring, steadfast' (as a qualification of animate beings) to develop into 'firm, tenacious' (of an applied corporeal force) and 'durable, lasting' (of inanimate entities such as bonds). The latter meaning may then have developed to 'solid, hard' (e.g. of an impenetrable shield).

A clear parallel for these semantic developments is found in Lat. *dūrus*. There can be no question that the original meaning of the adjective PIE **duh*$_2$*-ró-* was 'long-lasting, enduring', as reflected in Gr. δηρόν 'for a long time', Arm. *erkar* 'long-lasting'.[38] In Latin, the denominative verb *dūrō, -āre* means 'to last, persevere; endure' (thus mostly in Plautus), which may well reflect the older root meaning.[39] As for *dūrus*, many of its lexical meanings are similar to those of κρατερός. For instance, it may mean 'tough, hardy, vigorous' in a military sense,[40] and 'harsh, rough' as a qualification of human behavior or words (cf. Hom. κρατερῶς ἀποειπεῖν). And, of course, *dūrus* also qualifies hard materials, but not yet in Plautus. Thus, this example shows that a 'physical' sense like 'solid, hard' is not necessarily the more original meaning.

Concerning the two etymologies traditionally proposed for the group of κρατερός, it appears that the lexical meaning shared with Goth. *hardus* 'hard' may have come into being by a series of secondary semantic developments. Given that the root of the Germanic word-group has a different full grade slot, the comparison must be rejected. A connection with Ved. *krátu-* and Av. *xratu-* 'determination, resolve' remains conceivable, but it requires that Indo-Iranian underwent the same development from 'fierce, mighty' to 'enduring, steadfast' as in καρτερός. I have proposed an alternative etymology deriving κρατερός 'fierce, mighty' and Ved. *śithirá-* 'loose' from the same pre-form PIE **ḱr̥th*$_1$*-ró-*. This is less straightforward semantically, but it has the advantage that the suffix -ερός (instead of -ρός) can be easily accounted for. In any case, even if the comparison with Ved. *krátu-* is correct (which is not certain), it is unlikely that the complete system of 'Caland' derivations in Greek arose from the adjective

37 Thus also Lamberterie (1990: 346): "qualité physique de force et d'endurance".

38 The meaning of Ved. *dūrá-* 'far' is easily understood as secondary, e.g. as a qualification of journeys.

39 *Pace* de Vaan, who apodictically states that "The meaning of *dūrāre* must have evolved from 'be hard' to 'endure, last'." (*EDL* s.v. dūrus).

40 E.g. *fortes et duri Spartiatae*, Cic. *Tusc.* 1.43; *Ligures, durum in armis genus* Liv. 27.48.

κρατύς: the suffix -ερός is hard to account for in this scenario, and as we will see, both καρτερός and κρατύς are old within Greek.

5.2 The Allomorphy of κρατ- and καρτ- in Homer and Classical Greek

In dealing with the origins of the root allomorphs κρατ- and καρτ-, we may now start from one single etymological origin: a Proto-Greek root **kret-* meaning 'fierce, mighty'. Before analyzing the derivational relations between different formations and the genre distinctions between the different allomorphs, let us consider the dialectal evidence in more detail.

5.2.1 *Dialectal Reflexes and Proto-Greek Reconstruction*

Evidence from Aeolic and Arcado-Cyprian shows without a doubt that the original root shape was **kret-*. The Lesbian poet Alcaeus uses the neuter κρέτος, a present ἐπικρέτει, and an aorist κρέτησαι. The same vocalism is preserved in onomastic material: Cypr. *ti-mo-ke-re-te-se* /Tīmokretēs/ (*ICS*^{2} 361, 5th–4th c. BCE), Arc. Δαικρετης (Dubois 1988, I: 111–112), Lesb. Δαμικρετης (Hodot 1974: 116). The original full grade is also preserved in the Ionic-Attic comparative (Hom. κρείσσων, Ion. κρέσσων, Att. κρείττων). Lesbian personal names such as Ικερτης have been adduced as evidence for an alternative full grade κερτ-, but as Hodot (1974) has shown, these forms are not only of late attestation, but probably have nothing to do with -κρετης (see section 5.2.9 below).

In Central Cretan, the positive is reflected as καρτερος 'having right of say' (over property, *Lex Gortyn*), 'firm, trustworthy' (of a witness, *IC* IV 63.4, Gortyn, late 6th or early 5th c.). The comparative κάρρων 'better' in literary Doric reflects a pre-form **kr̥t-i̯os-*, with a zero grade root introduced from the positive.[41] The same form is found as καρτων 'more trustworthy' (as a witness) in the *Lex Gortyn*.[42] In fact, as far as our evidence goes, Central Cretan has generalized

41 E.g. Alcm. fr. 105 Page, Epich. fr. 163, Sophr. fr. 59; for further attestations see *LSJ* (s.v. κάρρων) and Forssman (1980: 194 n. 77).

42 It is commonly accepted that -τ- was analogically restored in Cretan καρτων from the stem of the positive καρτερος and the neuter καρτος (Bile 1988: 181, following *DELG* s.v. κράτος; Forssman 1980: 194–195 n. 83, following Lejeune 1972: 111). However, since -ον- is not a comparative suffix, we must ask whether -τ- does not rather represent the outcome of **-ti̯-* after a consonant (thus already Seiler 1950: 54). For the outcome of intervocalic **-ti̯-* in Cretan, cf. the overview in Bile (1988: 145–146); in Gortyn, it is regularly spelled -ττ- in the 5th c. BCE, as against -θθ- in the 4th c. and later. It could be objected to this that **-ti̯-* may not have had an affricate outcome after *-r-* if Forssman's derivation (1980) of ἔρρω from **u̯ert-i̯ō* (PIE root **u̯ert-* 'to turn') is correct. We could assume, however, that the regular outcome

the root shape καρτ- in all derived forms: καρταιποδα 'cattle', καρτος 'violence' (*Lex Gortyn*), personal names in -καρτης, and a stative verb καρτεω.[43] Since the comparative form (which is shared by other West Greek dialects) points in the same direction, it looks as if most of West Greek generalized the zero grade root of PGr. **kr̥terós-* in all derivations.[44] Another dialectal reflex of PGr. **kr̥terós-* is attested as κορτερά· κρατερά, ἰσχυρά (Hsch.).[45] 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 3.3), it is more likely that κορτερά was taken from Arcadian or even Cyprian; the Aeolic outcome of **kr̥terós-* is unattested.[46]

Thus, genuine dialectal reflexes of the adjective **kr̥terós-* are found for Ionic-Attic, West Greek, and probably Arcado-Cyprian. This strongly suggests that **kr̥terós-* was inherited from Proto-Greek. An additional argument for a high antiquity of **kr̥terós-* is the semantic divergence between Cretan καρτερος and Ionic-Attic καρτερός: the former is used to qualify witnesses as 'firm' or owners of property as 'having right of say'. In Attic, the normal way to say the same thing is κύριος, a lexical archaism. Moreover, in Cretan καρτων functions as the comparative of καρτερος, which is not the case for Classical κρείττων (or even Homeric κρείσσων, as we will see below). On the other hand, the neuter καρτος means 'violence' in Cretan; this meaning is also attested for Ionic-Attic κράτος, but diverges from the meaning of καρτερος in Cretan. Thus, the Cretan word group cannot have been borrowed wholesale from Ionic-Attic, but the dual sense of 'violence, might' beside 'firm, authoritative', attested for both Ionic-Attic and Cretan, may well have been inherited from Proto-Greek.

Three important conclusions can be drawn. First, the full grade form of the root was certainly **kret-* in Proto-Greek, and reflexes of this root are found in three Greek dialect groups. Secondly, Proto-Greek had an adjective **kr̥terós-*, the meaning of which probably at least included 'steadfast, firm' and 'fierce, violent'. Since κρατύς cannot have been secondarily created within Greek, Proto-Greek must have had two adjectives **kr̥tús-* and **kr̥terós-*, with forms of compar-

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**karrōn* of **kr̥t-i̯on-* was remade into **kart-i̯on-* in early Cretan on the basis of the positive καρτερος, and that it was this form which subsequently developed into the attested form καρτον-.

43 The last-mentioned verb is attested in *SEG* 35.991 (Lyttos, early 5th c.): pres. καρτει (line 3), aor. κα[ρτησ]αι (line 4–5).

44 On evidence for the development of **r̥* in West Greek dialects, see section 3.2.

45 This gloss corroborates the meaning found in Classical prose, where both καρτερός and ἰσχυρός 'strong' are used to qualify walls and fortresses.

46 The form κάρτερον (Alc. fr. 302c.8, cf. also καρτε.[Alc. fr. 119.19) may be an epicism or a borrowing from Ionic (see section 3.3.5). In both instances, the meaning of the context is unclear.

ison **krétios-* and **krétisto-*.[47] Thirdly, there is a dichotomy between dynamic meanings (e.g. 'violent, vehement, mighty') and state-oriented meanings (e.g. 'power, control'), which may well hark back to Proto-Greek.

5.2.2 *Adjectives in -ύς, -ρός and -ερός*

The root vocalism of the adjectives in -ύς has been discussed in chapter 4. As for the adjectives in -ρός, they derive from a thematic formation whose root was normally in the zero grade, cf.:[48]

– μακρός 'tall, long', Lat. *macer* 'meagre' < **mh₂ḱ-ró-* beside μήκιστος 'longest';
– ἐρυθρός 'red', Lat. *ruber* 'id.' < **h₁rud^{h}-ró-* beside ἐρεύθω 'to redden, make red'.[49]

A zero grade root is also found in PGr. **kr̥teró-* 'fierce; firm' and its reflexes. However, why do we find two different adjectives, καρτερός ~ κρατερός and κρατύς? Clearly, κρατύς is a relic form, as adjectives in -ύς are unproductive in Greek generally. Another example where Greek may preserve two inherited adjectival formations to the same root is ἐλαφρός 'nimble' (cf. OHG *lungar* 'fast, cheerful') beside ἐλαχύς 'small' (cf. Ved. *raghú-* 'fast'). We might therefore leave it at this and assume that both καρτερός ~ κρατερός and κρατύς were inherited from PIE. However, this does not yet explain why the former has a suffix -ερός rather than simply -ρός. It is therefore reasonable to ask how PGr. **kr̥teró-* (or its predecessor in PIE) may have been created.

A fair number of **ro-*formations in Greek and Indo-Iranian are inherited from PIE, but in addition deverbal *ro*-adjectives were productive. In Indo-Iranian, many instances occur beside state-oriented verbs or verbs of motion (Rau 2009: 163, with tables on pp. 164–167). In Greek too, "the vast majority of *ro*-stems are made to roots that make primary verbs" (Rau 2009: 168), and

47 For the reconstruction of the root vocalism of the comparative and superlative, see section 4.1.2.

48 There are only few possible exceptions, the most notable one being δηρόν 'long-lasting', Arm. *erkar* 'id.', which is often reconstructed as **dṷeh₂-ró-* (cf. e.g. Nussbaum 1976: 13). However, in view of obviously cognate formations like Ved. *dūrá-* 'far' and Lat. *dūrus* 'hard; harsh; enduring', one wonders whether the Greek and Armenian forms can after all be explained from **duh₂-ró-*, as claimed e.g. by Olsen (2009). See also the elaborate discussion of full grade *ro*-formations by Vine (2002), who concludes that *e*-grade *ro*-formations are "essentially substantival".

49 The root of μακρός is sometimes reconstructed as **maḱ-*, but this is unsatisfactory because the Greek forms show ablaut. Avestan *mas-* 'big', on the basis of which a reconstruction PIE **mh₂ḱ-* is sometimes excluded, has been analyzed as a crossover between this root and that of Skt. *máhi*, Gr. μέγα < **meǵ-h₂* (see *NIL* 478–481), but Kümmel (2018: 165) has convincingly argued that *mas-* is a devoiced allomorph of *maz-* conditioned by the following laryngeal. For the development of word-initial **RHC-*, see Beekes (1988b).

again, they pair either with activity verbs or state-oriented verbs. In my view, this implies that the PIE 'Caland suffix' *-*ro*- was deverbal *tout court*.[50] This may explain why different Indo-European languages sometimes used different adjectival suffixes for the same root: Hitt. *tēpu*- 'small, little' beside Ved. *dabhrá*- 'id.' and Hitt. *daššu*- 'strong, etc.' beside Ved. *dasrá*- 'artful; skilled', OAv. *daŋra*- 'id.'. Since the verbal root is still attested in Indo-Iranian, it is attractive to assume that the Anatolian *u*-stem adjectives preserve something older and that the forms underlying Ved. *dabhrá*- and *dasrá*- are deverbal innovations of Nuclear PIE or Proto-Indo-Iranian.[51] Likewise, the meaning of ἐλαφρός 'nimble' is relatively close to that of the verbal root *h_1leng^{wh}- (which is not attested in Greek, but cf. Ved. *ráṃhate* 'to move without effort') while ἐλαχύς 'small, little' is completely lexicalized.

All this is not meant to exclude that some adjectives in *-*ro*- are very old, but merely to sketch a possible scenario for the rise of PGr. *$kr̥teró$-. If the etymological connection with Ved. *śithirá*- 'loose, relaxed' and the verbal root *śrath*^{i} 'to loosen' (proposed in Van Beek 2013) is correct, we may posit an adjective PIE *$ḱr̥th_1$-*ró*- 'loose, unbridled', whence in Greek 'fierce, mighty, overwhelming'. The root-final laryngeal would immediately account for the extended shape of the suffix -ερός in καρτερός (PGr. *$kr̥teró$-), which remains unexplained in other scenarios. There must have been a semantic split between *$ḱr̥th_1$-*ró*- and *$ḱr̥th_1$-*ú*-, but it is hard to recover the details as κρατύς occurs only in a single formula. If the meaning of κρατύς was 'solid, hard; firm' (as proposed by Lamberterie 1990: 327–331), this would make sense within the above scenario: the adjective in -ύς would be more lexicalized, while the meaning of καρτερός 'enduring, persevering' would be closer to that of the verb κρατέω.

5.2.3 *Synchronic Description of the Classical Prose Forms*

Before analyzing the variation κρατ- ~ καρτ- in Epic Greek, let us first consider the situation in Classical times, for clear distributions between both root variants can be found there. Table 7 shows all word-forms with κρατ- and καρτ- attested in Classical Ionic-Attic. Forms that are exclusively attested in poetry are marked as such, but forms exclusively attested in hexameter poetry are not included. Unless otherwise indicated, prose forms are attested both in Attic and in Ionic.

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50 This is argued in more detail in Van Beek 2021a.

51 It has been suggested (e.g. Nussbaum 1976: 14) that there was a productive rule to use *-*ro*- instead of *-*u*- when the root already contained *-*u*- (as in ἐρυθρός, λυγρός, ὑγρός). However, this does not account for archaisms in Greek such as εὐθύς 'straight' and PIE *$sueh_2d$-*u*- 'agreeable, sweet', nor for the occurrence of PIE *-*ro*- in roots not containing *-*u*- (e.g. *$mh_2ḱ$-*ró*-).

TABLE 7 κρατ- versus καρτ- in Classical Ionic and Attic

Forms with κρατ-	Forms with καρτ-
κρατερός (poetic only)	καρτερός
κραταιός (poetic only)	
κρατα- (poetic only)[52]	καρται- (poetic only)[53]
Κρατι- (in PNs only)	Καρτι- (in PNs only)[54]
κράτος	κάρτος (poetic only)[55]
compounds in -κρατής	
κρατέω	
κρατύνω	καρτύνω (poetic only)[56]
κρέσσων, κρείττων (-σσ-)	
κράτιστος	κάρτιστος (poetic only)[57]
	κάρτα

52 The occurrence of Κρατα- in epigraphically attested onomastic material may be due to epic influence.

53 καρταί-ποδ- is only attested once in Pindar (*Ol.* 13.81) in the meaning 'bull', and in Cretan in the meaning 'cattle'.

54 Meissner (1998: 244–245) thinks that the names in Καρτι- and Κρατι- are secondary creations on the model of names in Καλλι-, but this is difficult to prove, and in my view unlikely. Interestingly, names with a first member κρατερο- are not found, except in Thessaly (Bechtel 1917: 260–261).

55 Outside of Epic Greek, κάρτος is securely attested only in Simon. fr. 15.1.2 and B. *Epin.* 5.114, authors where the form may be an epicism. In Hdt. 8.2, κάρτος is only a v.l. (codd. AB) for κράτος (all other mss.). Trümpy (1950: 202) claimed that κάρτος is the Ionic form, as against Attic κράτος, referring to Bechtel (1921–1924, III: 86) and Smyth (1894: 132). In reality, Smyth and Bechtel merely remark that the variation in the adjective καρτερός ~ κρατερός is also occasionally encountered in personal names, where we sporadically find -καρτης instead of -κρατης. Bechtel mentions only three instances, but in the first two his reading differs from that given by other editors: Μνεσικαρτες (Styra [Euboea], where the edition *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). For the latter name, a derivation from κείρω 'to cut' cannot be excluded: the literal meaning of the name would be 'who cuts straight incisions'. The name Σωκαρτης which occurs twice on an inscription from Miletus (*SEG* 13.498) belongs to new citizens that emigrated from Crete, where the regular root shape was καρτ-. Finally, a 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 these examples. I conclude that κράτος was the only form of the neuter noun in Ionic, as in Attic.

56 The only instance of καρτύνω in Classical poetry is Pi. *Ol.* 13.95, which may reflect a generalization of the license 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-.

The forms κάρτος, καρται-, καρτύνω, and κάρτιστος are attested only once or twice each, and always in poetry; they did not belong to the Ionic-Attic vernacular. Moreover, καρτερός is the only regular prose form; κρατερός is only found occasionally, but always in poetry.[58] Thus, Classical prose has the following forms:

– adjective καρτερός 'fierce; firm, solid; persevering, steadfast'
– comparative κρείττων 'better, prevailing, stronger'
– superlative κράτιστος 'most powerful, supreme; best'
– adverb κάρτα 'very, heavily; surely'
– neuter κράτος 'power, control'
– compounded adjectives:
  ἐγκρατής 'tenacious; in control'
  ἀκρατής 'powerless'
– denominative verb κρατέω 'to prevail, conquer'
– factitive verb κρατύνω 'to make solid, fortify; be in charge'

The single most striking fact about the forms attested in prose is that there are no doublets with -αρ- beside -ρα-. Moreover, a number of forms have been lexicalized and are no longer derivationally associated with their etymological relatives. First of all, the comparative κρείττων and the superlative κράτιστος no longer belong with the adjective καρτερός. This appears not only from the respective lexical meanings, but also from the creation of new forms of comparison καρτερώτερος, καρτερώτατος. Instead, it is commonly believed that Attic κρείττων and κράτιστος are the comparative and superlative belonging with ἀγαθός 'good', in the specialized sense 'strong'.[59] This can be contrasted with the situation in Cretan (see 5.2.1) and in Homer (see below). Secondly, there is no synchronic derivational relation between καρτερός and the abstract κράτος. Again, this is not only shown by the distinct lexical meanings of both groups

57 Only in an epigram ascribed to Simonides (*AP* 7.344.1).

58 Cf. *LSJ* (s.v. κρατερός): "Epic form of καρτερός". Note that κρατερός is rare after Homer, and that most attestations are found in meters with dactylic rhythm. It is attested in Pindar (3×), Bacchylides (5×), Corinna (1×), and among the tragedians only in Aeschylus (2×, both times in lyrical parts). In Herodotus, κρατερός only occurs twice, both times in oracles (1.67 and 8.77); Xenophon (*Mem*. 3.2.2, cf. also *Symp*. 4.6) quotes the form from Homer. 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 tough". Since classical καρτερός never refers to physical toughness, this may again be an epicism. The same goes for the compound κρατεραύχην (Pl. *Phdr*. 253e).

59 See e.g. Bornemann and 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.

and their different root shapes καρτ- versus κρατ-,[60] but also by the existence of a denominative verb καρτερέω 'to persevere' and a derived abstract καρτερία 'perseverance'. Finally, the adverb and particle κάρτα and the factitive verb κρατύνω (in the sense 'to harden' attested in prose) are synchronically isolated.

We are now in a position to draw an important conclusion: the classical Ionic-Attic forms καρτερός and κάρτα must be the regular reflexes of their respective pre-forms with *$k\underset{\circ}{r}t$- because their vowel slot is aberrant with respect to the full grade *$kret$-. In all non-poetic forms containing κρατ- (κράτος and its derivatives -κρατής, κρατέω; superlative κράτιστος; κρατύνω), this root variant can be explained as replacing an older form with κρετ- (cf. Lesbian ἐπικρέτει, κρέτησαι, and personal names in -κρέτης) or as having an analogically influenced vocalization.

The question remains where the root allomorph κρατ- originated. The most natural form to have influenced κράτος, κρατύνω, and κράτιστος would be the positive of the adjective. This positive cannot have been κρατερός, however, because the only form (and regular outcome) in Ionic-Attic prose was, as we have just seen, καρτερός. I see only one possible scenario: the allomorph κρατ- originated in the adjective κρατύς, and was thence secondarily introduced, at an early date, in other 'Caland' derivations. This introduction did not take place in καρτερός and κάρτα because these forms had already diverged semantically at the relevant time.

We have already encountered a potential argument for the antiquity of κρατύς (Lamberterie 1990: 328–330): in its sense 'to harden', the verb κρατύνω can be understood as a factitive derived from κρατύς if the latter had the meaning

60 In order to illustrate the claim that the lexical meanings of καρτερός and κράτος are different in classical times, I have considered all attestations in Herodotus (Ionic prose) and Thucydides (Attic prose). It appears that in Thucydides, καρτερός is used in a marginal way: it either refers to places as 'strong', referring to their security in a military sense, or it qualifies a battle or military action as 'mighty, violent'. On the other hand, κράτος either means 'power, rule, supremacy', or appears in the phrase κατὰ κράτος 'with all one's might, in a powerful way' or 'by force' (often qualifying verbs referring to military action). In Herodotus, καρτερός has a slightly wider usage: apart from the two uses found in Thucydides, we find the phrase κατὰ τὸ καρτερόν, equivalent to κατὰ κράτος in Thucydides; moreover, the claws of the crocodile are referred as 'fierce', ὄνυχας καρτερούς (2.68). On the other hand, κράτος only appears in the socio-political meaning 'power, rule, command'. Thus, the meanings 'fierce, mighty' and 'solid, enduring' of epic κρατερός ~ καρτερός are only marginally attested for καρτερός in Classical prose, where *all* these meanings have in fact been taken over by ἰσχυρός (which is post-Homeric). It thus seems that καρτερός is sometimes used as an archaizing stylistic variant of ἰσχυρός; Herodotus, for instance, uses κατὰ τὸ ἰσχυρόν 'by force' and κατὰ τὸ καρτερόν without any apparent lexical difference.

'hard, solid'.[61] However, while the abstract κράτος indeed never means 'hardness' in classical Greek, it could be objected that κρατύνω 'to harden' may have been derived from κράτος somewhere between Homer and the late 5th century, as the meaning 'hardness' may in fact be attested for κράτος in Homer[62] and may have fallen into disuse only later. Having said this, it remains probable that κρατύς was more frequent in Ionic until not too long before Homer, as this is the only way to account for the analogical spread of κρατ-.

5.2.4 *Synchronic Description of the Homeric Forms*

Table 8 shows the forms with κρατ- and καρτ- attested in Homeric Greek.

TABLE 8 κρατ- versus καρτ- in Homeric Greek

Forms with κρατ-, *κρετ-	**Forms with καρτ-**
κρατύς[63]	
κρατερός	καρτερός
κρατερό-φρων, -ῶνυξ	καρτερό-θυμος
κραταιός	
κραταί-πεδος, -γύαλος	
κράτος	κάρτος[64]
ἐπικρατέως	
(ἐπι-)κρατέω[65]	
	καρτύνω
κρείσσων	
	κάρτιστος

61 The derivation of κρατύνω is complicated by the fact that this verb has two meanings. The normal usage in prose is factitive, as historically expected for a verb in -ύνω: 'to harden, make solid' (e.g. bones, metal), 'to strengthen, fortify' (a place, position, or dominion). Besides, the tragedians attest an intransitive meaning 'to rule, gain control' (+ gen. 'over'). In the opinion of Lamberterie (1990: 328–330), it is difficult to derive κρατύνω 'to harden' from κράτος, because the neuter does not mean 'hardness, solidity' synchronically in Classical Greek. In the meaning 'to rule', however, κρατύνω was certainly derived from κράτος (cf. Lamberterie 1990: 328 n. 4 with literature).

62 In the phrase τὸ γὰρ αὖτε σιδήρου γε κράτος ἐστίν *Od.* 9.393 (on which see below).

63 Only in κρατὺς Ἀργεϊφόντης, name-epithet formula of Hermes.

64 Apart from 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.

65 Present stem only; aor. κρατῆσαι may have been avoided for metrical reasons (section 5.2.6).

As has been noted in the previous section, a number of the specifically epic forms occur occasionally in other poetic genres. Among the Homeric formations there are only two doublets: κρατερός ~ καρτερός and κράτος ~ κάρτος. Furthermore, in κάρτιστος and καρτύνω, Homeric Greek has καρτ- as opposed to a classical form with κρατ-. How did the doublets come into being, and which variants are older?

In the following sections, I will argue that the forms restricted to epic are not the regular outcome of **kr̥t-* in some vernacular, but arose within the traditional language of hexameter poetry. It is well-known that epic poets could apply normal mechanisms of linguistic change (e.g. proportional analogy) in order to adapt word-forms to metrical circumstances.[66] Indeed, it appears to be possible to indicate a concrete model and motive for the creation of most of the variant forms just listed. By accounting for the mechanisms by which these variant forms came into being, we may further corroborate the insight that καρτ- is the regular Ionic-Attic outcome of **kr̥t-*.

Another striking fact is that three different adjectives are attested in Homer: κρατύς, κρατερός (with variant καρτερός), and κραταιός. In compounds, too, different stem-forms are used as a first member: κρατερο-, καρτερο-, and κρατα ι-. To what extent are these stems metrical variants of each other? Is καρτερός really lexically equivalent to κρατερός, or are there perhaps subtle differences in usage? Does κραταιός have the same lexical meaning as the former two? In order to answer these questions, we will have to pay close attention to philological details. For purposes of reconstruction, it is also important to know more about the historical origin of the different formations. For instance, what does -αιός in κραταιός represent?

Let us start with the epic doublets κρατερός ~ καρτερός and κράτος ~ κάρτος. Given that καρτερός and κράτος are the regular prose forms, it is reassuring to find that κρατερός and κάρτος can be analyzed as analogical creations of the epic language.

5.2.5 *καρτερός and κρατερός in Homer*

Attempts to establish a clear-cut semantic difference between καρτερός and κρατερός within Epic Greek turn out to be futile. Both forms can be used to qualify the same noun, as in φάλαγγες καρτεραί (*Il.* 5.591–592, 13.126–127) which is mirrored by κρατερὰς … φάλαγγας (*Il.* 13.90, cf. also κρατεραὶ στίχες, 2× *Il.*).[67]

66 Cf. among other works Meister 1921, and the illustrative examples in Hackstein 2010.

67 Furthermore, κρατερὴ ὑσμίνη 'fierce battle' is mirrored in Classical prose by καρτερὴ μάχη 'id.'; Achilles and Diomedes are both qualified as καρτερός and κρατερός.

Furthermore, the first members of κρατερόφρων and καρτερόθυμος are clearly metrical variants.

The Homeric numbers and distributions are as follows:

– κρατερός (162 times):[68] normal in all case forms;
– καρτερός (28 times): mainly -ός, -όν (mostly after $|_B$), rarely -οί, -αί, -ά.

The fact that κρατερός is almost six times as frequent as καρτερός is partly due to its occurrence in a number of frequent formulae and set phrases: κρατερὸς Διομήδης (or a metrically equivalent PN), κρατερὸν μήστωρα φόβοιο (3×), κρατερὸν μένος (6×), κρατερῆφι βίηφι(ν) (3×), ἐνὶ κρατερῇ ὑσμίνῃ (11×), κατὰ κρατερὴν ὑσμίνην (8×), etc. The form was easy to use due to its metrical structure.[69] On the other hand, καρτερός was awkward for epic poets because it could not be used in a hexameter line in a large number of case forms: the dat. and gen. pl. of all genders and most case forms of the feminine contain a cretic sequence. It was easy to handle only in the neuter plural (cf. καρτερὰ ἔργα) and before a vowel-initial heavy syllable (cf. καρτερὸς ἀνήρ)

In view of these facts, one might well ask: why did καρτερός exist at all? The answer is, as we have seen, that καρτερός was the form of the spoken language, while κρατερός is all but restricted to Epic Greek. It became so frequent because it supplied for impracticable case forms of καρτερός, and perhaps also of moribund κρατύς. Thus, the epic evidence confirms the conclusion reached on the basis of the classical forms: καρτερός regularly reflects Proto-Ionic **kr̥teró-*.

It remains to indicate how exactly κρατερός came into being. One possibility would be that its root was based on that of κρατύς before the latter lost its currency. I will further pursue this question in section 8.4.1. On the complicated relation between κρατερός and κρατύς in Epic Greek, see also section 5.2.10.

5.2.6 *The Neuter Abstract Nouns (and Derivatives) in Homer*

The oldest form of the neuter noun in Ionic-Attic is clearly κράτος, with introduction of the root vowel of κρατύς (cf. Aeol. κρέτος). 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 (which will have to be nuanced later on) that no semantic difference existed between κράτος and κάρτος, just as with κρατερός and καρτερός. Table 9 contains the numbers for both Homeric variants

68 Including the adverb κρατερῶς and the comparative κρατερώτερος.

69 Its forms could be used in any foot of the verse, without any noteworthy restrictions on the preceding or following word.

TABLE 9 Forms of κράτος, κάρτος and σθένος in Homeric Greek

	κράτος	κάρτος	σθένος
nom.-acc.	κράτος (28×)	κάρτος (6×)	σθένος (21×)
	26× before $\|_B$	no fixed position	16× before $\|_B$
gen.	–	–	σθένεος (5×)
dat.	κράτεϊ (2×)	κάρτεϊ (7×)	σθένεϊ (15×)

of the doublet, in all attested case forms. For comparison, I have added the figures for σθένος 'force', which is semantically close and metrically equivalent to κράτος.[70]

Forms of κράτος ~ κάρτος are only found in the nom.-acc. and dat. sg.[71] In the nom.-acc. κράτος is by far the most frequent form, but in the dat. sg., κάρτεϊ (5× *Il.*, 2× *Od.*) is more frequent than κράτεϊ. This is a natural distribution given that κράτεϊ consists of three consecutive short syllables (though cf. ὅ τε κράτεϊ προβεβήκῃ, *Il.* 16.54).[72] It is therefore plausible that the dative κάρτεϊ was introduced, on the model of the already-existing doublet καρτερός ~ κρατερός, to supply for the ill-practicable form κράτεϊ. Subsequently, a new nominative-accusative κάρτος was created.

This scenario is corroborated by the lexical semantics of κάρτος and κράτος. In Homer, κράτος has two primary meanings.[73] The first is 'fierceness, overpow-

70 A lexical difference between κράτος and σθένος seems to be implied by the following syntactic difference. While σθένος is often accompanied by ὦρσεν 'evoked', ὄρνυται 'arises', κράτος is always complement to a verb like δῶκεν, ἐγγυάλιξεν 'gave'. It appears that σθένος denotes a powerful, yet human characteristic, whereas κράτος tends to be more extreme and of heavenly origin. Another difference is that $|_T$ (μέγα) σθένος, followed by the genitive of a PN, occurs in formulae as a honorific title, just like $|_P$ ἱερὸν μένος (+ PN in genitive); there is no such construction with κράτος. Finally, the meaning of κράτος is broader: σθένος does not mean 'power' but merely 'force'.

71 Hesiod does attest the genitive κράτεος (*Th.* 647, where 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.

72 The form κράτεϊ could have been used (with epic correption or elision of *-i*) before vowel-initial, metrically long syllables, but this use is not attested. An irregular scansion is tolerated in οὔ τι κράτεΐ̈ γε (*Il.* 7.142); the same license is found with the dat. sg. of σθένος in the first hemistich κάρτεΐ̈ τε σθένεΐ̈ τε $|_T$ (2×). The form σθένεϊ occurs in the formula $|_H$ σθένεϊ βλεμεαιν- (6× *Il.*; βλεμεαίνω attested only in this formula), and is also used without metrical irregularity in the phrases σθένεϊ μεγάλῳ (2× *Il.*), κάρτεϊ καὶ σθένεϊ σφετέρῳ (*Il.* 17.322), and δίκῃσί τε καὶ σθένεϊ ᾧ (< *ϝοῑ, *Il.* 16.542).

73 With regard to the etymological connection with Germanic 'hard' (see section 5.1.1), it has

ering force, preponderance, predominance' in concrete violent confrontations. The power in question is typically granted to warriors by Zeus or another divinity (cf. formulaic μέγα κράτος ἐγγυαλίξω and inflected forms).[74] The second sense is 'supremacy, power, dominion', of a military leader or ruler over his subjects.

On the other hand, κάρτος appears to be used only in the first set of meanings of κράτος, 'fierceness, preponderance'. 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 '(relying on) the might of their hands' (*Il.* 8.226 = 11.9), κάρτος denotes an unrestrained, brute force.[75] This meaning is also attested in κράτος … κτείνειν 'the power to kill' (*Il.* 11.192–193 = 207–208), as well as in *Od.* 1.70 where the κράτος (physical strength, brute force) of Polyphemus is said to be greatest among the Cyclopes.[76] A second nuance is 'strength' in the sense of endurance or the ability to persevere. This is attested e.g. in *Il.* 16.524 for κράτος (the wounded Lycian hero Glaucus asks Athena for strength), and in e.g. *Il.* 17.561–562 for the variant κάρτος (Menelaus is oppressed by enemies and asks Athena for the strength to hold on).[77] There is no place where κάρτος clearly means 'political power, dominion'.

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been stressed that κράτος has the meaning 'hardness' in *Od.* 9.393. However, the context (a simile, *Od.* 9.391–394) 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 his [the Cyclops'] eye hiss around the stake of olive wood." Here, the poet could just as well refer to the hissing sound of the water vapor as characteristic for, or indicative of, the violent qualities of iron.

74 Several scholars (e.g. Benveniste 1969, followed by Strunk 1975; Breuil 1989) have stressed that κράτος is often of a volatile and temporary character: it changes sides between Achaeans and Trojans according to the will of Zeus. They go too far, however, when denying that it may also mean 'force, might': for this meaning, see Lamberterie (1990: 345–346) and O'Sullivan (1990: 14–15). Both meanings, 'force' and 'supremacy', must be admitted for Homeric Greek. Besides, the word may denote the lasting authority which allows a leader to control and direct a body of subjects. An appropriate German equivalent is *Gewalt*, which denotes both an applied physical force and the authority of a ruler or an institution.

75 For κάρτεϊ χειρῶν 'might of the hands/arms', we may compare certain Homeric instances of θάρσος with a close (but not identical) meaning, and especially the formula θρασειάων ἀπὸ χειρῶν.

76 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' (e.g. in Thucydides).

77 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.*

Crucially, then, the abstract κάρτος could only be used when its meaning corresponded to that of the base form, κρατερός ~ καρτερός. In the meaning 'power, dominion', κράτος was used: cf. also the denominative verbs κρατέω 'to rule; be rampant' and ἐπικρατέω 'to hold sway', which have no variant with καρτ-.[78] Thus, κάρτος was derived from καρτερός 'impetuous, violent; enduring' on the model of κράτος beside κρατερός. It is not a true doublet of κράτος.[79]

Having explained the origin of κάρτος, it remains to briefly discuss the other forms derived from κράτος. Homer has only one compound in -κρατής, which occurs as an adverb: ἐπικρατέως 'impetuously'.[80] A by-form in -καρτής* does not exist, perhaps because there was no metrical incentive to create it.[81] An adjective *ἐπικρατής is also presupposed by the denominative stative verb ἐπικρατέω 'to have the upper hand; to be master, rule (over)' (7× Hom.). Frequent is κρατέω (13×), which in Homer means 'to have κράτος' in both senses of the noun: 'to be violent/rampant' or 'to dominate, be in control, rule'. On three occasions, κρατέω is modified by the adverb μέγα; it is therefore derivationally linked with κράτος (cf. μέγα κράτος 6× Hom.).

The aorist of κρατέω, κρατῆσαι 'to obtain victory', is unattested in Homer; this form, usual in Classical Greek, was probably avoided in Epic Greek for metrical

16.524–526); εἰ γὰρ Ἀθήνη δοίη κάρτος ἐμοί, βελέων δ' ἀπερύκοι ἐρωήν "May Athena give me strength [to continue fighting], and may she ward off the storm of arrows" (*Il.* 17.561–562). In both cases, the power to persevere is granted by Athena. Cf. further the phrase κάρτος τε βίη τε at *Od.* 4.415 (about the tenacious force which Menelaus has to apply in order to control the shape-shifting Old Man of the Sea), as well as *Od.* 3.370, where κάρτος denotes the stamina of horses.

78 In Homer: *Il.* 16.54 (Agamemnon over the Achaeans), *Od.* 1.359 and 21.353 (Telemachus over his household), 5.4 (Zeus), and 11.353 (Alcinous over the Phaeacian δῆμος). I take the verse τοῦ δ' ἐκ Φαιήκων ἔχεται κάρτος τε βίη τε (*Od.* 6.197) to mean "on him (Alcinous) the force of the Phaeacians depends", reading ἐκ … ἔχεται with tmesis and noting that the phrase κάρτος τε βίη τε has the same meaning 'violence and force' also at *Od.* 4.415. 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).

79 The situation is slightly more complex. There is no trace of κρατερός ~ καρτερός in the meaning 'powerful, in control' in the *Iliad*, but there are two possible instances in the *Odyssey* (14.116 and 15.534). It seems that καρτερός has encroached in Ionic upon κύριος, the normal word in this sense in Classical Attic and the lexeme inherited from Proto-Greek.

80 Further attested in Hes. *Op.* 206, *Scut.* 321, 419, 461, Stes. fr. 40.24 Page, Ibyc. fr. S199.6 Page.

81 The only evidence for -καρτης comes from epigraphically attested personal names, most of which are of Cretan or Theran origin. See section 5.2.3 above.

reasons.[82] In theory, the metrical problem could have been solved by creating an artificial form *καρτῆσαι, based on a proportion like κράτος : κρατῆσαι (both spoken Ionic) = κάρτος : X (Epic Greek).[83] One reason for the absence of *καρτῆσαι may be that, in the meaning 'be victorious, prevail', it would have been metrically equivalent to its synonym νικῆσαι, and therefore of little use. Furthermore, as we have just seen the variant κάρτος did not mean 'victory, predominance' but 'strength, brute force', so it may have diverged too much semantically to serve as a base form.

5.2.7 *The Forms of Comparison in Homer*

Homeric grammars and lexica generally state that κρείσσων and κάρτιστος are the forms of comparison corresponding to the positive κρατύς.[84] This true from a historical perspective, but not synchronically. Apart from the fact that the precise meaning of κρατύς cannot be determined, there are two problems, as we will presently see: in Homer κάρτιστος does not function as the superlative of κρατύς, and κρείσσων is paradigmatically isolated, i.e. it remains without a corresponding positive or superlative.

Let us start with the superlative. As a form, Homeric κάρτιστος is artificial and probably due to the avoidance of the normal Ionic form κράτιστος for metrical reasons.[85] The root allomorphy that existed in the positive καρτερός ~ κρατερός 'fierce' was extended to the superlative. This can be backed up by the semantics. While Classical κράτιστος means 'most powerful, supreme', Homeric κάρτιστος (11×) usually means 'fiercest, mightiest'. In other words, κάρτιστος actually functions as the superlative of κρατερός ~ καρτερός,[86] as the following two examples illustrate:

> ἄγριον αἰχμητὴν κρατερὸν μήστωρα φόβοιο,
> ὃν δὴ ἐγὼ κάρτιστον Ἀχαιῶν φημι γενέσθαι
> *Il.* 6.98–99

82 The vocalism of Aeol. ἐπικρέτει and κρέτησαι may suggest that the pre-form of κρατῆσαι never contained a syllabic liquid. Therefore, using κρατῆσαι would require the application of the *muta cum liquida* license, which in Homer is not yet very frequent with original plosive plus liquid onsets (see chapter 6).

83 As in Hom. καρτύνω for κρατύνω, which could be reanalyzed as derived from κάρτος ~ κράτος after the adjective κρατύς had become obsolete. See below.

84 For instance, *LfgrE* has one single entry "κρατύς (κρείσσων, κάρτιστος)"; cf. also Chantraine (1958: 255–256).

85 See section 4.1.2 for the reconstruction of a full grade root **kret-isto-*, and chapter 6 for the avoidance of *McL* scansion before original full vowels.

86 Cf. Cunliffe 1924 (s.v. κάρτιστος).

> [Diomedes] that savage spearman, a fierce causer of rout who, in my view, is definitely the mightiest of the Achaeans.[87]

> καρτίστην δὴ τήν γε μάχην φάτο δύμεναι ἀνδρῶν
> *Il.* 6.185

> this battle of men, he said, was the fiercest that he ever took part in

Compare the phrases κρατερὴ ὑσμίνη 'fierce battle' (frequent in Homer) and καρτερὴ μάχη 'id.' (Hdt., Th.). In eight of the remaining nine attestations, the being qualified as κάρτιστος is the fiercest or strongest of its group or class. Warriors may be 'fiercest' in comparison with other men,[88] and Zeus calls himself θεῶν κάρτιστος ἁπάντων (*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 ὠκιστος πετεηνῶν (*Il.* 21.353) "the strongest and also the swiftest of birds".

There is only one place in Homer where κάρτιστος allegedly means 'best' (which is also the superlative's only occurrence in the *Odyssey*). Circe instructs Odysseus how to evade the monstrous Scylla:

> 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.* 12.118–124

> She is not mortal, you know, but an immortal evil: terrible, difficult, wild and not to be fought with. There is no resistance: *you must flee from her with all your might* (κάρτιστον). For if you tarry arming yourself by the cliff,

87 For a discussion of this passage, see section 5.1.2 above.

88 In *Il.* 1.266–268, the Lapiths and the Centaurs both receive the same epithet κάρτιστοι in a description of their war: The Lapiths were the fiercest mythical human warriors, the Centaurs were the fiercest non-human mortal creatures. For κάρτιστοι … ἀνδρῶν applied to the Lapiths (cf. also κάρτιστον … ἄνδρα *Il.* 7.155; κάρτιστος … ἀνδρῶν *Il.* 9.558), cf. the phrase καρτερὸς ἀνήρ (*Od.* 4.242, 4.271, 20.393).

> I fear that she will attack again and reach you with as many heads [as before], and catch as many men. No, *you should row with all your might* (…).

Line 120 is commonly translated as: "there is no defense: fleeing from her is [the] best [thing to do]".[89] Instead of this, I propose to interpret φυγέειν as an *infinitivus pro imperativo*, and to take κάρτιστον as an adverbially used accusative. This yields the interpretation "you must flee from her with all your might". This is attractive, because it allows us to view φυγέειν κάρτιστον as syntactically parallel to μάλα σφοδρῶς ἐλάαν in line 124.[90]

The second (and more complicated) issue is the paradigmatic status of the comparative κρείσσων 'stronger, superior; better' in Homer (17×). In West Greek dialects, as we have seen, the root shape of the positive καρτερός has spread to all derivationally connected forms, including the comparative κάρρων (literary Doric), καρτων (Gortyn). In Ionic-Attic, however, the zero grade root was introduced in κράτιστος but not in κρείσσων. This remarkable difference would be explained if κρείσσων no longer functioned as the comparative corresponding to κράτιστος when the latter was reshaped. Can this conjecture be backed up by the semantics of these forms?

In Classical Greek, the core meaning of κρείττων (Ionic κρέσσων) is 'better, stronger'. In most Homeric attestations, κρείσσων means 'more powerful, superior', in a violent confrontation or a duel of main force.[91] It occurs either with or without a genitive complement, depending on whether a concrete duel is thought of or whether someone is said to be superior in general. Although the genitive complement betrays its origin as a comparative, κρείσσων may almost function as a plain adjective, not only in Classical Greek but already in Homer.[92]

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89 Cf. "the best course is to flee from her" (tr. Dimock 1995); similarly *LfgrE* s.v. κρατύς.

90 This is the only occurrence in Homer of the prose adjective σφοδρός 'vehement, impetuous, fierce, energetic'. It is hard to tell why μάλα σφοδρῶς was preferred here to μάλα κρατερῶς, which would fit the meter and occurs several times in Homer; there may have been a subtle semantic or stylistic difference.

91 Cf. Cunliffe 1924 (s.v. κρείσσων). Only the adverbially used neuter κρεῖσσον, attested just once (*Od.* 6.182), has the bleached meaning 'better' that is also found in Classical Greek.

92 In one passage in the *Odyssey*, κρείσσων has the meaning 'having right of say (over)' (+ gen.): 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 right of say 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, even if I should wish to give this bow once and for all to the stranger to carry it away with him." (*Od.* 21.344–345 and 348–349). Here, κρείσσων seems to function as the positive of an adjective corresponding to the abstract κράτος in the sense

There is an interesting restriction in the use of κρείσσων: almost without exception, it refers to the result of a *future* conflict that can still be avoided.[93] This is neatly illustrated in the first book of the *Iliad*. The seer Calchas is afraid of Agamemnon's wrath and asks Achilles for protection before he interprets the dire situation of the Achaeans. His motivation for this request is as follows:

> κρείσσων γὰρ βασιλεύς ὅτε χώσεται ἀνδρὶ χέρηϊ
> εἴ περ γάρ τε χόλον γε καὶ αὐτῆμαρ καταπέψῃ,
> ἀλλά τε καὶ μετόπισθεν ἔχει κότον, ὄφρα τελέσσῃ,
> ἐν στήθεσσιν ἑοῖσι· σὺ δὲ φράσαι εἴ με σαώσεις.
> *Il.* 1.80–83

> For a king prevails 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. So tell me whether you will safeguard me.[94]

These lines illustrate well how Agamemnon's political power (κράτος) is based on the principle that the threat is stronger than its execution.

Furthermore, it is remarkable that κρείσσων never means 'more violent, fiercer'. Within Epic Greek, it is therefore paradigmatically unrelated to κρατερός ~ καρτερός and κάρτιστος, which refer to the might or fierceness of a combat-

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'power, authority' (G. *Gewalt*) and κρατέω 'to be in charge'. In Class. Attic, κρείττων may also function as a positive, e.g. κρείττων αὑτοῦ 'master over oneself'.

93 *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* (…)." On the basis of *Il.* 3.71 νικήσῃ κρείσσων τε γένηται, Trümpy asserted that victory is a prerequisite for being κρείσσων: "… für κρείσσων ist ein Sieg Voraussetzung" (1950: 205–206). However, this formulation fails to take into account that κρείσσων never qualifies actual victors in Homer (these are referred to with the ptc. νικήσας, and their victory with νίκη). I would therefore modify Trümpy's words as follows: "für κρείσσων ist ein *gedachter* Sieg Voraussetzung".

94 Another illustrative case is *Il.* 19.216–219, where Odysseus addresses 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.

TABLE 10 Homeric forms of comparison with the root *κρετ-, κρατ-, καρτ-

	'Superior'; 'better'	'Fierce'
Positive	–	κρατερός ~ καρτερός
Comparative	κρείσσων	κρατερώτερος
Superlative	not attested	κάρτιστος and κρατερώτατος

ant in a concrete situation, or to being fierce as a characteristic or permanent property. If the Proto-Ionic precursor of Homeric κρείσσων was already an isolated comparative formation, just like *superior* in English, this would explain why the *e*-grade of the root was preserved exclusively in this form.[95]

Finally, the paradigmatic isolation of κρείσσων is also suggested by existence of a comparative form κρατερώτερον … ἄεθλον '[no] fiercer contest' (*Od.* 11.624), which mirrors μάχη καρτερή (Hdt., Th.) and κρατερὴ ὑσμίνη (Hom.). Morphologically, this κρατερώτερος is the regular comparative of κρατερός in Homeric Greek.[96] As we have just seen, the usual Homeric superlative of καρτερός ~ κρατερός is κάρτιστος, but in Hesiod (*Th.* 864), the productive form κρατερώτατος is predicated of σίδηρος 'iron' in the sense 'the hardest, fiercest'.[97]

The conclusions of this discussion are summarized in Table 10.

5.2.8 *κρατύς and καρτύνω in Homer*

In Homer, καρτύνω is attested only in the phrase ἐκαρτύναντο φάλαγγας "they filled their ranks with battle spirit", in a repeated battle scene where a phalanx is formed.[98] Its different vowel slot in comparison with κρατύς and Classical

95 A different question is to what extent κρείττων and κράτιστος are part of the same paradigm in Classical Attic (it is normally thought that both forms belong to the positive ἀγαθός).

96 Cf. also κρατερώτερον ἄλλο κεραυνοῦ "[no] fiercer [weapon] than lightning" (Hes. fr. 343.8).

97 σίδηρος, ὅ περ κρατερώτατός ἐστιν (Hes. *Th.* 864).

98 After Homer, ἐκαρτύναντο is attested once in Hesiod (*Th.* 676) and in two epic fragments (Antimachus fr. 42.1 Wyss, also fr. 64.4 Lloyd-Jones & Parsons). Furthermore, the active present καρτύνειν is attested once in Pindar (*Ol.* 13.95). It is difficult to pinpoint the meaning of καρτύνω with absolute certainty on the basis of one single formula. Strunk (1975) points out that the line preceding ἐκαρτύναντο φάλαγγας, in all three Homeric attestations, depicts an army leader arousing the fighting spirit (ἀλκή) of his men: the consequences of the leader's call "bestehen nicht nur im blossen zusammenrücken der φάλαγγες, sondern auch darin, dass diese neuen Anlass zum Kampf sehen und frischen Mut fassen." (1975: 273). The idea that φάλαγγες καρτεραί conveys the image of a solid and massive wooden log (Benveniste 1969, II: 80, Lamberterie 1990: 332) is in my view less likely.

κρατύνω requires an explanation. It is unlikely that καρτύνω is a relic form whose vowel slot was not affected by that of the base form κρατύς.

Fortunately, it is not difficult to find a motive for creating καρτύνω: like κράτιστος, the expected form κρατύνω may have been avoided in Homeric Greek for metrical reasons.[99] But what was the linguistic model? At first sight, it seems difficult to indicate an adequate proportional analogy. Whereas other analogical forms with καρτ- (κάρτος, κάρτιστος) are derivationally connected with καρτερός ~ κρατερός and semantically akin to it, καρτύνω cannot be derived from καρτερός for morphological reasons. It cannot be derived from κρατύς either, because no by-form *καρτύς exists. The best solution is to assume that καρτύνω was derived from epic κάρτος in its sense 'endurance, strength to persevere'. Apart from the pair κράτος : κρατύνω in the spoken language, another model may have been the semantically close θαρσύνω 'to encourage' beside θάρσος 'perseverance, courage'. As argued in section 4.5, θαρσύνω could be reanalyzed as based on θάρσος after the original form *θαρσύς had been ousted by θαρσαλέος.[100]

Thus, καρτύνω 'to strengthen, make firm' is a by-form of the form κρατύνω current in prose. It can be viewed as an inner-epic analogical creation meaning 'to provide with κάρτος' (in its sense 'endurance in battle').[101]

5.2.9 *κάρτα*

The adverb and particle κάρτα 'very, much; vehemently; surely, indeed' is relatively well-attested in Classical Greek: it is frequently used by Herodotus, in the Hippocratic corpus, and in the tragedians. It is not found, however, in inscriptions, Thucydides, Xenophon, or the orators, only a few times in Aristophanes, and it is almost entirely shunned in hexameter poetry.[102] Its only occurrence in Plato (*Tim.* 25d) is in the story about Atlantis, which is said to be due to the

99 The Ionic vernacular form κρατύνω may have been derived from the *u*-stem adjective κρατύς after the vocalization of the syllabic liquids and the subsequent spread of the allomorph κρατ- (see section 4.3.3). Lamberterie (1990: 328) stresses that the meaning of κρατύνω in later prose is "to harden, consolidate, reinforce" in a material sense, but it also had the sense 'to strengthen one's defense / fortifications' (cf. *LSJ* s.v.), which is close to the Homeric meaning.

100 Strunk (1975: 296) gives the same derivation, but does not account for the peculiar variations κρατ- ~ καρτ- and θρασ- ~ θαρσ-. Remember that θρασύς 'reckless' has not only the wrong vowel slot, but also a different lexical meaning as compared to θαρσύνω.

101 In the words of Strunk (1975: 273–274), "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."

102 In pre-Classical poetry only in Aristeas Epicus fr. 5.2, Empedocles fr. 4.4; Protagoras fr. 9, Epich. fr. 113.1.13.

elder Critias, who is supposed to have heard it from Solon (ὑπὸ τοῦ παλαιοῦ Κριτίου κατ' ἀκοὴν τὴν Σόλωνος), who in turn was informed by an Egyptian priest. The word therefore probably belongs to a high register in Classical Attic. On the other hand, κάρτα remained alive in Eastern Ionic: this is shown by its occurrence not only in Herodotus, but also in Hipponax (fr. 32.2), the poet from Ephesus and Clazomenae reputed for his use of low register vocabulary. Thus, an adverb κάρτα existed in Proto-Ionic; it was replaced in Attic by other adverbs such as σφόδρα.

The semantic relation between κάρτα and κρατερός ~ καρτερός in the sense 'fierce, vehement' is clear, and they are surely related.[103] The adverbs in -α are a relic formation. The reconstruction of the suffix -α itself is unclear and debated,[104] but the root vocalism is usually identical to that of the corresponding adjective, cf.:

– λίγα 'loudly'	λιγύς 'sonorous'
– μάλα 'very'	μᾶλλον 'more', μάλιστα 'most'
– πύκα 'closely; frequently'	πυκινός, πυκνός 'close'
– ὦκα 'swiftly'	ὠκύς 'swift'
– τάχα 'quickly'	ταχύς 'fast', comp. θάσσων, superl. τάχιστος
– ἦκα 'softly, lightly'	ἧσσων 'worse', ἥκιστος 'least', adv. ἥκιστα

Thus, forms like τάχα and λίγα may have been influenced by the adjectives ταχύς and λιγύς. In the case of κάρτα, however, such influence was only possible as long as the root was still **kr̥t-* (contrast the different root shape of κρατύς). Hence, κάρτα must be the regular reflex of a pre-form **kr̥ta*.

This conclusion is at odds with the widely-shared assumption of a regular development **r̥* > -ρα-. Illustrative for the embarrassment of previous scholarship is the treatment of Ruijgh (1980: 563 n. 10):

> 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 'I-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.

103 The similarities between κάρτα and Lat. *certus* 'certain' (adv. *certe* 'certainly, surely') are superficial: the Latin word derives from **kritó-* 'sifted, distinguished' (cf. EDL s.v. *certus*).

104 Nussbaum (1976: 122 n. 37) proposes to reconstruct **-n̥t*, the neuter form of a Caland *nt*-adjective. For a discussion with further literature, see Meissner (2006: 63–64), who prefers **-h₂*. For the Homeric instances, see Risch 1974: 363.

Here, Ruijgh ascribes the variation between -αρ- and -ρα- to a similar hesitation concerning the full grade slot in the abstract noun κρέτος ~ *κέρτος. This assumption is completely unfounded, as there is no evidence whatsoever for *κέρτος anywhere in Greek. Hodot (1974) has shown that the name Ικερτης, which occurs only in Lesbian, is unrelated to -κράτης. The normal Lesbian counterpart of Ionic names in -κράτης is -κρέτης, which is attested from the 5th c. BCE onward; on the other hand, names in -κέρτης first appear in the 2nd c. BCE and must therefore be considered an innovation. Hodot convincingly suggests that this late Lesb. -κέρτης is the regular outcome of -κρίτης.[105]

Ruijgh also misses the mark when suggesting (1980: 562 n. 8) that κάρτα could be the result of a post-Homeric analogy μάλα : μάλιστα = X : κάρτιστα. The problem is, as we have seen, that κάρτιστος is an artificial Homeric form unattested in the Ionic vernacular, whereas κάρτα is, conversely, unattested in Homer. Moreover, an adverbial form κάρτιστα is unattested in Homer.[106]

Since an convincing analogical explanation of κάρτα is hard to find, I conclude that it probably reflects *$k\underset{\circ}{r}ta$, thus representing a valuable piece of evidence for the regular development of *$\underset{\circ}{r}$ in Proto-Ionic.

5.2.10 *From Proto-Ionic to Attic and Ionic*

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 *$\underset{\circ}{r}$ > -αρ- and the levelling in κρατύς, but before -ρα- was generalized to other full grade forms:

– adj. *kratús*
  forms of gradation **krétiōn*, **krétistos*
  → factitive verb *kratű́nō*
– n. **krétos*
  → stative verb **kretéō*
  → compounds in *-*kretḗs*

105 According to Meissner (2006: 68–69), names in -κρετής / -κράτης are recent creations because no examples are found in Homer or Mycenaean.

106 Alternatively, one could think of a proportion μάλα : μαλερός = X : καρτερός, as I did in Van Beek 2013: 140. However, this would require that μαλερός was current in spoken Ionic-Attic in the meaning 'vehement' when the analogy was applied. This is not evident, as μαλερός is exclusively poetic and its exact meaning is debatable. Cf. *GEW* s.v. μαλερός, "wegen der unbestimmten Bedeutung ohne überzeugende Etymologie". Blanc (*DELG*, Supp. s.v. μαλερός) has argued that μαλερός originally referred to the brilliant splendor of light, and that the form arose by dissimilation from **mar-ero-*, with the root of μαρμαίρω 'to glitter'. This seems unlikely to me, but if it is correct, it would imply that μαλερός cannot play a role in accounting for κάρτα.

– adj. *karterós*
– adv. *kárta*.

Homeric Greek and Classical Ionic-Attic agree in having the forms κράτος, -κρατής, and κρατέω. Moreover, the superlative κράτιστος is found in both Attic and Ionic, and was probably avoided in Homer for metrical reasons. This suggests that as early as Proto-Ionic, -ρα- was introduced from the adjective in these forms, but not in **kretḭ̄on*. This introduction led to the following situation:[107]

– κρατύς 'powerful, fierce; firm'
  κράτιστος 'most powerful' > 'best'
  → κρατύνω 'to make firm, harden'
– **kretḭ̄on* 'superior'
– κράτος 'fierceness; power'
  → κρατέω 'to be rampant; be in control'
  → -κρατής 'having power'
– καρτερός 'fierce, strong; steadfast, enduring; firm'
– κάρτα 'vehemently, firmly' (> 'very').

The root variant κρατ- first arose in the adjective κρατύς. Whereas this form is a relic already in Homer, it must have been alive in Proto-Ionic because the introduction of *a*-vocalism in κράτος and κράτιστος started out from this form.

It is impossible to assume influence of καρτερός on the vocalism of **krétos*, **krétistos*. First of all, the forms καρτερός and κράτος have different vowel slots. If the vocalized zero grade had been levelled, the result would have been κάρτος, as in Gortynian Cretan. The variant κρατερός cannot be reconstructed for Proto-Ionic; it originated within the epic tradition. Had the Homeric doublet κρατερός ~ καρτερός also existed in the vernacular, it would be difficult to understand why καρτερός, with its deviant vowel slot, was not ousted by κρατερός. Secondly, in Classical Greek the semantic divergence between καρτερός 'steadfast, persevering' and κράτος 'power' is considerable. Both forms have their own system of derivations, and already in Homer the analogical form κάρτος serves as an abstract to καρτερός, not as a pure doublet of κράτος. Admittedly, this argument is not decisive because the semantic distance between καρτερός and κράτος may originally have been more narrow.[108] However, it would make sense if the meaning of κρατύς was something like 'powerful, violent' (closer to that of κράτος), while that of καρτερός was already more like 'steadfast, enduring, persevering, firm'.

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107 In this overview, I leave aside the precursors of κραταιός and κραται- because these forms were limited to Epic poetry.

108 The same holds for the argument that Class. κρατύνω in the sense 'to make firm, harden' cannot have been derived from κράτος.

5.2.11 *The Reconstruction of κραταιός and κραται-*

It is generally agreed that κραταιός, κραται- and κραταιΐς (PN Κράταιϊς) had preforms with a zero grade root *$k\underset{\circ}{r}t$-, but their precise morphological reconstruction and the origin of -αι- have been a topic of debate. I will first summarize and criticize previous accounts of κραταιός and κραται-, and then propose my own scenario accounting for both forms. Concerning κραταιΐς (Κράταιϊς), this form is derived from κραταιός, as I will argue in the next section.

The meaning of κραταιός is more or less identical to that of κρατερός ~ καρτερός.[109] A broadly shared assumption is that the masculine κραταιός is a back-formation from the feminine attested in the formula Μοῖρα κραταιή.[110] It is supposed that κραταιή somehow continues an archaic motional feminine *$k\underset{\circ}{r}th_2\underset{\circ}{u}ih_2$ of the *u*-stem adjective κρατύς, where the second -α- would be the vocalization product of *h_2. This reconstruction is inspired by that of the toponym Πλάταια, which is analyzed similarly as the direct outcome of the old feminine *$p\underset{\circ}{l}th_2\underset{\circ}{u}ih_2$ of πλατύς 'wide'.[111] That Πλάταια (pl. Πλαταιαί) is indeed a relic *u*-stem form is corroborated by its pattern of accentuation, which recurs only in a few archaic motional feminines of Greek *u*-stem adjectives: λίγεια, θάλεια, λάχεια and the *pluralia tantum* ταρφειαί, θαμειαί. The root-final laryngeal of PIE *$pleth_2$- is corroborated by the voiceless aspirate of Indo-Iranian (Ved. *prathⁱ*) and the Greek noun πλαταμών 'flat surface'.

Severe problems arise, however, when this explanation is extended to κραταιός. First of all, there is no independent evidence that the root ended in *h_2. Meissner (2006: 62), accepting the etymological connection with Ved. *krátu*- and Av. *xratu*- (which exclude root-final *-h_2-), assumes that an extended form *-h_2u- of the suffix *-*u*- somehow became productive in Proto-Greek. Lamberterie (1990: 352–353), while deriving κρατύς from **kert*- 'cut', is forced to assume a contamination of that root with *(*s*)*kerH*- 'cut' (which would have given rise to

109 See Lamberterie (1990: 337); to his list of examples proving this equivalence, I would add *Od.* 18.383, where κραταιός occurs in a speech by Odysseus. Still in disguise as a beggar, he addresses the suitor Eurymachus 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. Thus, in the verse καὶ πού τις δοκέεις μέγας ἔμμεναι ἠδὲ κραταιός (*Od.* 18.383) "you think you are some big and tough guy", κραταιός refers to the physical condition (fitness) which the suitor Eurymachus is lacking, according to Odysseus. Thus, apart from the sense 'impetuous, fierce' (which is likely in the other Homeric instances), κραταιός also means 'steadfast, tough' on at least one occasion. At least the poet of this line considered κραταιός and κρατερός ~ καρτερός to be semantically interchangeable.

110 Risch (1974: 74), Nagy (1999: 85–89 and 349–354), Lamberterie (1990: 337–343), Meissner (2006: 62–63).

111 This toponym may have originally been an epithet denoting a wide or flat area (e.g. *πλάταια χώρα). Of course, the normal feminine πλατεῖα has analogical -εῖα.

*$kerth_2$-) in order to account for κραται- and κραταιός. Both ideas are designed specifically in order to explain κραταιός, and neither is supported unambiguously by further evidence.[112]

A second problem concerns the inner-Greek developments assumed to lead to κραταιός. The expected feminine of a *u*-stem adjective would be *κράταιᾰ, but this form is unattested, and Homer already has the archaic formula Μοῖρα κραταιή. Both the quantity of the final vowel of κραταιή and its oxytone accentuation are problematic, and there would have been no motive for replacing *κράταιᾰ in Μοῖρα κραταιή, as petrified formulae cannot be expected to undergo unmotivated analogical morphological changes. Finally, the creation of a secondary masculine κραταιός beside κραταιή (Lamberterie 1990: 339) is not without problems: most of the parallels adduced by Lamberterie to explain this process are post-Classical, and their similarities with κραταιός are weak.[113]

In view of these objections, the reconstruction of κραταιός remains problematic. Before presenting my new account, let us consider the reconstruction of the first member κραται-. A number of details remain puzzling: what is the origin of -αι-? Is there a derivational relation between κραται- and κραταιός? And how do personal names with Καρτι-, Κρατι- fit into the picture?

A brief digression about Caland's rule for replacing adjectival suffixes with *-i-* in first compound members (cf. section 4.1) will be in order here. This rule may have been productive until not too long before Homer. The most important examples of first compound members in -ι- are the forms shown in Table 11 (next page).[114] Several of these forms co-occur with adjectives in -ρό- or -νό-, just as in the Indo-Iranian examples: ἐρυσι˚ : ἐρυθρός, κυδι˚ : κυδρός, λαθι˚ : λάθρῃ, πυκι˚ : πυκνός, perhaps ἀργι˚ : ἀργός (if one accepts Wackernagel's idea of a dissimilation from *$argró$-), and cf. also δαΐφρων < *$dn̥s$-i˚ beside Ved. *dasrá-* 'capable, skilled' < *$dn̥s$-$ró$-. In all cases where more than one ablaut variant exists, the first member in -ι- has a zero grade root: λαθι-, πυκι-, δαϊ-, ἐρυσι-, just like the corresponding adjectives.

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112 In Van Beek 2013, section 5.3 I have argued that κρατερός ~ καρτερός corresponds directly to Ved. *śithirá-* 'loose'. If this is correct, the root did have a final laryngeal, but its form was *$ḱreth_1$- in view of the -ε- in Ion.-Att. καρτερός. It is not possible to start from *$ḱreth_2$- and assume a reshaping of *καρταρός to καρτερός (for instance after ἱερός, which was close in meaning), as Cretan has καρτερος beside ιαρος.

113 The only clearly Homeric case mentioned by Lamberterie is ἑταῖρος 'companion', which he views as a backformation from ἑταίρη. Here, however, metrical pressure may have been at work, since the older form of the masculine seems to be ἕταρος. Moreover, it remains unclear whether an older athematic feminine ever existed.

114 See Risch (1974: 219) and the table in Meissner (2006: 19) for a few more uncertain items.

TABLE 11 Greek 'Caland' first members in -ι- compared with related forms

First compound member	Related formations
ἀργι-κέραυνος, -ποδες (Hom.)	˚αργής 'bright', ἀργός 'swift; white'
δαΐ-φρων 'clever' (Hom.)[115]	δήνεα 'wiles', ἀδηνής, πολυδήνης
καλλι-γύναικα (Hom.)	κάλλος 'beauty', περικαλλής
κυδι-άνειρα (Hom.)	κυδρός 'stately', κῦδος 'glory', ἐρικυδής
λαθι-κηδής (Hom.)	λάθρᾳ adv. 'secretly', Hom. λάθρῃ
πυκι-μήδης (Hom.)	πυκνός, πυκινός 'close; sharp-witted'
ῥᾳ-θυμος 'light-hearted' (Att.)[116]	ῥεῖα (< *ῥῆα) 'easily'
ἐρυσί-πελας[117] (Hp.+)	ἐρυθρός 'red'
θερσι-επής (B.)[118]	Aeol. θέρσος; names in ˚θέρσης (Hom.+)
PNs Κρατι-, Καρτι- (post-Hom.)[119]	κρατερός, καρτερός 'violent, firm'

Several examples suggest that the basis for deriving first compound members in -ι˚ has been extended to include *s*-stems, both abstract nouns and second compound members. The relic first member θερσι˚ (retaining the *e*-grade) seems to have been formed beside θέρσος (the older form of θάρσος) and ˚θέρσης.[120] Likewise, καλλι˚ with its geminate mirrors not the simplex καλός, but the noun κάλλος and compounds in ˚καλλής, and we may also compare ἀργι˚ : ˚αργής and κυδι˚ : ˚κυδής.

Another indication that Caland's replacement rule had ceased to be operative is the use of κρατερο˚ as a first compound member, instead of the outcome of **kṛti˚* or, for that matter, unattested *κρατυ˚.[121] This brings us back to the origins of κραται˚. Interestingly, as remarked by Meissner (2006: 18), κραται˚ beside

115 From **dṃs-i-*.

116 From **u̯rāhi-* beside adv. **u̯rāha*, see Wackernagel (1897); ῥηΐδιος (already Homeric) may also be an original compound with first member **u̯rāhi-*, as I argue in Van Beek 2020.

117 Name of the skin disease *erysipelas*; cf. perhaps also ἐρυσίβη 'rust, red blight'. Note the unproductive assibilation of /t^h/ (for which cf. Myc. *ko-ri-si-jo* /Korinsios/ 'from Corinth').

118 The use in appellatives is post-Homeric, but the same first member is already attested in PNs such as Θερσίλοχος (Hom.+) and perhaps also in Θερσίτης (see section 2.3.1).

119 Meissner (1998: 244–246) claims that names with Κρατι-, Καρτι- are late, analogical formations.

120 Contrast Meissner's view (2006: 22) that θερσι- might be an archaism to be compared with Av. *darši-*.

121 Note that adjectives in -ύς do not change their shape when appearing as a first compound member: cf. e.g. βαρύκτυπος, βαθυδίνης, θρασυκάρδιος.

κρατερός is the only instance in Homer where adjectival -ρο- is not replaced by -ι˚ in a first compound member. Is it possible that κραται˚ somehow reflects **kr̥ti˚*?

Let us first reconsider the existing opinions on the origin of -αι˚ in κραται˚. Meissner (2006: 62), citing γεραιός 'old' beside the comparative γεραίτερος as a parallel, argued that κραται˚ is a remodeling of κραταιο˚.[122] This is unlikely: it remains unclear why the thematic vowel would be dropped; the assumed influence of γεραιός on κραταιός lacks a clear motivation; and γεραίτερος is not a compound but a comparative. Reconstructing a pre-form **krth₂i˚* does not really help: between two consonants, PIE **-h₂i-* is expected to yield -ι- rather than -αι- (cf. Nagy 1999: 86–87 with n. 5).

Nagy therefore assumed that κραται˚ arose within Greek as a crossover of the adverb **kr̥t-a* (> κάρτα) and the inherited first member **kr̥ti˚*. 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 ἀλκίφρων. Indeed, a first member Κρατι˚ is also found in personal names, but one would have to assume that the adverb **kr̥ta* could be used as the first member of a compound, and that it was then contaminated with **kr̥ti˚*. This is not impossible, but difficult to substantiate.

Although the existence of κάρτα lends some support to this scenario, it remains difficult to indicate a motive for creating **kr̥tai˚*. Why not simply retain **kr̥ti˚* if this already existed anyway? Turning around our perspective, if we were to assume that **kr̥tai˚* is old, a motivation for its retention is readily available. In Epic Greek, κραται˚ functions as an allomorph of κρατερο˚, as is clearly illustrated by personal names with Κραται˚ corresponding to noun phrases with κρατερός (cf. Lamberterie 1990: 337):

– Κραταιμένης (Th., inscr.)[123] ~ Hom. κρατερὸν μένος;
– Κραταίβιος (inscr. Delos)[124] ~ Hom. κρατερῇφι βιῇφι.

Another crucial form is καρταίποδ-, attested both in Pindar (qualifying a bull in *Ol.* 13.81) and in Cretan inscriptions (in the meaning 'cattle'). Its variant κραταίποδες 'with strong feet' appears as an epithet of ἡμίονοι 'mules' in the

122 See also Meissner (1998: 244–246).

123 The oldest attestation is the name of an Achaean victor in Olympia (*SEG* 22.345, appr. 600 BCE). 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 Καρταιμ̣ένη[ς], *IG* XII (Supp.) 312 III.31 (Tenos, Ionic Cyclades, 2nd c.).

124 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).

Herodotean *Life* of Homer.[125] This must surely be compared with the Homeric epithet κρατερῶνυξ, which (with one exception) qualifies horses or mules.[126] In other words, κραταίποδες "whose πόδες are κρατεροί" is parallel to κρατερῶνυξ "whose ὄνυχες are κρατεροί".

What determined the choice between κραται˚ and κρατερο˚? It is true that κραται˚ also occurs in non-dactylic meters, but I think the underlying principle is best sought within the epic language. The only two Homeric compounds with a first member κραται˚ are the *hapax eiremena* κραταιγύαλοι and κραταίπεδον, whose second member has a light first syllable starting with a single consonant. The same applies to the post-Homeric personal names Κραταιμένης and Κραταίβιος, which may well be of epic origin, and to post-Homeric κραταίποδες. In this phonological context, κρατερο˚ and καρτερο˚ were both excluded for metrical reasons in Epic Greek. We do find κρατερο˚ before second members starting with two consonants or a vowel-initial heavy syllable (κρατερόφρων, κρατερῶνυξ), while καρτερο˚ was used if the second member started with a heavy syllable with a single initial consonant (cf. καρτερόθῡμος).[127]

If the alternation of **kr̥tai-* with **kr̥tero-* as first compound members represents something old and structural, then the same must hold for **kr̥tai-* itself. But how old is this form? Lamberterie (1990: 343) proposes the following explanation:

> 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.

This is attractive, but I would prefer to view formulate the details slightly differently. An inherited first compound member **kr̥ti-* is expected on comparative grounds as a counterpart of **kr̥tero-*. In Epic Greek, it was problematic to use **kr̥ti-* before a single consonant followed by a light syllable. This may have initially been resolved with a metrical lengthening, **kr̥tipedo-* >> **kr̥tīpedo-*. At

125 *Vita Herodotea* 14.9.

126 The exception is λύκοι κρατερώνυχες ἠδὲ λέοντες (*Od.* 10.218), where it means 'with fierce claws'.

127 In κραταιρίνοιο 'hard-shelled' (oracle in Hdt. 1.47, hexameter), the allomorph κραται- is used before a heavy syllable starting with a single consonant, but note that the prosodic behavior of initial ῥ- varies. The compound κραταίλεως 'consisting of hard rock' (trag.), containing λᾶας 'stone' as a second member, is a relatively recent formation (note the application of quantitative metathesis).

some point, **kr̥tī-* was for some reason (perhaps because it had become isolated) reshaped as **kr̥tai-* under the influence of **kr̥taiu̯ó-*, the pre-form of κραταιός.

In his immediately following remark, however, Lamberterie expresses his doubts about this explanation:

> Il reste que l'existence de καρταῖπος en Crète interdit de voir dans les composés en κραται- une création littéraire artificielle; ils ont bel et bien une réalité linguistique.

The Cretan word καρταιποδ- is indeed highly relevant, as it shows that compounds in **kr̥tai-* existed before the vocalization of **r̥* in this dialect.[128] I would hesitate, however, to view καρταιποδ- as a compound of vernacular origin. On the face of it, it looks like a poetic form: an epithet which replaced or supplemented an older word for 'cattle' such as τετραποδ-. In fact, the Cretan form could show that a compound **kr̥tai-pod-* (reflected in post-Homeric κραταίποδες) was created in an early form of the Greek poetic tradition, probably epic, and that it was borrowed thence into an early form of Cretan. One is tempted to think of an 'Achaean' relic form.

The question still remains how the compounds with κραται- relate to personal names with Καρτι- and Κρατι-, which at first sight may contain the expected outcome of **kr̥ti-*.[129] Meissner (1998: 244–245, cf. also *GEW* s.v. κράτος) objects to this idea that the attestations are not very early: one example possibly dates from the fifth century, and the rest is from the fourth century or younger. For this reason, he claims that these names could be innovations of the classical period, when first members in -ι- enjoyed a certain productivity. Concerning the Homeric evidence, he views the absence of καρτι- ~ κρατι- in Homer as an argument against its antiquity.[130] However, this absence is not necessarily remarkable given that κραται- occurs only twice. It is also relevant that Κρατερο- ~ Καρτερο- is unattested as a first member in Ionic and Attic per-

128 For a critique of the assumption of liquid metathesis in Cretan, see chapter 3.

129 The evidence consists of Κρατ-ερμος, Κρατ-ιππιδας, Κρατι-δημος; Καρτι-δαμας, Καρτι-νικος, Καρτι-σθενης (cf. Bechtel 1917: 256). Of these names, Καρτισθενης is attested in Cyrene, while Καρτινικος and Καρτιδαμας are from Thera, and it is exactly in these two dialects that αρ is the regular reflex of **r̥*. Κρατιδημος is attested in Ionian territory (Erythrae). Obviously, Κρατι- may have the root shape of κράτος, or alternatively it may be an epicism.

130 "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." (Meissner 1998: 245).

sonal names. It therefore seems plausible that **kr̥ti-* once existed, whether or not the personal names with Κρατι- and Καρτι- directly reflect this form.[131]

Let us now return to the reconstruction of κραταιός. In view of its oxytone accentuation, a derivation with the unaccented all-purpose appurtenance suffix -ιο- can be excluded. Three other adjectives are of special interest as possible parallel formations: παλαιός 'of the past', γεραιός 'old', and δηναιός 'long-lived'.[132] Among these, δηναιός occupies a special position because it probably derives from a compound **dṃān-aiu̯-ó-* '(one) having a long life-span', with the adverb δήν as a first member.[133] On the other hand, the adjective παλαιός is already attested in Myc. *pa-ra-jo*, thus excluding a compound with **-aiu̯-*.[134] Clearly, παλαιός is an adjectivization of the adverb πάλαι 'in times before, for some time now', which also occurs as the first member of compounds (e.g. παλαιγενής 'born in the past', παλαίφατος 'said/hit some time ago'). Later, παλαιός may have induced the creation of γεραιός.[135]

Thus, κραταιός might either be a 'genitival' derivation like παλαιός, or a possessive compound like δηναιός. Concerning the former option, as remarked by

131 In Epic Greek, the replacement of **kr̥ti-* by **kr̥tero-* must have occurred before the vocalization of the syllabic liquids, which would have altered the metrical structure of **kr̥ti-*. There is no trace of καρτι- in Greek poetry.

132 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 (Hsch., a by-form of ἠλεός 'crazed'), λαιός 'left' = Lat. *laevus* etc. (an old formation < PIE **leh$_2$i-ṃo-*, cf. δεξιός 'on the right'), σκαιός 'left, western' = Lat. *scaevus* (likewise old, < PIE **skeh$_2$i-ṃo-*). One may also perhaps compare the ethnic Ἀχαιοί, on which see Nagy (1999: 349–354). The common classical adjective ἀρχαῖος 'ancient' does not occur in early epic, except in Hes. *fr.* 322. As the accent shows, this form was derived productively from the noun ἀρχή 'beginning'; its suffix goes back to PGr. **-i(i̯)o-*.

133 As recognized by DELG (s.v. δήν), there is no reason to doubt this reconstruction of δηναιός, because its meaning is consistently 'long-lived' in both Homer and Aeschylus. Frisk (GEW s.v. δήν) has issues with this etymology, presumably because of the use of an adverb as a 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"), but ἀρχαῖος cannot be compared in view of its different accentuation. Note that Homer uses δήν predicatively in nominal sentences (e.g. οὐδὲ γὰρ … δὴν ἦν 'for he [Lycurgus] did not live long', *Il.* 6.130–131).

134 As Chadwick (1976) has shown, 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 Mycenaean tablets, *pa-ra-jo* qualifies wine and is used in opposition to *ne-wo* 'young'.

135 Nothing excludes that γεραιός (30× 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, in view of their close meanings. Alternatively, one might consider a compound PGr. **ger-aiu̯-ó-* 'belonging to an old lifetime / generation'.

Nagy (1999: 353),[136] κραται- (unlike πάλαι) is not found as a simplex. Moreover, even if we were to explain κραταιός from a proportion based on κραται- beside παλαι- in compounds (cf. *GEW* s.v. κράτος), the form κραται- itself remains in need of an explanation. The best solution is, therefore, to assume that κραται- was reshaped from metrically lengthened **kr̥ti-* under the influence of an already existing κραταιός, perhaps aided by πάλαι beside παλαιός.

Most problems can be resolved by deriving κραταιός from a compound PGr. **kr̥t-aiu̯ó-* 'having powerful vital force', in which **-aiu̯ó-* continues the PIE *u*-stem **h₂ói-u*, **h₂éi-u-* (cf. Ved. *áyu*(*s*)- n. 'life, lifetime, vital force') or even the thematic derivative **h₂eiu̯o-* reflected in Lat. *aevum* 'lifetime, age', Goth. *aiws* 'id.'. Note that in Homer αἰών does not only mean 'life, lifetime', but is also used as an equivalent of μένος in the sense 'vital force' (cf. *LfgrE* s.v. αἰών), a sense which may also be attested for the Vedic cognate just cited. The first member of **kr̥t-aiu̯ó-* could be the bare root or, alternatively, a prevocalic variant of the 'Caland' allomorph **kr̥ti-* (with elision of *-i-*). This reconstruction receives support from the existence of traditional phrases κρατερὸν μένος and κρατερὴ βίη and the corresponding personal names Κραταιμένης, Κραταίβιος.[137]

5.2.12 *Κράταιϊς and κραταιΐς*

The enigmatic form κραταιΐς (PN Κράταιϊς) occurs twice in Homer, both times in the *Odyssey*. The first occasion is in the description of the sinner 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.* 11.595–598

136 A similar scenario had already been proposed in *DELG* (s.v. κράτος). I disagree with Nagy's proposal to reconstruct κραταιός as the feminine of a compound **kr̥tai-u̯i*(*H*)-*i*(*e*)*h₂* 'having strong force' (Gr. ἴς, Lat. *vis*). The pre-form would first have lost the laryngeal in its second member, and then removed its suffixal ablaut to yield **kratai-u̯iā*. This would, finally, have given rise to a secondary masculine form. Apart from the fact that assuming laryngeal loss in a compound is slightly *ad hoc*, the objections to the other two points are the same as for Risch's derivation from the feminine of a *u*-stem adjective discussed above.

137 An objection to reconstructing a compound is that κραταιός has a motional feminine κραταιή, but there are other archaic-looking compounds in Homer with a motional feminine (cf. e.g. νὺξ ἀβρότη). Furthermore, it cannot be excluded that κραταιός was reanalyzed as a simplex early on, as all other adjectives in -αιός (παλαιός, γεραιός, λαιός, σκαιός) were *simplicia*.

> … 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 'overwhelming weight, preponderance' (e.g. "das Übergewicht, seine Wucht", Ameis-Hentze ad loc.). Editors like von der Mühll and van Thiel print Κραταιΐς,[138] but personal names normally do not have oxytone accentuation. Moreover, a personal name Κράταιϊς, with retracted accent, is ascertained by the second attestation, when Odysseus is warned by Circe about the monstrous Scylla:

> 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.* 12.120–126

> There is no resistance: you must flee from her with all your might.[139] For if you tarry arming yourself by the cliff, I fear that she will attack again and reach you with as many heads [as before], and catch as many men. No, you should row with all might, and call upon Crataeis, the mother of that Scylla, who bore her to be a bane to mortals. She will then keep her from leaping forth again.

Aristarchus held the opinion that lines 124–126 in this passage were later additions. However, the fact that line 124 contains both the *hapax* βωστρεῖν and the rare Κράταιϊν strongly advises against athetizing it. Indeed, the idea has been mostly abandoned in more recent scholarship (see Heubeck, *Comm. Od.* ad loc.), but Merkelbach (1951) still argued that lines 125–126 (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

138 Cf. also the comment by Heubeck in *Comm. Od.*, 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."

139 For this translation, see the discussion of the superlative κάρτιστον above (section 5.2.7).

'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 Scylla's mother to restrain her daughter?[140] In any case, it seems best to retain at least line 124 as authentic.

The correct morphological analysis of κραταιΐς and Κράταιϊς has also yielded problems from antiquity onwards; see Lamberterie (1990: 340–343) for a clear summary of the issues. The following proposals are insufficient:

– Aristarchus analyzed κραταιΐς as an adverb in -ις. This cannot be correct, as 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.
– Chantraine (*DELG*) analyzed κραταιΐς as an adjective: an anomalous feminine of κραταιός which in his view qualifies λᾶας 'stone' in the next line. For the formation, he compared the Homeric feminine θοῦρις, belonging to θοῦρος 'fierce'. However, as Lamberterie (l.c.) remarks, λᾶας is always masculine in Homer.
– The idea of an irregular elision in an underlying κραταί' ἴς cannot be maintained either, in view of the long -η as well as the initial digamma of ἴς 'force'. Lamberterie's proposal (l.c.) to reconstruct a noun phrase *κραταιϝὰ ϝίς, which would have developed to κραταιΐς by haplology, remains pure speculation.
– Nagy (1999: 349–350) analyzed κραταιΐς as a possessive compound *κραταιϝις "whose force has κράτος", which would make sense from a semantic point of view.[141] However, the phonological problems remain. If the second member was indeed ἴς 'force', with a long vowel from PIE *μ*iH-*, this would be contradicted by the accentuation of the name Κράταιϊς, which presupposes a short final syllable.[142] It would be unmotivated to assume a secondary shortening of the *$\bar{\imath}$.

140 Given the new interpretation proposed for φυγέειν κάρτιστον 'flee with all your might' (section 5.2.7), 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. Therefore, the idea that Κράταιϊς was Scylla's mother (lines 125–126) could conceivably be due to a post-Homeric reinterpretation of the passage; the lines may have been added after the meaning of the word (and name) had been forgotten.

141 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 seen, κραται- functions as a relic allomorph of κρατερός.

142 In fact, all analyses of the form as a compound (or noun phrase) with ἴς 'force' suffer from the same problem.

As was already seen by Wackernagel (1914: 111), the most natural analysis of κραταιΐς ~ Κράταιϊς is to view it as a feminine substantivization of the type νυκτερίς 'bat' < "(creature) of the night".[143] As we have seen, the context in which κραταιΐς occurs suggests that it means something like 'overwhelming force'. Nagy objects to Wackernagel's analysis that the adjectives corresponding to νυκτερίς and ἡμερίς 'cultivated vine' (νύκτερος 'nightly' and ἥμερος 'tame, cultivated') retain their feminine in -ος, whereas κραταιός has a feminine in -ή. However, I fail to see why the possibility to derive a *substantivization* in -ίδ- would be affected by the presence or absence of explicit feminine marking in the adjective, as -ίδ- is a derivational suffix making substantivizations, not a flexional suffix creating feminine forms of an adjective.[144] We may therefore conclude that κραταιΐς was derived directly from κραταιός, and that both forms reflect a pre-form with **r̥*.

5.3 Conclusions on the Vocalization of **r̥*

Although various proposals for the etymology of κρατύς and καρτερός have been made, we are clearly dealing with a homogeneous group of words, *pace* Benveniste (1969). The lexical meanings of the root are 'powerful, overwhelming' and 'steadfast, firm', and we have seen possibilities to connect these by semantic developments. The original full grade was **kret-* (cf. Ion. κρέσσων), and there is no convincing evidence for positing a variant **kert-*. This means that καρτερός and κάρτα show a regular reflex of the zero grade, and that the reflex of κρατύς must be analogical after the full grade **kret-*, as in other *u*-stem adjectives, by the scenario discussed in chapter 4.

Both adjectives **kr̥tú-* and **kr̥teró-* must be reconstructed for Proto-Greek. A secondary creation of **kr̥tú-* > κρατύς would be difficult to justify in view of the unproductive status of this category in Greek. On the other hand, **kr̥teró-* must also be old because this form is reflected in three different dialect groups. Early on, possibly already in Proto-Greek, it underwent a semantic development to 'persevering, steadfast', and was thereby dissociated from forms like **krétos* 'might; power' and **kr̥ta* 'vehemently'. To be sure, the original semantic

143 In Van Beek 2013, I presented this solution as originating with Nagy (1999: 349), without knowing that Wackernagel had made the same proposal a century before. Nagy does not refer to Wackernagel either.

144 Moreover, if the analysis of κραταιός as an original compound is correct (see the previous section), this problem disappears.

differences remain difficult to reconstruct, but it is plausible that a nuance between **kr̥teró-* and **kr̥tú-* existed early on.

Our analysis of the derivational history of forms with κρατ- and καρτ- has corroborated the conclusions reached in previous chapters. Starting from κρατύς, the analogical zero grade reflex was introduced in κράτιστος, κράτος (whence -κρατής) and the stative verb κρατέω. None of these forms can therefore be used as evidence for the regular vocalization of **r̥*. Itself, κρατύς was retained only in the name-epithet formula |$_{\text{H}}$ κρατὺς Ἀργεϊφόντης and was apparently eliminated relatively early (though after the splitting up of Proto-Ionic). In Epic Greek, the role of κρατύς was taken over by κρατερός. It is possible to view κρατερός as a cross-over between κρατύς and the older form **kr̥teró-* in the epic tradition.

Once the doublet κρατερός ~ καρτερός existed, analogies within Epic Greek could lead to the creation of further doublet forms: κάρτος (beside κράτος), κάρτιστος (beside κράτιστος); καρτύνω (beside κρατύνω). These forms are artificial in the sense that they arose by inner-epic analogies. Classical prose did not develop such by-forms: it only has καρτερός (whence καρτερέω), κράτος, κράτιστος, and κρατύνω.

The epic forms κραται-, κραταιός and κραταιΐς also reflect a pre-form with **r̥*. Since it is difficult to account for their root shape as analogical, they seem to contradict the conclusion reached on the basis of καρτερός and κάρτα. However, we must also take into account that κραται-, κραταιός and κραταιΐς are found mainly in Epic Greek and occasionally in later poetry. Moreover, using these forms in hexameter verse entailed a tautosyllabic scansion of *muta cum liquida*, which is relatively rare in Homer. In the next chapter, I will deal with these issues in more detail, and propose that the reflex -ρα- < **r̥* in these and other forms evolved not in a vernacular dialect, but in the epic tradition. This means that καρτερός and κάρτα are the only formations belonging to this root to display the regular vocalization of **r̥* in Ionic-Attic.

CHAPTER 6

Reflexes of *$\mathring{r}$ and *muta cum liquida* in Epic Greek

Introduction

So far, we have encountered several compelling pieces of evidence for a regular development *$\mathring{r}$ > -αρ- in Ionic-Attic: τέταρτος, ταρφύς, καρτερός, and κάρτα. Furthermore, many forms with either -ρα- or -αρ- could be explained as analogical: *u*-stem adjectives such as κρατύς, πλατύς, βραχύς, *s*-stem nouns and adjectives like κράτος, θάρσος, and forms of comparison such as κράτιστος. In addition to this, we noted that epic forms like κάρτος and κάρτιστος were artificially created.

However, a body of forms remains where -ρα- must be the uninterrupted reflex of *$\mathring{r}$, as an analogical reshaping is simply not conceivable. Our main remaining task is to account for these forms. The evidence includes, among other forms, the aorists ἔδρακον and ἔπραθον (contrast δέρκομαι, πέρθω), the aorist subjunctive τραπείομεν of τέρπομαι 'to enjoy oneself', the verbal noun δρατός 'flayed' (contrast δέρω), the adjective θρασύς (contrast θέρσος, and cf. chapter 4); and isolated words like τράπεζα and στρατός.

Upon closer inspection, it appears that many such forms with -ρα- < *$\mathring{r}$ occur exclusively in poetry, and in Epic Greek in particular.[1] Moreover, when there are variant forms with -ρα- and -αρ-, it is often possible to establish a distribution between these reflexes, as illustrated in Table 12 (next page). In all these cases, the forms with -ρα- are found exclusively in poetry, mostly in Epic Greek, and -αρ- is the only reflex found in Ionic and/or Attic prose texts.

The forms with -ρα- are normally considered phonological archaisms that were preserved because of their metrical utility. Upon this view, forms like καρτερός, τέταρτος, and καρδίη allegedly arose by analogy in the Ionic vernacular(s) and were then introduced into Epic Greek, where they supplied metrical alternatives for the older forms with -ρα-. As we have seen in the previous chapters, however, it is impossible to view καρτερός and τέταρτος as analogical or otherwise secondary formations: they must contain the regular outcome of *$\mathring{r}$. I will now first argue that the same holds for καρδίη / καρδία.

1 Exceptions are θρασύς, τράπεζα and στρατός, found all three in Classical prose. As I will argue below, these forms are best explained as epicisms.

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TABLE 12 Distribution between variant forms with -ρα- and -αρ-

PGr. pre-form	Prose form	Poetic form
*k_{R}teró-	καρτερός (also poetic)	κρατερός
*k_{R}ta	κάρτα	
*k_{R}taiu̯ó-		κραταιός
*k_{R}ti- >> *k_{R}tai-		κραται-, καρται-
*$k^{\text{w}}et_{\text{R}}$to-	τέταρτος (also poetic)	τέτρατος
*k_{R}rdiā-	καρδίη, καρδία (also poetic)	κραδίη, κραδία
*$d_{\text{R}}t^{\text{h}}$-e/o-	κατέδαρθον	κατέδραθον

6.1 The Reflex -ρα- and the Metrical Behavior of κραδίη

The alternation between καρδίη and κραδίη is of cardinal importance for the entire issue. The attestations are as follows. Homer has both forms, but καρδίη is metrically disfavored; it occurs only in a thrice-repeated verse and in the compound θρασυκάρδιος 'stout-hearted'.[2] In Classical prose, the only form is Attic καρδία, Ionic καρδίη, and the form with this root shape is also predominant in poetry (Archilochus, Alcman and—as a borrowing from Ionic—Sappho). On the other hand, after Homer the form with -ρα- is rare and remains limited to poetry (Pindar, Bacchylides, lyrical passages in tragedy).

The pre-form *k_{R}rdiā- can be analyzed as an extension in *-iā-* based on the weak stem of the PIE root noun for 'heart', *$ḱ_{\text{R}}$d-.[3] It is usually supposed that κραδίη is the regular reflex of *k_{R}rdiā- and that the classical form καρδία analogically introduced the vowel slot of κῆρ 'heart' < PIE nom.-acc. sg. *$ḱēr(d)$.[4] There are, however, serious problems with this scenario. First of all, the root of *k_{R}rdiā ends in *-d-*, whereas κῆρ had lost its final consonant long before the vocalization of *$_{\text{R}}$*. The idea that speakers would conceive of *k_{R}rdiā as related

2 This repeated verse is καρδίῃ, ἄλληκτον πολεμίζειν ἠδὲ μάχεσθαι (*Il.* 2.452, 11.12, 14.152); in all three instances καρδίῃ is a runover word, e.g. ἐν δὲ σθένος ὦρσεν ἑκάστῳ / καρδίῃ.

3 Similar *i*-extensions of *$ḱ_{\text{R}}$d- are found in other IE languages: Hitt. nom. sg. *ker*, gen. sg. *kardiu̯as*; OIr. *cride* < *$ḱ_{\text{R}}$d-i̯o-; Ved. *hṛ́daya-* beside *hṛ́d-*, Av. *zərəδaiia-* beside *zərəd-*, etc. The relation of the Greek extension *-*iā-* to these forms remains unclear (see the convenient summary in *NIL*, q.v.). In any case, this issue is not directly relevant for the Greek reflexes of the syllabic liquids.

4 See e.g. Schwyzer 1939: 342, Rix 1992: 65.

to κῆρ is unmotivated,[5] all the more so as the two forms were never part of the same synchronic paradigm. Secondly, in Homer κῆρ is an archaic relic form (out of 65 attestations, 59 are found in verse-final position),[6] and after Homer it all but disappears even from poetic language.[7] Finally, other dialect groups also have reflexes of *$k_R diā$ (cf. the Cyprian gloss κορζία· καρδία. Πάφιοι Hsch.). Taken together, these facts suggest that 'heart' was *$k_R diā$ already in Proto-South Greek, perhaps even in Proto-Greek, and that the archaic form κῆρ was preserved only in poetry. It is therefore highly questionable whether κῆρ could have influenced the outcome of *$k_R diā$ in the Ionic-Attic vernaculars.

In my view, the distribution of the attestations strongly suggests that καρδίη is the regular vernacular outcome. As for κραδίη, I propose that this form originated artificially within the language of epic. This is supported by the odd metrical behavior of κραδίη. As noted by Hoenigswald,[8] forms of κραδίη are rarely used after words ending in a short vowel. When this does happen, the form directly follows the main caesura so that we might be dealing with another license, *brevis in longo*.[9] In other words, κραδίη is never used to 'make position'. The peculiar nature of this distribution is highlighted by the use of κραδίη in post-Homeric hexameter poetry. In the *Hymns*, we do find an instance of position length in the line Τελφοῦσα κραδίην ἐχολώσατο εἶπέ τε μῦθον (*h.Ap.* 256). In Apollonius Rhodius, on 11 instances of κραδίη, we find 3 cases of position length (ὑπὸ κραδίῃ 3.287 and 296; ἐνὶ κραδίῃ 3.644). The localization of κραδίη in Homer is remarkable, too: with two exceptions, κραδίη only occurs in the thesis of the second (14× on 56 = 25%) or third foot (39× = 69.6%).[10]

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5 After Homer, only the artificially distracted form κέαρ is regularly attested (in lyric poetry, in the tragedians, and in two isolated instances in comedy). It is usually assumed that κέαρ was created beside κῆρ on the model of ἔαρ 'spring' beside ἦρ. Thus, κῆρ was no longer recognized as related to καρδία when κέαρ was created.

6 The recessive accentuation of the formulaic Homeric dat.sg. κῆρι presupposes that κῆρ had been lost from spoken Ionic before Homer.

7 After Homer, the only attestations are *Scut.* 435 and Thgn. 619 (both times in the Homeric verse-end ἀχνύμενος κῆρ), and A. *Choe.* 410 (where the vocative φίλον κῆρ is clearly an epicism).

8 Hoenigswald (1991: 10); cf. Hoenigswald 1968; 1988.

9 πέμψω δ' ὅππῃ σε κραδίη θυμός τε κελεύει (*Il.* 13.784, *Od.* 14.517 = 15.339); τῶν δ' ἄλλων ὅτινα κραδίη θυμός τε κελεύει (*Od.* 8.204); τῶν δ' ἄλλων ὅτινα κραδίη καὶ θυμὸς ἀνώγει (*Od.* 15.395); ὕστατα καὶ πύματα· κραδίη δέ οἱ ἔνδον ὑλάκτει (*Od.* 20.13). The first phrase could well be an inflected form of πέμψω δ' ὅππῃ *μιν* κραδίη θυμός τε κελεύει (*Od.* 16.81 = 21.341). The final vowel of the first hemistich ὕστατα καὶ πύματα may be a case of *brevis in longo*, as in its only other occurrence (*Od.* 4.685).

10 The three exceptions are the verse ends κραδίην δ' ἐλάφοιο (*Il.* 1.225), κραδίη δέ μοι ἔξω (*Il.* 10.94) and δόρυ δ' ἐν κραδίῃ ἐπεπήγει (*Il.* 13.442). Since κραδίη stands after $|_P$ in 39 instances,

As Hoenigswald remarks (1991: 10 n. 28), 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 after the manner of ἀνδροτῆτα καὶ ἥβην".[11] Indeed, if we compare words with the same metrical surface structure, the figures for κραδίη appear to be quite 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.[12] Given the large number of attestations of all these forms, we are very probably dealing with a significant distribution.

Hoenigswald (l.c.) therefore concluded 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 did not further elaborate his views on this matter in print. The question thus remains how exactly our views of relative chronology must be changed, and which processes are to be envisaged. Is it possible that the vocalization of the syllabic liquids was a comparatively recent sound change in various Greek dialects? It was certainly not *very* recent in Ionic-Attic: the lack of discernable differences between the Ionic and Attic reflexes shows that we are dealing with a Proto-Ionic sound change, which took place at least before the Ionian migrations to Asia Minor (usually dated to the 11th c.). This means that the form with -αρ- had already developed in Proto-Ionic.

How is it possible, then, that the prosodic behavior of the original form **kr̥diā-* was preserved in the tradition for such a long time? In my view, the most attractive explanation would be that **r̥* was retained within Epic Greek

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and since *brevis in longo* before $|_P$ is relatively common, one could object that information about the prosodic behavior of initial κρ- in κραδίη is limited to a mere 15 instances. Nevertheless, it is remarkable that a seemingly attractive metrical possibility was not used at all, and that a word of this metrical structure occurs after $|_P$ in 70 % of its occurrences. In Homer, the prepositions κατά and ἀνά frequently precede other words for body parts and mental faculties (e.g. κατὰ φρένα καὶ κατὰ θυμόν; ἀνὰ θυμόν), but phrases like κατὰ κραδίην* or ἀνὰ κραδίην* are unattested. We do find the phrases ἐκ κραδίης (*Il.* 10.10), ἐν κραδίῃ (*Il.* 13.442), and a number of instances of tmesis, e.g. ἐν δέ τέ οἱ κραδίῃ στένει ἄλκιμον ἦτορ (*Il.* 20.169).

11 The comment "[later > ρα]" is Hoenigswald's.

12 This implies that **kr̥teró-* lost its syllabic liquid within the epic tradition at an earlier date than **kr̥díā-*. Indeed, as argued in chapter 5, κρατερός may have analogically introduced the root allomorph of κρατύς; the regular outcome of **kr̥teró-* is found in καρτερός. Another relevant 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 opposite treatment also occurs before προσέφη, e.g. ὥς πού σε προσέφη (*Il.* 16.842). An explanation of the different treatment with respect to κραδίη could be that the form /pros/ existed in the Ionic vernacular, whereas /kradiæ/ did not.

for a considerable period of time after its elimination from the vernaculars, perhaps until one or two generations of poets before the composition of the *Iliad*. Such a scenario may account not only for the metrical behavior of κραδίη, but also for the reflex -ρα- itself—in κραδίη and in a number of other words. Thus, I posit a prolonged retention of *r̥ in Epic Greek after its vocalization to -αρ- in spoken Proto-Ionic, and a subsequent vocalization *r̥ > -ρα- (-ρο- after a labial consonant) that was specific to Epic Greek.

Before further elaborating this scenario for a prolonged retention of *r̥ in Epic Greek, we must consider the problem of Homeric *muta cum liquida* scansions (henceforth *McL*) in more detail. A prolonged retention of *r̥ would also allow us to understand the origin of this license, more or less along the lines sketched by Wathelet (1966). Since Wathelet's idea is sometimes regarded with skepsis, it will be necessary to embark on a longer digression and to review the basic facts concerning *McL* in Homer, as well as previous accounts of it.

6.2 *Muta cum liquida* Scansions in Homer

A convenient summary of the basic details in Attic poetry is given by Allen (1987: 106–108).[13] The phenomenon concerns sequences consisting of a plosive consonant plus a liquid or nasal. A word like πᾰ̀τρός may be realized as /pat.ros/ (heterosyllabic scansion) or /pa.tros/ (tautosyllabic scansion).[14] In what follows, the tautosyllabic scansion of plosive plus liquid (abbreviated: *PL*) will be referred to with the traditional term 'muta cum liquida' (abbreviated: *McL*). From a historical point of view, this tautosyllabic scansion is unexpected: all intervocalic sequences of more than one consonant (i.e. /VC$_1$…C$_n$V/, with n > 1) are normally treated as heterosyllabic in Homer,[15] as they are treated in Vedic.

There is a number of remarkable differences between Attic drama and Homer in the treatment of *PL* clusters:[16]

13 See also Devine and Stephens (1994: 32–35), who also include data on the realization of such clusters cross-linguistically.

14 Phonetically speaking, the syllable boundary may also be located within the occlusive part (cf. Tichy 1981: 28), but from a metrical perspective, all that matters is whether the preceding syllable was closed or not.

15 The only other exceptions are a few anomalous tautosyllabic scansions of word-initial ζ- and σκ- in some toponyms and hydronyms (Ζάκυνθος, Ζέλεια, Σκάμανδρος) and in the noun σκέπαρνον 'axe'.

16 A good overview of all Homeric instances of *McL* scansion in word-initial position is found

– tautosyllabic scansion is very common in Attic drama, but fairly rare in Homer (compared to the heterosyllabic treatment). Moreover, there is a more pronounced tendency towards tautosyllabic scansion of word-internal *PL* in the dialogue parts of tragedy and comedy. Devine and Stephens (1994: 32–35) argue that this feature reflects the syllabification of spoken Attic.
– In Attic drama, tautosyllabic scansion may occur in sequences of plosive plus nasal (if the plosive is not voiced),[17] but in Homer this never occurs.[18]
– In Homer, as we will see, tautosyllabic scansion is structurally applied only in a limited set of lexemes.

In pre-classical poetry, there are considerable differences between individual poets and regions. A general observation is that *McL* remains exceptional during the archaic period in regions closer to Asia Minor, whereas its relative frequency is higher on the Greek mainland and in the West, where it increases with time (especially in the 6th century).[19]

Is the Homeric use of *McL* governed by more general rules? Some scholars have claimed that the license was applied out of metrical necessity, in order to fit words into the hexameter that could otherwise not be used,[20] as in δράκων 'snake' or certain case forms of βροτός (βροτῶν, βροτοῖσι). However, a number of facts are not adequately explained by metrical pressure.[21] First of all, no metrical necessity is involved in light scansions before words like πρός, πρίν, or before forms like θρόνος, θρόνῳ, θρόνοι. According to my counts, in 69 instances of *McL* (about 10% of all instances) the word-form by itself could have been used without the license.[22] Almost one half of these instances appears after an uncontracted thesis (e.g. verse-final ὄρμενα πρόσσω, and the repeated first

in Ehrlich (1907: 390–392), with a number of corrections on the overview in La Roche (1869: 1ff.).

17 This is the origin of the term 'muta cum liquida' (where *liquida*, a translation of the Greek term ὑγρά, originally referred to both liquids and nasals in ancient grammatical theory); see Allen (1987: 39–40).

18 In Hesiod, there are two instances of *McL* scansion for the sequence 'stop plus nasal': πνέουσαν (*Th.* 319) and ἀκροκνέφαιος (*Op.* 567). The line *Od.* 7.89 is unmetrical (cf. West 2014: 81–82).

19 On the avoidance of *McL* scansion in Lesbian and Eastern Ionic archaic poetry (notably Archilochus), see West (1974: 113–114 and 1988: 166); and already Smyth (1897) on Archilochus, Semonides and Hipponax.

20 This goes back to La Roche (1869), the first to produce a list of occurrences of the sequence 'plosive plus liquid' in Homer; it was accepted by e.g. Chantraine (1958: 108–112) and Allen (1987: 108).

21 Cf. Hermann (1923: 95), Wathelet (1966: 146).

22 Hermann (1923: 95) counted only 40 such instances in Homer.

hemistich Ἕκτορα **Πρ**ιαμίδην).[23] These numbers suggest that *McL* was indeed avoided to a certain degree (note that tautosyllabic scansions are quite uncommon compared to heterosyllabic scansions),[24] but one may suspect that poets were licensed to use it only under certain conditions. Secondly, words like κράτιστος were unfit by themselves to be used in a dactylic hexameter, but they could have been used by applying the *McL* license. In various cases, such words are not used in Epic Greek but seem to have been replaced by an alternative formation. Taking κράτιστος as an example, Homer only uses the alternative form of the superlative κάρτιστος 'strongest', which was created artificially by analogy (cf. καρτερός beside κρατερός). This strongly suggests that tautosyllabic scansion of *PL* was, in principle, avoided. A third point is that the phonological restriction to plosive plus liquid (and the exclusion of plosive plus nasal) requires an explanation. In fact, *McL* is to a large extent restricted to word-initial *PL*, and it is rarely applied in word-internal position.[25] Moreover, in most word-internal cases, *PL* is located directly after a morpheme boundary, e.g. ἐ**κλ**ίθη (*Od.* 19.470).[26]

Thus, it is unlikely that metrical necessity alone can account for the limited distribution of *McL* scansions. In view of the phonological restrictions just mentioned, an alternative account has been put forward, according to which *McL* was a sandhi phenomenon. In this view, *PL* was always tautosyllabic in the spoken language of Homer's time as the onset of a prosodic word, but normally heterosyllabic within a prosodic word. This idea goes back to von Hartel (1873) and has been championed by Tichy (1981: 28–30), followed more recently by Haug (2002: 67) and Hackstein (2010: 416–417). Rephrased in different terms, these authors claim that *McL* was normally avoided not only within a word, but also at the boundary between two words in close syntactic and/or prosodic connection.[27] An example of a 'connected group' given by Tichy is τὸ πρῶτον

23 See Ehrlich (1907: 391–392) for more examples.

24 Some illustrative numbers: πρίν has 4× *McL* on 195 occurrences in Homer, φαρέτρη has *McL* only once, but is always verse-final (with heterosyllabic *PL*) in its other 12 instances.

25 Tichy (1981: 30) lists all instances of word-internal *McL* in the *Iliad*. Leaving aside Ἀφροδίτη (the only form with a high frequency), I counted word-internal *McL* 33× in the *Iliad* and *Odyssey* together (for 20 different words), divided evenly between both epics.

26 Sommer (1909: 190) notes that *McL* within a word is found mainly after a morpheme boundary in compounds (ἀμφιβρότης), after a syllabic augment (ἐκλίθη), and after reduplication syllables (βεβροτωμένα), and hypothesizes that the shift of syllable boundary started in such cases, before being extended to real word-internal cases (Ἀφροδίτη). This is followed by Tichy (1981).

27 "Im Wortinlaut und zwischen zwei im Satz 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" (Tichy 1981: 28–29).

'at first' (a petrified adverbial phrase containing the proclitic definite article), while a more loosely connected phrase like ἔχε τρόμος might be realized in the vernacular with a prosodic word boundary between its two constituents. Indeed, it is clear that prosodic word boundaries played an important role in epic verse composition—witness, for instance, the tendency to avoid position length in the thesis.

While this explanation looks elegant in theory, in reality it appears that *McL* also occurs within 'connected groups'.[28] In order to circumvent this problem, Tichy assumes that it was a choice of the individual poet to use tautosyllabic or heterosyllabic scansion within connected word groups.[29] She does not note, however, that the tautosyllabic treatment of *PL also* competes with the heterosyllabic treatment at the boundary of prosodic words. Compare the following cases of heterosyllabic *PL* (square brackets separating minor phrases):

[ἀλλ' ὃ μὲν] [ἐν νήσῳ κεῖτο] [**κρ**ατέρ' ἄλγεα] [πάσχων]
Il. 2.721

|T [ἀμύμονά τε] [**κρ**ατερόν τε]
(formulaic phrase)

Even worse, contrary to the claims of Tichy, tautosyllabic scansion is relatively rare even at the boundary of prosodic words. This neglect of actual distribu-

28 Tichy cites τῶν δὲ τρίτων *Il.* 12.94 and οὐδὲ Δρύαντος υἱός *Il.* 6.130 as examples of *McL* in connected groups. In my view, these might actually contain a prosodic boundary after the particle δέ, i.e. [τῶν δὲ] [τρίτων]. Nevertheless, there are many other examples where *PL* is tautosyllabic even if it does not stand at the beginning of a phonological word.

29 "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). Like Tichy, Hackstein assumes that the "two possibilities … were consciously exploited by the poets for metrical purposes" (2010: 417) and that the rules "may be suspended due to metrical necessity", citing as examples Ἀφροδίτη, Ἀμφιτρύωνος, and the anapestic scansion of φαρέτρης at *Il.* 8.323. Two of these examples, however, are irrelevant: φαρέτρη can be (and is normally) used without *McL*, and in the case of Ἀμφιτρύωνος the group /truo/ was probably realized with synizesis as /trwo/.

tions renders the phonological account of *McL* practically unfalsifiable, at least in the form advocated by Tichy (and Hackstein, who closely follows her).[30]

Hermann (1923: 95) went even one step further, claiming that *all* plosive plus liquid clusters, independent of syntax or prosody, had already undergone a shift in syllable structure in the spoken language.[31] The extremely low incidence of *McL* in word-internal position is obviously detrimental to this hypothesis. Hermann therefore assumed that the tradition resisted the new syllabification: "nur langsam dringt die Aussprache des Alltags in die Dichtersprache ein". Again, this idea is difficult to test, but even worse is the fact that *McL* is attested in various archaic formulae such as Μοῖρα κραταιή or δειλοῖσι βροτοῖσιν. It would be highly unlikely that these were influenced by the spoken language.

Finally, epic poets are in fact noticeably reluctant to apply *McL*. First, the license is rarely applied after an uncontracted thesis (i.e. in cases like Ἕκτορα **Πρ**ιαμίδην, where the patronymic Πριαμίδην could also be used without recourse to *McL*, e.g. verse-initially). Secondly, the large majority of cases of *McL* concern a limited set of words with initial plosive plus liquid that would normally be unmetrical. One question here is: how does one expect epic poets to deal with metrically problematic words? One possible avenue was to artificially adapt the shape of these words (e.g. by metrical lengthening); another option was to use synonyms or functionally equivalent alternative forms. Indeed, in many cases where *McL* scansion is regularly applied, such alternatives were available. For instance, possible alternatives for Ἀφροδίτη would have been Κύπρις (5× Hom.)[32] or Κυθέρεια (thus already twice in the *Odyssey*, then in the *Hymns*).[33] Instead of δράκων 'snake', the normal prose term ὄφις (only 1× Hom.) would have been metrically fine. Beside κραταιός, epic poets had the frequent and semantically equivalent adjective κρατερός at their disposal. Thus,

30 Hackstein (2010: 416–417). This oversight can be explained in part by a neglect of the data, cf. 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 low incidence of *McL* in the *Iliad* generally (once every 46 lines on average), the evidence contained in these three books (< 2200 lines) is insufficient for drawing a conclusion.

31 Hermann (1923: 95): "Muta + Liquida können in der Sprache des gewöhnlichen Lebens des jonischen Asiens zur Zeit Homers auch im Wortinnern nicht mehr Position gebildet haben; denn der Vers wird durch den Rhythmus zusammengehalten ähnlich wie ein syntaktischer Konnex, wie eine sprecheinheit der Prosa."

32 Κύπρις is attested only in *Iliad* 5; on the peculiar status of this book, see Cassio 2012.

33 "Κυθέρεια is an artificial bardic creation meant to supersede such old formulas as φιλομμειδὴς Αφροδίτη; it is inseparable from epithets containing -στέφανος and allows an irreproachable inflection of the formula." (Cassio 2012: 417).

there was no real metrical compulsion to use Ἀφροδίτη, δράκων and κραταιός. I submit that the use of these words was licensed by the fact that they were *traditional* epic words.

In sum, although synchronic syllabification rules will have to play a role in an account of *McL* scansions in Homer, such an approach does not by itself allow us to adequately explain the data and distributions.[34] Historical explanations must also be taken into account: words like δράκων and κραταιός are tolerated in Epic Greek because they are part of traditional diction, in a sense to be made more precise below.

6.3 Wathelet's Proposal for the Origin of *McL* in Homer

According to Wathelet (1966), *McL* in Homer originated when **r̥* was vocalized in a limited set of formulae; later on it was generalized as a poetic license.[35] His scenario is as follows. In syllables with a mono-consonantal onset **Cr̥-*, as in **dr̥kōn*, the vocalization of **r̥* yielded a form δράκων or *δρόκων. Such forms violated the normal syllabification rules of the dactylic hexameter. In spite of this, the older scansion as an iamb was simply retained, which amounted to admitting tautosyllabic *PL* onsets (Wathelet 1966: 172):

> Dans les formules anciennes c'est-à-dire achéennes, où le phénomène se produit, il est dû au développement du *r̥* (…) 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.

This scenario requires that a form like δράκων was already current in Epic Greek when it still had the form **dr̥kōn*. In Wathelet's view, **dr̥kōn* entered the tradition in the Mycenaean period. When this form developed to **drokōn* in spoken Mycenaean, it changed along in the language of epic. Later on, the corresponding Ionic form δράκων would have been substituted, still retaining the original metrical value.

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34 Tichy's account is clearly influenced by her support of Berg's proto-hexameter theory. A devastating criticism of Tichy's recent variant of this theory (Tichy 2010) is provided by West (2011). For a more general criticism of theories on the prehistory of the hexameter, see Hoekstra (1981) and cf. section 1.5.3.

35 Wathelet cites only one word with *McL* potentially deriving from **l̥*, the toponym Πλάταια (*Il.* 2.504). Since this example remains uncertain, we may limit our investigation to forms that once contained **r̥*.

In order to substantiate these claims, Wathelet tries to show that the forms concerned belong to traditional formulaic diction. Some of the evidence, however, does not comply with the scenario, and for such cases Wathelet suggests various sorts of alternative explanations:

– A number of instances of *McL* deriving from pre-forms with *ṛ, such as the formulaic verse-final phrases τραπείομεν εὐνηθέντε (3×) and θρασειάων ἀπὸ χειρῶν (7×), occurred after the trochaic caesura. Noting that other irregularities (e.g. hiatus, *brevis in longo*) may occur at the seam where two hemistichs coalesce, Wathelet suggests that the main caesura may have been accompanied by a pause in recitation, meaning that tautosyllabic word-initial *PL* was more easily tolerated. At this point, forms whose onset had always consisted of plosive plus liquid could also be used after the trochaic caesura, e.g. Κλυταιμνήστρη (*Il.* 1.113, *Od.* 11.442), πλέων (*Il.* 7.88, *Od.* 4.474).[36]
– Originally, a different dialectal form was used in which there was no need to apply the license. 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 widely accepted (cf. Janko 1979; but see chapter 7 for a different possibility).
– The form may have been recently introduced from the Ionic vernacular into Epic Greek. Wathelet (1966: 154–160) calls these cases *abrègements récents* and gives an extensive list of words in which the license is applied once or twice, but normally avoided. Furthermore, he assumes that the regular application of the license in a few of the more frequent instances (e.g. ἀλλότριος, ἀλλόθροος) is of recent date too, arguing that the forms in question may have been introduced from spoken Ionic into Epic Greek. These claims, which have been contested by Haug (2002), will be discussed in more detail in section 6.4.

If none of these points applies and the pre-form contained *ṛ, Wathelet speaks of *abrègements anciens*. The following list contains all examples of *McL* in Homeric forms with -ρα- or -ρο- (in alphabetical order) which according to Wathelet developed from *ṛ:[37]

– ἀβροτάξομεν 'we will miss' (1×)
– ἀβρότη 'immortal' in the phrase νὺξ ἀβρότη (1×)
– ἀμφιβρότη 'man-covering' in the formula ἀσπίδος ἀμφιβρότης (gen., 3×)
– ἀνδροτῆτα 'vigor' (3×)

36 Other cases cited by Wathelet are τρέμον (*Od.* 11.527), τρέφει (*Od.* 5.422, 13.410), τριήκοσι' (*Od.* 21.19), Τρίκης (*Il.* 4.202), and τρόποις (*Od.* 4.782, 8.53).

37 There is also the form ἀνδρεϊφόντης 'man-slaying' (4× in a repeated formulaic verse), which is probably a re-shaping of *ἀνδραφόντης or *ἀνδροφόντης.

– βεβροτωμένα ‘covered with gore’ (1×)
– βροτοῖσι ‘mortals’ (28×), βροτῶν (44×)[38]
– δράκων ‘snake’ (9×)
– θρόνος ‘throne’ (53×, of which 23× with *McL*)
– κράνεια ‘cornel tree’ (2×)
– κραταιός ‘strong’ (13×, of which 9× |$_{B}$ Μοῖρα κραταιή)
– τράπεζα ‘table’ (35×, usually at verse end)
– τραπέσθαι ‘to turn’ intr., also with preverb προ- (7×).

For all individual forms in this list, Wathelet argues that their presence in Epic Greek goes back to a time when **r̥* was still part of the language. A recurring argument is that the words in question occur in “traditional” material. In order to establish this traditionality, Wathelet uses three different criteria: the form occurs in formulaic material; it frequently occurs in connection with other typical epic words (some of which may be of Mycenaean origin); or the word has a fixed position in the hexameter.[39]

After a substantial number of cases of *McL* had come into being in this way, its use was extended, in Wathelet’s view, to syllables starting with consonant plus liquid followed by an original full vowel. In this way, *McL* gradually acquired the status of a license. In the theonyms Ἀφροδίτη (42×), Κρόνος (24×), Κρονίων (44×), which have no established etymology and are not used after the main caesura, *McL* is argued to be due to an early extension of the license. The same holds for the alleged substitution of πρός for *πός and for the examples following the trochaic caesura. At a final stage, incidental light scansions became more frequent also in other positions. 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 caesuras (i.e. prosodic breaks), to be more likely.[40]

38 For an analysis of the frequency and metrical behavior of the different case forms of βροτός, see section 7.2.1.

39 For instance, βροτοῖσι, κραταιός, τράπεζα, and τραπέσθαι mostly occur in verse-final position.

40 “… 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 hémistiches des éléments formulaires qui, situés primitivement après la coupe médiane suscitaient un abrègement autorisé par la présence de la césure elle-même.” (1966: 172–173; cf. also 160–161).

6.4 Criticism of Wathelet's Scenario

Two lines of criticism have been advanced against Wathelet's argument. First, it has been objected that the conclusion is unlikely for chronological reasons.[41] In his article, Wathelet accepts the widespread view that the syllabic liquids had disappeared from Proto-Ionic and 'Proto-Achaean' before the Linear B tablets were inscribed.[42] If this were correct, even substituting Mycenaean forms for the Homeric ones does not resolve the problem of scansion. For instance, if Myc. *to-pe-za* is to be interpreted as /torpeddʲa/, it 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 antérieure à celle de nos tablettes et qui connaissait encore des liquides voyelles" (1966: 170).[43]

If so, the chronological gap between Homer and the assumed age of the formulaic material is at least seven centuries. Haug (2002: 63) rightly argues that the preservation of irregular scansions over such a long period of time would be highly unlikely.[44] However, it must be stressed, with Heubeck (1972), that there is no compelling reason to date the disappearance of **r̥* from Mycenaean or Ionic-Attic as early as the 16th century BCE.[45] As I will argue in chapters 7 and 11, it is possible that **r̥* was preserved until the 12th or even 11th century in Proto-Ionic. This would make the preservation of metrical traces of **r̥* in Homeric words with *McL* much less problematic.[46] What is more, in my new scenario, forms with **r̥* were retained within Epic Greek longer than in the vernaculars, until not too long before Homer. In this way, then, the chronological objections against Wathelet's account cease to be compelling.

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41 Cf. Tichy (1981: 54–55), Haug (2002: 62 ff.), and the doubts in Hackstein (2002: 6–7).

42 This had originally been argued by e.g. Mühlestein (1958) and Ruijgh (1961): see section 1.1.1.

43 In his monograph on the Aeolisms of Greek epic, however, Wathelet (1970: 172–173) prefers to see the vocalization of **r̥* as a more recent, though still pre-Mycenaean, development.

44 Since Haug adheres to a synchronic explanation of word-initial tautosyllabic plosive plus liquid onsets, the argument mainly revolves around the supposed examples of *McL* scansion in word-internal position, ἀνδροτῆτα and ἀνδρεϊφόντῃ. I will discuss these forms extensively in section 7.3.

45 For a discussion of the Mycenaean data, see chapter 2.

46 In order to avoid misunderstandings, I wish to 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 **r̥* in Epic Greek and the Ionic vernacular, it *follows* that the dactylic hexameter had more or less reached its Homeric form when **r̥* vocalized in Proto-Ionic (see chapter 11). This refutes most of the currently available proto-hexameter theories. For another convincing line of criticism against the proto-hexameter, see Hoekstra (1981), and cf. section 1.5.3.

A second line of criticism has been advanced by Haug (2002: 64–67). In his view, Wathelet provides insufficient argumentation in support of the formulaic behavior of individual forms.[47] In order to establish his group of old examples of *McL* scansion, Wathelet first isolates several incidental and non-formulaic instances.[48] These are either clear linguistic innovations (e.g. thematic δακρύοισι at *Od.* 18.173 for older δάκρυσι, contracted κρᾶτα at *Od.* 8.92 beside uncontracted κράατα), deviations from the normal prosodic behavior of a word (as in the anapestic scansion of φαρέτρης at *Il.* 8.323, κράτος placed before a consonant at *Il.* 20.121, or πρῶτος preceded by a light thesis syllable at *Od.* 3.320 and 17.275), or transformations of traditional material. Haug does not contest Wathelet's decision in any of these incidental cases. There are, however, also a number of more frequent words that regularly undergo *McL* but cannot be derived from a pre-form with **r̥*. This makes them potential counterevidence to Wathelet's thesis. In order to exclude the forms in question from his list of *abrègements anciens*, Wathelet makes certain assumptions regarding their formulaic behavior.

The two most important cases criticized by Haug (2002: 65) are ἀλλότριος 'someone else's; foreign' and ἀλλόθροος 'of foreign tongue'. According to Haug, there is no clear criterion proving that the first hemistich οἴκῳ ἐν ἀλλοτρίῳ (2×) is a recent formula, or that verse-final ἀλλότριος φώς (3×) was formed later than ἰσόθεος φώς (14×), as Wathelet claims. Moreover, Haug observes that recently coined formulae may acquire huge popularity in a relatively brief span of time; in his view this casts doubt on the possibility to discern older from younger formulaic material.[49]

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47 "Après ce triage tout à fait légitime [i.e. 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).

48 "formes isolées dans l'épopée [...] qui ne sont manifestement pas formulaires" (Wathelet 1966: 155).

49 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 exceptional in Homer). Another example is the formula |$_{T}$ Κρόνου πάϊς ἀγκυλομήτεω (on which see chapter 7). I do not think, however, that the existence of such cases should entirely prevent us from distinguishing more ancient from more modern layers in Homeric diction. Concerning the two examples just mentioned, we may observe that |$_{T}$ Κρόνου πάϊς ἀγκυλομήτεω competes with the metrically and referentially equivalent formula |$_{T}$ πατὴρ ἀνδρῶν τε θεῶν τε, and that the antiquity of Ἶρις in the tradition may well be questioned; Erbse (1986: 54–65) counts her among the "von den Epikern entdeckte oder umgeschaffene (verwandelte) Gottheiten".

I do not share Haug's doubts concerning the priority of ἰσόθεος φώς: the epithet ἰσόθεος is clearly generic, and the only one with this metrical structure and function (cf. Parry 1971: 91).[50] This does not mean, however, that ἀλλότριος φώς cannot have existed as well, because here we are dealing with a particularized epithet. However, even if this point is granted, there are two strong arguments for considering both ἀλλότριος and ἀλλόθροος relatively late intruders into Epic Greek. In terms of word-shape, one expects the first syllable of these words to be placed in the thesis of the third or fourth foot, in which case their use would not necessitate *McL*. The complete absence of these two words from their expected positions in Homer is odd. Furthermore, as Wathelet has remarked, ἀλλόθροος does not occur at all in the *Iliad*, and ἀλλότριος occurs only twice in the *Iliad*, as against 15× in the *Odyssey*. Both points mark them out as potentially late intruders; as we will see in chapter 7, an increase in *McL* in the *Odyssey* is also found for the plural forms of θρόνος 'throne', another word that probably did not originally have *$\underset{\circ}{r}$. A final point to note is that ἀλλότριος may have to be scanned with synizesis, *al.lot.ri̯os*, compare the scansion of words like Αἰγυπτίας and Ἰστίαιαν (cf. West 1997: 220).[51] Indeed, *Il.* 2.537 Χαλκίδα τ' Εἰρέτριάν τε πολυστάφυλόν θ' Ἱστίαιαν possibly contains desyllabification of *iota* twice in the same line (Εἰρέτριαν, Ἱστίαιαν).[52]

As for ἀλλόθροος, this word only occurs in the *Odyssey*: |$_{\text{T}}$ ἐπ' ἀλλοθρόους ἀνθρώπους (1×), |$_{\text{T}}$ κατ' ἀλλοθρόους ἀνθρώπους (2×), and the line πλάζετ' ἐπ' ἀλλοθρόων ἀνδρῶν δῆμόν τε πόλιν τε (1×). It is not found in Attic prose, but only occurs a few times in the tragedians and in Herodotus. Haug is right that its status as a recent introduction from Ionic cannot be proven, but on the other hand, this scenario cannot be excluded either. As we will see below, this use of ἀλλόθροος fits in a wider picture: the *Odyssey* poet uses *McL* word-internally provided that the cluster follows a morpheme boundary, whereas the *Iliad* poet is still very reluctant to do this.

In sum, Haug's critique of Wathelet's argument is partly justified: it is sometimes difficult to prove or disprove the antiquity of a particular phrase or formula. This does not mean, however, that Wathelet's distinction between *abrègements anciens* and *abrègements récents* breaks down. Various words and

50 It goes without saying that Parry was much too rigid in applying his principle of economy, but (*pace* Haug) I see no reason to doubt the validity of this principle in general terms.

51 Cf. also Tichy 1981: 30, who is right in adducing the forms σχετλίη (*Il.* 3.414), ἀλλότριος and Εἰρέτριάν τε only with reserve. In Van Beek 2013, I argued that ἀλλότριος could be a relatively late replacement of ἀλλοδαπός 'foreign', and that while ἀλλότριος is a recent *form*, some of the *phrases* in which it occurs are old elements of the tradition. This is conceivable, but it is unnecessary for the present argument to insist on it.

52 This observation makes the criticism of Haug (2002: 66) irrelevant.

phrases listed by Wathelet, for which *$r̥$ can be reconstructed, are clearly traditional. This becomes even more clear from a quantitative analysis of the evidence, to which we shall turn now.

6.5 Quantitative and Qualitative Evidence for *McL* in Homer

Basing myself on a collection and analysis of all instances of *McL* in Homer and other early Greek epic texts, I conclude that Wathelet's account is basically correct. An exhaustive analysis of the evidence falls outside the scope of this chapter and will be published elsewhere, but the most important data will be presented in order to prove the point.

What follows first is a list of all words or lexemes in which *McL* occurs at least 3 times in the *Iliad*.[53] If a word occurs only in one single formulaic phrase, its specific case form is cited; otherwise the dictionary entry is given. The number of occurrences in the *Iliad* is given in brackets; the forms are listed in alphabetical order.

ἀμφιβρότη (4)
Ἀφροδίτη (30)
βραχίων (5)
βροτός (25)
δράκων (8)
θρόνος (3)
θρασειάων (6)
κραδαίνω (3)
κραταιός (11)
Κρονίων (23)
Κρόνος (17)
Πριαμίδης (10)
πρό (4)
προκείμενα (3)
πρός, προτί (26)
προσαυδάω (91)
πρόσω (3)
πρόσωπον (4)
τράπεζα (5)
τρίτος (3)

From this list, we must leave aside phrases containing the preposition πρός as well as forms of the prefixed verb προσαυδάω, as it is widely agreed that they may be replacements of *πός and *ποσαυδάω (or the like).[54]

After this reduction, the remaining evidence shows a clear correlation between *McL* and the presence of *$r̥$ in the pre-form. The forms for which a reconstruction with *$r̥$ is certain are cited in bold, and those for which *$r̥$ can

53 In the case of πρό, I only counted instances of the preposition, not of the preverb. I have also left aside the name Ὀτρυντεύς (1×) and the patronymic Ὀτρυντεΐδης (2×), which occur within a span of 7 lines (*Il.* 20.383–389). Given the general rarity of internal *McL*, this small passage (kill scene with biographical details) is highly suspect of being an expansion that was introduced into the text later: cf. Schulze 1892: 100. In any case, these decisions would not drastically alter the numbers or affect the overall conclusion.

54 As I will argue in chapter 7, it may well be that πρός before a long vowel reflects *$pr̥s$- < *$pr̥ti̯$-. However, I will not base any conclusions on this.

be excluded with certainty are given in italics. Sorted by decreasing number of attestations, the evidence looks as follows:

Ἀφροδίτη (30)	**δράκων (8)**	πρόσωπον (4)
βροτός (25)	**θρασειάων (6)**	θρόνῳ (3)
Κρονίων (23)	βραχίων (5)	κραδαίνω (3)
Κρόνος (17)	**τράπεζα (5)**	προκείμενα (3)
κραταιός (11)	**ἀμφιβρότη (4)**	πρόσω (3)
Πριαμίδης (10)	*πρό* (4)	*τρίτος* (3)

The presence of a syllabic liquid is certain in 59 of these 167 cases, which amounts to 35.3 %. This does not in any way seem decisive. However, the group of forms with *McL* for which a syllabic liquid can be excluded is much smaller. The words θρόνος, κραδαίνω, and Κρόνος have no good etymology (see chapter 7), and the reconstruction of *r̥ in βραχίων is uncertain, but possible. Only in Πριαμίδης, πρό, and τρίτος (together making up just about 10 % of all tokens) it is certain that *McL* cannot be related to a syllabic liquid.[55] Moreover, as we will see in chapter 7, there is fairly strong independent evidence for the presence of a syllabic liquid in Ἀφροδίτη, πρόσω, πρόσωπον and the formulaic verse containing προκείμενα. If we add these cases to the group of certain ones, the proportion of words with *r̥ among all instances of *McL* in the *Iliad* increases to 59.3 %.

But this is not all: the picture becomes even clearer if we leave out the personal names (the use of which could, at least according to previous scholars, be ascribed to metrical compulsion):

βροτός (25)	**τράπεζα (5)**	κραδαίνω (3)
κραταιός (11)	**ἀμφιβρότη (4)**	προκείμενα (3)
δράκων (8)	*πρό* (4)	πρόσω (3)
θρασειάων (6)	πρόσωπον (4)	*τρίτος* (3)
βραχίων (5)	θρόνῳ (3)	

Applying these reductions to the evidence, it appears that five of the six lexical words in which *McL* occurs most frequently in the *Iliad* derive from pre-forms with *r̥. Moreover, three of these forms with *r̥ (βροτός, κραταιός, θρασειάων) are found partly or exclusively in formulae that are clearly archaic; this also holds for ἀμφιβρότη.

55 In the case of τρίτος, one might even envisage whether it could perhaps reflect an archaic *tr̥to- that was preserved in the epic tradition, but I will refrain from doing so.

In terms of absolute numbers, *McL* is more frequent in the *Odyssey* than in the *Iliad*, and it becomes even more frequent in Hesiod and the *Hymns*. My own counts, which I will present and analyze in a separate article, corroborate Wathelet's claims to this effect.[56] A steady overall increase of *McL* is detectable in Hesiod and the *Hymns*. More importantly, in these sources *McL* remains to a large extent restricted to the same set of lexemes where it is frequent in Homer (Ἀφροδίτη, βροτός, δράκων, κραταιός, Κρονίων, Κρόνος, πρό, πρός, προσηύδα). In other words, there was a fixed set of lexemes for which poets simply learned that *McL* could be (or had to be) applied. These words with 'traditional' *McL* mostly have a pre-form with **r̥*. The other, non-traditional cases of *McL* may well be related to a change in syllabification in the spoken language, as Wathelet also admitted, but the exact scenario by which this happened need not further concern us here.

A second important point concerns cases of word-internal *McL* in Homer. As remarked above, these are relatively marginal compared to word-initial *McL*. Apart from Ἀφροδίτη (which occurs 42× in Homer) and potential instances of synizesis (de-syllabified *iota* or *upsilon*) such as ἀλλότριος, there are a mere 33 instances of word-internal *McL* in Homer, divided over 20 different lexemes (ἀμφιβρότη and ἀλλόθροος occur 4× each). Sommer (1909: 190–191) has given clear arguments for viewing word-internal *McL* in Epic Greek as secondary with respect to word-initial *McL*. This point has been accepted by various later scholars, including Wathelet (1966) and Tichy (1981),[57] but it can be refined in various ways.

In order to make this claim, Sommer had to assume that the name of the goddess Ἀφροδίτη was admitted in epic verse only *metri causa*, by default of alternatives. This assumption is problematic because other important names in which *McL* could have been applied were apparently excluded from hexameter verse at an early stage. This holds in particular for the name of Heracles: in Homer the hero's name in the nominative never occurs as uncontracted Ἡρακλέης, but instead we find βίη Ἡρακληείη (*Il.* 11.690) and βίη Ἡρακλῆος (*Il.* 18.117), clearly reflecting an artificial strategy designed in order to avoid the metrically problematic form Ἡρακλέης. By contrast, the nom. sg. Ἡρακλέης appears twice in Hesiod (*Th.* 318, 527), while acc. sg. Ἡρακλέα (with the outcome of quantitative metathesis) occurs twice in the *Scutum*. It is unclear whether these post-Homeric forms must be read with synizesis of -έη- and -έα, or rather with

56 See Wathelet (1966: 148 with n. 1).

57 For the *Iliad*, Tichy (1981: 30) speaks of word-internal *McL* as "eine nur im Einzelfall wahrgenommene poetische Lizenz".

tautosyllabic word-internal -κλ-, but in either case the fact remains that Ἡρακλέης was apparently not an admissible form in traditional epic diction.

The same point is true even more clearly of the nominative form Πατροκλέης, which the *Iliad* poet never uses. Instead, he resorts to three different strategies: (1) the periphrasis Πατροκλῆος λάσιον κῆρ (*Il.* 16.554), (2) using the *vocativus pro nominativo* (e.g. ὣς ἐπὶ Κεβριόνῃ Πατρόκλεες ἅλσο μεμαώς *Il.* 16.754), and (3) using the nominative of the hypocoristic name Πάτροκλος, the most frequently used option.[58] This observation is important since the figure of Patroclus is generally considered to be a relatively late invention (perhaps by Homer himself or a direct predecessor) in the story of the Trojan war. It shows that word-internal *McL* was not only traditionally disallowed, but still strongly avoided by the *Iliad* poet himself, even at a morpheme boundary.

Still not considering Ἀφροδίτη for the time being, there are 33 Homeric instances of word-internal *McL*. How to account for these cases? Interestingly, 10 instances (8 of them in the *Iliad*) can be ascribed to the vocalization of *r̥:

– ἀμφιβρότη (ἀσπίδος ἀμφιβρότης *Il.* 2.389; 12.402; 20.281; ἀμφιβρότην *Il.* 11.32);
– προτραπέσθαι (*Il.* 6.336); προτράπηται (*Od.* 11.18); προτραποίμην (*Od.* 12.381);
– ἀβροτάξομεν (*Il.* 10.65);
– νὺξ ἀβρότη (*Il.* 14.78);
– τετράκυκλον ἀπήνην (*Il.* 24.324).

Most of the remaining 23 cases occur at a morpheme boundary (at the seam of compounds, after the augment, and after a reduplication syllable), e.g.

– ἀμφι-**δρυφής** (*Il.* 2.700);
– τειχεσι-**πλῆτα** (*Il.* 5.31 = 455);
– ἀλλό-θροος (4× *Od.*);
– ἐνέ-**κρυψε** (*Od.* 5.488);
– πρωτό-**πλοος** (*Od.* 8.35),

as well as several other cases, most of them in the *Odyssey*. Sommer therefore concluded that the possibility to use *McL* word-internally started at morpheme boundaries, adding: "Das sind dieselben Fälle, vor denen die attischen Dramatiker höchst ungern die Langmessung zulassen".

In only 7 lexemes with word-internal *McL*, no morpheme boundary is involved: Ἀφροδίτη, τετράκυκλον, ἀβροτάξομεν,[59] φαρέτρης, Ὀτρυντεύς and Ὀτρυν-

58 The vocative Πάτροκλέ μοι δειλῇ appears with *McL* only once, in the lament of Briseis over the dead body of Patroclus (*Il.* 19.287). The use of this form is not conditioned by metrical considerations exclusively, as the vocative Πατρόκλεες and its contracted version Πατρόκλεις could have been used, too.

59 Sommer wrongly analyzes ἀβροτάξομεν as a compound with ἀ- (in reality, it is related to ἁμαρτάνω and νημερτής, so the alpha belongs to the root, and the PL sequence is word-

τεΐδης, and δακρυπλώειν; in Sommer's view, these cases represent a secondary extension of the license.[60] However, how feasible is it to include Ἀφροδίτη among the cases of secondary extension of the license, given the high number of occurrences and the manifestly traditional nature of the formulaic system involving this name? I think Sommer's analysis can be reinforced by the observation that three of the 7 lexemes just mentioned once had (or may have had) **r̥*: ἀβροτάξομεν, τετράκυκλον, and Ἀφροδίτη. A mention of Ἀφροδίτη in this connection may come as a surprise, but as argued in chapters 3 and 7, we must seriously consider the possibility that her name reflects **Apʰr̥dītā*. Thus, the only cases of word-internal *McL* in Homer which involve neither **r̥* nor a perspicuous morpheme boundary are φαρέτρης (*Il.* 8.323), Ὀτρυντεΐδης (*Il.* 20.383 and 389), Ὀτρυντεύς (*Il.* 20.384) and δακρυπλώειν (*Od.* 19.122).[61]

On the other hand, in the *Iliad* only the following word-forms undergoing word-internal *McL* do not derive from a pre-form with **r̥*: ἀμφιδρυφής, Ὀτρυντεύς, Πάτροκλέ μοι, προτρέποντο, τειχεσιπλῆτα, and φαρέτρης. Two points must be made regarding these cases. First, most of these tautosyllabic scansions occur in contexts with a secondary appearance: for instance, προτρέποντο may have been influenced by forms of the corresponding aorist προτραπέσθαι (and τραπέσθαι), which occur several times with *McL*; on the use of Πάτροκλος, see above; and the scansion of ἀμφιδρυφής is counterbalanced by that of ἀμφίδρυφοι … παρειαί (*Il.* 11.393) without *McL*. Finally, the name Ὀτρυντεύς plus the patronymic Ὀτρυντεΐδης occur three times in one single kill-scene, referring to the father of the hero Ἰφιτίων. In fact, the scene as a whole could easily be a secondary insertion.[62] Note that metrical necessity was not involved: inflected forms of Ὀτρυντεύς could have been used at the beginning or end of the line.

Secondly, there are only 4 cases in the *Iliad* where word-internal *McL* can be ascribed to a morpheme boundary (ἀμφιδρυφής, Πάτροκλέ μοι, προτρέποντο, and τειχεσιπλῆτα). In fact, 3 of these 4 forms occur in parts of the *Iliad* that are

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internal). However, this does not affect the main point, especially since the pre-form of ἀβροτάξομεν had **r̥* (see below).

60 "Angesichts dieses Tatbestandes kann es kaum zweifelhaft sein, dass die "correptio" im Wortinnern eine jüngere Verlegung der Silbengrenze darstellt, die von den erstgenannten, etymologisch zerlegbaren Fällen ausgegangen ist."

61 There is a *varia lectio* δάκρυ πλώειν (accepted by von der Mühll and van Thiel). Perhaps more relevant for present purposes is the fact that *Od.* 19.122 is absent from two important manuscripts.

62 Cf. Schulze 1892: 100, who notes that the name of the next victim, Δημολέων at line 395, could easily be substituted for that of Ἰφιτίων in line 382, yielding a seamless transition if we delete the 13 lines in between.

suspected to be recent additions for independent reasons: ἀμφιδρυφής occurs in the *Catalogue of Ships*, while προτρέποντο and τειχεσιπλῆτα are found in *Iliad* 5, a book whose numerous peculiarities have been highlighted by Cassio (2012). In the *Odyssey*, by contrast, word-internal *McL* is clearly connected with the presence of a morpheme boundary: the only exception is δακρυπλώειν.[63] Moreover, apart from προτράπηται and προτραποίμην, none of the lexemes involved occurs in the *Iliad*. There is good reason, then, to suppose that word-internal PL was tautosyllabic after a morpheme boundary for the *Odyssey* poet, but not yet for the *Iliad* poet. If this is correct, the most plausible explanation for the scansion of word-internal PL in Ἀφροδίτη, ἀβροτάξομεν, ἀμφιβρότης, προτραπέσθαι, τετράκυκλον, and νὺξ ἀβρότη is that this phenomenon is indeed due to the vocalization of *r̥.

In sum, the above investigation of quantitative and quantitative aspects of *McL* in Homer (and other early epic texts) leads to the following conclusions:

– Of all words that occur three or more times with tautosyllabic scansion of *PL* in the *Iliad*, a clear majority can be ascribed to the vocalization of *r̥, and only for a small minority any connection with *r̥ is excluded;
– Word-internal *PL* is normally heterosyllabic in both *Iliad* and *Odyssey*;
– Word-internal *PL* following a morpheme boundary was potentially tautosyllabic for the *Odyssey* poet, but not yet for the *Iliad* poet;
– The *McL* scansion of Ἀφροδίτη, ἀβροτάξομεν, ἀβρότη, ἀμφιβρότης, προτραπέσθαι, and τετράκυκλον is due to pre-forms with *r̥;
– The *McL* license started to proliferate only after *r̥ had been vocalized; however, in this process a shifting syllable boundary in PL onsets *also* played a role.

6.6 Avoidance of *McL* Scansion in Epic Greek

There is another reason to distinguish traditional cases of *McL*. The existence of artificial formations that were apparently coined in order to avoid *McL* suggests that this type of scansion was once structurally avoided in Epic Greek. I will discuss three salient cases.

One example is the pair γλυκύς : γλυκερός, both meaning 'sweet'. The old form is clearly γλυκύς -εῖα -ύ, which also exists in the Classical language. The odd form γλυκερός, which is attested mainly in Homer and occasionally in lyric poetry in dactylic or anapestic meters, was created analogically beside γλυκύς, probably

63 Interestingly, the verse containing δακρυπλώειν is absent from two important manuscripts.

on the model of the pair κρατύς : κρατερός. Note that κρατερός is a very frequent form and that its formation in -ερός was inherited from Proto-Greek (see chapter 5). Part of the reason for creating a by-form γλυκερός must have been the feminine γλυκεῖα, which could not be used in the epic hexameter. Rather than forcing γλυκεῖα into their verses, epic poets apparently preferred to create the artificial but metrically convenient γλυκερός.[64] It is clearly the productive form in Epic Greek, being found 20× in various different case forms of all genders, while γλυκύς, though slightly more frequent (22×), is used only in the nom. and acc. sg. m. and n., mainly in traditional material containing the noun phrases γλυκὺς ὕπνος and γλυκὺς ἵμερος.

A second example of artificial word-formation in order to avoid *McL* is the insertion of a nasal in the θη-aorist of the verbs κλίνω and κρίνω, cf. already Chantraine (1958: 112). The aorist stem κλινθη- occurs 16× in Homer (6× in the *Odyssey*), while κλῐ̃θη-, the stem-form of the spoken language, is attested only 3 times with *McL*, and only in the *Odyssey* (forms: ἐκλίθη, κλιθῆναι).[65] The aorist stem κρινθη- occurs 9 times, while the form διέκρῐθεν without a nasal occurs once (*Il.* 2.815) in a 3rd plural form in -εν (an archaism) that was metrically unproblematic. In other stems of these two verbs, the *PL*-onset always makes position. Similar phenomena are found in other verbs:

– The normal form of the inagentive aorist of βλάπτω 'to hinder, drive off course' in the spoken language was no doubt ἐβλάβην, as usually in Classical Attic, but Homer mostly uses the form in -θη- (ἐβλάφθην). The only exception is the 3rd plural ἔβλαβεν (*Il.* 23.461), βλάβεν (*Il.* 23.545), but this is also the only form that easily fits the meter. It looks as if ἐβλάφθην is another artificial formation.
– In active thematic aorist stems with roots of the structure /CraC-/ (e.g. ἔδρακον, ἔτραπον), no participle forms in -ών-, -όντ- and no subjunctive forms are attested, presumably because these were metrically problematic.[66]

Finally, one lexical item deserves special attention. The superlative κράτιστος 'best' is usual in the classical language, but Homer avoids this form (which apparently scanned irregularly), whereas he does use the artificial form κάρτιστος 'strongest'. This form was created analogically beside the normal form

64 The few occurrences of γλυκερός in lyric poetry are easily interpreted as epicisms.

65 This again shows that the *Odyssey* poet followed less strict rules compared to the *Iliad* poet. Similarly, forms with *McL* containing the root of κρύπτω 'to hide' occur only in the *Odyssey*: ἐνέκρυψε, κεκρυμμένα, κρυφηδόν.

66 *Middle* aorist forms of τρέπω (τράποντο, τραπέσθαι, etc.) occur 7× in verse-final position and can be viewed as archaisms. The same holds for the aorist subjunctive τραπείομεν (to τέρπομαι). On these forms, see sections 6.8.5 and 6.8.9.

κράτιστος on the basis of the doublet καρτερός : κρατερός (see chapter 5). Now, it seems enigmatic that *McL* was apparently a problem in κράτιστος, but not in the etymologically related adjective κραταιός. Why was κραταιός tolerated, and why was κράτιστος inadmissible? The reason must be, I think, that κράτιστος as a superlative originally had an *e*-grade root (**krétisto-*), while κραταιός reflects a form with *ṛ, **kṛtaiu̯ó-*. Again, the presence of *ṛ may explain why *McL* was acceptable in a formulaic word like κραταιός.[67]

Without a doubt, this list of structural avoidances could be extended.[68] Such cases confirm that the use of *McL* in a closed group of lexical items (including βροτός, δράκων, κραταιός) requires an explanation. Wathelet's account, which finds this explanation in the vocalization of **ṛ*, is attractive because most members of this select group of lexical items indeed once contained **ṛ*. Homer also uses the *McL* license in other lexemes, and this may well be related to a concomitant change of syllabification in spoken Ionic at the time of composition of the *Iliad* and *Odyssey*; but this is not of our direct concern here.[69]

6.7 Epic *ṛ: -ρα- Is the Regular Reflex of Artificially Retained *ṛ

In spite of its attractive sides, certain problems with Wathelet's scenario remain. In Wathelet's words, "les aèdes ont tenu à conserver des expressions traditionnelles, *tout en leur laissant suivre l'évolution de la langue*" (1966: 172, my emphasis). Thus, he thinks that formulaic expressions automatically underwent the phonological developments of the poets' vernacular, and that forms with *McL* scansion came into being as a result of the change *ṛ > -ρο- (in Proto-Aeolic or pre-Mycenaean), after which Ionic counterparts with -ρα-, when available, would have been substituted later.

However, if the indications that -αρ- was the regular phonological reflex of *ṛ in Proto-Ionic are taken seriously, the outcome -ρα- in forms like δράκων, θρασειάων, κραδίη, τράπεζα, and τραπείομεν cannot be due to a normal Ionic development of *ṛ (as it cannot be explained as an analogical reflex in these

67 The regular application of the license in δράκων 'snake' was acceptable because its pre-form was **dṛkōn*. Forms of the thematic aorist ἔδρακον with tautosyllabic δρ- (e.g. δρακών) are not found in Homer, although they also had a pre-form with **ṛ*. Their metrical behavior must therefore be explained; see chapter 8.

68 Another example is the avoidance of the gen. pl. in -ων when the preceding syllable has the structure /CCV̆C-/, in which case Homer may use the artificial thematic ending -οφι(ν), e.g. δακρυόφιν.

69 For further details see Van Beek in prep.

words). As for the forms with -ρο- such as βροτός, an origin as direct borrowings from Mycenaean is now excluded in view of the results obtained in chapters 2 and 3: such forms would have to be Aeolisms. Is it possible to analyze the Homeric forms with -ρα- as Ionicized versions of Aeolic forms with -ρο- (under influence of forms with -αρ- in the spoken language)? This would imply that Aeolic forms such as *κροδίᾱ, *δρόκων, *κροτερός, πέτροτος and *τρόπεζα were changed artificially into their Homeric counterparts with -ρα-. In a case like πέτροτος, it is perhaps conceivable that this became τέτρατος by contamination with τέταρτος, in view of the existence of other ordinals in -ατος. However, in cases like *τρόπεζα and *δρόκων it would be gratuitous to assume the existence of older Ionic forms *τάρπεζα and *δάρκων, of which no trace exists. We must also take into account that the epic aorist ἤμβροτον, corresponding to Ionic (and also Homeric) ἥμαρτον, shows no sign of such contamination, although its temporal augment ἠ- was in fact adapted to Ionic morphophonology.

Some readers will be tempted to conclude from these problems that *r̥ > -ρα- was, after all, the regular Proto-Ionic development. However, they will have to explain, among other things, why and how κραδίη was changed into καρδίη in the vernacular (cf. section 6.1), how καρτερός, ταρφέες and τέταρτος came into being, and why most by-forms with -ρα- are virtually limited to Epic Greek. In order to explain this distribution between prose forms with -αρ- and epic or poetic forms with -ρα- or -ρο-,[70] I propose that the development of *r̥ in Epic Greek differed from that in the vernacular dialects. I assume the following stages of development:

1. When the relevant vernacular dialects (Proto-Ionic, Proto-Aeolic, Mycenaean) vocalized *r̥, this sound was preserved in Epic Greek.[71]
2. After this point, words with the outcome of the vernacular sound changes (e.g. -αρ- and analogical -ρα- from Ionic) could be introduced into Epic Greek.
3. Later on, perhaps much later, Epic Greek underwent its own conditioned sound change: *r̥ > -ρα-, but -ρο- after labial consonants.

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70 As we will see in section 7.2.4, another instance of poetic versus prose variants is Epic ἤμβροτον versus Classical ἥμαρτον.

71 The possibility that *r̥ was retained longer in Epic Greek is in fact briefly considered by Haug, but only to be immediately rejected: "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" (Haug 2002: 63). It is unclear to me on what evidence the final claim is based.

Henceforth, I will refer to such cases of retained *r̥, which underwent an inner-epic development to -ρα- and -ρο-, as "Epic *r̥". This scenario has been introduced and motivated already in section 1.5, and here I will discuss several issues in more detail.

The language of Epic Greek is commonly viewed as an artificial mixture of linguistic forms, consisting of the vernacular of a poet plus a large number of traditional, dialectal, and artificial features. It is usually taken for granted that phonological developments took place in Epic Greek just as they did in the poets' vernacular(s), unless there was a compelling metrical reason to retain an older form. This is reflected in the principle formulated by Milman Parry (Parry 1971: 331):

> 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.

This is, clearly, the background of Wathelet's formulation cited above, "les aèdes ont tenu à conserver des expressions traditionnelles, tout en leur laissant suivre l'évolution de la langue". Following Parry's principle, however, one expects words with *r̥ occurring in traditional or formulaic material *not* to be changed along with the spoken language, but instead to retain this sound because the vocalized forms with -αρ- (Ionic), -ρο- (Aeolic) or *-or-* (if that was the Mycenaean reflex) would have distorted the prosodic structure.[72] This means that formulaic phrases like **Morr̥ia kr̥taiu̯ā* may have been preserved in the tradition when *r̥ was vocalized in the relevant vernacular, e.g. to Mycenaean **kortaiu̯ā* or Proto-Ionic **kartaiu̯ā*.

However, even if we apply Parry's formulation (rather than Wathelet's) to the potential Homeric evidence for *r̥, it does not account for all the reflexes that we find. One would in this case expect to encounter forms like *δάρκων or *τάρπεζα (with the Ionic vocalization), as the attested forms δράκων and τράπεζα do not occur in ostensibly formulaic material. However, no forms like *δάρκων or *τάρπεζα survive in Homer, and it would be quite impossible to prove the formulaic status of all epic words with -ρα- or -ρο- reflecting *r̥.[73]

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72 An exception is στρατός 'army' < **str̥tós*.

73 That is, unless one is prepared to argue that the pre-forms of δράκων and τράπεζα were already 'formulaic' in some sense of that word. Wathelet's claim (1966) that all structural cases of *muta cum liquida* scansion in Homer are part of formulaic material is, in fact, the main problem with his scenario for the origin of this metrical license. See the (partly justified) criticism by Haug (2002: 64–67). The problems with Parry's conception of the

Nevertheless, it is plausible that at earlier stages, too, the tradition made use of words and forms that no longer existed in the vernaculars (cf. section 1.5.2). If the prosodic structure of such forms would have been altered by a certain sound change, the default treatment may well have been to retain the traditional form; later on, forms reflecting the sound change were introduced from the vernacular whenever this was functionally and metrically useful. To give an example, the traditional form **kr̥diā* was preserved as such (and later developed into κραδίη); later on, the vernacular form καρδίη was introduced, but only marginally, as it was metrically awkward. Indeed, a similar scenario may account for other typical epic forms, such as those containing *diectasis*. It is plausible that forms like */horaonsi/ 'they see' were at first preserved when the poets' vernacular underwent contraction, yielding */horɔːnsi/. Subsequently, the vernacular form ὁρῶσι (with a different metrical structure) was introduced into Epic Greek; and at a final stage the vocalism of the traditional form *ὁράουσι was adapted to that of ὁρῶσι, yielding the compromise form ὁρόωσι (displaying the phenomenon now known as *diectasis*).

In my view, then, all traditional elements of epic diction simply retained their traditional pronunciation (and, therewith, prosodic structure) whenever the same form was subject to sound change in the vernacular. Forms containing the outcome of a vernacular sound change also penetrated into Epic Greek, but only by lexical diffusion. I am confident that this new model can also be fruitfully applied to other Ionic sound changes, such as prevocalic shortening / quantitative metathesis and the loss of initial digamma,[74] but to elaborate the evidence for this in full detail would probably require another monograph.

Let us apply this scenario to the vocalization **r̥* > -αρ- in Proto-Ionic. All traditional epic words with **r̥*, e.g. **dr̥kōn*, **tr̥pedi̯a*, **kr̥tai̯uos*, were retained at the time of vocalization. Later on, vocalized forms were introduced from the Ionic vernacular, e.g. ταρφέες, καρτερός, ταρπῆναι and, with leveled root vocalism, κρατύς, βραδύς, ἔδραμον. There may have been different reasons for preserving traditional epic forms with **r̥*. In most instances, the word in question was absent from the (Proto-Ionic, Aeolic) vernacular: in my view this was probably the case in e.g. **dr̥kōn*, **str̥tos*, and **tr̥pedi̯a*.[75] Secondly, even when a vernacu-

formula are well-known, especially his view of Homeric epic as being almost entirely formulaic; these problems need not be further discussed here.

74 For the suggestion to apply the scenario proposed here to labiovelar developments, see Van Beek 2013.

75 These words occur in the context of heroic exploits (δράκων), banqueting scenes and rituals of hospitality (τράπεζα), and war narrative (στρατός). See further section 6.8 below.

lar counterpart existed, the form with Epic *ṛ may have been retained in order to preserve the structure of the formula where it occurred, e.g. in |$_{T}$ τραπείομεν εὐνηθέντε, where using ταρπείομεν would have yielded a different third foot caesura. Thirdly, the vernacular form may have been metrically inconvenient by its own means. For instance, καρδίη could only be used in the nom. and dat. sg. before a vowel; it is in fact used by Homer, but only three times. Note that Epic *ṛ was retained not only in words which would later develop *McL* scansion, but also in words whose scansion was never problematic, as στρατός < **stṛtos* and κραδίη < **kṛdiā* illustrate.

We now have to ask how the inner-epic vocalization of *ṛ (development 3 above) may be conceived of. Is it possible to point out parallel cases? As a language that was recited and pronounced, Epic Greek was also subject to changes in pronunciation, even if one assumes that it was phonetically more conservative. Since *ṛ had been eliminated from all Greek vernaculars, Epic *ṛ apparently became liable to articulatory change at some point. As in some vernaculars, an anaptyctic [ə] grew *after* the liquid rather than before it, yielding a relatively minor distortion of the original rhythmical and metrical shape. Subsequently, this phonetic change was phonologized when [rə] merged with the already-existing sequence /ra/. Moreover, as I argue in chapter 7, [rə] may have yielded /ro/ by a conditioned change after labial consonants.

Interestingly, a parallel process may have occurred in Indo-Aryan. Sanskrit *ṛ* is pronounced as [rɪ] in most present-day traditions, while the outcome of *ṛ* in Middle Indic dialects was *a*, *i*, or *u*, without an articulatory trace of the rhotic.[76] Berger (1955) has convincingly argued that the modern pronunciation of Sanskrit *ṛ* cannot be traced back to an intermediary stage [rə] in the vernacular development *ṛ* > *a*, *i*, *u*. The conclusions he draws from this for the artificial pronunciation of Sanskrit *ṛ* deserve to be quoted in full:

> In diesem Zusammenhang muss auch davor gewarnt werden, die heute in Indien gebräuchliche Aussprache von *ṛ* als *ri* mit dem mittelindischen Lautwandel in Verbindung zu bringen. Die neuindische *ri*-Aussprache ist nur eine künstliche Substitution durch Leute, die in ihrer mittelindischen Muttersprache das *ṛ*-Phonem längst nicht mehr kannten, die charakteristische *r*-Artikulation aber, die durch Prātiśākhyen, die Grammatiker

76 As established by Berger (1955), the undisturbed reflex of Skt. *ṛ* in Pali is *a*; the reflex *i* is found in word-initial position, after a palatal stop, and if the following syllable contains a palatal sound, while *u* is found after *p*, *b* and if the following syllable contained a rounded vowel. For an overview, and also on the reflexes in other Middle Indic dialects, see von Hinüber (2001: 126–128).

TABLE 13 Development of *r̥* in Indo-Aryan

Period	Sanskrit pronunciation	Vernacular pronunciation
Vedic	*r̥*	*r̥*
Middle Indic I	*r̥*	*a, i, u*
Middle Indic II	*rə*	*a, i, u*

> und nicht zuletzt durch die Schrift vorgeschrieben wurde, unter allen Umständen halten wollten. (…) Gegen einen Zusammenhang der heutigen Aussprache des *r̥* mit den mittelindischen Lautformen spricht ausserdem entschieden die Tatsache, dass neben *i* fast ebenso häufig *a* und *u* als Vertreter von *r̥* erscheinen.

In other words, *r̥* was initially retained in traditional recitations of Sanskrit after the Indo-Aryan vernaculars had ceased to tolerate this type of syllabic nucleus. Later on it, too, was subject to a change in articulation. In fact, various modern recitation traditions, e.g. in Maharashtra (Marathi), render Sanskrit /r̥/ as [ru]. This suggests that the Sanskrit pronunciation first shifted towards [rə] and only later to [rɪ] or [ru], depending on the tradition and/or region.[77] Cf. Table 13.

Returning to the developments just posited for Epic Greek, chronologically they can be schematized as in Table 14 (see next page).

As a consequence of the vocalization of Epic **r̥*, a tautosyllabic realization of *PL* onsets came into being in a number of epic lexemes and formulae. It is possible that this scansion was at first aberrant in normal phrasal sandhi, and that poets accepted a minor prosodic violation in indispensable traditional elements (cf. τράπεζα, βροτοῖσι, etc.). In favor of this view speaks the fact that the ensuing type of scansion was apparently still avoided as far as possible, as we have seen in section 6.6, and will see again later.[78]

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

77 See Van Beek (2013: 173–174). Sasha Lubotsky kindly drew my attention to the realization of *r̥* as [ru] in present-day Marāṭhī recitations of Sanskrit. A similar remark was made by Berger (1955: 20 n. 18).

78 There are no examples of *McL* among active thematic aorists of the type ἔδρακον (chapter 8), and hardly any among those case forms of βροτός that could also be used with a heterosyllabic *PL* onset (chapter 7).

TABLE 14 Chronology of developments involving Epic *r̥

Stage	Relevant forms
I (12th c. BCE)	Traditional phrases with Epic *r̥, e.g.: *Moria kr̥taiu̯ā* *kr̥diān kai tʰūmon ʰikanu̯ei*
II (11th–10th c. BCE)	Introduction of vernacular words with -αρ- < *r̥ Emergence of doublets like *kr̥teros ~ *karteros*
III (9th or 8th c. BCE)	Vocalization of Epic *r̥, e.g.: *kr̥taiā* > κραταιή, *kr̥diā* > κραδίη -ρο- after labials: *āmr̥te* > ἤμβροτε, *mr̥to-* > βροτός

problems involved will be easier to address once we have clarified the scenario for the Homeric reflex -ρα-. The following categories of forms with -ρα- will be treated:

– Homeric forms with -ρα- < *r̥ and *McL*: δράκων, θρασειάων, κραταιός, τράπεζα, phrases with (-)τραπέσθαι, the compounds κραταιγύαλος and κραταίπεδος, τραπείομεν (1pl. aor. subj. of τέρπομαι), τετράκυκλον;
– Homeric forms with -ρα- < *r̥ but no *McL*: κραδίη, τέτρατος, στρατός, δρατός;
– Homeric forms with -ρα- (not necessarily from *r̥) and *McL*: βραχίων, κραδαινόμενος, κράνεια, κρατευταί.

Thematic aorists of the type ἔδρακον, ἔπραθον are treated in chapter 8, and forms in ἀνδρα- are treated together with those in ἀνδρο- in chapter 7.

Forms with *McL* after the trochaic caesura were left out of consideration by Wathelet (1966: 150–151) because they were not of direct relevance for his idea about the preservation of a metrical archaism. However, within the present context all such forms with a reflex -ρα- acquire prime importance as potential counterevidence to the Proto-Ionic vocalization *r̥ > -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. The discussion of this corpus will be subdivided as follows. In section 6.8, the compelling evidence in favor of a special vocalization of Epic *r̥ to -ρα- will be discussed. In section 6.9, I will treat the less certain evidence, including forms with -ρα- and *McL* in which there is no unambiguous evidence for a pre-form with *r̥. In section 6.10, two isolated occurrences of -ρα- are analyzed as nonce formations.

6.8 The Evidence for -ρα- from Epic *r̥

I will start with forms with -ρα- that exclusively occur in Epic Greek, or which are typically poetic and absent from spoken Ionic-Attic: δράκων, κραδίη, κραταιός (including compounds with κραται- and κραταιΐς), τέτρατος, τραπείομεν. The discussion of these examples is accompanied by an analysis of their metrical behavior in Homer. After that, I will turn to three forms with -ρα- that are also well-attested in Classical prose authors: θρασύς, στρατός, and τράπεζα. I will show that they are deeply embedded in the epic tradition, and also provide arguments for viewing their presence in the spoken language as due to borrowing, either from Epic Greek or from West Greek. Finally, it will be argued that phrases with the middle aorist τραπέσθαι in Homer are traditional.

6.8.1 *δράκων*

It is widely accepted that δράκων 'snake, dragon' is ultimately based on an inherited PIE root noun **dr̥ḱ-*, continued in Ved. *dr̥ś-* f. 'aspect' and also preserved in the Homeric adverb ὑπόδρα '(looking) sternly'.[79] In the prehistory of Greek, the stem **dr̥k-* was extended with a suffix -ων, -οντ- that is probably the same as in γέρων 'old man', κρείων 'ruler', and μέδων 'id.'.[80]

The only way to use δράκων in hexameters was by tautosyllabic scansion of its onset. The word is attested 9× in Homer, has no fixed position in the line, and does not occur in material that is clearly formulaic. This does not mean, however, that δράκων is not a traditional epic word. For the viewpoint of content, epic poets couldn't do without a word for 'snake', and in Homer, δράκων appears to be the only normal word with this meaning. On the other hand, ὄφις, which is the generic word for 'snake' in Ionic and Attic prose and also the word inherited from PIE, is attested only once in Homer.[81]

It is not necessary to view δράκων as an element of the Ionic and Attic vernaculars merely on account of its reflex -ρα-. On the contrary, the complete absence of a reflex δάρκων* may indicate that the pre-form **dr̥kont-* was absent

79 A more detailed examination of ὑπόδρα will follow in chapter 9.

80 Examples are listed by Risch (1974: 27), but he does not comment on the semantics of the *nt*-formations. Beekes (1985: 75) discarded the interpretation as an extended root noun without further arguments, stating that δράκων is a substantivized aorist ptc. with retracted accent. Although this cannot be definitively excluded, it seems more likely to me that δράκων has individualizing **-nt-*. For the derivation of κρείων from the word for 'head', see Van Beek 2014.

81 In Hesiod ὄφις and δράκων occur twice in one and the same phrase: ὄφιος κρατεροῖο δράκοντος (*Th.* 322); ὄφιος δεινοῖο δράκοντος (*Th.* 825).

from Proto-Ionic, and that its use was restricted to the epic tradition early on. Thus, the form **dṛkont-* was retained until the vocalization of Epic **ṛ*.

6.8.2 *κραδίη*

As we have seen in section 6.1, the metrical behavior of κραδίη in Homer suggests that the form retained **ṛ* until not too long before Homer. Within the present framework, the Homeric form can simply be viewed as the regular, inner-epic outcome of **kṛdiā-*. This traditional form was retained in Epic Greek because introducing the vernacular form created metrical problems: καρδίη could only be used before a following vowel, and only in the nom. and dat. sg. It is true that καρδίη was introduced, both as a simplex and in the compound θρασυκάρδιος, but only on a sporadic basis and beside the traditional form **kṛdiā-* (> κραδίη). This accounts for the origin of the doublet κραδίη ~ καρδίη.

6.8.3 *κραταιός, κραταιΐς, Κράταιϊς, κρατα-*

I will here summarize the reconstructions established in chapter 5. The adjective κραταιός occurs 13× in Homer, almost exclusively in verse-final position (exception: κραταιοῦ θηρὸς ὑφ' ὁρμῆς *Il.* 11.119). Until the end of the Classical period κραταιός remains confined to poetry. Therefore, this word (and especially the verse-final noun phrase Μοῖρα κραταιή, 9×) are eminent candidates to display the reflex of Epic **ṛ* (input form: **kṛtaiu̯ó-*). The same holds for the noun κραταιΐς 'overwhelming force' and the name Κράταιϊς, both *hapax eiremena* in Homer that were derived from **kṛtaiu̯ó-* with the suffix -ίδ-.[82]

As argued in section 5.2.11, κραταίπεδος and κραταιγύαλος (apparently reflecting **kṛtai-*) ultimately reflect **kṛti-*, an old allomorph of **kṛteró-* (> καρτερός) whose metrically lengthened form was changed into **kṛtai-*, perhaps by contamination with **kṛtaiu̯ó-*. This **kṛtai-* is an archaism in which Epic **ṛ* was retained. Whenever possible, the productive allomorphs κρατερο- and καρτερο- were used, but **kṛtai-* was retained when the second member had a light initial syllable starting with a single consonant (cf. -πεδος and -γύαλος).[83] In this case we must ascribe compounds with κραται- in post-Homeric poetry and personal names with Κραται- to epic influence. The outcome -αρ- in καρτερός and κάρτα is the regular vernacular reflex.

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82 Apart from its Homeric attestation, Κράταιϊς is mentioned only in A.R. 4.829 as another name of Scylla's mother, who is there called Hecate.

83 Compounds with κρατι- or καρτι- (the expected outcome of **kṛti-* in epic and spoken Ionic, respectively) are absent from Epic Greek because they had already been replaced by compounds with κρατερο- or καρτερο-. They may have been preserved in proper names with Κρατι- and Καρτι- (attested in the 5th c. and later).

Another frequent word containing this root and with -ρα- < *ṛ is κρατερός. There, the onset κρ- is often used to make position, whereas it is hardly ever so used in κραδίη. Since we have argued that the metrical behavior of κραδίη reflects the prolonged presence of Epic *ṛ, the question rises why a similar avoidance of position length is not found in κρατερός. I will return to this issue in chapter 8.

6.8.4 *τέτρατος*

In section 2.7, it was remarked that τέτρατος is virtually limited to Epic Greek, whereas τέταρτος is the only form attested in Classical Ionic and Attic prose. Since τέταρτος cannot be the result of an analogy, it was then argued that this form regularly reflects *$k^{w}etṛto$- in the vernaculars. Next, we asked whether τέτρατος might have arisen within Epic Greek by analogy with other ordinals, with -ατος taken from δέκατος (as in τρίτατος and similar epic forms). The question is how such an extension can be motivated: there was no inherent metrical problem with the feminine forms of τέταρτος (as there was with those of τρίτος).

Considering the pattern of attestations of both variant forms in Homer, τέτρατος only appears in the neuter τέτρατον (7×), with one exception (nom. sg. m. τέτρατος *Il.* 23.615). By contrast, τέταρτος (14×) is used in various different case forms, and is clearly the productive form, the 'Ionic default'. These distributions are compatible with various scenarios. One possibility is that τέτρατος was taken from an Aeolic dialect in an older stage of the tradition (cf. Thess. πετροτος), and that the final part -οτος was adapted to the productive ordinal morpheme -ατος. A second possibility is to work with an old metrically lengthened *$k^{w}etṛto$- that was used before vowel-initial words, as in the phrase *$k^{w}ētṛton\ āmar$ > τέτρατον ἦμαρ. The metrical lengthening may have occurred in phrases like τέτρατον ἦμαρ ἐήν "it was the fourth day" (2× *Od.*) or τὸ δὲ τέτρατον ἵκετο τέκμωρ "and at his fourth try he reached his goal" (*Il.* 13.20). The hypothetical metrically lengthened *$k^{w}ētṛto$- may then have been analogically reshaped to *$k^{w}etrato$-, following the compositional form τετρα-, on the model of τρι- beside τρίτος. Alternatively, *$k^{w}ētṛto$- may have yielded *$tētrato$- by vocalization of Epic *ṛ, after which the then-unnecessary metrical lengthening of the first syllable may have been automatically cancelled, yielding τέτρατος. The lack of attestations of τέτρατος with *McL* scansion is not necessarily surprising, as this type of scansion was retained mainly in words that would otherwise not fit the meter.

Another promising instance of Epic *ṛ is the noun-epithet phrase τετράκυκλον ἀπήνην 'four-wheeled cart' (*Il.* 24.324), because the first compound member is generally reconstructed as *$k^{w}etṛ$-. As shown in section 6.5, word-internal

McL is rare, and exceedingly so when it does not follow a morpheme boundary. Since a number of such cases of word-internal *McL* appear to reflect *$\underset{\circ}{r}$ (ἀβροτάξομεν, Ἀφροδίτη) it is attractive to view τετράκυκλον ἀπήνην as a relic formula with Epic *$\underset{\circ}{r}$. This requires that all the other compounds with τετρα- have an innovative scansion, but that is unproblematic: τετρα- was the Ionic default form, and it was metrically convenient to use it before most second compound members.

6.8.5 *τραπείομεν and ταρπώμεθα*

In the Homeric aorist paradigm of τέρπομαι 'to enjoy oneself', no less than five different aorist stems are attested:

– η-aorist ἐτάρπην, including the 1pl. subj. τραπείομεν (*Il.* and *Od.*);
– θη-aorists ἐτάρφθην and ἐτέρφθην (both only *Od.*);
– *s*-aorist ptc. τερψάμενος (*Od.*);
– redupl. aor. τετάρπετο, subj. τεταρπώμεσθα, ptc. τεταρπόμενος (*Il.* and *Od.*);
– them. aor. subj. ταρπώμεθα (*Il.* and *Od.*).

The form ἐτάρπην never occurs after Homer and is certainly old, but the antiquity of the other four stems is questionable. The forms ἐτάρφθην, ἐτέρφθην (the only one attested after Homer) are clearly secondary as they contain the productive suffix -θη-,[84] and various other forms can be analyzed as artificial creations of Epic Greek. Thus, the *hapax* τερψάμενος may have been formed by inflection of the pres. ptc. τερπόμενος (cf. Beckwith 1996: 70). The reduplicated forms (τετάρπετο, τεταρπώμεσθα, and τεταρπόμενος) only occur in the position after $|_{\text{T}}$, and for this reason Bendahman (1993: 103–105) views them as artificial creations designed for this metrical slot.[85] There is indeed an obvious *comparandum* for τετάρπετο: the Homeric reduplicated aorist κεχαρε/ο- (3pl. κεχάροντο 'they rejoiced', 3sg. opt. κεχάροιτο, etc.), which is very close in meaning. This means that τετάρπετο may have been created on the model X : ἐτάρπην = κεχαρε/ο- : ἐχάρην.

In the present discussion, the subjunctive forms ταρπώμεθα and τραπείομεν (both limited to Homer) are of immediate relevance. To anticipate my conclusions, τραπείομεν was used after $|_{\text{T}}$ in a formula and reflects an old form *$t\underset{\circ}{r}p\bar{e}omen$, with Epic *$\underset{\circ}{r}$, while ταρπώμεθα was created artificially as its counterpart after $|_{\text{P}}$.

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84 As Beckwith (l.c.) remarks, the antiquity of ἐτάρπην < *$t\underset{\circ}{r}p$-$\bar{e}$- is corroborated by the fact that the θη-aorists first occur in the *Odyssey*.

85 Beckwith (1996: 73) also remarks that this fixed localization is compatible both with an archaism and with an innovation. He thinks that τετάρπετο may be a metrically-induced replacement of older *ἐτάρπετο, but I find the details of his scenario unconvincing.

Starting with τραπείομεν, this occurs only in the hemistich |$_{T}$ τραπείομεν εὐνηθέντε "let us go to bed and get satisfied" (2× *Il.*, 1× *Od.*). The root shape τραπ- is not attested in any other form derived from τέρπομαι. According to the traditional analysis, τραπείομεν is an archaism showing the regular, unrestored Ionic reflex -ρα- < *$\mathring{r}$, whereas in the usual Homeric form ταρπῆναι, the vowel slot of the full grade in τέρπομαι was analogically introduced.

One wonders, however, whether τραπείομεν can really have been a *sprachwirklich* form in any spoken variety of Greek. From the perspective of the poet and his audience, τραπείομεν was a monstrosity in view of the possibility of confusion with zero grade forms of τρέπω 'to turn'. It would soon have been replaced in a normal language situation,[86] at least after the elimination of the labiovelars in Proto-Ionic.[87] It makes good sense, then, to relate the origin and preservation of τραπείομεν to its presence in a formula. Indeed, three indications suggest that the hemistich τραπείομεν εὐνηθέντε is older than the poets who composed the *Iliad* and *Odyssey*: the dual ending of the participle εὐνηθέντε, the fact that τραπείομεν preserves the metrical structure of the pre-form *$t\mathring{r}pēomen$ that existed before quantitative metathesis took place, and the fact that a phrase |$_{P}$ *ταρπείομεν εὐνηθέντε (with the expected root shape ταρπ-) would not only be metrically acceptable, but even useful in epic verse composition.[88] Finally, we must note that all three attestations of τραπείομεν εὐνηθέντε are used by gods to refer to sexual intercourse. Again, this is compatible with the preservation of traditional material.

Apparently, there was a reason why poets did not introduce the form with the productive root shape ταρπ- into this concrete hemistich. This reason may well be as follows. In both its attestations in the *Iliad*, τραπείομεν εὐνηθέντε is preceded by (ἐν) φιλότητι. Now, as Latacz (1966: 185) has made plausible, φιλότητι was probably part of the original formula because it is a syntactic complement of εὐνηθέντε, rather than of τέρπομαι (which normally governs the geni-

86 Such confusion between τραπείομεν and the aorist τραπῆναι 'to turn' actually seems to have arisen in one of the Homeric instances, λεκτρόνδε τραπείομεν εὐνηθέντε (*Od.* 8.292), in which the first two words are most naturally taken to mean "let us turn to bed". Latacz (1966: 186) objects to this: "wäre dem so, dann entstände an dieser Stelle die absurde Aufforderung 'zum Lager wollen wir uns wenden, nachdem wir uns gelagert haben'," and suggests that εὐνηθέντε here belongs to the intransitive paradigm of a verb of movement εὐνάω, 'lagern'. In Van Beek (2013) I followed Latacz's interpretation, but it now seems more likely to me that εὐνηθέντε in this passage means 'having had intercourse', the normal meaning of this aorist.

87 The root of τρέπω was probably *$trek^{w}$-, cf. Myc. *to-ro-qe-jo-me-no* 'making tours'.

88 A metrical alternative for |$_{T}$ τραπείομεν εὐνηθέντε was indeed created: the formula |$_{P}$ ταρπώμεθα κοιμηθέντες, with a thematic aorist form that is probably artificial. See below.

tive).[89] This means that the usual root allomorph ταρπ- could not be introduced in **pʰilotāti tr̥pēomen eunātʰente*.[90] Therefore, in **pʰilotāti tr̥pēomen eunātʰente* the form with Epic **r̥* was preserved; only later was this sound vocalized as -ρα-.

The origin of the synonymous form ταρπώμεθα also turns out to be relevant for the prehistory of τραπείομεν.[91] In my view, it should also be explained by an artificial process.[92] Its origin becomes clear when we consider the context and its formulaic connections:

> ὕπνῳ ὕπο γλυκερῷ ταρπώμεθα κοιμηθέντες
> *Il.* 24.636; *Od.* 4.295; 23.255
>
> literally: "(so that) we, having gone to rest under the cover of sweet sleep, may find satisfaction [i.e. of our desire to sleep]".

This verse can be directly compared to:

> (ἐν) φιλότητι τραπείομεν εὐνηθέντε
> *Il.* 3.441; 14.314
>
> literally: "let us go to bed in love and satisfy our desire".[93]

At first sight, satisfaction of sexual desire and replenishment of one's physical reserves are two rather different events, but in reality the aorist of τέρπομαι may denote the agreeable satisfaction of various different types of urgent, mostly physical needs: it may describe persons stilling their hunger (by eating), letting out their grief (by wailing), resting (by sleeping), and getting satisfaction (by

89 Furthermore, 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, and where ἐν φιλότητι is governed by εὐνηθῆναι.

90 Even if φιλότητι was not originally part of the formula, preserving the metrical structure of the hemistich would have been a sufficient motivation to artificially retain **r̥*.

91 A fundamental discussion of the semantics of τέρπομαι and its aorist forms is Latacz (1966: 174 ff.).

92 Pace *LIV*[2] s.v. **terp-* 'sich sättigen', which takes the pairing 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.

93 A more prosaic translation of this formula would be "Let us go to bed and have sex". 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.

having sex). Indeed, lovemaking and sleep are mentioned together as things that satisfy the heart in the verse 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).[94]

As appears from the last example and from phrases like τεταρπώμεσθα γόοιο, the aorists of τέρπομαι normally require a genitive complement. Latacz (1966) therefore concludes that the dative (ἐν) φιλότητι, in the above formula, is a locatival satellite to εὐνηθέντε, rather than a complement to τραπείομεν. Indeed, Homer repeats the same construction on two different occasions: ἐν φιλότητι λιλαίεαι εὐνηθῆναι "you desire to make love" (*Il.* 14.331), ἐν φιλότητι παρήπαφεν εὐνηθῆναι "she deceived him into making love" (*Il.* 14.360). Therefore, the prepositional phrase ὕπνῳ ὕπο γλυκερῷ, literally "covered by sweet sleep", must be analyzed as a complement to κοιμηθέντες. We may suppose that the hemistich |$_{P}$ ταρπώμεθα κοιμηθέντες was coined so as to match |$_{T}$ τραπείομεν εὐνηθέντε (or its predecessor with *$\digamma$), and that both had the basic meaning "Let us go to bed and satisfy ourselves".[95] In view of its metrical trace of *$\digamma$, φιλότητι |$_{T}$ τραπείομεν εὐνηθέντε is obviously the older variant. The model for creating a new aorist form ταρπώμεθα may have been the pres. subj. 1pl. τερπώμεθα (*Od.* 1.369, 15.399), which appears in the same metrical slot.[96]

6.8.6 *τράπεζα*

On account of the comparison with Myc. *to-pe-za*, the pre-form of τράπεζα 'table' can be reconstructed as *$t_{\digamma}$*pedi̯a*. Even if τράπεζα does not occur in formulae, the form is traditional in a different way.[97] With the exception of

94 Cf. also ὕπνου τε γλυκεροῦ ταρπήμεναι (*Il.* 24.3), with an identical first hemistich to the formula under discussion, except for the genitive case governed by ταρπήμεναι.

95 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 the existing hemistich |$_{T}$ τραπείομεν εὐνηθέντε into |$_{P}$ *ταρπείομεν εὐνηθέντε.

96 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.

97 Wathelet (1966: 162–164) gives two arguments for counting 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* (cf. below). 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).

Od. 11.419, Homer uses τράπεζα (35×) only in verse-final position. It is true that trisyllabic words 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%).[98] In these figures, it must also be taken into account that μέλαινα and θάλασσα frequently occur in verse-final formulae, whereas τράπεζα does not. It is plausible, then, that Hom. τράπεζα is a traditional epic lexeme. Hence, we may suppose that its -ρα- is the outcome of Epic *r̥.

If so, how do we account for the absence of a reflex τάρπεζα* in any form of Ionic-Attic? This would be explicable, within the above scenario, if the preform *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 was either a dining table at which guests were 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. It is therefore conceivable that the Classical term τράπεζα was taken from the high register of epic.

It is not possible to establish with certainty how and when *tr̥pedi̯a entered the epic language, but the most plausible scenario would be, in my view, that the word and concept were borrowed from Mycenaean culture. The poet of the *Odyssey* describes polished tables with a ceremonial use (cf. παρὰ δὲ ξεστὴν ἐτάνυσσε τράπεζαν, 6× *Od.*). A number of other Homeric words for utensils used in ceremonial contexts (rituals of hospitality, feasting, bathing) are attested in

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This unfortunate formulation is 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).

98 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 larger mobility of θάλασσα and μέλαινα can be explained by the fact that they remained part of the spoken language all along.

the same form and/or meaning only in Mycenaean, but nowhere in alphabetic Greek. Compare the following lexical correspondences (cf. Lamberterie 2004):
– *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 Mycenaean origin of Homeric words is often doubted with the argument that we might simply be dealing with preserved lexical archaisms, or with vocabulary shared by more than one Greek dialect. Nevertheless, it is noteworthy that τράπεζαι occur in the context of banquets in the 'palace' of Ithaka (e.g. *Od.* 1.111, 19.61, 20.151). In these banquets, the word occurs in combination with other words that have cognates in the Linear B tablets dealing with utensils used in banquets (such as δέπας, θρῆνυς, and θρόνος). This makes it likely that τράπεζα entered the tradition from Mycenaean in the form **tr̥pedi̯a* in the palatial period.

Another possible objection against a Mycenaean origin of τράπεζα would be that *to-pe-za* is usually interpreted as /torpeddʲa/. Within the scenario set out above, however, all chronological problems are resolved if we follow Heubeck's idea (1972: 77–78) that Myc. *to-pe-za* represents /tr̥peddʲa/.[99] Scholars who reject Heubeck's scenario are 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*.

6.8.7 *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 must first consider the dialectal attestations and their semantics.

From Homer onwards, στρατός is a normal word for 'army' in Ionic-Attic. The other word for 'army' in Homer is λαός (Att. λεώς, Eastern Ion. ληός), but this has

99 According to Wathelet (1966: 162 n. 4), the pre-form **tr̥pedi̯a* regularly developed into τράπεζα in spoken Ionic, and replaced an Aeolic form *τρόπεζα that allegedly existed in the prehistory of the epic tradition. This Aeolic *τρόπεζα would have preserved the original scansion of a pre-Mycenaean pre-form **tr̥pedi̯a*. However, this scenario cannot be correct, if the regular Proto-Ionic outcome of **r̥* was -αρ-.

a broader meaning: it denotes not only a body of warriors, but also the collective of men in the council, 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 an army—most notably the Achaean military expedition against Troy—or an army camp. Even if forms continuing **lāu̯ó-* 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. Importantly, the word also figures in the Mycenaean title *ra-wa-ke-ta* /lāwāgetā-/, the second-highest ranking person in the Pylian realm.

Correspondences of στρατός within Greek are found in Aeolic and West Greek dialects. In literary 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.[100] In Boeotian inscriptions, we find names in -στροτος, and also the verbal form εσστροτευαθη 'they are on campaign', an equivalent of Ionic (mid.-pass. pf.) ἐστρατεύαται. In Cretan, the word is attested in the form σταρτος (*Lex Gortyn* etc.).[101]

Considering the semantics of the dialectal forms, it appears that the forms στρατός, σταρτος, στρότος as attested in North Greek dialects could refer not only to an army or its camp, but more generally to a band, clan or collective body of men, the "people" in the same sense as λαός, Ionic ληός, Attic λεώς. Pindar regularly uses στρατός in this sense, and the same holds for Cretan σταρτος.[102] This suggests that Proto-North Greek **stṛtó-* and Proto-South Greek **lāu̯ó-* occupied the same lexical slot. Another indication for this is the Myc. *ra-wa-ke-ta*

100 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 1969, q.v.: 'people, folk'), but only στρατός is found in the meaning 'army, expedition'.

101 In my view, the interpretation of the Myc. PN *to-ti-ja* as /Stortiā/ or /Stṛtiā/ (cf. García Ramón 1985: 201ff.) is too uncertain to be of any value here.

102 See Slater (1969, q.v.), who distinguishes two meanings in Pindar, 'people, folk' and 'army, expedition'. It seems likely to me that the first meaning was preserved in the lyric tradition to which Pindar belongs. 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 is clear, a more precise definition still has to be found. As Bile states, "La magistrature suprême est le cosmat, dont les membres sont choisis parmi les σταρτοι, au sens précis encore mystérieux" (1988: 338). In the view of Willetts (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.).

/lāwāgetā-/ "leader of the *$l\bar{a}\mu\acute{o}$-" which can be compared directly with West Greek στραταγός "leader of the *$st\r{r}t\acute{o}$-" (Doric dialects and Arcadian), Lesbian στροταγος, and Cretan σταρταγετας (*IC* IV 80.7, lines 4–5).[103] These titles may originally have denoted a military function, but often came to denote a political office. It seems plausible, then, that we are dealing with an old isogloss between North Greek *$st\r{r}t\acute{o}$- and South Greek *$l\bar{a}\mu\acute{o}$-. Both denoted the main social group surpassing kinship relations, and both could refer to a body of men under arms.[104]

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 *$st\r{r}t\acute{o}$-. Two PIE roots must be distinguished:

– *$sterh_3$- 'to strew, spread out': Ved. *$star^i$*, pres. $st\r{r}\acute{n}\acute{a}ti$ 'id.'; Lat. *sternere* 'id.' (ppp. *strātus*); Gr. στόρνυμι 'id.' (στρωτός); OIr. *sernaid* 'spreads', *srath* 'valley' < *$strh_3$-$t\acute{o}$-;
– *$ster$- 'to lay low, make subject, subdue': Ved. *star*, pres. $st\r{r}\acute{n}\acute{o}ti$ 'id.'; Lat. *sternere* (ppp. *strātus*) 'to throw down, overthrow, prostrate'.[105]

From a phonological point of view, στρατός can only be derived from the second root *$ster$-. However, the semantic connection between 'army' and 'to lay low, make subject' has not been satisfactorily clarified thus far. For this reason, it was originally assumed that στρατός derives from the root meaning 'spread out', with a semantic development leading from 'something spread out' to 'bed, bivouac' and thence to 'camp, army'.[106]

However, as just remarked, this pre-laryngealist view is outdated because the root meaning 'to strew out' has the form *$sterh_3$-, which is incompatible with the outcome στρατός. Strunk (1964) therefore accepted that στρατός was derived

103 Note, however, that Cretan σταρταγετας could be an indirect reflex of Myc. /lāwāgetā-/, replacing the first member *$l\bar{a}\mu(o)$- with its Cretan counterpart. Arc. στραταγος was probably borrowed from neighboring Doric dialects in view of the reflex -ρα- < *$\r{r}$.

104 Greek does not have a word directly continuing the PIE word *$kor\d{i}o$- 'war band'; it only preserves the title κοίρανος 'army leader'. It is attractive to assume that NGr. *$st\r{r}t\acute{o}$- and SGr. *$l\bar{a}\mu\acute{o}$- filled the semantic slot 'war band' in the respective dialects, at least at some point in their pre-history. If one accepts the etymological connection between PGr. *$l\bar{a}\mu\acute{o}$- and Hittite $l\bar{a}\d{h}\d{h}(a)$- 'military campaign, journey' (cf. e.g. Kloekhorst, *EDHIL* s.v. $l\bar{a}\d{h}\d{h}(a)$-), it is conceivable that *$l\bar{a}\mu\acute{o}$- originally denoted a military campaign, whereas *$st\r{r}t\acute{o}$- referred to a certain social group ('clan, band') that could also be summoned to join an expedition.

105 In Latin, the two originally distinct root have merged into one paradigm, but both meanings kept apart in Vedic can still be distinguished.

106 Thus e.g. *DELG* (s.v.), where Chantraine claims that "Les emplois du crétois sont secondaires et le sens originel est militaire." Beekes (1969: 280–281) also pleaded for an original meaning 'camp', referring to the widely-attested semantic development 'camp' > 'army' (as in Dutch *leger*). However, other semantic developments cannot be excluded.

from the root of Vedic *star* 'to lay low'. He reconstructed a participle **stṛ-tó-* "niederstreckbar", i.e. 'to be lain low', which would have been substantivized as 'Feindesheer', and then developed to 'army' in general. This proposal is followed by Mayrhofer (*EWAia* s.v. *STAR*),[107] but it is open to two objections. First, the assumed semantic development from 'what can be lain low' to 'enemy force' and then to 'army' in general is an emergency solution; the broader meaning 'clan, band of men' attested in West Greek dialects speaks against it. Secondly, the gerundival meaning of **-tó-* clearly developed within Greek; in Homer, -τό- usually does not yet convey potential meaning, as it does in the Classical type λυτός 'to be loosened'.[108]

Starting from the idea that στρατός and λαός both originally referred to a war band, I propose a different scenario for deriving **stṛ-tó-* from **ster-* 'to make subject'. Since the meaning 'subjects (of a ruler or leader)' is attested for λαός in the *Odyssey*, it is possible that **stṛtó-* also originally referred to a band of 'subjected' men who owed subservience to their leader (the στρατᾱγός). Later, when 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.

If this is correct, the lexical meaning of στρατός in Epic Greek asks for an explanation: all Homeric attestations of στρατός and its derivations (ἐστρατόωντο 'were on campaign', ἀμφεστρατόωντο 'encamped around, besieged', στρατιώτης 'soldier') have a military meaning.[109] 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.[110] In my view, this situation is best accounted for by assuming that in South Greek dialects, **stṛtó-* was retained only in poetry. As a relic form with the same referents as the regular Proto-Ionic vernacular form **lāu̯ó-* 'body of subjects, band of men; campaign' that had ousted it in the

107 Strunk (1964) is not mentioned by Beekes in *EDG* s.v. στρατός, who does not pronounce himself on the relation between **ster-* and **sterh₃-*, but merely refers to Indo-Iranian forms deriving from **ster-* such as Skt. *á-stṛta-* 'unconquered, unconquerable'.

108 For the Homeric material, see Risch (1974: 19–21).

109 Since the verb στρατάομαι is limited to hexameter poetry, Tucker (1990: 232, 249–250) 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." (1990: 250).

110 Most of these forms are frequently attested in Th., Hdt., inscriptions, etc.

first meaning, the meaning of **str̥tó-* may have been narrowed down to 'expedition, campaign'.[111] For a pre-stage of Epic στρατός, we may therefore start from a synchronically isolated pre-form **str̥tó-* without any corresponding form in the vernacular, where it had been replaced by (the outcome of) **lāu̯ó-*. Since all classical derivations (στρατόπεδον, στρατεύω, στρατεία, στρατιή, etc.) are clearly based on στρατός, it is possible to analyze στρατός as an epicism or even as a Dorism. In this context, we must note that at least one other military term was borrowed from West Greek: λοχᾱγός 'leader of an ambush', in view of its retained ᾱ.

From a metrical perspective, στρατός differs from the other words discussed in this chapter. Its pre-form **stṛtó-*, with its double initial consonant, would always yield a heavy preceding syllable, independent of the preceding word end. This implies that the pre-form **stṛtó-* can be substituted everywhere for στρατός without damaging the meter, just as in forms with -ρα- and *McL* scansion. The reason for this is the following: already before the vocalization of Epic **r̥*, the word could only be used in the thesis of a foot, and only before a vowel.[112] Since a variant σταρτός* would have yielded a useful metrical alternative to στρατός, it would certainly have been utilized, had it existed (cf. καρδίη beside κραδίη in Homer).

Thus, all the data are compatible with the following scenario: **stṛtó-* 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 **stṛtāgo-* (> West Greek στραταγός). In the restricted meaning 'expedition; army camp', **stṛtó-* > στρατός was an archaism of the epic tradition. Later on, στρατός entered Attic and Ionic prose, either as an epicism or as a borrowing from West Greek.

6.8.8 *θρασύς, θρασειάων*

That the phrase |$_{\text{T}}$ θρασειάων ἀπὸ χειρῶν 'from their dauntless hands' (7 × Hom.) is formulaic is suggested by the combination of its thematics (war narrative)

111 This is not contradicted by the fact that 'campaign' was probably the more original meaning of **lāu̯ó-*. I assume that **lāu̯ó-* and **stṛtó-* first influenced each other semantically; then **stṛtó-* became restricted to poetry or high register, and finally **lāu̯ó-* acquired a sociopolitical meaning in the Mycenaean period. Both **lāu̯ó-* and **stṛtó-* retained their military meanings only in poetry.

112 The formulaic behavior of στρατός in Homer has been discussed by Beekes (1969: 281). The word occurs 64×, with a strong preference (especially in the *Iliad*) for the position between |$_{\text{H}}$ and |$_{\text{B}}$. Beekes shows that almost all attestations of the acc.sg. form στρατόν (46 out of 58) can be reduced to the formulas |$_{\text{T}}$ ἀνὰ στρατόν (εὐρὺν Ἀχαιῶν) and |$_{\text{T}}$ κατὰ στρατόν (εὐρὺν Ἀχαιῶν).

and the old ending -άων. On five occasions, this phrase qualifies the motion of spears that are thrown in battle, or in an encounter with a lion.[113]

The tautosyllabic onset scansion of θρ- can be analyzed as a reflex of Epic *r̥. In Wathelet's view (1966: 150–151), however, the preceding trochaic caesura renders this example non-probative.[114] Indeed, given that θρασύς also existed in spoken Ionic and that -άων remained a productive ending in Epic Greek, one might think that the formula could be formed at any time after θρασύς had obtained its eventual phonological shape. However, as we have seen in section 4.5, the form θρασύς is itself in need of an explanation: the root shape θαρσ-, which we find in all other derivatives containing this root, must have once been present in the adjective, too. Therefore, the form with θρασ- probably arose in relative isolation, in an environment where it was protected against reshaping.

A scenario that resolves this problem can now be given. The adjective *$t^hr̥su$-, *$t^hr̥seu̯$- yielded *θαρσύς in the Ionic-Attic vernaculars, and this form was (for whatever reason) replaced or ousted by θαρσαλέος. Relics of the old adjective were preserved in Homer in the formula with θρασειάων < *$t^hr̥seu̯i̯āōn$, in compounds with a first member *$t^hr̥su$- (including personal names),[115] and in phrases like πόλεμον θρασύν < *$p(t)olemon\ t^hr̥sun$. In none of these instances was it possible to substitute a contemporary form, and therefore *$t^hr̥s$- (with Epic *r̥) regularly developed into θρασ-.[116] Thus, the creation of the formulaic phrase θρασειάων ἀπὸ χειρῶν pre-dates the vocalization of *r̥ in the relevant vernacular(s). If this is correct, the Attic prose form θρασύς was borrowed from epic poetry. Given its use in martial contexts, this is certainly conceivable.[117]

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113 The use of the formula after a first hemistich ending in ἀΐσσουσι is likely to be traditional (on the use of this verb before the main caesura, see Hoekstra 1981: 19–32). 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" (Richardson 1993 ad loc.).

114 Cf. also Lamberterie (1990: 847).

115 It is likely that the phrase |$_{\text{P}}$ θρασυμέμνονα θυμολέοντα 'bold-hearted destroyer of life', a formula which qualifies Heracles in both of its attestations, has a high antiquity. It 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') was probably 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).

116 This scenario differs slightly from what I proposed in 2013, where I operated with preserved root ablaut in all *u*-stem adjectives in order to explain analogical reshapings of the root. This forced me, however, to explain the strong case forms of θρασύς (notably the acc. sg. m. θρασύν) in Homer as analogical creations. The present scenario, in which the levelled vocalism in forms like βραχύς, κρατύς is due to the forms of comparison (cf. section 4.3.3), is much more straightforward.

117 Another theoretical option would be that Attic θρασύς was borrowed from West Greek: in

To close this discussion, let us briefly reconsider the semantics. It is thought that θρασύς usually qualifies an agent or his actions, but this is not universally true.[118] Generally speaking, θρασύς means 'bold, reckless' already in Homer (see section 4.5),[119] but in the phrase θρασειάων ἀπὸ χειρῶν, the spear-throwing hands are called 'dauntless, fierce, irresistible' or the like. This reminds of some attestations of θαρσαλέος (e.g. θαρσαλέον πολεμίστην 'fierce warrior'), and may reflect the etymological meaning of the PIE root: cognates in Indo-Iranian are used to qualify winds or other irresistible natural phenomena. Similarly, the phrase |$_{\text{P}}$ πόλεμον θρασύν (3×, twice followed by ὁρμαίνοντες) is best translated as 'fierce war'; de Lamberterie (1990: 848) aptly compares the formulaic phrase κρατερὴ ὑσμίνη 'fierce battle'. Like κρατερός, the qualification θρασύς is neither laudatory nor pejorative in itself, but always potentially ambiguous between 'bold' and 'reckless'. On the other hand, the positive qualification expressed in translations like 'courageous' is an innovation.

6.8.9 *τραπέσθαι*

Among the middle forms of τραπε/ο- 'to turn', seven instances are scanned with *McL*, always in verse-final position:

– ἀπονόσφι τραπέσθαι 'to turn away' (*Od.* 5.350 and 10.528). In the first passage, Odysseus is summoned by Calypso 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 second attestation, Odysseus is told to turn

some West Greek dialects, -ρα- was the regular outcome of *γ (cf. above on στρατός). This suggestion cannot be tested, however, due to insufficient data.

118 Cf. the remark "chiefly of persons" in *LSJ* s.v., and the overview in *LfgrE* s.v.

119 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 phrase 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." Indeed, Andromache speaks of 'reckless Hector' precisely when she begins to suspect that he has entered his fatal duel with Achilles under the walls of Troy. When Zeus argues, later on, that the plan to "steal away bold Hector" from Achilles' tent is no good, the words θρασὺν Ἕκτορα may again be 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*, Hector's charioteer (ἡνίοχος) is called θρασύν 'reckless'. Two of these cases concern Ἀρχεπτόλεμος, the stand-in charioteer who is killed by one of Teucer's arrows soon after he has mounted Hector's chariot.

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;
– ἐπὶ ἔργα τράποντο 'they turned to their tasks' (*Il.* 3.422, of servant maids);
– ἐπὶ ἔργα τράπωνται (*Il.* 23.53, of the Achaean warriors);
– Three instances are prefixed with προ-. The first, ἔθελον δ' ἄχεϊ προτραπέσθαι (*Il.* 6.336), can be translated as "I wanted to surrender to sorrow".[120] Two other cases, προτράπηται (*Od.* 11.18) and προτραποίμην (*Od.* 12.381), describe the sun's course and may refer to its turning (τροπαὶ ἠελίοιο) at the summer solstice.

In Wathelet's view (1966: 161–162), these instances belong to traditional diction. He remarks that the digamma reflex in ἐπὶ ἔργα and lack of augment in τράποντο are indications of an old formula, but neither argument is conclusive: hiatus before ἔργα is commonplace in Homer, and the augment is usually omitted in narrative. We may add that the preverb is in tmesis (ἐπιτρέπω occurs in the meaning 'to direct someone's attention to'), but it cannot be excluded that tmesis was used productively here. Is Wathelet merely seeking confirmation for his thesis?

Taking a closer look at the attested verbal forms, the Homeric aorist paradigm of τρέπω consists of a thematic aorist (ἔτραπον, ἐτραπόμην), and a sigmatic aorist ἔτρεψα, ptc. τρεψάμενος.[121] In both stem forms, the active has causative meaning, and the middle is an anticausative. In these forms, the vowel slot -ρα- is due to that of the present τρέπω. Since the causative active ἔτραπε is not found in Classical prose, it seems likely that the sigmatic form ἔτρεψα had already replaced it in the Ionic vernacular of Homer's time.[122] In any case, the thematic aorist is clearly the oldest formation of this stem, and partially being replaced by other formations.

Even so, *McL* scansion is never applied in the *active* form ἔτραπον. Moreover, τρ- generates position length in the 3sg. middle forms (ἐ)τράπετο, ἐτράπετ', ἐτράπεθ' (19×). Anticipating the discussion of the other active thematic aorists with

120 Kirk (*Comm. Il.* 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', at *Il.* 5.700. The subject of *Il.* 6.336 avoids confrontations with other people and "flees headlong in sorrow".

121 For the different aorist forms of this verb in Classical Greek, see Allan (2003: 172–173), who notes that the passive aorist forms ἐτρέφθην and ἐτράπην are marginal, and that ἐτράφθην occurs mainly in Herodotus, and once in the *Odyssey*.

122 Apart from Early Greek Epic, the active thematic aorist ἔτραπε only occurs in Pindar. For the replacement of the 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'.

-ρα- in chapter 8, it is clear that epic poets in principle never used *McL* in this specific morphological category, and even actively avoided using this type of scansion. 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 traditional descriptions of apotropaic rituals, and it would be attractive to view the phrase ἐπὶ ἔργα τράποντο as part of a traditional description of servant activity.

The archaic status of the compounded middle aorist προτραπέσθαι is corroborated by its lexical semantics. The only Homeric instance of the present προτρέπομαι means 'to flee headlong':

> 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, under the pressure of Ares and bronze-clad Hector, 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 Ares among the Trojans.

The isolated application of *McL* in this present stem form may have been modelled on the other three, verse-final instances of the aorist προτραπέσθαι.[123] The meaning of προτρέπομαι recurs in the adverb προτροπάδην 'head over heels, headlong' (*Il.* 16.304). In the Homeric meaning 'to flee headlong', προτρέπομαι is a lexical archaism. In Classical Ionic and Attic, the verb means 'to be incited, be led on' (active προτρέπω 'to incite') and normally has a middle sigmatic aorist προυτρεψάμην. While the Classical meaning can be productively derived from προ- 'forward' and τρεπ- 'to turn to, direct', this is not possible for Homeric προτρέπομαι.[124]

Let us finally consider the two other, similar passages where προτραπέσθαι occurs (*Od.* 11.14–19 and *Od.* 12.377–383). It is said that the sun never shines upon the mythical people of the Cimmerians, neither when it goes towards

123 The use of imperfective 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.) draw attention to the assonance of ἀντεφέροντο in the following line.

124 It is conceivable that 'to flee headlong' derives from older *"to turn or roll forth' (e.g. like a boulder).

heaven (στείχῃσι, ἰών), nor even when it "turns again from heaven towards the earth", ἂψ ἐπὶ γαῖαν ἀπ' οὐρανόθεν προτράπηται (*Od.* 11.18; inflected as προτραποίμην *Od.* 12.381). The difference between the aorist subjunctive προτράπηται and the present subjunctive στείχῃσι in the preceding line can be explained if we assume that the former refers to the point of summer solstice (perfective aspect), whereas the latter refers to the sun's steady ascent during spring (imperfective aspect).[125] It is hard to derive this use of προτραπέσθαι from the military one. We may well be dealing with a traditional description of heavenly phenomena.

In conclusion, all seven instances of the middle τραπέσθαι are located in verse-final position and require the use of *McL*. Given their contexts, the phrases ἀπονόσφι τραπέσθαι (ritual) and ἐπὶ ἔργα τράποντο (servants) may well be archaisms with Epic *ṛ. Three instances have the preverb προ-, and in view of the usual Homeric avoidance of metrically problematic forms with προ-, it is likely that προτραπέσθαι contained Epic *ṛ. This is supported by the fact that προτρέπομαι is a lexical archaism in Homer.

6.9 Less Certain Evidence for Epic *ṛ

Since the forms to be discussed in this section have both -ρα- and *McL*, they are potentially examples of Epic *ṛ. Etymologically, however, they are unclear, and none of the forms is frequent in Homer. They cannot be used, therefore, as counterevidence against the scenario proposed in this chapter.

6.9.1 *δρατός*

The verbal noun δρατός (beside δέρω 'to flay') has played an important role in earlier arguments for -ρα- as the regular, unrestored development of a syllabic liquid in Ionic-Attic.[126] In view of the details presented elsewhere in this book, however, this idea will have to be abandoned. The form is attested only in the phrase περὶ δὲ δρατὰ σώματα νήει "and around, he heaped up the skinned bodies" (*Il.* 23.169); it never occurs afterwards in primary literary sources.

In Van Beek 2013, I assumed that δρατός is a nonce formation based on the vernacular form δαρτός, just like θράσος occurs once in Homer beside θάρσος, and Κράπαθος beside Κάρπαθος (cf. section 6.10). This is not impossible, but I am now more inclined to view the phrase δρατὰ σώματα as the inner-epic reflex

125 Cf. *LfgrE* s.v. τρέπω, mg. II 8aβ.

126 Among the handbooks, see Schwyzer (1939: 342), Lejeune (1972: 196), Sihler (1995: 92).

of a traditional **dr̥ta sōmata*. A plausible context for the preservation of such a phrase would be descriptions of sacrifice. In the case of *Il.* 23.169, we must assume that the position length of δὲ caused by δρατὰ σώματα is an innovation of the attested half-line; indeed, there are cases of position length also in other words with Epic **r̥*, such as βροτός (see ch. 7).

6.9.2 *κραδαίνω and κραδάω*

In Homer, the verb κραδαίνω 'to shake, brandish' is only attested as a middle pres. ptc. κραδαινομένη, -μενον 'quivering' (3×, qualifying αἰχμή and ἔγχος).[127] Until the end of the classical period the verb remains in use in poetry, but it usually appears in the active voice. The related verb κραδάω 'to brandish' (4× Hom.) is attested only in the formulaic phrases κραδάων δολιχοσκιον ἔγχος and ὀξὺ δόρυ κραδάων, and virtually disappears after Homer. The combination of hemistichs in the following verse looks traditional and could well be old:

> ἤϊε μακρὰ βιβάς, κραδάων δολιχόσκιον ἔγχος
> *Il.* 7.213
>
> He went with long strides, brandishing his long ash-wood spear.

Does the *McL* scansion of the initial cluster of κραδαινόμενος imply that the word contains a reflex of Epic **r̥*? It is difficult to answer this question because κραδαίνω and κραδάω have no accepted etymology.[128] It has been supposed that κραδάω is derived from the noun κράδη 'branch' (cf. *DELG* s.v. κραδαίνω); if so, then κραδάω could be a denominative, or κράδη a backformation (cf. *GEW* q.v.), but unfortunately κράδη has no solid etymology either.[129] It is therefore uncertain whether the pre-form of κραδαινόμενος contained a syllabic liquid.

It thus appears likely that κραδάω is an archaism in Homer, and that κραδαίνω, the usual form in Attic, was an innovation.[130] Indeed, the use of κραδαινόμενον in *Il.* 17.524 is untraditional (cf. Edwards 1991 ad loc.), and in the verse αἰχμὴ δ' Αἰνείαο κραδαινομένη κατὰ γαίης / ᾤχετ' *Il.* 13.504–505, the enjambment separating a preverb in tmesis from its verb (κατὰ … ᾤχετ') also speaks against

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127 The attestation at *Il.* 16.614, however, is absent from most mss. and papyri; the entire line is a repetition of *Il.* 13.504.

128 Schulze (see *GEW* s.v. κραδάω) conjectured that the root of κραδάω, κραδαίνω is that of PIE **ḱēr*, **ḱr̥d-* 'heart', but this remains uncertain.

129 The fact that κράδη is similar to κλάδος (m.) 'branch' in both form and meaning could point to a foreign origin at least for these two nouns: see Beekes (*EDG* s.v. κλάδος), who thinks that the interchange ρ/λ may point to Pre-Greek origin.

130 However, the reason for changing the suffix to -αίνω remains unclear.

a high antiquity. In my view, the absence of an active κραδαίνω in Homer might be due to the fact that the traditional epic verb meaning 'to shake, brandish' was τινάσσω, with the same metrical shape as κραδαίνω.[131] Possibly, the middle ptc. κραδαινομένη was preferred over τινασσομένη in *Il.* 13.504 because the latter form usually had a passive meaning (cf. *Il.* 15.609, *Od.* 6.43). Therefore, if κραδαινομένη does not derive from a pre-form with Epic *r̥, we may account for its scansion by assuming that the form was introduced from the spoken language by the *Iliad* poet, who preferred it over the traditional form τινασσομένη.

6.9.3 *κρατευταί*

κρατευταί (only |T κρατευτάων *Il.* 9.214 with *McL*, in later literature only in Eup. fr. 183 K-A) designates the supporting blocks of the barbecue on which the spits rested. Its etymology is uncertain, 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 by *GEW* 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.).

6.9.4 *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, Circe feeds mast, acorns and the fruit of the cornel tree to Odysseus' transformed comrades).[132] The only obvious etymological *comparandum* for κράνεια is Lat. *cornus* 'id.', which can be reconstructed as *k̑r̥no-.[133] In view of this comparison and the Homeric *McL* scansion, it could be thought that the pre-form of κράνεια contained Epic *r̥. It is suspect, however, that κράνεια occurs only twice in Homer; moreover, there are other cases of *McL* following the particle τε that have nothing to do with Epic *r̥.

Problematic for the etymology, moreover, is the fact that Greek (-εια) and Latin (*-*o*-) have different suffixes. The form κράνον 'cornel tree' (Thphr.) would directly match Lat. *cornus*, but in view of its absence from earlier stages of

131 Cf. τίνασσε δὲ χάλκεον ἔγχος *Il.* 20.163; τινάσσων φάσγανον ὀξύ *Il.* 22.311; δύο δοῦρε τινάσσων *Il.* 12.298. Other traditional epic verbs meaning 'to shake, brandish a weapon' are πελεμίζω, (part of the attestations of) ἐλελίζω, and σείω, all with a different metrical shape.

132 The epithet τανύφλοιος does not occur elsewhere in Homer. Its precise meaning is unclear: perhaps 'with thin bark', see *LfgrE* s.v.

133 The appurtenance of Lith. *Kirnis* 'divine protector of the cherry' (see the references in Walde-Hofmann, s.v. *cornus*) seems uncertain to me.

Greek, the value of this form for purposes of reconstruction can be doubted. Tree names in -έη 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. In fact, the suffix -εια is without parallels in tree names and remains unexplained.

Even so, one could still assume that the pre-form had **kr̥n-*, with Epic **r̥*. Now, the occurrences of the word in Classical Ionic-Attic all have the reflex -ρα-.[134] Since the reflex of **r̥* in the Proto-Ionic vernacular was -αρ-, these post-Homeric forms would have to be explained as epicisms, *ex hypothesi*. A borrowing from Epic Greek, however, does not seem likely for a word with a botanical meaning, and it would leave unexplained the different suffixation of κρανία (Hp.).

Is κράνεια compelling counterevidence against the development **r̥* > -αρ- in Ionic-Attic? We must remember that the species of tree has a geographical distribution that need not have included the Indo-European homeland. Besides, it is problematic that the suffix -εια cannot be easily accounted for. It is therefore a possibility that Greek borrowed the word in a shape with **kran-*. A similar case is πράσον 'leek' beside Lat. *porrum* 'id.', another botanical word that is attested only in these two branches (see section 9.1.8). Everything taken together, we cannot be sure that the pre-form of κράνεια ever had **r̥*.

6.9.5 *βραχίων*

Out of 6 attestations of βραχίων '(upper) arm' in Homer, five are located after the trochaic caesura, the natural slot for words of this metrical structure (O'Neill 1942: 143). The remaining instance, δουρὶ βραχίονα τύψεν (*Il.* 13.529, first hemistich), could be ascribed to an incidental application of the *McL* license. Although in Wathelet's view (1966: 168 n. 3; see section 6.3), the localization after $|_T$ would sufficiently explain the tautosyllabic scansion of βρ-, the possibility that -ρα- reflects Epic **r̥* must be seriously considered.[135]

Unfortunately, the etymological reconstruction of βραχίων is not secure. A connection with βραχύς 'short' has been advocated and is semantically conceivable. In a number of instances, βραχίων specifically denotes the upper arm,[136] and while the upper arm is longer than the forearm in human beings, it must

134 The Homeric form κράνεια occurs in E. fr. 785 (Nauck), X. *Cyn.* 10.3, and middle comedy, and must also underlie the derivative κρανέϊνος 'made of cornel wood', which qualifies javelins and bows (*h. Herm.*, Hdt., X.). A by-form κρανία is attested in the Hippocratic corpus.

135 Compare $|_T$ θρασειάων and $|_T$ κραται- in the same position.

136 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 referred to). Cf. also Hom. πρυμνὸς βραχίων 'shoulder'.

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 (e.g. X. *Eq.* 12.5). Since the shank of most domestic animals is longer than the upper leg, a derivation of the latter from 'short' would make good sense. In this context, it is perhaps relevant that the root of Toch. B *märkwace* 'upper leg, thigh' can also be reconstructed as *$m\underset{\cdot}{r}\acute{g}^{h}$-. On the basis of Greek and Tocharian, however, it is only possible to set up a root etymology, so that the comparison remains uncertain.

The exact morphological analysis of βραχίων is also problematic. Chantraine (*DELG*, s.v. βραχίων) defends the analysis as an old comparative of βραχύς, but he does not explain why the form has a long ῑ in Homer.[137] As Seiler (1950: 42) stressed, comparatives in -ίων with a long ῑ are absent from Homer and first appear in Classical Greek (contrast Att. κακῑ́ων with Hom. κακῐ́ων). May the ῑ of βραχίων have come into being by metrical lengthening? In a word with four consecutive short syllables, this would be a distinct possibility, but there is an additional issue. In a comparative one would expect an original full grade root, *$mrek^{h}$-$i(h)on$- or *$mrek^{h}$-$\underset{\cdot}{i}oh$- (see section 4.1.2).[138] Now, if we started from *$mrek^{h}$-$i(h)on$- and accept that its root vocalism was at some point influenced by the adjective *$mrak^{h}u$- (whose vowel slot had been influenced by *$mrek^{h}$- in the forms of comparison), it would follow that the word did not contain Epic *$\underset{\cdot}{r}$. In this scenario, using βραχίον- after the trochaic caesura would require the combined operation of two metrical licenses.[139] It therefore remains difficult to analyze βραχίων as a comparative.

An alternative has been proposed by Ruijgh (1968: 147), who speculated that βραχίων was derived from βραχύς with the suffix *-$\bar{\underset{\cdot}{u}}on$- forming sobriquets. Ruijgh compares the use of the suffix *-$\bar{a}\underset{\cdot}{u}on$- in πυγεών (sense unclear, perhaps 'buttocks') and ποδεών 'paw which hangs from an animal skin', which seem to be derived from the body part designations πυγή 'buttocks' and πούς 'foot', respectively. But since these have the suffix *-$\bar{a}\underset{\cdot}{u}on$-, it is perhaps more pertinent to compare βραχίων with the Homeric sobriquet κυλλοποδίων "Lamefoot",

137 Chantraine comments: "le procédé est inattendu, mais doit être admis, malgré les doutes de Seiler (…)".

138 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.

139 If the pre-form of βραχίων contained *$\underset{\cdot}{r}$, it would be less problematic to explain the ῑ by metrical lengthening: *$m\underset{\cdot}{r}k^{h}i(h)ona$ (four consecutive light syllables) → *$m\underset{\cdot}{r}k^{h}\bar{\imath}(h)ona$ > *$mrak^{h}\bar{\imath}ona$ (vocalization of Epic *$\underset{\cdot}{r}$). This presupposes, however, that the zero grade root could be introduced in the comparative form at an early date.

a nickname of Hephaistos (3× Hom.). A sobriquet meaning "shorty" would be an appropriate designation for the upper arm in the case of a warrior whose forearm had been chopped off.

If Ruijgh's idea is correct, it would be natural to consider βραχίων as a case of Epic *$r̥$, given the relic status of the suffix *-*īμon*- and the regular *McL* scansion of βραχίων in Homer. However, as I will argue in chapter 7, the regular outcome of Epic *$r̥$ was -ρο- after labial consonants, and the only form that seems to militate against this distribution is precisely βραχίων. This problem could be resolved by assuming that the semantic connection between βραχύς and βραχίων was still perceived synchronically, and that the expected epic outcome *βροχίων and/or the vernacular form was influenced by βραχύς.

In sum, the metrical behavior of βραχίων seems to furnish an indication in favor of Epic *$r̥$, but the uncertainties regarding its etymology and reconstruction make it difficult to use the form in the present discussion.

6.10 Nonce Formations with -ρα- in Epic Greek

There are two Homeric words with -ρα- instead of the expected form with -αρ- that occur only once, and that may well be nonce formations: θράσος (*Il.* 14.416) and Κράπαθον (*Il.* 2.676).

Given that θάρσος 'persistence; confidence' originally had an *e*-grade root, the occurrence of a doublet θράσος has nothing to do with the vocalization of *$r̥$. Rather, θράσος was secondarily created as a variant of θάρσος under the influence of the more frequent alternation between κράτος and κάρτος in Homer, which had a close meaning. Alternatively, it may be viewed as a new abstract derived from θρασύς 'bold, reckless'.

Κράπαθος occurs only once in the *Catalogue of Ships* (*Il.* 2.676); the normal name of the island is Κάρπαθος. Since it has no inner-Greek etymology, it would be completely *ad hoc* to reconstruct *$r̥$ in its pre-form. It therefore seems that the poet of this line decided to extend the alternation known from cases like κράτος beside κάρτος to this toponym. In other words, Κράπαθος is a nonce formation.

6.11 Conclusions

Various forms which have the reflex -αρ- < *$r̥$ in Classical prose have by-forms with -ρα-: κραδίη ~ καρδίη, τραπείομεν ~ ταρπῶμεν, τέτρατος ~ τέταρτος, and κρατιός ~ καρτερός. These by-forms with -ρα- appear to be limited to poetry, and

especially to Epic Greek. There are two other peculiarities suggesting that -ρα- in fact arose *within* the language of the epic tradition: the metrical behavior of κραδίη in Homer (noted already by Hoenigswald), and the fact that *McL* scansion is most frequent among forms with -ρα- and -ρο- < *r̥ (Wathelet 1966). In this chapter, I have proposed to explain these distributions by assuming that *r̥ was retained in Epic Greek when it was vocalized in the vernacular. Much later, and not too long before Homer, this so-called 'Epic *r̥' developed to -ρα-, and to -ρο- after labial consonants.

An investigation of the complete evidence for *McL* scansion showed that this phenomenon is irregular in Epic Greek: it is tolerated in a closed and small set of words (e.g. τράπεζα, κραταιός), and structurally avoided in another, much larger group of words and formations (e.g. κράτιστος, βλάπτω, κλίνω). That *McL* was still actively avoided in Homeric Greek is confirmed by the existence of artificial formations, such as κάρτιστος for κράτιστος. Moreover, it has been shown that in most lexemes that regularly undergo *McL* scansion, the pre-form contained *r̥. It is therefore natural to infer that the phenomenon originated when *r̥ was eliminated from Epic Greek.

After the vocalization of Epic *r̥, *McL* scansion was occasionally extended to other words with -ρα- and -ρο- that probably never contained *r̥, e.g. κράνεια. This extension may have been promoted by cases such as τραπέσθαι, which contains a reflex of Epic *r̥, but was at the same time a normal word in the vernacular (where it had analogically restored -ρα-). Moreover, the author of the *Iliad* already applies *McL* in forms where there was never any *r̥ (e.g. in lexemes like πλέω) and even without any metrical necessity. This may show that the syllabification of word-initial plosive plus liquid clusters was shifting, also synchronically in the vernacular. Word-internally, however, plosive plus liquid remained heterosyllabic, at least for the *Iliad* poet.

Epic *r̥ was retained in two types of words. On the one hand, there are lexemes which also existed in the vernacular, but where introducing the vocalized vernacular form would have harmed the traditional metrical structure of the epic word or formula. Therefore, the non-vocalized form with Epic *r̥ was retained in Epic Greek, and later vocalized with -ρα-. This happened in the precursors of κραδίη, τραπέσθαι, θρασειάων, and τραπείομεν (the latter two occur exclusively in formulaic phrases). On the other hand, various lexemes were already exclusive to Epic Greek when *r̥ developed to -αρ- in the Ionic vernacular: this is probably true for δράκων, κραταιός, other forms with κραται-, τράπεζα, and στρατός. This explains why in these cases no traces are found of by-forms with -αρ-, at least not in Ionic-Attic.

A number of words with -ρα- and *McL* scansion (βραχίων, κραδαίνω, κρατευτάων, and κράνεια) have been left aside because it is not certain that their

pre-forms contained *$\mathring{r}$. Two *hapaxes* (θράσος, Κράπαθος beside the usual forms θάρσος, Κάρπαθος) have been analyzed as nonce formations on the model of e.g. κράτος beside κάρτος.

Since words with the vernacular vocalization *$\mathring{r}$ > -αρ- (and analogically restored -ρα-) also made their way into Epic Greek, the new scenario allows us to give a full account of the origin of doublets with -ρα- ~ -αρ-. At the same time, it illuminates how *McL* scansions became acceptable in Epic Greek, and why they occur so frequently in words with *$\mathring{r}$. A prolonged preservation of Epic *$\mathring{r}$ may account for the peculiar metrical behavior of κραδίη, which can be explained if the time gap between Homer and the elimination of Epic *$\mathring{r}$ is not too large. Further chronological issues will be discussed in chapter 11. In the next chapter, we will first discuss the evidence for a conditioned development of Epic *$\mathring{r}$ to -ρο-.

CHAPTER 7

Epic Forms with -ρο-

Introduction

For forms like δράκων and κραταιός, which combine the reflex -ρα- < *η with *McL* scansion, an inner-epic explanation has been proposed in the previous chapter. The present chapter discusses Homeric forms with -ρο- for which there is reason to suppose that it reflects *η. Are such forms Aeolisms, or is it more likely that -ρο- is the regular reflex of Epic *η after labials, along the lines sketched in the previous chapter?

The material consists of the following types of words:[1]

(1) Forms with a metrical peculiarity (*McL* or a more serious irregularity) as well as strong etymological indications for *η:
   – ἀβροτάξομεν aor. subj. 'we will miss' < *$amr̥t\text{-}ak\text{-}s$- (cf. ἁμαρτάνω, aor. ἥμαρτον, Hom. ἤμβροτον);
   – ἀνδροτῆτα acc.sg. 'vigor' < PGr. *$anr̥tāt$- < PIE *$h_2nr\text{-}téh_2t$-;
   – βροτός m./f. '(mortal) man, human being' < PGr. *$mr̥tó$- (cf. Arm. *mard* 'man, human being'), along with compounds; note especially:
   – the formulaic 1st hemistich ἀσπίδος ἀμφιβρότης 'man-covering shield' (*Il.*);
   – ἄμβροτος 'immortal' (*vel sim.*), ἀμβρόσιος 'id.';
   – ἄβροτος in the *hapax* νὺξ ἀβρότη 'immortal night'.

   To this list we must add ἀνδρεϊφόντῃ, epithet of Enualios, which is probably a replacement of *ἀνδραφόντῃ < PGr. *$anr̥\text{-}k^{wh}on\text{-}tā$- 'man-slayer' (cf. Myc. PN *a-no-qo-ta*).
(2) Forms for which a reconstruction with *η is possible and which have dialectal variants with *-or-* / *-ar-* / *-ra-*:
   – Ἀφροδίτη ~ Cret. Αφορδιτα, Pamph. Αφορδισιιος;
   – θρόνος 'luxurious/ornamented chair' ~ Myc. *to-no* /t^{h}ornos/ 'id.';
   – πρός and προτί 'towards' ~ Cret. πορτι 'id.';

1 From the examples with *McL* scansion listed in section 6.3, I leave aside the *hapax* βεβροτωμένα 'covered with gore' (*Il.* 11.41) because the base form βρότος 'gore' (4× *Il.* in verse-final βρότον αἱματόεντα) has no etymology; nor is there any other indication that the pre-form had *η. In βρότος and in the formula ἔναρα βροτόεντα 'blood-stained spoils' (5× verse-final in the *Iliad*, also 3× after |$_{P}$), initial βρ- regularly makes position.

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- πρόσωπον 'face';
- πρόσω 'forward, further' ~ πόρσω 'id.', Att. πόρρω;
- ῥόδον 'rose', ῥοδόεντ- 'rose-scented' ~ Myc. *wo-do*°, *wo-do-we*;
- πρόκες and προκάδες 'deer' ~ πράκες· (…) ἔλαφοι and πόρκας· ἐλάφους (Hsch.).

(3) Forms for which a reconstruction with **r̥* must be considered because they undergo *McL* scansion:
- κροαίνων 'galloping', only in a repeated simile;
- forms of Κρονίων 'Zeus' with long ῑ (mostly in the nom.sg.);
- forms of Κρόνος (gen.sg. Κρόνοιο, Κρόνου);
- Certain instances of the preverb προ-: below I will suggest that the middle participle προκείμενα (said of comestibles in a repeated formula) derives from **pr̥-keimena*, where **pr̥-* is the pre-form of παρ- (cf. παρά).

Most forms in groups (2) and (3) have a peculiarity of scansion (*McL*) which could be ascribed to an earlier **r̥*. However, the former presence of **r̥* cannot always be taken for granted.[2] The following discussion aims to find additional arguments for and/or against the erstwhile presence of **r̥* in these forms. Before embarking on a treatment of the metrical issues, I will address the problem of the dialectal origin of Homeric forms with -ρο-.

7.1 The Dialectal Origin of Forms with -ρο-

From Homer onwards, the noun βροτός is firmly anchored in Greek poetic tradition, and especially in epic poetry. Since βροτός cannot be the regular reflex of its pre-form **mr̥tó-* in Ionic-Attic, it is usually taken to be an archaism, retained from Aeolic[3] or Mycenaean[4] poetry. The same origin is assumed for the negated form ἄμβροτος 'immortal' and other derived forms like ἀμβρόσιος. This account of the phonologically aberrant outcome of **r̥* is also applied

2 Cf. Lamberterie (2004: 245) on θρόνος: "… la *correptio* du groupe θρ- (…) ne saurait être considérée à elle seule comme une preuve suffisante pour poser un /r̥/. 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 in my view the second restriction is too rigorous.

3 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 (1970: 169), *GEW* and *DELG* (both s.v.), although the latter adds that the form may also be Achaean.

4 *DELG* (s.v., see previous note), Strunk (1957), Ruijgh (*passim*), West (1988: 156–157). The analysis of Heubeck (1972) will be discussed below.

to other epic forms with -ρο-, like ἀβροτάξομεν or ἀνδροτῆτα. Some scholars even assume that θρόνος derives from a pre-form with *$r̥$.[5]

In favor of such an analysis, it can be said that -ρο- is indeed the regular reflex of *$r̥$ in the Aeolic dialects.[6] A minor problem concerns the non-recessive accentuation of forms like βροτός, which conflicts with the regularly recessive accent in the Lesbian tradition. This could be mended by assuming that the epic tradition picked up these forms from mainland Aeolic poetry (and that Thessalian did not have recessive accent), or that Lesbian acquired its recessive accent not long before the time of Sappho and Alcaeus.

However, for the Homeric forms βροτός and ἄμβροτος an Aeolic origin is not at all straightforward. 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 θνᾶτος (attested 4×) and ἀθάνατος (5×, with the metrical lengthening of the initial ἀ- characteristic for Epic Greek). The only evidence for the stem βροτο- in Lesbian poetry are ἀμβρόσιος (Alc. fr. 296b.4) and the substantivization ἀμβροσία 'divine food' (Sapph. fr. 141.1), but these forms can easily be epicisms. Of course, given that only a relatively small corpus of fragments of Lesbian poetry has been preserved, it cannot be excluded that βροτός and ἄμβροτος are absent from Sappho and Alcaeus by chance. Nevertheless, it is remarkable that they appear to regularly use θνᾶτος and ἀθάνατος instead. Furthermore, assuming Aeolic provenance would be unmotivated for ἀνδροτῆτα and θρόνος (which are unattested in Lesbian poetry).[7] The only Homeric form where -ρο- certainly derives from *$r̥$ *and* which has a clear counterpart in Lesbian dialect is the aorist ἤμβροτον 'missed', which appears in epigraphic Lesbian as an infinitive αμβροτην. However, I will argue below (and in chapter 8) that ἤμβροτον can be the inner-epic reflex of *$\bar{a}m̥rton$ (the form underlying both Aeol. ἄμβροτον and Ion. ἤμαρτον) and that the similarity to the actual Lesbian form is a coincidence.

5 E.g. Wathelet (1966).

6 Wathelet (1966: 166) overstates the case for an Aeolic phase by emphasizing "passages" where βροτοῖσι(ν) co-occurs with another alleged Aeolism. 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 e.g. πᾶσι βροτοῖσι (*Od.* 15.255), with the Ionic dative form, and because the εσσι-dative is productive in Homer. In fact, μερόπεσσι βροτοῖσιν may well be an inflected form of the more frequent μερόπων ἀνθρώπων.

7 In my view, ποικιλόθρον' (Sapph. fr. 1.1) contains the word θρόνα 'embroideries' *vel sim.*, on which see section 2.5.2. Another word with numerous attestations in Sappho is ῥόδον (transmitted several times in the form βρόδον, both as a simplex and in compounds). It is plausible, but not entirely certain, that this derives from *$\mu r̥do$- (see section 7.2.9). Apart from these, no other Homeric form with -ρο- discussed in this chapter is attested in the Lesbian poets.

In sum, the idea that epic forms with -ρο- < *ṛ stem from Aeolic is not clearly borne out by the Aeolic evidence itself.[8]

A second potential problem is that *McL* scansion, as regularly applied in Homer in formulaic material containing the forms βροτῶν and βροτοῖσι, is virtually unknown in the Lesbian poets.[9] It would be problematic if precisely those forms of βροτός that are most deeply entrenched in epic diction could not be used in the literary dialect (alleged Aeolic hexameter poetry) from which they are supposed to have been borrowed. There are only four certain cases of *McL* in Lesbian lyric, all in Sappho: κἀν ὄπλοισι (fr. 16.19), [ἐλί]γματα χρύσια (fr. 44.8), παῖς ὄχλος (fr. 44.14), and μαλοδρόπηες (fr. 105a.2). Of these, the last can be ascribed to epic influence. Not only is fragment 105a composed in hexameters, but the suffix -εύς does not normally occur in compounds (one expects δροπεύς 'reaper' beside unattested *μαλοδρόπος 'who reaps apples'). In combination with the placement of μαλοδρόπηες after the bucolic dieresis, the form is highly suspect of being an artificial extension that was coined specifically for this metrical slot, as in Homeric forms like ἡνιοχῆες (*Il.* 5.505), ἡνιοχῆα (*Il.* 8.312, 16.737, 19.401) beside the normal and morphologically regular form ἡνίοχος 'charioteer'.[10] In other words, μαλοδρόπηες is an epic form. The tautosyllabic scansion in χρύσια and ὄχλος, too, appears in a fragment well-known for its linguistic elements characteristic of Epic Greek (cf. Miller 2013: 244–247 for a brief linguistic commentary).

At first sight, one could surmise that these cases are remnants of a Aeolic (Lesbian) epic tradition in which *McL* was acceptable. One would have to assume that *McL* originated when *ṛ vocalized in this putative Lesbian epic tradition. However, for the Sapphic instances of *McL* this would mean that

8 The possible dialectal origins of ἀβροτάξομεν are difficult to determine. The form has been seen as an 'Achaean' element of Epic Greek in view of the velar suffix -αξ- (Ruijgh 1957: 74), which is found also in Arcadian, all West Greek dialects, and in part of Boeotian and Thessalian (in these Aeolic dialects it is perhaps due to West Greek or *Koine* influence). Of these dialects, only 'Achaean' (as continued in Arcadian) would be a likely source for the epic forms, Ruijgh's reasoning goes. However, Wathelet (1970: 307–308) and Garcia Ramon (1975: 95) are more cautious regarding the possibility that some of the Thessalian aorists and futures in -αξ- and -ιξ- are genuine dialect forms. In West Greek, a distribution between -αξ-, -ιξ- (the default allomorph) and -ασσ-, -ισσ- (only if the syllable preceding the suffix contained a velar) is attested in the earliest Argolic inscriptions: see Nieto Izquierdo (2008: 486–489).

9 On the virtual absence of *McL* scansion in Lesbian, see Wathelet (1966: 148–149); on that in Eastern Ionic elegiac and iambic poetry, see West (1974: 113–114 and 1988: 166). Wathelet (1966: 166 n. 5) already concluded that *McL* in βροτοῖσι(ν) could not be ascribed to Aeolic influence.

10 For similar artificial forms, cf. Hackstein (2010: 409–413) with further references.

the license was extended far beyond its normal use in Epic Greek: three out of four cases in Sappho have *McL* word-internally, a position where the license is still extremely rare in Homer (see section 6.5). Moreover, in ὄπλοισι, χρύσια and ὄχλος the tautosyllabic scansion is not necessitated by the metrical structure of the word. It is therefore more plausible, in my view, that Sappho resorted to tautosyllabic scansions in the fragments in question because she associated this license with epic, and that *McL* scansion was still an intrusive element in the Lesbian poetic tradition.

Seen from a diffusionist standpoint, the above conclusion implies that the tautosyllabic scansion of plosive plus liquid in frequent epic forms like βροτῶν, βροτοῖσι is unlikely to have been borrowed together with the forms from a putative Aeolian epic tradition. If such scansions were introduced in order to accommodate for Aeolic borrowings, one would not expect a predominance of words with -ρο- and -ρα- among words with this scansion. One would rather expect an avoidance of forms like βροτῶν, βροτοῖσι (and a predominance of metrically unproblematic case forms like βροτός, βροτόν, etc.).

On the other hand, if one assumes that the vocalization of Epic **r̥* took place in an Aeolic phase, other problems arise: why would -ρα- have been introduced in most forms reflecting Epic **r̥* (cf. chapter 6), and even in cases such as δράκων, ἔδρακον and ἔπραθον, where an Ionic equivalent probably never existed? And why was ἦμβροτον not changed into ˣἦμ(β)ρατον in spite of the presence of Ion.-Att. ἥμαρτον?

Another option would be to assume a Mycenaean origin for certain Homeric forms with -ρο-. Indeed, for the forms ῥοδόεντι and ἀνδρεϊφόντῃ, there are positive indications of such an origin, as we shall see below. This option is therefore more plausible, but not ascertained either. For one thing, a borrowing of these words from Mycenaean *in a shape with -ρο-* would be entirely implausible, because *-ro-* was not the regular reflex of **r̥* in Mycenaean (cf. chapter 2). This problem can be avoided by assuming that an early stage of the tradition inherited the pre-forms of ῥοδόεντι and ἀνδρεϊφόντῃ from Mycenaean, in the late 13th or early 12th c., in a form with **r̥*. However, it must be admitted that other dialects that retained **r̥* at the relevant time (e.g. Proto-Ionic) would also be conceivable donors of these forms.

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. The case of βροτός is comparable to various words discussed in chapter 6: **r̥* was present in the pre-form **mr̥tó-*, and *McL* scansion

is regularly applied in the most frequent case forms βροτῶν and βροτοῖσι, which occur in old formulae. We may therefore ask whether βροτῶν and βροτοῖσι (and hence forms of βροτός more generally) contain an artificial reflex of retained Epic *$r̥$. Since βροτός is a typical poetic word and is no longer current in any attested vernacular dialect of Greek, we may surmise that this situation was valid also for the pre-form *$mr̥tó$- at the time when *$r̥$ vocalized in the relevant vernaculars.[11] This means that a traditional form *$mr̥tó$- would have simply been preserved in the epic tradition.

But how to account for the reflex -ρο-? By assuming an Aeolic origin we do not account for the structural presence of *McL* in these old formulaic words. I hypothesize that the vocalization *$mr̥tó$- > βροτός originated by the same process that yielded -ρα- in forms like τράπεζα, and that the specific reflex -ρο- of Epic *$r̥$ developed under the influence of preceding labial consonants.[12] Phonetically, this means that epic poets developed a vowel [ə] after the liquid, the pronunciation of which merged at some point with that of the existing phonemes /a/ and /o/, depending on the environment. This is reminiscent of the development in Cretan, where -ορ- was probably conditioned by preceding labial consonants (cf. section 3.1.2).[13]

The actual evidence in favor of this conditioning, to be discussed in detail in the remainder of this chapter, consists of the following forms:

– ἀβροτάξομεν < *$amr̥t$-;
– ἤμβροτον < *$āmr̥te/o$-;
– βροτός < *$mr̥tó$- in all its case forms;
– ἄμβροτος < *$ámr̥to$- or metrically lengthened *$ámr̥to$-, ἀβρότη < *$amŕ̥tā$-;
– ἀμφιβρότη- < *$amp^himŕ̥tā$-;
– πρός < *$pr̥s$ < prevocalic *$pr̥ti$, also προτί < *$pr̥ti$, προσηύδα '(s)he said', etc.;
– πρόσω and πρόσσω < *$pŕ̥tsō$ < *$pŕ̥ti̯ō$;
– πρόσωπον 'face' < *$pr̥ti̯ōk^wo$-.

11 It is not directly relevant from which dialect the forms with Epic *$r̥$ come; the key point is that they are retained archaisms. There are two basic scenarios: (1) the epic tradition was an affair of Ionian singers throughout the Dark Ages, reaching back to a time before the vocalization of *$r̥$ in the Proto-Ionic vernacular (*terminus ante quem*: 11th c. BCE); (2) the tradition evolved in Achaean and Aeolic environments in the early Dark Ages (retaining *$r̥$ in traditional lexemes and formulas) and then underwent an Ionicization at some time after the vocalization of *$r̥$ in the Proto-Ionic vernacular.

12 But not by a *following* labial consonant, as appears from τράπεζα.

13 A conditioned reflex of syllabic liquids after labials or labialized consonants is phonetically natural and has plausible parallels in various other Indo-European languages: cf. Balto-Slavic *ul, ur* after labiovelars beside *il, ir* elsewhere (Kortlandt 2007, following Vaillant) and Indo-Iranian *ūr* from *$r̥H$, *$l̥H$ after labiovelar and labial stops, as against *īr* elsewhere.

The metrical behavior of the prepositions πρό 'forth; forward' and πρός 'towards' (and the corresponding preverbs) presents difficulties. The preform of πρό clearly did not have a syllabic liquid, but as I will argue below, at least the form προκείμενα (attested in an old formulaic verse) reflects **pr̥-*, the zero-grade underlying παρ-. Moreover, I will argue that πρός and frequent compounds like προσηύδα 'said (s)he' might well reflect prevocalic **pr̥tḭ-*, rather than **protḭ-*. An important argument for this claim is the vocalism of Cretan πορτι (and more distantly Hitt. *-parza* '-wards'), which points directly to **pr̥ti*. The other arguments are more intricate and will be discussed below. The evaluation of πρός and προσ- is important because together they are responsible for 240 instances (i.e. over one third of all instances) of *McL* scansion in Homer.

The new scenario also enables us to account for forms such as ἤμβροτον, which have -ρο- < **r̥* but no *McL* scansion. As I will elaborate below, the following examples can be added to the plausible evidence for Epic **r̥*:

– Ἀφροδίτη < **Aphr̥dītā-*;
– πρόξ 'deer' < **pr̥k-*;
– ῥόδον 'rose' < **u̯r̥do-*.

There is, of course, potential counterevidence to the scenario just proposed. First of all, the following two Homeric words have -ρα- after a labial consonant: βραχίων 'upper arm' and ἔπραθον 'to destroy, pillage'. The etymology and reconstruction of βραχίων are problematic, as we have seen in section 6.9.5.[14] As for ἔπραθον, although this is a typical epic form and an archaism, its *a*-vocalism can be explained by analogical influence of other thematic aorists like ἔτραπον, ἔδραμον, as I will argue in section 8.4. The aorist ἤμβροτον did not undergo this influence, but that may have various reasons: unlike the other thematic aorists with -ρα- it had a disyllabic root, and its present ἁμαρτάνω has a different stem formation compared to the thematic root presents πέρθω, δέρκομαι, τρέπω. Moreover, the form was not completely obsolete: ἄμβροτον actually existed in the Lesbian vernacular (cf. αμβροτην), and poets aware of this fact may have felt less inclination to reshape the form.

Another group of potential counterexamples has -ρο- < **r̥* or *McL* scansion after non-labial consonants. In some cases, the vocalism may have been analogically influenced by similar forms or formations: in ἀνδροτῆτα, for instance, we should reckon with the possibility that the *o*-vocalism was introduced from compound formations with ἀνδρο- < **anr-o-*, with a linking vowel *-o-*. Other potential pieces of counterevidence are θρόνος, Κρόνος and Κρονίων; they

14 Possibly, βραχίων originated as a sobriquet in **-īu̯on-* based on the adjective βραχύς, as suggested by Ruijgh.

involve specific problems that will discussed in more detail below. Anticipating these discussions, I find no compelling reason to doubt the possibility of a special outcome -ρο- < Epic *$r̥$ conditioned by preceding labial consonants.

7.2.1 *βροτός*

The pre-form underlying βροτός 'man; mortal', *$mr̥tó$-, is presupposed also by Arm. *mard* 'man; human being'. This may perhaps point to a common innovation of Greek and Armenian (*GEW* s.v. βροτός; Lamberterie 1997: 73).[15] In Greek, from Homer onwards, βροτός clearly belongs to a poetic register. However, as was noted by McDevitt (1967) and Heubeck (1970), the oldest attested reflex of *$mr̥tó$- is attested epigraphically as μροτός, without epenthetic -β-. Barnes (2011) collected further evidence for this form μροτός in inscriptions from the archaic period, noting that it occurs in three different dialect areas (Italian colonies, Thessaly, Insular Ionic) and that they "are among the earliest inscriptions from their respective areas." (2011: 10).[16]

From these facts, combined with the absence of compelling Mycenaean evidence, Heubeck already concluded that the *b*-epenthesis in *-mr-* may well have been a relatively recent phenomenon. Indeed, this development, being phonetically natural, may well have occurred independently in different dialects at different times; the retention of -μρ- in isolated pockets, as a shared archaism, would be unsurprising. Heubeck also states that the *terminus ante quem* for the epenthesis was the formative period of the epic language, the argument being that this language took over the Aeolisms βροτός and ἄμβροτος, which already display the outcome of the sound change. This presupposes, however, that epic forms could not undergo further phonological developments after they had entered the epic language, which is not certain at all.

In fact, taking into account the appellative form μροτοισιν from Naxos (*CEG* 402, 7th c.), it seems quite possible that onset /mr-/ was still current in the epic tradition when the *Iliad* was composed.[17] A prolonged retention of such onsets

15 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).

16 μροτοισιν (*CEG* 402, Naxos, 7th c.), Κλεομροτος (Dubois 2002: 23 ff., bronze tablet dedicated by an Olympic victor from Sybaris and dated to appr. 600 BCE), Σωμροτιδας (name of a physician in Megara Hyblaea, an Achaean colony in Magna Graecia, *IGDS* 22, ca. 550 BCE), Φιλομροτος (*SEG* 24.405, Pelasgiotis, early 5th c.), and with a different root cf. also Μροχο I*h*ερ[ογ]ενεα (woman's name from Perrhaebia, *SEG* 24.406, first half 5th c.).

17 A comparable case is the distinction between /ǣ/ and /ē/, which is never made in the available textual evidence for Homer, but is preserved in the orthography of a 7th c. hex-

may also help us account for the word-internal reflex -βρ- (fairly consistently spelled this way in the manuscripts) in forms like ἀβρότη, ἀμφιβρότη, ἀβροτάξομεν. Mühlestein (1958: 226) called these forms "Notlösungen" that were created in order to avoid the metrically problematic outcomes of the sound change with -μβρ-. However, the outcome of /mr/ may have depended on its syllabification: heterosyllabic /m.r/ (the default rendering) or tautosyllabic /.mr/ (the artificial rendering of vocalized Epic *ϱ̥). As an onset, /.mr/ apparently developed into βρ, possibly after the completion of the *Iliad*.

Let us now consider the use of βροτός in the Homeric hexameter. Table 15 shows the number of attestations of the different case forms, adding remarks about their localization and occurrence in formulae. Among the forms with a second syllable that is long by nature, βροτοῖο, βροτούς, βροτῶν and βροτοῖσι(ν), only the gen. pl. and dat. pl. are frequently used. Both have their own preferred position in the line: βροτοῖσι(ν) is verse-final on 24 of 28 occasions, βροτῶν directly follows $|_T$ in 39 out of 44 cases. The localization of βροτοῖσι(ν) is expected for a form of this metrical structure, but the almost consistent use of βροτῶν after the third foot caesura 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 placement suggests that βροτῶν is an archaism.

Interestingly, the other case forms of βροτός (i.e. the entire singular and the nom. pl.) are always followed by a vowel, with epic correption of a final diphthong if applicable. That is, these forms are positioned in such a way that applying *McL* was not necessary: they normally occupy the thesis of the fourth or fifth foot.[18] There is only one exception: the verse αἶψα γὰρ ἐν κακότητι βροτοὶ καταγηράσκουσιν (*Od.* 19.360).[19] Taken together, they are less frequent in Homer (42×) than the gen. pl. and dat. pl.[20] In sum, *McL* scansion in βροτός was avoided in early Greek epic whenever the word shape allowed this.[21]

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ameter inscription from Naxos (the Nikandre inscription). This suggests that phonological distinctions in Homeric Greek may still have been lost after the fixation of the text of the epics, whenever one wishes to date this.

18 Compare the localization of the indicative forms of the thematic aorist (chapter 8).

19 In early Greek epic after Homer, we also find the verse ends βροτὸν κρατερόν τε μέγαν τε (*Scut.* 106) and οὔ τι βροτοὶ κείρουσι σιδήρῳ (*h. Aphr.* 268). In these cases, βρ- directly follows the trochaic caesura, the traditional and usual place of the gen. pl.

20 The picture in *Theogony* and *Works and Days* taken together is similar: the gen. pl. and dat. pl. (9×) account for more than half of the attestations of βροτός (16×).

21 The high frequency of *McL* scansion in forms of βροτός, θρόνος and Κρόνος clearly stands out when we compare the number of occurrences of this license in thematic nominal forms of the same rhythmical structure (*CLVCo-*) in Homer. In such forms, the license

TABLE 15 Pattern of attestation of βροτός in Homer

Case	Form	##	Formulaic behavior
nom. sg.	βροτός	16	5× verse-final βροτὸς ἄλλος; otherwise no fixed position
acc. sg.	βροτόν	6	5× before $\|_B$, of which 2× βροτὸν ἄνδρα 1× verse-final βροτὸν ἄλλον (*Il.* 2.248)
gen. sg.	βροτοῖο	1	σῆμα βροτοῖο $\|_T$ (*Il.* 23.331)[22]
gen. sg.	βροτοῦ	1	$\|_T$ βροτοῦ ἀνέρος (*Il.* 18.85)
dat. sg.	βροτῷ	4	always before $\|_B$; 3× βροτῷ ἀνδρί
nom. pl.	βροτοί	15	οἷοι νῦν βροτοί εἰσ' $\|_P$ (4× *Il.*) ὅσσοι νῦν βροτοί εἰσιν $\|_T$ (1× *Od.*) verse-final βροτοὶ ἄλλοι (3× *Il.*)[23]
acc. pl.	βροτούς	1	$\|_T$ βροτούς (*Il.* 24.464)
gen. pl.	βροτῶν	44	39× after $\|_T$[24]
dat. pl.	βροτοῖσι(ν)	28	24× verse-final; 4× before $\|_T$[25] δειλοῖσι βροτοῖσι(ν) (6×) θνητοῖσι βροτοῖσι(ν) (3×, also Hes., *hymns*)

The relic status of dat. pl. βροτοῖσι(ν) is confirmed by its place in the system of formulae for 'mortals' or 'human beings', which is as depicted in Table 16 on the next page (cf. Parry 1971: 114–115). In the gen. pl., ἀνθρώπων (96× Hom.) is frequent in verse-final position (61×), notably in the formulae μερόπων ἀνθρώπων and (κατα)θνητῶν ἀνθρώπων. In the dat. pl. (38×), we find the spondaic

appears to be exceedingly rare. On a total of 111 instances, it is applied only three times: the first half-lines ὡς μεμνέῳτο δρόμους (*Il.* 23.361), ἀρνειούς τε τράγους τε (*Od.* 9.239), οὐδὲ τροφοῦ οὔσης (*Od.* 19.489).

22 Cf. σῆμα βροτοῖσιν in the same position (*Il.* 13.244), one of the few cases where the dat. pl. does not stand in verse-final position.

23 Only in the verse νύκτα δι' ὀρφναίην (ἀμβροσίην), ὅτε θ' εὕδουσι βροτοὶ ἄλλοι, which occurs twice in the *Doloneia* and at *Il.* 24.363.

24 The other 5 instances may be modifications: *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.

25 Of these 4 instances, 2 identical verses have θνητοῖσι βροτοῖσιν (*Od.* 3.3 and 12.386), a phrase which also occurs in verse-final position (*Od.* 7.210, 3× Hes. *Th.*) and is an inflected form of θνητῶν ἀνθρώπων. The same holds for μερόπεσσι βροτοῖσιν beside the frequent μερόπων ἀνθρώπων.

TABLE 16 Verse-final Homeric NPs meaning 'men, mortals' in gen. and dat.

Position after	Dative plural	Genitive plural
|B	ἀνθρώποισιν (12×)	
|H	δειλοῖσι βροτοῖσιν (6×)	μερόπων ἀνθρώπων (10×)
		θνητῶν ἀνθρώπων (9×)
|T	ὀϊζυροῖσι βροτοῖσιν (2×)	καταθνητῶν ἀνθρώπων (7×)
		ἐπιχθονίων ἀνθρώπων (5×)

clausula ἀνθρώποισι(ν) (12×), but there are no extended epithet plus noun formulae ending in ἀνθρώποισι(ν). Instead, the normal dat. pl. form of 'mortals' used in formulae is βροτοῖσι(ν): the accompanying traditional epithets are δειλοῖσι and ὀϊζυροῖσι, both meaning 'miserable' *vel sim.*

Whether βροτός entered the tradition from Aeolic or a Mycenaean-like dialect is not all-important. I propose that an early stage of the epic tradition inherited the pre-form **mr̥tó-*. At that point, the root syllable could be localized in the first or second thesis syllable (only the second option was available for forms ending in -ῶν, -οῖσι(ν), etc.). After the development of Epic **r̥* to -ρο-, using the forms βροτοῖο, βροτούς, βροτῶν, βροτοῖσι(ν) required applying *McL*, but in the other case forms *McL* was avoided as far as possible: their root syllable was henceforth placed exclusively in the first thesis syllable.

A final interesting detail concerns the word-ends preceding forms of βροτός. 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).[26] This low incidence of position length may be another remnant of the pre-form **mr̥tó-*, as with κραδίη (sections 6.1 and 6.8.2).[27]

7.2.2 *ἀσπίδος ἀμφιβρότης and the Compounds in -(μ)βροτος*

Let us now consider the use of βροτο- in compounds, in order to see whether this can be reconciled with the idea that the word entered the tradition in the form **mr̥tó-*.

26 In ἐρίσσειε βροτὸς ἄλλος (*Il.* 3.323, *Od.* 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 -ν ephelcysticon.

27 Cf. also section 8.4.1 for a comparison between the prosodic behavior of κραδίη and κρατερός.

As a first compound member, βροτο- only occurs in βροτολοιγός (13×), epithet of Ares. In 5 instances the word occurs in the old formula |$_{P}$ βροτολοιγῷ ἶσο-Ἄρηϊ, which serves as a generic qualification of warriors in action. In 2 of these 5 instances βρ- is preceded by a word-final short vowel, but since the medial caesura intervenes, these are not necessarily to be seen as instances of position length. In 4 of the 8 remaining cases, βρ- lengthens a word-final short vowel by position, but since these cases are isolated in terms of formulaic language, the position length can be viewed as a natural consequence of the synchronic metrical structure of βροτολοιγός. Therefore, the option of position length in front of βροτολοιγός is not demonstrably old.

As a second compound member, βροτό- is more frequent. There are three Homeric compounds in -μβροτος: τερψίμβροτος, φαεσίμβροτος, and φθεισίμβροτος. In these forms a short vowel preceding -μβροτος is metrically long. These compounds surely have some antiquity, but they need not be very old: they are not an inalienable part of formulaic systems, and the type with a first member in -σι- is productive.[28] It is therefore conceivable that their creation post-dates the vocalization of Epic *r.[29]

To be contrasted with these compounds in -μβροτος 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: 167–168) 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.[30] Two objections can be advanced against this identification. First, as remarked by Tichy (1981: 32–33), the formula ἀσπίδος ἀμφιβρότης never explicitly refers to the "tower shield" in the *Iliad*: the context of some passages makes clear that it refers to a round shield.[31] Secondly, the actual use of ἀμφιβρότη does not favor the

28 The attestations are as follows. The second hemistichs τερψιμβρότου ἠελίοιο (*Od.* 12.269, 274) and φαεσιμβρότου ἠελίοιο (*Od.* 10.138) are unlikely to be very old, in view of the epic correption of -ου in combination with the genitive in -οιο. Furthermore, φαεσίμβροτος ἠώς (*Il.* 24.785) need not be an old noun-epithet formula, because ἠώς has an extensive traditional formulaic system with a different nominative form (see below). The other attestations are ἠέλιος φαεσίμβροτος (*Od.* 10.191), μάχη φθεισίμβροτος (*Il.* 13.339), and φθεισίμβροτον αἰγίδ' (*Od.* 22.297).

29 This is in accordance with Knecht (1946: 7–9), who thinks that φθεισίμβροτος, τερψίμβροτος and φαεσίμβροτος are based on compounds in -ήνωρ: ῥηξήνωρ and in particular φθεισήνωρ.

30 Cf. *LfgrE* s.v. The so-called "tower shield" (σάκος ἠύτε πύργον) is associated with Ajax in the *Iliad*. According to archaeologists, it fell into disuse around 1300 BCE.

31 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'.

connection with the tower shield. Tichy argues that the first member ἀμφι- must mean 'around', because shields and other weapons are typically hung around a warrior's shoulders (1981: 33–34, with examples of Homeric phraseology). Thus, ἀμφιβρότη '[hung] around a man' may have referred to any shield and, as far as its meaning is concerned, could have been formed at any time.

This does not imply, however, that ἀσπίδος ἀμφιβρότης is a recent creation. Since *McL* scansion is avoided where possible in the simplex βροτός, the short scansion of -φι- in the compound ἀμφιβρότη is suggestive of a pre-form **amp^{h}i-mr̥tā-*.[32] Moreover, the explicit marking of feminine gender in ἀμφιβρότη, which is paralleled in νὺξ ἀβρότη (see below), is remarkable. Tichy remarks that compounds with a governing prepositional first member generally have no such marking, and she argues for an *ad hoc* creation of ἀμφιβρότη-.[33] However, her scenario requires a number of additional assumptions; in particular, it is unlikely that ἀμφιβρότη- was formed at a recent date, as Epic Greek disposes of a metrical alternative: the epithet εὔκυκλος 'well-rounded' (5×, once in gen. ἀσπίδος εὐκύκλου *Il.* 5.797). This clearly shows that ἀσπίδος ἀμφιβρότης is an archaic formula that was in the process of being replaced.

It is therefore highly probable that the syllabification of ἀμφιβρότη continues that of a pre-form **amp^{h}i-mr̥tā-*. Whereas other compounds in -(μ)βροτος were created after the noun had acquired a phonological form /mroto-/, the relic form **amp^{h}imr̥tās* was automatically syllabified as /am.p^{h}i.mro.tās/ when Epic **r̥* was vocalized. The feminine gender marking in a compound may well be an archaism, too.[34]

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32 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). In addition, note that in ἀμφιβρότη- the PL-onset is word-internal.

33 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 a metrically conditioned secondary creation beside the ubiquitous masculine ἀντίθεος (60× Hom.), Tichy proposes to explain ἀμφιβρότη- as a recent hypostasis of a phrase ἀμφὶ βροτῷ. It would have assumed the gender marking of other compounds with ἀμφι- (e.g. ἀμφιρύτῃ, in her view a "Zusammenrückung") and of other feminine modifiers of ἀσπίς.

34 While finishing the final manuscript, I discovered the proposal of Bernabé (1998) that Homeric ἀμφιβρότη- reflects the Mycenaean term *a-pi-qo-to*, which qualifies *to-pe-za* 'table'. According to Bernabé, the common feature of these tables and the Homeric shields is their eight-figured shape, and the adjective would refer to this shape. Bernabé analyses the Mycenaean form as a compound with the root of βαίνω, assumes that the expected outcome *ἀμφιβοτο- was transformed by folk etymology into *ἀμφιβροτο- in the epic tradition, and that the marking of feminine gender was also a secondary development of Epic Greek. In my view, the etymological connection with βαίνω remains conjectural. I do

7.2.3 *ἄμβροτος, ἀμβρόσιος and νὺξ ἀβρότη*

The adjective ἄμβροτος 'immortal; refreshing' continues an inherited formation: like Ved. *amṛ́ta-* 'immortal', Av. *aməša-* 'id.', Lat. *immortālis*, it reflects PIE **n̥-mr̥to-*. The only possible metrical trace of the pre-form PGr. **ámr̥to-* is the phrase νὺξ ἀβρότη (*Il.* 14.78); in all other instances of ἄμβροτος (20×) and also ἀμβρόσιος (37×), **-mr-* has a heterosyllabic reflex.

At first sight, this distribution seems to imply that ἄμβροτος and ἀμβρόσιος entered the tradition from Aeolic in exactly these forms, with the reflex -ρο- in place. However, it must be taken into account that dactylic ἄμβροτος may also directly reflect the rhythmical structure of **ámr̥tos*. Like PGr. nom. pl. **anéres* 'men', **ámr̥tos* was a tribrachic form before vowels. Moreover, like acc. sg. **anéra*, the n. pl. form **ámr̥ta* (which occurred in formulaic phrases: Hom. ἄμβροτα εἵματα and ἄμβροτα τεύχεα followed by a verbal form at verse end) was tribrachic before consonants. Therefore, in an earlier stage of Epic Greek, anapestic **anéres* and **ámr̥tos* (before consonants) would have competed with metrically lengthened dactylic forms like **ānéres*, **ā́mr̥tos* (before vowels) and **ānéra*, **ā́mr̥ta* (before consonants).[35] In the case of Hom. ἀνέρες, all instances without metrical lengthening were replaced by the secondary form ἄνδρες (the only form to survive in first millennium Greek). However, thanks to the preservation of ἀνέρες with metrical lengthening, we can infer that metrically lengthened **ā́mr̥tos* would have occurred (especially in the neuter plural) if and when this word still had **r̥*.

Similar considerations hold for the precursor of ἀμβρόσιος, which must have coexisted with that of ἄμβροτος at an early date.[36] This adjective could only be used with a metrically lengthened first syllable, i.e. **āmŕ̥sio-* (cf. the metrical lengthening in ἀθάνατος 'immortal'). It stands in for impracticable case forms of ἄμβροτος ending in long vowel (or diphthong) plus consonant, as in ἀμβροσίην διὰ νύκτα, but is also used before consonants in most of the masculine forms, e.g. ἀμβροσίου διὰ πέπλου (*Il.* 5.338). The availability of both ἀμβρό-

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wonder whether the Mycenaean and Homeric forms (if Bernabé's identification is correct) could reflect **amp^{h}i-g^{w}r̥to-*, even if this would leave the etymology of the second member unknown.

35 Cf. section 1.5.3 on metrically lengthened ἀνέρες.

36 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 means not only 'refreshing' (like ἀμβρόσιος), but also 'immortal' in the phrase θεὸς ἄμβροτος (4×, nom. and acc. sg.), and only here (cf. West 2007: 127). This difference is obviously due to the metrical equivalence of ἀμβρόσιος and ἀθάνατος, which caused the meaning of ἀμβρόσιος to be restricted to 'refreshing' (*vel sim.*).

σιος and ἄμβροτος may have contributed to the elimination of phrases like νὺξ ἀβρότη, which were already disfavored after the vocalization of Epic *ṛ (due to the avoidance of *McL*).[37]

Thus, my scenario is as follows. The forms **ámṛto-* and **āmṛ́sio-* were restricted to poetry and unknown to the Proto-Ionic vernacular (or to any other vernacular of the Dark Ages). When Epic *ṛ vocalized, they yielded **ámroto-* and **āmrósio-*. These forms were then automatically shortened to *ámroto-* and *amrósio-*, either because the metrical lengthening was cancelled once it had become superfluous, or regularly by Osthoff's Law.[38] They eventually appear in our Homeric texts as ἄμβροτος and ἀμβρόσιος.

In view of this systematic alternation between ἄμβροτος and ἀμβρόσιος, there would have been no need to create a phrase νὺξ ἀβρότη. It requires a scansion of the cluster βρ that was not only avoided in the simplex βροτός, but also very rare in word-internal position generally. Moreover, νὺξ ἀβρότη has explicit morphological marking of feminine gender. The claim that ἄμβροτος is an adjective of two endings in Homer is based only on one single instance (νὺξ φθῖτ' ἄμβροτος, *Od.* 11.330), and the absence of feminine marking is synchronically expected in a Greek compound. It is not obvious at all, then, that νὺξ ἀβρότη is secondary with respect to νὺξ … ἄμβροτος: it is much more plausible that the aberrant scansion, phonology, and morphology of ἀβρότη represent an archaism.

A different reasoning was applied by Tichy (1981: 34–37), who argued that the phrase νὺξ ἀβρότη is a nonce formation. Her 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 marking from a co-occurring simplex. (3) In νὺξ ἀβρότη, this explanation is impossible because the simplex βροτός uses the same form for masculine and feminine. (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 was indeed a nonce formation at *Il.* 14.78 (replacing the regular nom. sg. form ἀμβροσίη νύξ), a motive for its creation must be indicated.

37 In Homer, we find the phrases ἀμβροσίη νύξ (*Od.* 4.429 and 574, 7.283), νὺξ … ἀμβροσίη (*Il.* 18.268–269), ἀμβροσίην διὰ νύκτα (*Il.* 2.57), and νύκτα δι' ἀμβροσίην (*Il.* 10.41 and 142, 24.363, *Od.* 9.404, 15.8). See *Comm. Il. ad* 14.78.

38 The same environment is found in Ion. μεσαμβρίη 'mid-day' (Att. μεσημβρία with analogical -η- after the base word, cf. Peters 1980: 256). That **ámṛton* ends up as ἤμβροτον 'I missed' may be due to a productive (re)introduction of the augment.

In Tichy's view, the reason would be that the poet wanted to insert the idea 'immortal night' before the continuation ἤν καὶ τῇ ἀπόσχωνται πολέμοιο / Τρῶες "if even then the Trojans refrain from war" (tr. Wyatt 1999). 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 highly speculative. Although Tichy does show that the following phrase ἤν καὶ τῇ 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 the phrase νὺξ ἀβρότη. Moreover, the possibility of a proportional analogy based on ἀμφιβρότη : φαεσίμβροτος is not evident either, as this pair contains two different types of compounds (prepositional compound vs. V1 compound), whereas the stem of ἀβρότη is merely a phonological variant of that of ἄμβροτος. Finally, precisely in view of νὺξ … ἄμβροτος as used in the *Odyssey*, it is hardly comprehensible why the poet would have preferred νὺξ ἀβρότη, a form with explicit gender marking, over *νὺξ ἄβροτος.

In conclusion, it seems likely to me that the feminine ἀβρότη represents a relic form **amr̥tā*. It is conceivable that νὺξ ἀβρότη is an old runover formula stretching from the beginning of the line to the trihemimeral caesura. However, some caution is necessary because we are dealing with a *hapax*.

7.2.4 *ἀβροτάξομεν and ἤμβροτον beside ἁμαρτεῖν*

The aorist ἤμβροτον 'missed' can be analyzed as the direct reflex of **ámr̥ton* within Epic Greek. It is a clear example in favor of the conditioned change posited here; for a more detailed treatment, see section 8.2.2.

The form ἀβροτάξομεν[39] is used only once, by the author of the *Doloneia*,[40] when Agamemnon speaks to Menelaus:

> αὖθι μένειν, μή πως ἀβροτάξομεν ἀλλήλοιιν
> ἐρχομένω· πολλαὶ γὰρ ἀνὰ στρατόν εἰσι κέλευθοι
> *Il.* 10.65–66

39 As argued in section 7.2.1, given the 7th c. Naxian form μροτοισιν I consider it plausible that Homer still pronounced **-mro-*; this also holds for the author of the *Doloneia*. The change into -βρο- for phonotactic reasons (still preserving the metrical structure) took place within the post-Homeric rhapsodic tradition. Throughout her article, Tichy cites the form as ἀ(μ)βροτάξομεν, even if the v.l. ἀμβροτάξομεν is "nur schwach bezeugt" (1981: 31), namely in West's ms. H (Vindob. phil. gr. 117, 13th c.). It is therefore better to render the form as 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*.

40 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; a more recent treatment is Danek 2012).

> Stay there, lest by chance we miss each other as we go: for many are the paths throughout the camp.
>
> tr. WYATT 1999

Morphologically, ἀβροτάξομεν is a short vowel subjunctive of the *s*-aorist. The stem ἀβροταξ- is based on an extension of the root of ἁμαρτεῖν 'to miss, fail'; it could be a denominative in -άζω to an abstract noun **amr̥tā-* 'fault'. The velar in the suffix -αξ- has been viewed as an 'Achaean' element of Epic Greek (cf. Ruijgh 1957: 71–89),[41] and seen from this perspective the form ἀβροτάξομεν would contain a metrical and phonological trace of the pre-form **amr̥táksomen*.

It is difficult, however, to identify the dialectal origin of ἀβροτάξομεν. Therefore, Tichy (1981: 64), in her crusade against the idea that Homeric forms with -ρο- and *McL* may be the direct reflexes of older forms with a syllabic liquid, tried to explain away ἀβροτάξομεν as an artificial epic "Streckform".[42] She correctly points out (1981: 37–38) that a putative 1pl. subj. of the Aeolic aorist stem, *ἀμβρότωμεν, could not be used in hexameter verse, and she agrees that the suffixation in -αξ- is "völlig abnorm". In my view, the conclusion to be drawn from these points is simply that ἀβροτάξομεν is an archaism. Since the suffixation -αξ- cannot have been made productively in Ionic or in Epic Greek, the

41 The innovative velar in the sigmatic stems of verbs in -άζω and -ίζω is found in all of West Greek and is also found in Arcadian, and parts of Boeotian and Thessalian. However, in Boeotian and Thessalian the feature may be due to contact with West Greek. Moreover, in spite of West (1988: 167–168), it is unlikely that early Greek Epic structurally contained West Greek elements. Therefore, the only option entertained by Ruijgh is an 'Achaean' origin of the velar flexion. However, against what I said about this earlier (Van Beek 2013: 201), I now think that this idea cannot be proven: for criticism, see e.g. Wathelet (1970: 307–308) and Peters (1986: 308 n. 20).

42 "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. 37–38). 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. In Berg's proto-hexameter, a trochaic sequence like ἀμβρο- could be placed at the beginning of an original verse-final pherecratean. However, even if one were inclined to accept this theory (which I am not: see section 1.5.3), there is no basis whatsoever for the assumption that ἀβροτάξομεν ἀλλήλοιιν replaced an earlier *ἀμβρότωμεν ἑταίρων. As Tichy herself admits, no clear inner-epic model can be indicated for the assumed replacement of *ἀμβρότωμεν with ἀβροτάξομεν. Thus, Tichy's scenario explains neither the morphological nor the metrical problems posed by ἀβροτάξομεν.

form must have originated in another dialect, and at a time when it preserved *-*r̥*-.[43] Thence, it entered the tradition in the shape **amr̥táksomen*. The reflex -βρο- < *-*mro*- < *-*mr̥*- is due to the vocalization of Epic **r̥*, with an artificial retention of the syllabification /.mro/. The genitive dual form ἀλλήλοιιν following ἀβροτάξομεν may corroborate the antiquity of the hemistich: note that 4 out of 7 instances of ἀλλήλοιιν at verse end are preceded by a verb form in the dual (ὀαρίζετον, ἐριδαίνετον, ἐρίζετον, ξυμβλήτην); this is relevant because dual forms tended to be replaced by plurals when metrically possible.

In view of its morphological, phonological and metrical deviations, ἀβροτάξομεν is very probably a real archaism. Having said that, it must not be forgotten that the form is a *hapax*, and that we do not know in which dialect it was coined.

7.2.5 *πρός, πρόσω and πρόσωπον*

The reconstruction of πρός, προσ- 'towards, against, by; in addition' and related forms presents several problems. The three Homeric forms are πρός, προτί, and ποτί. In the dialects, we find πρός (Ionic-Attic, Lesbian), *po-si* (Mycenaean), ποος (Arcado-Cyprian), ποτι (Thessalian and Boeotian), πορτι (Cretan), and ποτι, ποτ, ποι in other West Greek dialects.[44] On this basis, we can reconstruct neither a common South Greek form, nor a common North Greek one. It therefore seems that Proto-Greek had at least two forms, traditionally reconstructed as **poti* and **proti* and considered to be etymologically distinct.[45] The same duality is found in Indo-Iranian: Vedic *práti* 'against, towards, etc.' stands against Avestan *paiti* 'against, towards; also' and other Iranian forms.

That PGr. had a preposition **poti* is beyond doubt. The reconstruction PGr. **proti*, however, is subject to two problems. First, such a pre-form does not account for Cret. πορτι except if we are prepared to assume an irregular liq-

43 This dialect *may* have been Mycenaean, but we do not have sufficient information to determine this.

44 The often-cited Argolic form προτι is a mirage (cf. Wyatt 1978: 89 n. 1). In view of our insufficient knowledge of the prehistory of Pamphylian, it would be unwise to use the form περτ' (also as a preverb in περτεδωκε, see Brixhe 1976: 61) for purposes of reconstruction (cf. section 3.5). I also leave out of consideration the forms πρές 'in addition' (cited as Aeolic in Joh. Gramm.) and πρέσβυς 'elder' (Hom.+), which have a different meaning compared to πρός. If πρές and πρέσβυς derive from PGr. **préti*(-), the root 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*. The coexistence of PIE **préti* and **pr̥ti* (on which see below) can be motivated by assuming that they were the orthotonic and clitic forms, respectively, of the same adverb.

45 Thus e.g. Janko (1979), *GEW* and *DELG* (both s.v. πρός). The view that **poti* derives from **proti* by dissimilation (against another /r/ in certain syntagms, e.g. **proti derḱ-*, **proti preḱ-*, cf. Dunkel, *LIPP* II, 660 with lit.) seems unlikely to me.

uid metathesis; however, as we have seen in section 3.1.2, the Cretan form is best explained from **pr̥ti*. Secondly, the evidence for *McL* scansion in Homeric πρός, προσ- and especially in πρόσω and πρόσωπον offers further support for a reconstruction **pr̥ti*.[46] Another form reflecting **pr̥ti* is the Hittite adverb *-parza* '-wards' (see *EDHIL* s.v.). Indeed, the existence of ablauting zero grade forms, probably reflecting an original difference between orthotonic and clitic forms, is not unexpected in a local adverb (cf. Myc. *o-pi* beside alph. Gr. ἐπί).

With the Argive attestation gone, the only direct evidence for PGr. **proti* is apparently Homeric προτί.[47] It is therefore of the utmost importance to analyze the distribution between προτί, ποτί, and πρός in Homer. The two main analyses of the metrical behavior of these forms in Homer are Wyatt (1978) and Janko (1979). There are two basic ways in which προτί is used in the thesis: before vowel-initial words (e.g. formulaic προτὶ ἄστυ and προτὶ Ἴλιον),[48] and as a metrical variant of ποτί used in order to cause position length of a preceding short vowel, e.g. ὀρωρέχατο προτὶ δειρήν (*Il.* 11.26). In all other cases before an initial consonant, ποτί was the default choice, e.g. in the formula Διὸς ποτὶ χαλκοβατὲς δῶ (*passim*). When position length in the arsis is required, ποτί was always used, e.g. στάντε ποτὶ πνοιήν (*Il.* 11.622); the only exception is τὴν δὲ προτὶ οἱ (*Il.* 21.507), where the rule is apparently trumped by the demand that προτί is to be preferred over ποτί before vowels. There are a few other peculiarities and exceptions, but by and large the distributions just given hold good.

Since the use of προτί to create position length is rare and can be easily explained as secondary, Wyatt claimed that προτί originated as a metrical replacement of πρός:[49] πρὸς ἄστυ would have been changed into προτὶ ἄστυ after the loss of initial digamma, in order to repair the meter. Janko (1979) turns

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46 The derivation of Hom. πρός from prevocalic **pr̥t̥-* is not contradicted by the possibility that ἔρρω 'to get lost' reflects **u̯ert̥i̯ō* (Forssman 1980), because in the latter form, /r/ was non-syllabic. Furthermore, Myc. *po-si* 'in addition' is commonly interpreted as /posi/ in view of Arcadian πος, but it cannot be excluded that the underlying form is /pr̥si/ or /porsi/ < **pr̥ti*. Some earlier scholars have suggested /porsi/ as a possibility (see *DMic.* s.v. *po-si*), but they accounted for this form by means of liquid metathesis operating on a pre-form **proti*.

47 The Ionic-Attic vernacular form πρός can be explained as 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 (apart from Wyatt, see e.g. Risch 1955, Janko 1979).

48 Meister (1921: 256) already drew attention to the fact that most instances of vowel-initial words following προτί had **u̯-*.

49 Wyatt concludes: "*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).

the argument around, claiming that προτί before words with *ϝ- is an archaism that was not replaced by πρός because digamma had already been lost when the opportunity of replacement arrived. Against what I wrote in Van Beek 2013, I now think that Janko's position is partly correct, in the sense that προτί is an archaism that was not replaced by πρός because this would have introduced prosodic issues. One of the problems with Wyatt's account is that one would expect *ποτὶ ἄστυ as the default form if προτί was indeed an artificial expedient. It is more plausible that the frequent phrases προτὶ ἄστυ and προτὶ Ἴλιον were left unchanged because they were traditional.

If so, is the form προτί itself necessarily old? A reason for doubting this is the structural *McL* scansion of Homeric πρός. As already observed in section 6.5, the metrical behavior of πρός is different from that of πρό: πρός / προσ- frequently undergoes *McL* scansion (240×, of which προσηύδα 163×), whereas the license is applied much more rarely with πρό / προ-.[50] Now, since Meillet (1913: 177) the Homeric scansion of πρός is widely explained by assuming that the Ionic vernacular form πρός replaced an earlier epic form *πός (the prevocalic sandhi variant of ποτί) that is known also from Arcadian. Although this view is widely accepted,[51] there are several problems with it.

First of all, the replacement of an older *πός does not account for the *McL* scansion of isolated words with πρόσ-, namely πρόσωπον, πρόσωπα 'face' (10×, of which 6× verse-final) and πρόσω 'forward' (5×). According to its surface form, πρόσω should be used before vowel-initial words (with epic correption), occupying the two thesis syllables, but as a matter of fact it is never so used in Homer. Moreover, the form πρόσσω was available as a metrical alternative (it occurs in the old verse-final formula πρόσσω καὶ ὀπίσσω, 4× Hom.). There was, in other

50 See Janko (1979: 24) for numbers. In his count, *McL* scansion before πρό or προ- occurs 7× *Il.* (3.8% of all cases where a short vowel precedes πρό) and 2× *Od.* (2.3%). The figures for *McL* scansion before πρός / προσ-, 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 (on this word, see section 7.2.7). As far as I can see, he included only the following cases: |$_{T}$ πρὸ ἄστεος (2× *Il.*, 2× *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 forgot to count |$_{T}$ προήκεα (*Od.* 12.205), προΐκτης (2× *Od.*). It is noteworthy that in most of these cases, *McL* scansion before πρό occurs in combination with a preceding trochaic caesura. This may suggest that *McL* scansion before πρό was originally completely avoided in Epic Greek, and that the license could spread due to |$_{T}$ προκείμενα and |$_{T}$ προσηύδα. Pointing to the higher absolute frequency of the license before πρό in Hesiod (*Th.* + *Op.*), Janko, too, concludes: "We may presume that the licence spread by analogy with πρός: Hesiod's diction is as usual more advanced than Homer's".

51 Cf. Wathelet (1966), Wyatt (1978), Janko (1979), Miller (1982: 87 f.), West (1988).

words, no necessity to apply *McL* in πρόσω. Note that in πρόσσω, πρ- may make position length and is therefore metrically secure. Moreover, the Attic vernacular form πόρρω 'further', whatever its precise explanation, requires a pre-form containing **r*.[52] As for πρόσωπον, assuming a pre-form *πόσωπον also leads into trouble. The cognate forms Ved. *prátīka-* n. 'face' < **pré/óti-h₃kʷ-o-* and Toch. A *pratsak*, B *pratsāko* 'breast' confirm that the pre-form contained an *-r-*.[53] It can be excluded, therefore, that πρόσω and πρόσωπον replaced *πόσω and *πόσωπον.

In an attempt to explain *McL* in πρόσω and πρόσωπον without recourse to **r̥*, one would therefore have to assume that the forms πρόσω and πρόσωπον as such are old, but that these words did not enter the tradition until the moment when πρός, προσ- replaced *πός, *ποσ-. This assumption is difficult to reconcile with the actual use of πρόσωπα, which is mostly used in verse-final position (e.g. in the formula |B καλὰ πρόσωπα 3×) and even has an artificially extended form προσώπατα (2×) before the bucolic dieresis.[54]

Returning to Meillet's original assumption, it is true that obsolete forms were frequently replaced with metrically equivalent forms that were current in the poets' vernacular. However, this never happened if the replacement entailed a violation of metrical rules. In view of the poets' manifest reluctance to use *McL* scansion, it would be unclear why they permitted themselves to use this license with πρός, and on such a large scale. Furthermore, it is unlikely that *ποσ- would have been difficult to understand for an Ionian audience (as surmised by Wathelet), as it would be matched by ποτί just like πρός stands beside προτί.

Within the present framework, Meillet's replacement hypothesis turns out to be unnecessary as an explanation of *McL* in πρός. Monosyllabic πρός with *McL* before long vowels (as in προσηύδα) directly reflects **pr̥s* < **pr̥ti̯*, with the regular outcome of Epic **r̥* after a labial consonant.[55] Similarly, we may

52 The problematic relation between Att. πόρρω and Ion. πρόσω is discussed in section 9.3.

53 To be sure, in Vedic *prátīka-*, *pr-* could in theory be due to the influence of *práti-* (cf. Ved. *pratīpám* (adv.) 'against the current' beside Av. *paiti.āpəm* 'id.'), but Toch. A *pratsak*, B *pratsāko* 'breast' is isolated within that language, and confirms the PIE status of **pr-*. The Vedic word forms a near-perfect match with πρόσωπον if the proposal that unaccented **CiH₂/₃C* > Greek *Ci̯ā/ōC-* (Olsen 2009) is correct. The Tocharian word is usually reconstructed as PIE **prótih₃kʷo-*, with *a*-umlaut of the first syllable.

54 See Meister 1921: 23.

55 There was, in fact, probably a secondary expansion of Ionic πρός at the expense of ποτί and προτί < **pr̥ti-*. Janko (1979: 24–26) gives three arguments: (1) the high incidence of πρός in the thesis before a consonant; (2) the use of ποτί / προτί in the thesis before vowels, where the introduction of πρός was impossible or undesirable and προτί / ποτί was retained as

reconstruct πρόσω and πρόσωπον as PGr. **pr̥tḭ̯ō* and **pr̥tḭ̯ōkʷo-*, respectively. This seems to be the only plausible way to account for the consistent use of πρόσω with *McL* scansion in Homer, and for the occurrence of πρόσωπον in traditional epic material. The only forms that militate against this reconstruction are the vernacular forms Ion.-Att. πρός, Ion. πρόσω (Hdt., Hp.) and Ion.-Att. πρόσωπον. For these forms, however, a different explanation is available. We may assume that the vocalization of **pr̥tḭ̯-* > **pr̥s-* was influenced by the preverbs πρό and/or ποτί, yielding πρός. The existence of πόρσω, πόρρω 'further, forward' beside πρόσω confirms this scenario.

In sum, the epic tradition acquired the forms **poti* and **pr̥ti*, both inherited from Proto-Greek, and retained them even when all vernacular dialects had generalized one of both forms. There was probably once a semantic difference between both forms, but this was eventually lost in Homeric Greek. Prevocalic variant forms **pos-* and **pr̥s-* also developed, but of these **pos-* was completely ousted.[56] The forms **pr̥ti* and **pr̥s* yielded προτί and πρός by vocalization of Epic **r̥*; in the latter case this led to a merger with the vernacular form. In view of the frequency of πρός, this coincidence may well have been instrumental in making tautosyllabic scansion of plosive plus liquid more acceptable.

7.2.6 *πρόξ*

Another unexpected piece of evidence for the vocalization of Epic **r̥* might be the noun πρόξ (gen. προκός) 'deer'. The regular vowel slot of its root is περκ-, as attested in nominal derivatives like περκνός 'a bird of prey' (Hom.+) and περκάζω 'to ripen' (of grapes), which suggest that the root originally furnished a color adjective. We must also compare the glosses πράκες· (…) ἔλαφοι 'deer' and πόρκας· ἐλάφους (both Hsch.).[57] On the basis of these forms, Schindler (1972:

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an archaism; (3) the absence of πρός from the thesis of the fifth foot. I doubt whether the alleged rarity of irreducibly monosyllabic forms of πρός (another argument adduced by Janko) is convincing: in cases like verse-initial πρὸς Διός, with πρός in the arsis, the preposition may simply reflect **pr̥s-*, and the relative frequency of such cases is in fact not very low. Nevertheless, it seems certain that πρός secondarily replaced ποτί and/or προτί in the thesis before consonants.

56 It is uncertain from which dialect these forms came. Mycenaean would be a possibility for the assibilated form, given that *po-si* might reflect /pr̥si/ as well as /posi/. The unassibilated form ποτί, which is attested in Thessalian, might be a continental Aeolism.

57 Note that πόρκας· ἐλάφους 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 only if we assume analogical leveling of the full grade slot). As for πράκες, again without an indication of dialect, a West Greek origin cannot be excluded. For a discussion of other related forms (including πρακνόν· μέλανα 'black' Hsch.) see section 9.7.

34 and 36) reconstructed an ablauting root noun **porḱ-*, **pr̥ḱ-* that in his view developed as follows: **pork-*, **prak-* was changed into **prok-*, **prak-* and then levelled out as πρόξ. This series of analogies looks like an exercise on paper. Starting from a paradigm **pork-*, **prak-*, one expects either that one of both stems was levelled, or that **prak-* was changed into **park-* following the model of the full grade **pork-*.

It is not impossible to view πρόξ as an Aeolism, reflecting zero grade **pr̥ḱ-*, but this remains a guess. Given that the reflex -ρο- in this word occurs after a labial consonant, a different scenario must be taken seriously. Before the end of the Classical period, the noun πρόξ occurs only in the verse-end ἠδὲ πρόκας ἠδὲ λαγωούς 'both deer and hares' (*Od.* 17.295). The derived ᾰ́δ-stem προκάς occurs only in the phrase προκάδων ἀκόρητοι 'whose desire for deer cannot be satisfied' (*h. Aphr.* 71). It is therefore possible (and in my view attractive) to regard πρόξ and προκάδ- as the regular outcomes of pre-forms with **pr̥k-* in Epic Greek, the reflex -ρο- being conditioned by the preceding labial stop. The retention of Epic **r̥* in this word would have an obvious motivation: given that the normal word for 'deer' in Ionic-Attic was ἔλαφος, the root noun **pr̥k-* would be an archaism of Epic Greek.[58]

7.2.7 *προκείμενα*

An unexpected confirmation of an inner-epic phonological development "ρο < **r̥* after labial consonants" is furnished by the following formulaic verse, which is part of traditional typical scenes describing the preparation of a meal:

> οἱ δ' ἐπ' ὀνείαθ' ἑτοῖμα προκείμενα χεῖρας ἴαλλον
> 3× *Il.*, 11× *Od.*
>
> and they stretched out their hands to the ready-lying delicacies that had been served.

In Homeric Greek, the verb προκεῖμαι is attested only in this verse.[59] 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'.[60] Is it possible that Homeric προκεῖμαι originally belonged to the

58 The word was retained in other dialects, witness the glosses on πράκες and πόρκας just cited.

59 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.

60 Cf. the following instances: γρηῒ σὺν ἀμφιπόλῳ, ἥ οἱ βρῶσίν τε πόσιν τε παρτιθεῖ (*Od.* 1.191–

same verbal paradigm? In my view this is likely, for in the following illustrative passage, the verbal forms πάρθεσαν and προκείμενα, both referring to the serving of food, occur within one line's distance:

> ὣς φάτο, καί σφιν νῶτα βοὸς **παρὰ** πίονα θῆ**κεν**
> ὄπτ' ἐν χερσὶν ἑλών, τά ῥά οἱ γέρα **πάρθεσαν** αὐτῷ.
> οἱ δ' ἐπ' ὀνείαθ' ἑτοῖμα **προκείμενα** χεῖρας ἴαλλον
> *Od.* 4.65–67
>
> Thus he [Menelaus] 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 delicacies that had been served.

In view of such cases, it is attractive to regard προκείμενα as the regular inner-epic outcome of **pr̥-keimena*, with the older form **pr̥* of the preverb παρ-, παρα-. Note that παρά is probably an extended form of πάρ (i.e. πάρ is original and did not arise by apocope): cf. Van Beek (2018: 46–47 with n. 33) for further details.[61]

As a potential objection, on one occasion the aorist of προτίθημι in Homer seems to mean 'to serve as food'.[62] However, the context is rather atypical:

> ἢ ἔτι πὰρ νήεσσιν ἐμὸς πάϊς, ἦέ μιν ἤδη
> ᾗσι κυσὶν μελεϊστὶ ταμὼν προύθηκεν Ἀχιλλεύς
> *Il.* 24.409
>
> (Priam to Hermes:) whether my son is still by the ships, or whether Achilles has already chopped him up limb by limb and served him to the dogs.

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192), δαιτρὸς δὲ κρειῶν πίνακας παρέθηκεν ἀείρας παντοίων, παρὰ δέ σφι τίθει χρύσεια κύπελλα (*Od.* 1.141–142), τράπεζαν, τὴν ἧν οἱ παρέθηκεν (*Od.* 21.29), ἄρτους ἐκ κανέοιο δύω παρέθηκεν ἀείρας (*Od.* 18.120–121), καὶ δέπαϊ χρυσέῳ δειδίσκετο φώνησέν τε, σῖτον δ' αἰδοίη ταμίη παρέθηκε φέρουσα (*Od.* 1.139–140 and elsewhere).

61 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'.

62 Apart from this, προτίθημι appears once more in Homer: 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 the object of πρότιθεν in this phrase are tables, not comestibles.

This passage need not contradict the foregoing observations: it is difficult to exclude that προτίθημι has a more general meaning 'put forward' here; cf. the translation "threw him to the dogs" proposed by *LSJ* (s.v. I.1b.). Moreover, since Achilles is treating the dead body of Hector here, we must take into account that προτίθημι is the normal Greek verb for letting a deceased person lie in state (*LSJ* s.v. II.1).

Returning to the formula containing προκείμενα, a direct connection with παράκειμαι strongly imposes itself because that is the verb normally used in Homeric scenes describing the serving of a dinner. At the same time, after προκείμενα had come into being by the vocalization of Epic **r̥* in this formula, its retention is comprehensible: after all πρόκειμαι, though unidiomatic in this phrase, was a normal Greek word with a broad range of meanings. The case may be compared to that of the subjunctive τραπείομεν of τέρπομαι, a form whose distorted phonological shape was preserved exclusively in a relic formula (cf. chapter 6).

7.2.8 *Ἀφροδίτη*

The name of the goddess Ἀφροδίτη is attested in Classical Ionic-Attic from Homer onwards. Since its etymology is debated, there is uncertainty about the pre-form. Nevertheless, there are two reasons to include it in the present discussion.

First of all, its metrical and formulaic behavior. In view of its long ī, using Ἀφροδίτη in the hexameter automatically entails *McL* scansion of -φρ-,[63] and it is the only instance of word-internal *McL* with a large number of attestations in Homer. As we have seen in chapter 6, Homer incidentally makes use of *McL* to fit a word into the hexameter, but in other forms with -ρα- or -ρο- where *McL* scansion is regular and appears in large quantities, the pre-form usually contains **r̥*. For this reason, a pre-form **Apʰr̥dītā* deserves serious consideration.

Secondly, the formulaic system of which Ἀφροδίτη is part is suggestive of a considerable antiquity within the epic tradition. Of its 42 occurrences in Homer, 40 are in verse-final position; it always occupies verse-final position in Hesiod and the Homeric hymns. More importantly, Ἀφροδίτη has a system of name-epithet formulae, as shown in Table 17 (next page). An indication of the antiquity of this system is the resistance of the traditional and particularized epithet φιλομμειδής against a replacement by the generic epithet Διὸς θυγάτηρ.

63 For this reason, the name is also discussed by Wathelet (1966: 171–172).

TABLE 17 System of verse-final formulae involving Ἀφροδίτη

Case	Formula per metrical slot	Alternative formula
nom.	|$_{T}$ φιλομμειδὴς Ἀφροδίτη[64]	|$_{T}$ Διὸς θυγάτηρ Ἀφροδίτη
acc.	|$_{T}$ διὰ χρυσῆν Ἀφροδίτην	
	|$_{H}$ χρυσῆν Ἀφροδίτην	
gen.	|$_{T}$ πολυχρύσου Ἀφροδίτης	|$_{T}$ φιλοστεφάνου Ἀφροδίτης
	|$_{P}$ καλλιστεφάνου Ἀφροδίτης	|$_{P}$ χρυσοστεφάνου Ἀφροδίτης
dat.	|$_{P}$ ἱκέλη χρυσῇ Ἀφροδίτῃ	
	|$_{H}$ χρυσῇ Ἀφροδίτῃ	

A third reason for reconstructing **Ap^{h}ṛdītā* is the Cretan form Αφορδιτα (and Pamphylian Αφορδισιιυς and Φορδισιιυς).[65] The handbooks ascribe these forms with -ορ- to liquid metathesis,[66] but as was shown in chapter 3, -ορ- was probably the regular development of **ṛ* after a labial consonant in Cretan, as against -αρ- in other environments (the regular development of the syllabic liquids in Pamphylian cannot be determined with certainty). Moreover, we found that there is no secure evidence for liquid metathesis in Cretan, and quite some counterevidence.[67]

A potential objection to reconstructing **Ap^{h}ṛdītā* is that no forms with -αρ- or -ρα- are attested in Ionic-Attic or West Greek. This is not cogent, because the name may be a relic that was retained only in pockets and then disseminated through the epic tradition, or through poetry more generally. The lack of attestations in Mycenaean does not prove a late or foreign origin either (this is an *argumentum e silentio*).

Since there are no formal correspondences in other IE languages, many scholars have considered the name of Aphrodite to be of Near-Eastern provenance.[68] However, in spite of the numerous and indubitable traces of influence of the cult of Astarte (Ishtar) on that of Aphrodite, a convincing Semitic origin

64 The epithet φιλομμειδής is virtually restricted to Aphrodite.

65 The spelling of the Cyprian PN *a-po-ro-ti-si-jo* (*ICS*^{2} 327) is ambiguous: it could represent either /Ap^{h}rodīsio-/ or /Ap^{h}ordīsio-/.

66 See e.g. Buck (1955: 64), Lejeune (1972: 142–143).

67 See also section 3.5.

68 Thus also *DELG* s.v.; see especially the summary in Burkert (1985: 152–153 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.

of her name has not be pointed out yet.[69] On the other hand, most attempts to etymologize the name of Aphrodite in Indo-European terms have been speculative or gratuitous.[70] In my view, Indo-European etymologies for divine names are only acceptable if there is a direct formal correspondence to a similar deity in another IE language (as with **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 attempts to analyze Aphrodite as a compound with first member ἀφρός 'foam' to be futile.[71] On a phonological level, a compound with ἀφρός explains neither the Cretan form Αφορδιτα[72] nor the peculiar Homeric scansion of Ἀφροδίτη.

There is, in fact, an Indo-European etymology for Ἀφροδίτη that makes quite good sense and is phonologically impeccable. Witczak (1993) 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, as Aphrodite is. Moreover, the identification with the planet Venus is the single most important aspect of Aphrodite's Near-Eastern and Egyptian counterparts.[73] Once the identification with Astarte had been made, Aphrodite's cult on Cyprus could easily be influenced by that of her foreign counterpart.

Maintaining the analysis of the second member **-dītā-* as deriving from PIE **dih$_2$-*, and identifying the first member with Germanic and Celtic words meaning 'very', Witczak proposes an original meaning "sehr glänzend". How-

69 Attempts to derive it from Semitic roots such as *prt* 'dove' or *prd* 'be fruitful' (literature in Burkert 1985: 408 n. 18) are unconvincing: see the criticism in West 2000, whose own attempt remains mere speculation, too. In the case of complete borrowing of the deity and her name, the Greeks would probably have taken over a widespread name like 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.

70 An overview of earlier attempts can be found in Witczak (1993).

71 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 *Cratylus* (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 Kölligan (2007b) and 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 the older attempts is given, among others, by *DELG* (s.v.) and Witczak (1993), though the latter does reconstruct a second compound member **-dītā-* 'shining': see below.

72 This was also noted by Witczak (1993).

73 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.

ever, his reconstruction of "a Proto-Indo-European epithet *Ab^hro-$d\bar{\imath}t\bar{a}$, *Ab^hor-$d\bar{\imath}t\bar{a}$" (*sic*) cannot be correct. The variation between his *ab^hro- and *ab^hor- 'very' raises more problems than it solves, and in fact masks the problem posed by the Cretan and the Pamphylian forms.[74] This problem could be mended, however, by reconstructing the first member as an inherited adverb *$h_2eb^hr̥$ as reflected in the poetic Greek adverb ἄφαρ 'swiftly, forthwith'.[75] The Early Greek name *$Ap^hr̥$-$d\bar{\imath}t\bar{a}$ would then mean 'who appears forthwith' (i.e. after sunset). The plausibility of this etymology obviously depends on the question whether one is willing to grant that *-$d\bar{\imath}t\bar{a}$ could reflect a zero grade form of the verb δέατο 'appeared'. Its root can be reconstructed as *dih_2- and compared with Ved. *dīdā́ya* 'shines, radiates'. The compound in *-$d\bar{\imath}t\bar{a}$- (feminine of *-$d\bar{\imath}to$-) could be compared with Ved. *su-dītí-* 'shining beautifully'.[76]

In sum, although the reconstruction *$Ap^hr̥d\bar{\imath}t\bar{a}$ cannot be regarded as certain, it does provide a plausible original meaning for an epithet of the morning star, and it would explain the dialectal variation as well as the highly irregular scansion of the name in Epic Greek (cf. section 6.5). How could a pre-form *$Ap^hr̥d\bar{\imath}t\bar{a}$ turn up as Ἀφροδίτη in Epic Greek? An Aeolic vernacular origin is merely a theoretical possibility, as this would not account for the *McL* scansion.[77] The most natural scenario is therefore to assume a retention of the name with Epic *$r̥$,[78] followed by a regular vocalization to -ρο- after a labial consonant.

74 Witczak supposes *ab^hor to be reflected in PGmc. *$abar$ 'very' and PCelt. *$abor$ 'id.', and that *ab^hro- is found in Thracian names with Αβρα-. With a question mark, he also compares Greek ἄφαρ. Note that the only evidence cited for *ab^hro- would come from Thracian, a language about the historical phonology of which we know next to nothing.

75 I see no reason to follow the speculation of Beekes (*EDG* s.v.) that ἄφαρ is of Pre-Greek origin.

76 Within Greek, PIE *dih_2- might be reflected in the second member of ἀρίζηλος 'very bright' (7× Hom.). 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). The etymology 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-.

77 Sappho uses the name a fair number of times, but this is obviously related to the subject matter of her poems. Interestingly, she also uses Κύπρις on four occasions (always in the vocative), a form which in Homer is restricted to *Iliad* book 5.

78 It is possible that the precursor of ἑωσφόρος 'morning star' (Hom. only *Il.* 23.226, with synizesis of -εω-) had replaced *$Ap^hr̥d\bar{\imath}t\bar{a}$ in spoken Ionic long before Homer.

7.2.9 *ῥόδον, ῥοδόεις ~ Myc. wo-do-we*

As a simplex, ῥόδον 'rose' is mainly attested in poetry, but it does not occur in Homer or Hesiod.[79] The only occurrences of the etymon in early Greek epic are the adjective ῥοδόεις 'rose-scented' (qualifying fragrant oil) at *Il.* 23.186 and the epithets ῥοδοδάκτυλος 'with rose-colored fingers' (Hom.+) and ῥοδόπηχυς 'with rose-colored arms' (Hes.). The last two are clearly traditional epithets referring to the beauty of young women; they are also used by Sappho in the shapes βροδοδάκτυλος and βροδόπαχυς. The simplex is found at least three times in the preserved fragments of Sappho in the form βρόδον (fr. 2.6, 55.2, 96.13, and possibly 94.13).[80] Finally, Mycenaean attests *wo-do-we* /wordowen/ or /wr̥dowen/ 'rose-scented', again qualifying oil.

It is attractive to suppose that the Mycenaean form is directly reflected in the Homeric phrase ῥοδόεντι … ἐλαίῳ, as the production of fragrant oil (a luxury product) is no doubt a reminiscence of the Mycenaean period. The two forms are directly superimposable only if the original form was /wr̥dowent-/.[81] This would require that Ionic-Attic ῥόδον is an epicism with ῥο- < **u̯r̥-* with Epic **r̥*, which is conceivable.[82] Unfortunately, it is difficult to find independent evidence for or against such a reconstruction. Outer-Greek etymological *comparanda* offer no immediate help. The etymological handbooks compare the Iranian pre-form **u̯r̥da-* to be reconstructed for e.g. MoP *gul* 'id.' and Arm. *vard* 'id.' (an Iranian borrowing).[83] This means that the word could have been borrowed as **u̯r̥do-* into Mycenaean from some Near-Eastern source, but other scenarios cannot be excluded. Metrical evidence from Early Greek Epic does not offer much help (because the simplex is relatively rare), but it is certainly compatible with Epic **r̥*.[84]

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79 In prose, ῥόδον is attested in Hdt. (twice) and Hp.

80 The digamma generates length by position in ἀ δ' ⟨ἐ⟩έρσα κάλα κέχυται τεθά|λαισι δὲ βρόδα κἄπαλ' ἄν|θρυσκα καὶ μελίλωτος ἀνθεμώδης (fr. 96.12–14). 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).

81 It is normally thought (cf. Hoekstra 1965: 142) that the Homeric expression cannot be a Mycenaean relic because of the different vowel slot.

82 In this case, we may assume that Aeol. βρόδον (attested in Sappho) is of epic origin, although it cannot be excluded either that the word is the regular outcome of **u̯r̥don* in the Lesbian vernacular.

83 *GEW*, *DELG* s.v. The Armenian form cannot be genetically compared with Greek **u̯r̥do-*, because **u̯-* would have yielded *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 with ῥοδανός (Homeric *hapax*, qualifying a reed) would be unwarranted because of the semantic differences.

84 In case of an original **u̯r̥do-*, one would expect to find early instances of *McL* scansion.

Let us briefly consider the derived forms, some of which occur in old formulaic phrases. The only Homeric attestation of ῥοδόεις, in the half-verse |$_{P}$ ῥοδόεντι δὲ χρῖεν ἐλαίῳ (*Il.* 23.186), is metrically uninformative. The compound ῥοδοδάκτυλος is exclusively found in the verse-final noun-epithet phrase ῥοδοδάκτυλος Ἠώς (27×), which mostly (and probably originally) occurred in a formulaic half-verse preceded by the finite verb form φάνη (25×). Again, this is compatible with both reconstructions, **u̯r̥do-* and **u̯rodo-*.[85]

Fortunately, the evidence for ῥοδόπηχυς is more compelling. This is a traditional epithet of young women in Hesiod's catalogue of Nereids (Ἱππονόη ῥοδόπηχυς *Th.* 246, Εὐνίκη ῥοδόπηχυς *Th.* 251) and in other catalogue fragments (fr. 35.14, 46.13, 251a.1), always verse-final. As an epithet, ῥοδόπηχυς is certainly old in the tradition because it also occurs as βροδόπαχυς in Sappho.[86] Now, the fact that ῥοδόπηχυς in catalogue poetry is always preceded by a long syllable (female proper names in -η) favors a reconstruction **u̯r̥dop^{h}āk^{h}us* because a pre-form **u̯rodo-* would imply overlength in the final part of the line, a phenomenon which is strongly avoided in traditional phraseology.[87]

In view of the above arguments, the possibility that ῥόδον contains an artificial epic reflex of **u̯r̥do-* deserves serious consideration. The metrical evidence from early Greek epic is at the very least fully compatible with such an assumption, and it finds positive support in the verse-end -η ῥοδόπηχυς in traditional catalogue entries. Moreover, it is supported by the correspondence between Hom. ῥοδόεις and Myc. *wo-do-we*, which both qualify a fragrant oil, a luxury

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Indeed, there are some cases where this happens after |$_{T}$: οἷα φέρουσ' ὧραι, ἔν τε κρόκῳ, ἔν θ' ὑακίνθῳ, ἔν τε ἴῳ θαλέθοντι ῥόδου τ' ἐνὶ ἄνθεϊ καλῷ (*Cypr.* fr. 4.4), and ὄζει ἴων, ὄζει δὲ ῥόδων, ὄζει δ' ὑακίνθου (Hermippus Com. fr. 77.8 K-A, geometric verse). Cf. also the colon στεφάνοισι ῥόδων (Simon. fr. 1.2). All in all, however, the evidence is not conclusive.

85 The only exception is ἕλετο ῥοδοδάκτυλος Ἠώς (*Od.* 5.121), with a preceding short vowel, but it might be a spontaneous creation in view of the existence of a parallel epithet, χρυσόθρονος. In combination with Ἠώς, this occurs in a repeated verse ending χρυσόθρονος ἤλυθεν Ἠώς (4× *Od.*), where χρ- generates position length, as well as in χρυσόθρονος ἥρπασεν Ἠώς (*Od.* 15.250). Against this background, the phrase ἕλετο ῥοδοδάκτυλος Ἠώς might be an instance of *varatio*. As for the distribution between both epithets, one interpretation would be that the difference is metrical (**k^{h}rūsot^{h}ronos* = *CC-* versus **u̯r̥dodaktulos* = *CV-*), but it seems more likely that χρυσόθρονος is a generic epithet (it also qualifies other goddesses like Hera and Artemis) while ῥοδοδάκτυλος is a particularized epithet of Dawn.

86 Leumann (1950: 18 n. 9) thinks that ῥοδόπηχυς was secondarily formed after ῥοδοδάκτυλος, but his reasoning (ῥοδόπηχυς would not have originally referred to a *Naturerscheinung*, as Hom. ῥοδοδάκτυλος does) is not cogent. On the contrary, the fact that ῥοδόπηχυς is found in both Hesiod and Sappho (there in the form Aeol. βροδόπαχυς) suggests that this epithet is traditional.

87 See most recently the discussion of overlength by Cassio (2016), building on Hoenigswald (1991).

product. This match is best accounted for if the epic tradition retained a preform /wr̥dowent-/ from the Mycenaean period.[88] Conversely, it would be pure speculation to explain the difference between Myc. *wo-do*˚ and the alphabetic forms by assuming liquid metathesis.

7.3 Other Forms with -ρο-

7.3.1 *ἀνδροτῆτα*

The verse-end ἀνδροτῆτα καὶ ἥβην, with ἀνδρο- occupying the thesis of the fourth foot, is metrically anomalous. It occurs in the two most important and most elaborate death scenes of the *Iliad*, those of Patroclus and Hector:[89]

> ψυχὴ δ' ἐκ ῥεθέων πταμένη Ἄϊδος δὲ βεβήκει
> ὃν πότμον γοόωσα λιποῦσ' ἀνδροτῆτα καὶ ἥβην.
> *Il.* 16.856–857; 22.362–363

> And his soul flew out of his nostrils[90] and went to Hades, bewailing its fate, having left behind vigor and juvenile strength.

The form ἀνδροτῆτα occurs once more in the following verse, where Achilles mourns over his lost comrade:

> Πατρόκλου ποθέων ἀνδροτῆτά τε καὶ μένος ἠύ
> *Il.* 24.6

> longing for the vigor and great energy of Patroclus

This is mostly considered a secondary adaptation based on the other two places, but however that may be, it proves that ἀνδροτῆτα was not limited to a single relic formula.

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88 The fact that βρόδον, βροδόπαχυς, and βροδοδάκτυλος are all attested in Sappho does not guarantee that they contain the Lesbian vernacular reflex of **μr̥rdo-*; they may also be epicisms. In any case, the metrical behavior of the epic compounds is more neatly explained if **μr̥rdo-* was preserved in its older form in the tradition.

89 West (1998–2000) considers *Il.* 22.363 to be interpolated from 16.857 because it is lacking in two early papyri.

90 The meaning of ῥέθεα is uncertain, either 'face; nostrils' or 'legs, limbs'.

Interpretations of the verse-end ἀνδροτῆτα καὶ ἥβην have almost become articles of faith among Homeric scholars: some have used it to plead for pre-Mycenaean origins of the epic tradition, others in support of the proto-hexameter hypothesis. There are four problems regarding the form ἀνδροτῆτα:

1. ἀνδροτῆτα has variants ἀδροτῆτα and ἁδροτῆτα in the manuscript tradition. Which is the oldest form?
2. What is the meaning of ἀνδροτῆτα?
3. What is the word-formation of ἀνδροτῆτα?
4. How to explain the irregular scansion of ἀνδροτῆτα?

I contend that ἀνδροτῆτα entered the tradition at an early stage, in the shape **anr̥tāta*, but I agree with Heubeck (1972) that its introduction may have been relatively late, i.e. even in the 12th century. The abstract **anr̥tāt-* is a relic form derived from an old adjective meaning 'vigorous', and accordingly I think it is best rendered as 'vigor' (as appears from the translations just given). The form **anr̥tāt-* was retained with Epic **r̥* and then regularly developed into **anratāt-*. This form was at some point reshaped into ἀνδροτητ-, possibly via an intermediate stage **adratāt-* or **anrotāt-*, **adrotāt-*, in order to better align it with compounds in ἀνδρο-. I will now argue for these points in more detail, starting with the manuscript evidence.

1. Apart from ἀνδροτῆτα, textual variants ἀδροτῆτα and ἁδροτῆτα are attested, though only in 21 younger manuscripts, and (in most individual manuscripts) only at one of the three places of attestation.[91] The reading ἀνδροτῆτα is ubiquitous in the Vulgate and in testimonia.[92] A number of 19th century scholars printed ἁδροτῆτα,[93] from the adjective ἁδρός 'ripe, mature', but this variant may easily have arisen secondarily from ἀδροτῆτα and is clearly a *lectio facilior*.[94] As for the other two forms, two approaches are possible. Some scholars have assumed that ἁδροτῆτα is a late and incidental correction, designed to mend

91 See Latacz (1965).

92 Latacz remarks that he could not easily determine, on the basis of the editions, which mss. had ἁδρ- and which had ἀδρ- (1965: 62–63 n. 2).

93 See Latacz (1965: 67–68 with n. 5).

94 See Latacz (1965: 76) and Wathelet (1966: 170 n. 5). Latacz noted that ἁδρότης first occurs in Theophrastus, but this chronological point is not by itself decisive, because ἁδροσύνη occurs in Hesiod. Beekes (1971: 353–355) thinks that ἁδροτῆτα was the original form, arguing that ἁδρός 'ripe, mature, full-grown' and ἥβη have a similar, physical sense, but he does not further specify the meaning of ἁδροτῆτα. From a semantic viewpoint, the connection with ἁδρός fits well, but there are various problems: the aberrant suffixal accent of ἁδροτῆτα and the *McL* scansion of word-internal -δρ-. An insurmountable objection, finally, is that ἁδροτῆτα is the *lectio facilior*: of all three variants, only ἁδροτῆτα is a regular derivation in -τητ- from an adjective (except for the accentuation).

the metrical problem apparent in the traditional form ἀνδροτῆτα.[95] In favor of this, one could mention that the manuscript tradition of Plato only presents the form ἀνδροτῆτα. Others think that ἀνδροτῆτα and ἀδροτῆτα are trivial normalizations of the odd word ἀδροτῆτα, and that the latter form was sung by Homer.[96] In any case, even if we admit that the manuscript evidence can be traced back to a proto-form ἀνδροτῆτα, the earliest Homeric transmission *may* well have had ἀδροτῆτα or even *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.[97]

2. Semantics. When the form ἀνδροτῆτα was first used in the tradition, its sense must have been clear—as it probably still was to the author of the *Iliad*, because the word is used emphatically on two decisive points in the story. Although it is difficult to be very precise, 'vigor' seems a good approximation, not only in view of the etymological reconstruction.[98] Beekes (1971: 354) notes

95 It does not seem impossible to me that 21 copyists independently corrected the unmetrical form ἀνδροτῆτα into ἀδροτῆτα (or ἁδροτῆτα). However, according to Latacz, in most of the 21 mss. with ἀδροτῆτα / ἁδροτῆτα that he found, the form occurs only in once place, and the other two places have ἀνδροτῆτα; only two mss. have ἀδροτῆτα or ἁδροτῆτα in all three places (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 ἀνδροτῆτα could have been 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 ἀδροτῆτα was "designed to heal the problem, and therefore clearly secondary, as all editors have recognized." The last remark is factually incorrect: for editions which print ἀδροτῆτα, 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 fact that ἀδροτῆτα was a *vox nihili*.

96 E.g. Wackernagel (1909: 58 with n. 1), Chantraine (1958: 110), Latacz (1965); the latter cites other predecessors. In the view of Latacz (1965: 66), "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." Ruijgh (1995: 89 n. 311) 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."

97 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).

98 This is also the translation given by e.g. *LSJ* s.v.

that this meaning would agree remarkably well with that of ἥβη. Moreover, the fact that μένος ἠύ is semantically close to ἥβη suggests that poets had a clear conception of the meaning of ἀνδροτῆτα.

A different interpretation is given by Latacz (1965): ἀνδροτῆτα is that which is left behind by the soul upon death, i.e. the fact of being a man, 'manhood'. For this he refers to the scholia, who expressly state that ἀνδροτῆτα is not the same as ἀνδρεία 'manliness, courage' or the epic word ἠνορέη, but that it rather means ἀνθρωπότητα. However, as remarked by Beekes (1971: 353–354), the concept of ἀνθρωπότης 'manhood' is far too abstract for Homer and seems a scholastic construct.[99]

Although I disagree with Latacz's conclusions on these semantic issues, his approach to compare other descriptions of the soul leaving the body upon death is at least partly right. In his view, the ψυχή first comes into being when a person dies, and at this moment leaves not only the body but also some other essential feature: "Es [i.e. ἀνδροτῆτα] muss etwas wesenhaftes sein, dessen Fehlen die ψυχή erst zur ψυχή macht" (1965: 71). These essential attributes are corporeality and force ("Körperlichkeit und Kraft"). Problems arise when Latacz interprets ἀνδροτῆτα as *referring* to corporeality: "das für einen (lebendigen) Mann wesenhafte, das Mann-Sein (und das bedeutet: die Körperlichkeit)". On this basis, he returns to the scholiasts' interpretation of ἀνδροτῆτα as ἀνθρωπότητα which, as just remarked, seems highly artificial.

A more likely interpretation of ἀνδροτῆτα emerges when we depart from the tripartition of human nature into body (σῶμα), spirit/energy/vital force (θυμός, for which various synonyms are in use in Homer) and soul (ψυχή). Upon death, a person or his body is left not only by the ψυχή, but also by the θυμός:

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99 The same holds for the translation of ἀνδροτῆτα as 'the fact of not dying' (Barnes 2011). Barnes compares the phrase ἀνδροτῆτα καὶ ἥβην with the Avestan pair *amərətāt- hauruuatāt-* 'principle of not-dying and wholeness/health', where *amərətāt-* arose from *amərətatāt-* by haplology. He assumes that PIE **n̥-mr̥to-teh₂t-* underwent haplology also at a pre-stage of Greek, yielding *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). This account is untenable for several reasons (which cannot all be discussed here). For one thing, ἀνδροτῆτα does not demonstrably mean 'the fact of not dying': as just argued, this is far too abstract for Homer. The main problem, however, is that there would never have been a compelling motive to 'update' the formula if it originally had *ἀμ(β)ροτῆτα. Thieme (1952: 15–34) discussed all instances of ἄμβροτος and ἀμβρόσιος in Homer; from this discussion it appears that ἀνδροτῆτα 'vigor' may have been quite close in meaning to these adjectives (whether or not one accepts the details of Thieme's analysis). Finally, to assume a haplology **n̥mr̥toteh₂t-* > **n̥mr̥teh₂t-* already in Proto-Indo-European is a rather costly assumption.

ὣς τὸν μὲν λίπε θυμός
Il. 4.470

λίπε δ' ὀστέα θυμός
Il. 12.386

The soul and vital force are sometimes said to leave the body simultaneously: in the following phrases, μένος 'energy' and αἰών 'vital force' are used as synonyms of θυμός:

τοῦ δ' αὖθι λύθη ψυχή τε μένος τε
Il. 5.296, 8.123

τόν γε λίπῃ ψυχή τε καὶ αἰών
Il. 16.453

Interestingly, in some passages the θυμός of a dying man is called ἀγήνωρ 'vigorous'. This compound, in my view consisting of ἀγα- 'great' and *-*ānōr* 'vigor', contains precisely the etymon of ἀνδροτῆτα as its second member:

τόν γ' ἐρυγόντα λίπ' ὀστέα θυμὸς ἀγήνωρ
Il. 20.406

λίπε δ' ὀστέα θυμὸς ἀγήνωρ
Od. 12.414

We may conclude that the ψυχή not only leaves behind the body, but also its vital force. This view is confirmed by other traditional material. The souls in Hades are referred to with the traditional formula νεκύων ἀμενηνὰ κάρηνα, 'the powerless heads of the dead'. The state of Agamemnon's ψυχή after his death is described as follows:

ἀλλ' οὐ γάρ οἱ ἔτ' ἦν ἴς ἔμπεδος οὐδ' ἔτι κῖκυς
οἵη περ πάρος ἔσκεν ἐνὶ γναμπτοῖσι μέλεσσι.
Od. 11.393–394

But no longer was there any force available to him, nor any might, such as there used to be before in his curved limbs.

In view of this, it is plausible that ἀνδροτῆτα, like the terms ἥβη and μένος ἠύ with which it appears in conjunction, refers to an aspect of the vital force which a man's soul loses upon death.

3. Morphology. The view that ἀνδροτῆτα reflects **an(d)ro-tāt-*, with a thematic vowel,[100] is problematic for more than one reason. Since epenthesis in the cluster **-nr-* was a pre-Mycenaean development, and since *-o-* was not yet productive as a linking vowel at this stage, one would have to assume that the oldest form was a post-Mycenaean **andro-tāt-*, and that the nasal in this form could be omitted from pronunciation or recitation, yielding [a.dro.tē.ta].[101] The last-mentioned assumption is clearly *ad hoc*. Moreover, as we have seen in section 6.5, word-internal *McL* is rare in Homer, and when it occurs, this mostly happens when PL is preceded by a morpheme boundary.[102] Since there is no morpheme boundary before -δρ- in ἀνδροτῆτα, the form would have to be a one-off creation. This, however, is at odds with the apparent traditionality of the verse end ἀνδροτῆτα καὶ ἥβην (occurring in the monumental description of a heroic death). Moreover, the extended form ἀνδροτῆτά τε καὶ μένος ἠύ shows that poets did not hesitate to use the form in a modification of this traditional phrase. A nonce creation of the metrically irregular phrase ἀνδροτῆτα καὶ ἥβην is unacceptable.

Instead, we must start from a pre-form **anr̥-tā́t-*. Barnes (2011: 5) objects that abstracts in *-tāt-* are, as a rule, only derived from adjectives, whereas in Greek the stem ἀνδρ- only occurs as a noun.[103] This problem disappears, however, if **anr̥-tāt-* was derived much earlier, at a stage when **h₂ner-* or its reflex could still be used as an adjective meaning 'vigorous'. This has been proposed by Pike (2011: 175) on the basis an analysis of derivatives of **h₂ner-* in Indo-Iranian.[104] Pike also addresses the suffix accent of ἀνδροτῆτα, which is synchronically unproductive in Homeric Greek.[105] Just as the formation and meaning of ἀνδρο-

100 See for instance Latacz (1965: 69), stating that the form was "bewusst für gerade diesen Zusammenhang geprägt" and "fraglos eine Augenblicksbildung".

101 For this view, cf. the comments "Auslassung des *N*" (Latacz 1965: 66) and "débilité de la nasale en grec" (Chantraine 1958: 110).

102 The only frequently occurring exception is Ἀφροδίτη, which may reflect **Aph₂rdītā* (see above).

103 This objection has sometimes been answered by pointing at the predicative usage of ἀνήρ, as attested in Homeric ἀνέρες ἔστε, φίλοι 'Be men, my friends!', i.e. 'be brave!' (cf. Ruijgh 1997: 42). However, as Barnes (2011: 5) points out, an inner-Greek derivation on the basis of this use of ἀνήρ is problematic, because ἀνδροτῆτα does not mean 'courage, bravery'.

104 However, Pike's assumption of a genetic equation between ἀνδροτῆτα and OAv. *hunarətāt-* 'skill, talent' seems unlikely to me.

105 The only other Greek forms with accented **-tāt-* are Homeric βραδυτής, ταχυτής, and δηιοτής. It is possible that ταχυτής 'fastness' arose beside τάχος 'speed, fastness' on the analogy

τῆτα may be considered archaisms, so should its accentuation: as expected on general principles of PIE accent and ablaut, the only full grade of the pre-form *$h_2nr̥$-$téh_2t$- carries the accent, and pretonic vowels are reduced to zero.

4. Metrics. Wackernagel (1909: 58 n. 1) was the first to remark that the scansion of ἀνδροτῆτα can be understood if the original (Homeric) form was actually ἀδροτῆτα. At this stage, his view seems to have been that this ἀδροτῆτα could reflect an older *$anrotāta$, with a tautosyllabic realization of the sequence nasal plus liquid.[106] For the reasons given above, such a scansion of word-internal plosive plus liquid would be unlikely at an early stage unless the pre-form had *$r̥$. Indeed, a few years later Wackernagel explicitly claimed that ἀνδροτῆτα entered the tradition in a form with *$r̥$.[107] In this he has been followed by Mühlestein (1958) and many other scholars.

Since it was thought that Mycenaean no longer had *$r̥$, ἀνδροτῆτα was subsequently used by 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. These scholars were later followed by West (1988) and Janko (1994). Mühlestein (1958: 224 n. 20), however, was much more careful and explicitly reckoned with the possibility of a prolonged retention of *$r̥$ in the epic tradition (or in a dialect which retained *$r̥$):

> 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 $r̥$ hätte in der frühen Epik länger gelebt als im Mykenischen der Archive.

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of βραδυτής 'slowness', and that βράδος (a *hapax* in Xenophon) is a late nonce formation (see Lamberterie 1989). Pike suggests that the productive recessive accentuation of Greek abstracts in *-*tāt*- may have originated in forms derived from thematic stems, such as φιλότης.

106 "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).

107 At first, Wackernagel did not yet believe this: "Kaum kann für die älteste Phase der epischen Sprache geradewegs noch sonantisches $r̥$ vorausgesetzt werden" (1914: 113). Two years later, however, he speaks of the "pyrrhische[n] Messung von ἀνδρο-, die doch gemäss ἀνδροτῆτα ἀμβροτάξομεν, wo ἀνδρο- ἀβρο- aus *anr̥*-, *amr̥*- als zwei Kürzen gemessen werden, ganz normal ist." (1916: 172).

Other scholars, however, considered the proposed time lapse of seven or eight centuries to be implausible.[108] 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, supposing that the lines in question originally had a trochaic fourth foot. This view has found a number of adherents, but it is unlikely to be correct for a very simple reason: all alleged examples for preserved pherecratean line-ends are also candidates to have contained **r̥* at an earlier stage. The idea can therefore be rejected on the basis of Occam's razor.[109]

Thus, only a pre-form **anr̥-tāt-* inherited from PIE **h₂nr̥-téh₂t-* would account for the semantics, accentuation, word-formation, and aberrant scansion of ἀνδροτῆτα. This leaves us with a problem of chronology: until when was **r̥* available?

Before answering this question within the scenario proposed here, we have to discuss a detail that has played a significant role in previous discussions: consonant epenthesis. It is usually stressed that not only the vocalization of **r̥*, but also the epenthesis of *-d-* in the group **-nr-* had already taken place in Mycenaean.[110] This has in fact been the main reason for viewing the scansion of ἀνδροτῆτα as a remnant of pre-Mycenaean epic. However, while Mycenaean does indeed furnish good examples for *d*-epenthesis, they all concern **-nr-* between original vowels (the nasal belonging to the coda of the preceding syllable).[111] These cases are not necessarily relevant for judging the outcome of **-nr̥-*, with a syllabic liquid. In this connection it is highly relevant that the outcome of **-nr̥-* in Mycenaean does *not* show epenthesis: cf. the PN *a-no-qo-ta* < **anr̥-kʷʰontā-* and especially the abstract *a-no-qa-si-ja*. Moreover, all examples of μρο- in archaic inscriptions derive from a pre-form with **mr̥-*.[112] We may con-

108 Cf. Haug (2002: 63) and already Heubeck (1972: 75): "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.?".

109 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). For further compelling points of criticism regarding reconstructions of a proto-hexameter, see Hoekstra (1981: 33–53), and cf. section 1.5.3.

110 E.g. Ruijgh (1995: 87), Hackstein (2002: 6 with n. 9), Barnes (2011: 2). Interestingly, Ruijgh (1997: 41) later revoked the early date for the vocalization, with reference to Risch's theory of an undifferentiated South Greek in the Mycenaean period.

111 Cf. Myc. *a-di-ri-ja-te* /andriantē/ 'with the image of a man' (ins. sg., cf. Class. ἀνδρίας 'statue of a man') and PN *a-re-ka-sa-da-ra* /Aleksandrā/, along with other names in /-andro-/.

112 *d*-epenthesis in prevocalic **-nr-* may have been earlier than *b*-epenthesis in prevocalic *-mr-*, even if there is no ascertained example for intervocalic *-mr-* in Mycenaean. A possible case is Myc. *o-mi-ri-jo-i*, but the etymology and meaning of this word are disputed.

clude that both *-*nr̥*- and *-*mr̥*- were simply maintained without an epenthetic consonant in Epic Greek until after **r̥* vocalized.[113]

The question then becomes what happened to these sequences after Epic **r̥* developed into -ρα- and -ρο-. The problem of scansion in ἀνδροτῆτα would only occur when, following the vocalization of Epic **r̥*, epenthesis took place in the ensuing sequences *-*mro*- and *-*nro*- (or *-*nra*-). This epenthesis probably never happened in the case of *-*mro*-, as the tradition has the outcome -βρο- in both ἀβρότη and ἀβροτάξομεν.[114] In other words, as already surmised by Wackernagel (1909: 58 n. 1), ἀβρότη is the phonetic reflex of a pre-form [a.mro.tā] with an artificial tautosyllabic realization of the cluster. This means that -δρ- in the variant ἀδροτῆτα may also represent the phonetic outcome of *a.nro.tā.ta*, and that Homer may have pronounced the following:

βροτοῖσιν, βροτῶν, etc	= *mro.tɔ̄n*, *mro.toi.si*
ἀβροτάξομεν	= *a.mro.tak.so.men*
ἀνδροτῆτα (or ἀδροτῆτα)	= *a.nra.tɛ̄.ta* or *a.dra.tɛ̄.ta*[115]
ἀνδρεϊφόντῃ	= *a.nra.p*^{h}*on.tɛ̄i* or *a.dra.p*^{h}*on.tɛ̄i*.

From a phonetic perspective, the following objection could be made. One might expect the epenthesis in Epic *-*nra*- < *-*nr̥*- to have preceded that in Epic *-*mro*- < *-*mr̥*-, because [n] and [r] are homorganic, while [m] and [r] are not. However, this need not have been the case, and it is not even possible to exclude that Homer preserved the pre-form of ἀνδροτῆτα / ἀδροτῆτα with a tautosyllabic onset *.nr*. We must not forget that ἀνδροτῆτα is one of the few pieces of evidence we have for the reflex of word-internal *-*nr̥*- in Alphabetic Greek. The main difference between ἀνδροτῆτα and ἀβροτάξομεν is that ἀβροτάξομεν was

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Egetmeyer (2010: 203) draws attention to the Myc. proper name *i-mi-ri-jo* /Imrios/, and contrasts this with Cypriot names like *ne-wa-pi-ri-o* /new-ā(m)brios/, which he analyzes as a compound with **āmr*- 'day'.

113 In view of cases like 7th c. Naxian μροτοισιν, Barnes (2011: 10) sees a chronological contrast between the development of *-*mr*- and that of *-*nr*-. This conclusion does not follow, because both Mycenaean examples for *d*-epenthesis concern *-*nr*- before a Proto-Greek vowel, whereas all examples of μρ in alphabetic Greek reflect a pre-form with **r̥*.

114 Thus, I partly agree with Barnes (2011: 10), who concludes from the inscriptions preserving prevocalic 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 (…)."

115 Alternatively, *a.nro* or *a.dro*: it is hard to tell when exactly *-o*- was introduced. Cf. Wackernagel (1916: 172).

maintained in the manuscript tradition, while ἀδροτῆτα was eventually ousted by ἀνδροτῆτα. The reason for this different treatment need not have been phonetic.

The final question is: when and from which dialect did **anr̥tāt-* enter the tradition? To mechanically view ἀνδροτῆτα as an Aeolism would be problematic because *McL* scansion is alien to the Lesbian tradition (see section 7.1). Moreover, ἀνδροτῆτα has a non-recessive accentuation that must be old. A Mycenaean origin has been broadly assumed, but it would be hard to reconcile this with an outcome *-or-* < **r̥* in that dialect (cf. the compounds with *a-no-* cited above). On the contrary, if **r̥* was preserved in Mycenaean (or another dialect of the same period contributing to the tradition), this would make perfect sense. 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. development **anr̥kas* > ἀνδρακάς etc.); …".

Heubeck's scenario is different from mine in the sense that ἀνδροτῆτα in his view contains a vernacular reflex of **r̥*, while in my view it was retained longer in the tradition with Epic **r̥*. Nevertheless, I fully agree with his conclusion that **r̥* may have been preserved much longer in most Greek vernaculars than is usually admitted. Within the present framework, a stem **anr̥tāt-* entered the epic tradition from some Greek dialect preserving **r̥* in the late Mycenaean or sub-Mycenaean period. The form then underwent the regular phonological development of Epic **r̥* to -ρα-, and was subsequently contaminated with compounds in ἀνδρο-.

7.3.2 *Ἐνυαλίῳ ἀνδρειφόντῃ*

The four-word verse Μηριόνης ἀτάλαντος Ἐνυαλίῳ ἀνδρειφόντῃ 'Meriones equal to man-slaying Enualios' occurs four times in the *Iliad*. As it stands, drastic measures (such as crasis of -ῳ ἀ-) are required to fit this into

epic metre.[116] Moreover, in this compound ἀνδρεϊ- as a first member is a morphological monstrosity.[117] It is therefore widely agreed that the formula originally looked different: as first noted by Wilamowitz (1884: 299 Anm. 10), ἀνδρεϊφόντῃ may have replaced ἀνδροφόντῃ. Wackernagel (1916: 172) was the first to remark that the scansion of *ἀνδροφόντῃ may be explained from a pre-form **anr̥kʷʰontāi*. He also noted that ἀνδρο- may have replaced an older ἀνδρα-, as in the form ἀνδραφόνος 'man-slayer, murderer' (for Homeric ἀνδροφόνος) that is ascribed to Solon.

After the decipherment of Linear B, it soon become clear that the naming-verse for the Cretan leader Meriones could be a survival from Mycenaean times (Mühlestein 1958).[118] Not only do the Linear B archives contain the name of the war-god *e-nu-wa-ri-jo* /Enualios/; the pre-form of ἀνδρεϊφόντῃ was plausibly identified by Mühlestein with the Mycenaean PN *a-no-qo-ta*, to be interpreted as /Anorkʷʰontā-/ (or possibly still /Anr̥kʷʰontā-/). Mühlestein further noted that names in *-qo-ta* (e.g. *da-i-qo-ta*) are frequent in the tablets, but not in later Greek. Thus, Ἐνυαλίῳ ἀνδρεϊφόντῃ is best analyzed as a reshaping of the outcome of **Enūaliōi anr̥kʷʰontāi*, a pre-form which would solve the metrical and morphological problems in a natural way.

The model for the substitution of ἀνδρεϊ- was clearly διάκτορος Ἀργεϊφόντης, the frequent verse-final naming formula for Hermes. Although the reconstruction and original lexical meaning of Ἀργεϊφόντης are contested,[119] it is important that the formula in which it occurs is metrically unproblematic.[120] As remarked e.g. by Ruijgh (2011: 288), the first member ἀργεϊ- could be analyzed as a metrical alternative for ἀργο-; hence, ἀνδρο- could be replaced by ἀνδρεϊ-.

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116 Emergency solutions that cannot be upheld (because they are unparalleled) are: (1) reading Ἐνυάλῳ, with -λy- functioning as a single consonant, accepted by Tichy (1981: 40); (2) assuming synizesis of -υα-. Cf. Watkins (1987: 289).

117 "Ungeheuerlich", in the words of Wackernagel (1914: 113 Anm. 1).

118 Mühlestein's proposal has been approvingly cited by many scholars, including Wathelet (1966), Heubeck (1972), West (1982), Watkins (1987), Leukart (1994: 51–56), and Ruijgh (1995: 85–88; 1997: 41–42; 2011: 287–289). Ruijgh bases his analysis of ἀνδροτῆτα on that of Ἀνδρεϊφόντῃ because the latter is more ostensibly of Mycenaean origin. Untenable speculations about a recent creation of the line itself are found in Tichy (1981: 40).

119 See e.g. Lamberterie (1990: 326–327), Leukart (1994: 51–56), Watkins (1995: 383–384), Ruijgh (2011: 288).

120 Tichy (1981: 40) claims that the replacement of ἀνδρο- with ἀνδρεϊ- (on 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.

A pre-form **anr̥kʷʰontāi* 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-* < **h₂nr-* would be paralleled by Ved. *nṛ-hán-* 'man-slaying' < PIE **h₂nr̥-gʷʰén-*, epithet of *vadhá-*, the lethal weapon of the Maruts.[121] In lexical terms, we have to ask why poets would have formed a metrically and morphologically problematic adjective meaning 'man-slaying' if they already disposed of the synonymous ἀνδροφόνος (15×), which suits the demands of verse-composition well. In fact, the addition of *-tā-* in compounded agent nouns is typically found in Mycenaean, and given that both the war god Enualios and the PN *a-no-qo-ta* are attested in Linear B, the conclusion that **Enualiōi anr̥kʷʰontāi* originated in a Mycenaean context seems inescapable.[122]

If the formulaic verse is indeed of Mycenaean origin, it remains to determine how and when ἀνδρεϊ- was introduced.[123] Taking **anr̥kʷʰontā-* as a starting point, Ruijgh sketches 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, *ἀνr̥χʷόντᾱς* avait déjà abouti à ἀνδροχʷόντᾱς. 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 -χʷόν-, ils ont fabriquée la forme artificielle ἀνδρε*h*ιχʷόντᾱς sur le modèle de Ἀργε*h*ιχʷόντᾱς, épithète d'Hermès.

Thus, Ruijgh assumes that both the vocalization of **r̥* and the replacement by ἀνδρεϊφόντη had taken place already before our attestations of Mycenaean.[124]

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121 Cf. Schmitt (1967: 124–128), Watkins (1987: 289), Ruijgh (1995: 85).

122 Apart from Ἐνυαλίῳ ἀνδρεϊφόντη and ἀργεϊφόντης, compounds in -φόντης are limited to personal names (Βελλερο-, Πολυ-, Κρεσ-, Λυκο-φόντης, from Homer onwards) and to the poetic forms ἀνδροφόντης (A. *Sept.* 572), πατροφόντης (S.), μητροφόντης (E.).

123 Beside the form ἀνδρεϊφόντη printed in our editions, a minor *varia lectio* is ἀνδριφόντη. In one manuscript at *Il.* 8.264 the form is written in the form ἀδριφόντη, about which Latacz (1965: 66) cautiously says: "ist auch hier sicher eine der ursprünglichen Aussprache näherkommende Schreibweise". This may well be true as far as the beginning ἀδρ- is concerned, but the -ι- can hardly be original. Since the variant occurs only in one ms., it is unlikely to directly transmit an older form.

124 In one of his later publications, Ruijgh 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

This would require that the verse was preserved *in a defective form* for some seven centuries.

Although this interpretation is widely accepted,[125] its logical conclusion is unlikely and has been challenged on chronological grounds by Haug (2002: 62–64). Haug agrees with Ruijgh that the reshaping to ἀνδρεϊφόντῃ would have had to take place soon after the vocalization of **r̥*, which he also dates to an early phase of the palatial period. However, he also points out that synizesis of -ῳ ἀ- could not have been tolerated at that time, because *yod* still functioned as a full-fledged consonant. Another problem is that the attested Mycenaean name *a-no-qo-ta*[126] shows no trace of the change **r̥* > -ρο- that is supposed to be reflected in the Homeric form.

Still assuming that the formula originated in a Mycenaean orbit, the framework proposed here is able to resolve all the problems connected with previous solutions. First of all, if **r̥* was still present in Mycenaean, the period to be bridged is much smaller. The verse containing **Enūaliōi anr̥kʷʰontāi* may have entered the epic tradition in that form in the late Mycenaean period, and it would have been retained in a metrically unproblematic form with Epic **r̥* until this sound was eliminated. At that point, an intermediate form *ἀνραφόντῃ may have come into being, with tautosyllabic rendering of onset *nr-*. Later, when this onset became difficult to render and the form developed to *ἀδραφόντῃ, a certain poet tried to retain the connection with 'man' and took more drastic measures: he created ἀνδρεϊφόντῃ on the model of Ἀργεϊφόντῃ, and applied crasis at the same time. It is hard to tell whether this last replacement was the work of the poet of our *Iliad*, of a poet working not long before him, or even whether the form entered the text of the *Iliad* after its first fixation.[127] At any

(…) 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).

125 See e.g. West (1988: 156 f.), Leukart (1994: 54), Lamberterie (2004: 240–241).

126 Ruijgh's claim that the first member of *a-no-qo-ta* was the adverb /anō-/ 'up' is extremely unlikely, and has rightly been discarded by most scholars.

127 With Haug, I am inclined to think that the replacement ἀνδρεϊφόντῃ could come into being only after synizesis of long vowels over a word boundary 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). Bechtel (1914: 44), followed by Wackernagel (1916: 172), surmised that Aeschylus, who uses the form ἀνδροφόντης, read this form in his private copy of the *Iliad*. Clearly, it is difficult to arrive at more than speculations, but it is also important to stress that we remain in the dark about many details, including the question whether ἀνδρεϊφόντῃ was actually sung during the compositional stages of our *Iliad*.

rate, the change *-*nr*- > -*dr*- could theoretically be post-Homeric (cf. what has been said above on the readings ἀδροτῆτα versus ἀνδροτῆτα).

7.3.3 *Other Homeric Forms with ἀνδρο- and ἀνδρα-*

There are four other forms whose phonology or morphology is suggestive of an older **anr̥*-: Hom. ἀνδρόμεος 'human', the nouns ἀνδράποδον 'slave' and ἀνδραφόνος 'murderer' (a variant of ἀνδροφόνος), and the adverb ἀνδρακάς 'man by man, each man apart'.

Can the reflex -ρα- in the last three forms be the regular outcome of Epic **r̥*? That is, can an origin of these forms in the epic tradition be motivated? As we will see, this is quite conceivable for ἀνδρόμεος and ἀνδρακάς in view of their pattern of attestation, but less evident for ἀνδράποδον and ἀνδραφόνος.

A second way to account for ἀνδρα- as the outcome of **anr̥*- in Ionic-Attic is to assume that the expected reflex **anər* was analogically reshaped at an early stage as **an*(*d*)*rə*- after other forms with *andr*- in prevocalic position. This allomorph *andr*- was already present in oblique case forms of the simplex (cf. ἀνδρός, ἀνδρί), and also in compounds with a prevocalic first member ἀνδρ- or a second member -ανδρος. Indeed, it would be plausible if a discrepancy between preconsonantal **anər*- and prevocalic **an*(*d*)*r*- was eliminated soon after the vocalization of **r̥*, and it would be logical if **anər*- was changed into **an*(*d*)*rə*- under influence of the prevocalic form. If this second scenario is accepted, it allows us to avoid the unnecessary assumption of epicisms.

Let us examine the words in more detail. According to Photius,[128] Solon regularly used ἀνδραφόνος instead of ἀνδροφόνος 'man-slaying; murderer'. In both its forms, the word is a clear archaism, as reflexes of PIE **g*^{wh}*en*- in the meaning 'kill' had been replaced by the root κτεν-.[129] In Homer, ἀνδροφόνος is an epithet of warriors (notably Hector) who habitually kill men. In the Classical language, 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.[130]

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128 Lemma 1753 of Photius' *Lexicon* runs: ἀνδραφόνων· οὕτως Σόλων ἐν τοῖς Ἄξοσιν ⟨ἀντὶ⟩ τῶν ἀνδροφόνων ἀεί φησιν.

129 As Watkins (1995) stresses on various occasions, the root allomorph φον- is unproductive. Contrast the relic status of compounds in -φόνος with the productivity of compounds in -κτόνος in the tragedians and Hdt. (e.g. πατροκτόνος, μητροκτόνος, αὐτοκτόνος).

130 See Watkins (1995: 497–498) and García Ramón (2007a: 117). The unmarked Classical Greek word for 'murderer' was φονεύς. A similar difference in register is found between the poetic word ἀνδροκτασίη 'manslaughter' (at least when used in the singular, cf. García Ramón 2007a: 116) and the vernacular word φόνος 'murder' (normal in Classical prose; in Homer it mostly means 'slaughter', but 'murder' at *Od.* 4.771). Obviously, ἀνδροφονία (first attested in Aristotle) was productively derived from the legal term ἀνδροφόνος.

The innovative form ἀνδροκτόνος (trag., Hdt., B.) is used in the same way as ἀνδροφόνος in Homer.

Solon's ἀνδραφόνος has been adduced as evidence for the regular reflex of **anr̥-* in Ionic-Attic.[131] However, given that ἀνδροφόνος is a high-register legal term in Classical Attic, it is not impossible that the form was taken from the language of epic. This is also the view of Watkins (1995: 390), who notes that before the vocalization of **r̥*, the epic form would have been **ānr̥pʰono-*, with metrical lengthening of the first of three consecutive short syllables.[132] According to Watkins, this regularly resulted in ἀνδραφόνος (the metrical lengthening was made undone after the vocalization of **r̥*), which was subsequently reshaped into ἀνδροφόνος after other compounds with ἀνδρο-.[133] If Solon did not use the Homeric form ἀνδροφόνος, this could be an instance of Attic being more conservative than Ionic. Accepting that Solon's ἀνδραφόνος is an epicism, however, implies that it was borrowed into Attic legal language before it was replaced by ἀνδροφόνος in the epic tradition.

For Watkins, as for most other scholars, Attic ἀνδραφόνος may unproblematically reflect **anr̥pʰono-*, but the development **-r̥-* > *-ra-* has become problematic for my present argument. Rather than explaining this as an epicism, we might therefore suppose that the vocalization **anr̥-* > **andrə-* was influenced by the widely-used prevocalic stem *andr-*.

Further testimony for the prolonged presence of **anr̥-* in Epic Greek is perhaps furnished by the abstract noun 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* (gen.sg.) /anr̥kʷʰasiās/ 'manslaughter' (García Ramón 2007a). As Mühlestein (1958) remarked, this has metrical reasons: **anr̥kʷʰasiā* contained four consecutive short syllables.[134] Epic Greek apparently introduced -κτ- from the root of

131 E.g. Ruijgh (1995: 87 n. 304).

132 Schmitt (1967: 126) assumes that an impracticable epic form **anr̥pʰono-* was replaced early on by a thematicized **anr-o-pʰono-*.

133 Watkins (1995: 389–390) compares the metrical lengthening to be assumed for **ānr̥pʰono-* with that in ἀνέρε(ς), ἀνέρα (in the same metrical slot in Homer), and with the instrumental and locative plural forms **anr̥pʰi*, **anr̥si* of the simplex, which would no doubt have been realized in epic with metrical lengthening before the vocalization of **r̥*.

134 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

κτείνω, in spite of the fact that no other compounds in -κτόνος or -κτατος are attested in Homer. The choice for this emergency solution implies that a first member **anar-* or **anor-* was not available at the appropriate time.

The possible explanations of ἀνδραφόνος can be extended to the adjective ἀνδρόμεος 'human, of men', which is attested exclusively in Homer.[135] 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 **h₂nr̥-méi̯o-* > PGr. **anr̥mei̯o-* (cf. Tichy 1981: 47–48). It cannot be excluded that ἀνδρόμεος is the regular Aeolic reflex of PGr. **anr̥mei̯o-*,[136] but the alternative inner-epic scenario along the lines just sketched (original metrically lengthened **ānr̥mei̯o-* with Epic **r̥*) might also be considered. However, this second option requires that the productive allomorph ἀνδρο- was introduced even if -μεος was not a productive suffix.

The pre-form to be reconstructed for the collective ἀνδράποδα 'slaves' (in Homer only ἀνδραπόδεσσι *Il.* 7.475) would be **anr̥-pod-a*. Given its three consecutive light syllables, the scenario with metrical lengthening of initial ἀ- and retention of Epic **r̥* is conceivable. However, given that the form is not typical for epic, the alternative (generalization of **andrə-* before consonants after *andr-* before vowels) is perhaps preferable. Unlike ἀνδροφόνος, ἀνδράποδα was not influenced by compounds with ἀνδρο-; this can be ascribed to influence of the semantically close τετράποδα 'cattle'. It is even possible that ἀνδράποδα itself was analogically created on the basis of τετράποδα (rejected without argumentation by Tichy 1981: 47 n. 44): see *GEW* and *DELG* s.v., with further references.

It remains to explain the adverb ἀνδρακάς, which in early Greek is attested only at *Od.* 13.14 and A. *Ag.* 1595.[137] It is quite possible that this relic form was

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Adjektiven nur ἀνδροφόνος episch ist, nicht auch ἀνδροκτόνος. Der Weg zur homerischen Sprache geht also nicht durchs Mykenische hindurch, sondern am Mykenischen vorbei." This final conclusion is premature, for one could also reason in a different way: the emergency solution applied in ἀνδροκτασίη may show that there never was a form like Myc. **anork^{wh}asiā* or Ionic **ἀναρφασίη*. In other words, ἀνδροκτασίη could be seen as indirect evidence for the retention of **r̥* in Mycenaean.

135 Cf. the formulaic phrase χροὸς ἀνδρομέοιο (*Il.* 17.571, 20.100, 21.70), as well as the remarkable and otherwise isolated ὅμιλον ἀνδρόμεον (*Il.* 11.538).

136 An Aeolism might also explain the barytone accentuation of ἀνδρόμεος (compare accented Vedic *-máya-*), but it is not certain that the phenomenon of epic barytonesis derives from Aeolic.

137 A noun ἡ ἀνδρακάς is attested in the meaning 'group of ten men' for Phrynichus (2nd c. CE), and in the meaning 'portion; shared contribution' for Nic. *Th.* 643; the latter is perhaps due to a learned reinterpretation of the Homeric passage, cf. Leumann 1950: 266.

preserved in the epic tradition. The suffix -κάς is a morphological archaism, otherwise found only in ἑκάς 'set apart, at a distance' (< PGr. **hu̯e-kas*) and its extension ἕκαστος 'each'. It is etymologically related to the Indo-Iranian morpheme **-ćás* 'X times', e.g. Ved. *sahasra-śás* 'a thousand times' (RV+), Av. *nauua.sās* 'nine times'. Clearly, the reflex -ρα- in ἀνδρακάς is an archaism, just as in ἀνδραφόνος.

The deviating place of the anaptyctic vowel can be explained in the two ways sketched above. On the one hand, we may assume that a relic pre-form **anr̥kás* was restricted to Epic Greek, and that before vowels this tribrach was used with metrical lengthening of the first syllable. Eventually, after the vocalization of Epic **r̥* the form would have been adopted by Aeschylus and later authors. Alternatively, we might assume that **anr̥kás* existed in the Ionic-Attic vernaculars, and that it was vocalized analogically as **an(d)rəkás* rather than **anərkás* on the model of prevocalic **an(d)r-* in the simplex and in compounds.

As for the oxytone accentuation of ἀνδρακάς, it could suggest that the development of (Epic) **r̥* took place after Wheeler's Law.[138] However, the ancient grammarians (e.g. Ap. Dysc.) already remarked that all adverbs in -άς are oxytone. Therefore, it cannot be excluded that the accentuation of ἀνδρακάς was influenced by forms like ἑκάς.

7.3.4 *θρόνος*

Alphabetic Greek θρόνος 'ornamented chair, throne' (Hom. and Class.) is clearly the same etymon as Mycenaean *to-no* /tʰorno-/ or /tʰr̥no-/ (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, while κλισμός refers to a kind of couch or sofa.[139]

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 2.5.2, it is possible that Myc. *to-ro-no-wo-ko* contains the ety-

138 According to Wheeler's Law, an oxytone word becomes paroxytone if it has a 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 to this chronology either, because this noun may have generalized a columnar accent in the weak cases (ἀνδρός, ἀνδρί, ἀνδρῶν). As far as I have seen, the example ἀνδρακάς has so far gone unnoticed in this connection: it is not mentioned in Meier-Brügger (1992b).

139 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.

mon of Hom. θρόνα, which could mean 'colored or dyed threads of wool'.[140] I therefore leave *to-ro-no-wo-ko* out of further consideration. The other Mycenaean form *to-no* has 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 form could be original (see e.g. Hajnal-Risch 2006: 102–103 and 202–205), but as I have stressed throughout this book, this assumption is hard to substantiate. Given that Homer applies *McL* scansion in various case forms of θρόνος, a reconstruction **tʰr̥no-* also deserves consideration (thus e.g. Wathelet 1966: 165). Upon this view, Myc. *to-no* and the gloss θόρναξ would display the regular Achaean reflex of **r̥*, while epic θρόνος would have the Aeolic outcome.[141] This scenario requires that Ionic-Attic θρόνος is an epicism, which seems possible.[142] 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 section 2.5.2) and the evidence for *McL* scansion in Homer would remain unexplained.

Another proposal (Viredaz 1983, followed by Lamberterie 2004) is that Myc. *to-no* /tʰórno-/ represents the original form, while Ion.-Att. θρόνος developed by contamination with the related word θρῆνυς 'footstool'. Indeed, in the Pylos tablets *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.[143] This scenario is interesting, but alternative explanations cannot be excluded beforehand. In particular, referring as it does to an item of material culture, θρόνος ~ *to-no* may be a loanword which was borrowed on two different occasions.

This brings us to the fact that θρόνος has no generally accepted Indo-European etymology. Previous suggestions and their problems are summarized by Lamberterie (2004: 242–243); they all start from the PIE root **dʰer-* 'support'.

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140 *Pace* Lamberterie, who 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).

141 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 646–667).

142 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 a θρόνος is always an object of high status.

143 Lamberterie notes that the initial θρ- makes position in the majority of Homeric instances of θρόνος, "notablement dans un tour visiblement formulaire comme ἐπὶ θρόνου ἀργυροήλου # (4×)" (2004: 244). As he remarks, this scansion is hard to reconcile with the idea that θρόνος contains metrical traces of **r̥*. The metrical evidence from Homer (including the compounds in -θρονος) will be considered in more detail below.

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 very shaky because a suffix -όνο- cannot be understood in Indo-European terms.[144] On the other hand, Saussure had already proposed that θορν- (which later turned up as Myc. *to-no*) was the oldest form, assuming a *no*-derivative from the *o*-grade root, *$d^hór$-*no*-. Wathelet (1966) and Heubeck (1972), starting from the evidence for *McL* scansion in Homer, assumed a pre-form *$d^hr̥$-*no*-.

More recently, Lamberterie (2004: 246) has argued that θρόνος and Myc. *to-no* cannot be separated etymologically from Hom. θρῆνυς (Myc. *ta-ra-nu*, Att. θρᾶνος). Deriving both words from the same root *d^herh_2-, he starts 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.[145] 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'). Secondly, in order to reconstruct *d^horh_2-*no*- beside *d^hrh_2-*no*-, Lamberterie must 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 nouns were not productive in Greek.

In my view, all previous proposals suffer from the same problem: neither a root *d^herh_2- nor *d^her- 'support' is securely reflected in Greek.[146] Furthermore, the proposed *no*-formation would be unparalleled in other Indo-European lan-

144 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.

145 In my view (Van Beek 2011b), the Saussure Effect in Greek may have to be formulated differently: in examples like πόρνη, τόρμος, but also in *e*-grade forms like στέρνον and τέρμα, the laryngeal was lost in the environment **VLHNV*. Lamberterie's proposal to reconstruct *θόρνος as *d^horh_2-*no*- could also be interpreted along these lines, but as explained in the main text, I do not think that his root reconstruction is correct.

146 It is uncertain whether θρησκεύω 'to perform religious duties' (Hdt.) contains the root of θρῆνυς 'footstool'. Theoretically, this verb could derive from a noun *θρησκός or *θρησκεύς 'supporter', but it remains unclear why the suffix *-sk-* would appear in these derivations. García Ramón (1999) recognizes the root *d^her- in Thess. Θροσια, but this remains conjectural as well (see section 3.3.2). I have elsewhere (Van Beek 2018: 60–61) subscribed to the view that ἀθρέω 'to observe' contains the root θρη-, and proposed that the initial vowel contains a trace of the preverb **ad-*. As for the root shape θρη-, as explained there (o.c. 61 with n. 78), there are at least two ways to obtain it secondarily within Greek from an original PIE *d^her-. The root θρη- is also found in the glosses θρήσκω· νοῶ 'perceive, take notice' and ἐνθρεῖν· φυλάσσειν 'guard' (both Hsch.).

TABLE 18 The pattern of attestation of θρόνος in Homer

Form	##	Significant attestations	Remarks
θρόνος	1	*Od.* 6.308, with *McL*	Only *Od.*
θρόνον	10	θρόνον $\|_B$ (6×) ἐς θρόνον ἷζε (εἷσεν) $\|_T$ (3×)	*Il.* and *Od.* Never *McL*
θρόνου	19	ἐπὶ θρόνου ἀργυροήλου (*Il.*, *Od.*) ἰδὲ θρόνου ἀργυροήλου (*Od.* 22.341) ἐπὶ θρόνου ἷζε φαεινοῦ (*Il.*) ἀπὸ θρόνου ὦρτο φαεινοῦ (*Il.*) ἐπὶ θρόνου εἷσε φαεινοῦ (*Od.*)[147]	*Il.* and *Od.* Never *McL*
θρόνῳ	4	3× with *McL*: # σείσατο δ' εἰνὶ θρόνῳ (*Il.* 8.199) # ἕζετο δ' εἰνὶ θρόνῳ (*Il.* 15.150) $\|_T$ θρόνῳ ἔνι (*Il.* 15.142) 1× without *McL*: # ἐν θρόνῳ ἱδρύσασα (*Od.* 5.86)	*Il.* and *Od.*
θρόνοι	1	*Od.* 7.95, with *McL*	Only *Od.*
θρόνους	11	κατὰ κλισμούς τε θρόνους τε # 8×	Only *Od.*
θρόνων	2	προπάροιθε θρόνων # ἐκ δὲ θρόνων	Only *Od.*
θρόνοισι	5	καθῖζον ἐπὶ ξεστοῖσι θρόνοισιν # καθῖζον ἐν ὑψηλοῖσι θρόνοισι # ῥάσσατέ τ' ἔν τε θρόνοισ' εὐποιήτοισι τάπητας # ἔβαλλε θρόνοισ' ἔνι ῥήγεα καλά # κώεα καστορνῦσα θρόνοισ' ἔνι δαιδαλέοισι #	Only *Od.*

guages, so that we are ultimately left with a conjectural root etymology. As Heubeck already remarked, "in this case, certainty is not possible" (1972: 78).

In order to assess the likelihood of a pre-form *$t^hr̥no$- let us now discuss the metrical peculiarities of the Homeric attestations in more detail. Table 18 contains information about the number of attestations per case form, as well as remarks on metrical behavior and pattern of attestation (presence in *Iliad* and/or *Odyssey*).

147 According to Chantraine (1953: 108), there is no perceptible difference in use between the genitive and dative with ἐπί.

The phonological surface structures of θρόνος and βροτός are rhythmically identical. Since βροτός contained *$_{\mathring{}}r$, and since *McL* frequently occurs in both words, it seems attractive at first sight to derive θρόνος from a pre-form with *$_{\mathring{}}r$, too. There are, however, clear differences between the metrical behavior of θρόνος and that of βροτός. In general, *McL* 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 between the respective forms with *McL*. Whereas the gen. pl. βροτῶν is extremely frequent, θρόνων only occurs twice in Homer, and while the frequent dat. pl. βροτοῖσι is almost exclusively verse-final, only 2 out of 5 attestations of θρόνοισ(ι) are verse-final. What is more, all instances of θρόνοισ(ι) could be secondary modifications by the *Odyssey* poet of older phraseology with the words λίθοισι and δόμοισιν;[148] compare:

– καθῖζον ἐπὶ ξεστοῖσι θρόνοισιν (*Od.* 16.408) beside καθῖζον ἐπὶ ξεστοῖσι λίθοισι (*Od.* 8.6). The latter phrase also appears in modified shape as κατ' ἄρ' ἕζετ' ἐπὶ ξεστοῖσι λίθοισιν (*Od.* 3.406), and as a first hemistich in εἵατ' ἐπὶ ξεστοῖσι λίθοισ' ἱερῷ ἐνὶ κύκλῳ (*Il.* 18.504). The use of polished stones as seats on specific occasions (e.g. legal sessions, as on the shield of Achilles) is likely to be a traditional feature of epic diction.
– ἐν ὑψηλοῖσι θρόνοισι (*Od.* 8.422) beside ἐν ὑψηλοῖσι δόμοισιν (*Il.* 6.503, *Od.* 17.110).
– ἔν τε θρόνοισ' εὐποιήτοισι (*Od.* 20.150), θρόνοισ' ἔνι δαιδαλέοισι (*Od.* 17.32) and θρόνοισ' ἔνι (*Od.* 10.352) beside δόμοις ἔνι (6×), in particular δόμοισ' ἔνι ποιητοῖσιν (*Il.* 5.198, *Od.* 13.106).

Other case forms of θρόνος are also used in a very different way compared to those of βροτός. The nom. pl. θρόνοι and the nom. sg. θρόνος are attested only once, both scanning as an iamb with *McL*, whereas the same case forms of βροτός are frequent and are regularly placed before vowels, avoiding *McL*. The acc. pl. βροτούς is attested only once, whereas θρόνους appears with *McL* in the frequent formula $|_{\mathrm{P}}$ κατὰ κλισμούς τε θρόνους τε. Wathelet's view that this phrase is an old formula is hard to prove: Gallavotti's suggestion (1968: 846) that it represents an adaptation of a *κατὰ κλισμούς θόρνους τε (with the Mycenaean form)

148 Hoekstra (1965: 145) goes too far in his treatment of this word. He claims that the T_2-expression θρόνοισ' ἔνι δαιδαλέοισι was based on an old P_2 counterpart *θόρνοισ' ἔνι δαιδαλέοισι ("resulting from conjugation of a narrative T_1-formula"), and that ἔν τε θρόνοισ' εὐποιήτοισι reflects an older phrase without τε, i.e. *ἐν θόρνοισ' εὐποιήτοισι. There is no concrete indication that these claims are correct.

seems somewhat speculative, but cannot be excluded.[149] In the acc. pl. *McL* scansion is further attested in θρόνους |$_{P}$ περικαλλέας (2×, in the repeated verse *Od.* 22.438 = 452) and ἕς ῥα θρόνους ἕζοντο (*Od.* 4.51), which may have been modelled on an older phrase ἐς θρόνον ἷζε / εἷσεν (3×).

All 20 instances of θρόνος with *McL* discussed so far (in the nom. sg. and all cases of the plural) are attested exclusively in the *Odyssey*. Generally speaking, θρόνος is more frequent in the *Odyssey* (39×, against 14× 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 telling. Even so, it is conceivable that the productive extension of *McL* scansions in the *Odyssey* is an innovation of that epic.[150] In order to further investigate this hypothesis, let us restrict ourselves to the case forms that are attested in both *Iliad* and *Odyssey*.

The acc. sg. θρόνον (10×) and the gen. sg. θρόνου (19×) are used only before a following vowel, and occur in formulaic phrases like ἀπὸ θρόνου ὦρτο φαεινοῦ and καθεῖσεν ἐπὶ θρόνου ἀργυροήλου.[151] This is consistent with the avoidance of *McL* in βροτός. The dat. sg. θρόνῳ, on the other hand, occurs only in the *Iliad* and undergoes *McL* in each of its three occurrences. Leaving aside |$_{T}$ θρόνῳ ἔνι (*Il.* 15.142, with *McL* after the caesura), the remaining two attestations of the dat. sg. have played an important role in previous discussions (see Heubeck 1972: 78):

σείσατο δ' εἰνὶ θρόνῳ
Il. 8.199

ἕζετο δ' εἰνὶ θρόνῳ
Il. 15.150

The simultaneous occurrence of metrical lengthening in the preposition εἰνί and *McL* in θρόνῳ is odd and asks for an explanation.[152] As ἐν θρόνῳ ἰδρύσασα |$_{P}$

149 At verse end, we find phrases of the structure A B τε, e.g. ἵππους ἡμιόνους τε (*Il.* 24.576 and 690), βόας ἡμιόνους τε (*Il.* 24.782); but there are more examples of A τε B τε, e.g. ἀρνειούς τε τράγους τε (*Od.* 9.239, note the *McL* scansion in τράγος), καλούς τε μεγάλους τε (*Od.* 18.68). The former structure is clearly an archaism.

150 Thus, I agree with Lamberterie (2004: 244) when he remarks: "les examples de *correptio*, qui pour la plupart sont attestés dans l'*Odyssée*, ne semblent guère anciens".

151 The verse-final genitives in -ου contain irresolvable contractions, but this need not imply a recent creation of such phrases: the forms might reflect older ablative-instrumentals in -ω, an ending preserved in the Myc. thematic 'genitive' in *-o*.

152 Thus already Lee (1959: 7).

(*Od.* 5.86) shows, the dat. sg. was in fact used before vowel-initial words, again consistent with the use of βροτῷ (4× thus in Hom.). It would have been unproblematic to start a hexameter with a participial clause like *ἐν θρόνῳ ἑζόμενος |P. It is also noteworthy that the colon ἐς θρόνον ἷζε (εἷσεν) |T (3×) has no parallel in the dative.

To reconstruct a noun phrase **eni t*^{h}*r̥nōi* with metrical lengthening of the first syllable would, however, be premature. Lee (1959: 7), followed by Hoekstra (1965: 145) and Lamberterie (2004: 244–245), suggested to explain the hemistich ἕζετο δ' εἰνὶ θρόνῳ |P as a late modification of an obsolete *ἐν θόρνῳ, with the Mycenaean form. This is possible, but since there is certainly an element of speculation in this suggestion, I propose an alternative: to explain ἕζετο δ' εἰνὶ θρόνῳ as a modification of the first hemistich ἕζετο δ' ἐν κλισμῷ "seated himself on a bench" (*Il.* 24.597, *Od.* 4.136).[153]

In conclusion, the general picture obtained from the metrical evidence is quite different from that found for βροτός. Potential indications that the pre-form of θρόνος contained **r̥* are concentrated in the *Odyssey*, and none of the instances concerned must be very archaic. I therefore agree with Lamberterie that the *McL* scansion in θρόνος is due to a recent extension of the licence in the *Odyssey* ("abrègements récents", 2004: 244), and that there is no compelling evidence for a pre-form **t*^{h}*r̥no-*. On the other hand, I agree with Wathelet and Heubeck that no certainty can be reached about the etymology of θρόνος.

7.3.5 *Κρόνος*

The name of Kronos, the father and predecessor of Zeus, has no convincing etymology.[154] This would be a sufficient reason to exclude it from the present discussion, if it were not for the fact that the frequent nominative Κρονίων (referring to Zeus, always with long ῑ in Homer) and some case-forms of Κρόνος occur with *McL* scansion in Epic Greek. However, are the formulae involving forms of Κρόνος with *McL* scansion really old? The case of θρόνος has taught us that no conclusions can be drawn before we have made a thorough analysis

153 As Perpillou (1981: 228–229) has shown, 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 dat.pl. in the second hemistich ἐπὶ κλισμοῖσι καθῖζον (*Il.* 8.436 and 11.623, *Od.* 17.90), in the first hemistich εἷσεν δ' ἐν κλισμοῖσι |T (*Il.* 9.200), as well as in the formula |P κατὰ κλισμούς τε θρόνους τε (8× *Od.*).

154 Janda's proposal (2010: 50–51) to reconstruct **kr-ono-* 'cutter' (a name which would refer to the castration by Kronos of his father Ouranos) suffers from the lack of compelling evidence for a suffix **-ono-*: see above on θρόνος. In addition, a suffix with two full grade vowels is morphologically awkward.

of its metrical behavior. In this investigation of Kronos, I also include material from Hesiod because the name has a high relative frequency especially in the *Theogony*.[155]

Let us first consider instances where forms of Κρόνος are not used with *McL*. In our analysis of βροτός, we have seen that cases of βρ- making position length are relatively rare in Homer. I have related this to the fact that βροτός had Epic **ϱ* at an earlier stage. In the case of Κρόνος, the situation is completely different. First limiting our attention to 13 instances of the nom. and acc. sg. forms in Homer and Hesiod, we find that Κρ- makes position in the following 5 expressions:

– τέκετο Κρόνος ἀγκυλομήτης *Il.* 4.59 (cf. also *h. Aphr.* 22 and 42);
– ἰδὲ Κρόνον ἀγκυλομήτην *Th.* 18;
– γένετο Κρόνος ἀγκυλομήτης *Th.* 137;
– πατέρα Κρόνον *Th.* 73;
– ὅτε τε Κρόνον εὐρύοπα Ζεύς *Il.* 14.203.

In all these cases, Κρόνος or Κρόνον is localized in the fourth thesis. This is also the case in the following formulaic uses:

– μέγας Κρόνος ἀγκυλομήτης 'Kronos of crooked plans' (*Th.* 168, 473 and 495);
– μέγας Κρόνος without following ἀγκυλομήτης (*Th.* 459);
– θεοὶ Κρόνον ἀμφὶς ἑόντες 'the gods that surround Kronos' (*Il.* 14.274 and 15.225);
– Τιτῆνές θ' ὑποταρτάριοι Κρόνον ἀμφὶς ἑόντες (*Th.* 851).

Thus, we have evidence for two formulaic phrases, Κρόνος ἀγκυλομήτης (preceded by a middle verb form in -ετο, by μέγας or by ἰδέ) and Κρόνον ἀμφὶς ἑόντες modifying a preceding nominative plural form. Both are attested in Homer and Hesiod, and everything suggests that both are old.[156] It follows that the option of Κρόνος making position in the fourth foot is old, too.

This conclusion is confirmed to a large degree by the behavior of the genitive form Κρόνου. In Hesiod this form occurs 7×, always without *McL*; on five occasions it again occupies the fourth thesis (three times in the second verse half ὅσοι Κρόνου ἐξεγένοντο / ἐκγενόμεσθα). In Homer, there is one instance of Κρόνου in this position: δύω Κρόνου υἷε κραταιώ (*Il.* 13.345); in spite of its isolation the phrase might well be traditional (note the dual υἷε with barytone accentuation and κραταιώ with *McL* reflecting Epic **ϱ*). Position length occurs in the prepositional phrases ὑπὸ Κρόνου (*Th.* 395) and ἐπὶ Κρόνου (*Op.* 111).

155 I include only the *Theogony* and the *Works and Days*, without the intention of making any claims about Hesiod's authorship of other works and fragments. I have not systematically included the *Homeric hymns*, as this would not change the picture in a substantial way.

156 Cf. Hoekstra (1957: 213–214) on Κρόνος ἀγκυλομήτης.

Somewhat surprisingly, Homer (and in particular the poet of the *Iliad*) is the outlier in that he uses the genitive Κρόνου almost exclusively with *McL*. This form occurs in the following formulae:

– |$_{T}$ Κρόνου πάϊς ἀγκυλομήτεω (7 × *Il.*, 1 × *Od.*) referring to Zeus in the nom. sg;[157]
– |$_{T}$ Κρόνου πάϊς without the verse-final epithet (5 × *Il.*).

A second instance of *McL* is found in the formulaic naming verse and verse of address for Hera:

– Ἥρη πρέσβα θεὰ θύγατερ μεγάλοιο Κρόνοιο (*Il.* 14.194 and 243);
– Ἥρη πρέσβα θεὰ θυγάτηρ μεγάλοιο Κρόνοιο (*Il.* 5.721 and 8.383).

Finally, there is one isolated instance of *McL* in the verse-end ἵν' Ἰάπετός τε Κρόνος τε (*Il.* 8.479). However, since this is the only exception to the consistent localization of the nom. and acc. of Κρόνος in the fourth thesis, and since the elided form ἵν' preceding Ἰάπετός also belongs to the same colon, it is probably a one-off creation.

The verse for Hera and the phrase |$_{T}$ Κρόνου πάϊς without following ἀγκυλομήτεω are found only in the *Iliad*. The formula |$_{T}$ Κρόνου πάϊς ἀγκυλομήτεω also occurs once in the *Odyssey*, but is much more frequent in the *Iliad* and absent from Hesiod. I will now argue that the *Iliad* poet is responsible for the creation of these phrases.

As was seen by Hoekstra (1957: 213–214 and 1965: 35–36 with n. 1), the combination of quantitative metathesis in ἀγκυλομήτεω and the irresolvable contraction of the ending in Κρόνου strongly suggest that Κρόνου πάϊς ἀγκυλομήτεω is a recent creation. It is a combination of the phrase Κρόνου πάϊς and a declined form of ἀγκυλομήτης, which occurs in the old formula |$_{H}$ Κρόνος ἀγκυλομήτης. Crucially, there is another formula of the same metrical structure that refers to Zeus in the nominative, πατὴρ ἀνδρῶν τε θεῶν τε. This is attested 15 × in Homer, 4 × in Hesiod (*Th.* and *Op.*), and is widely used in Hesiodic catalogue fragments. Thus, everything suggests that the extension of |$_{T}$ Κρόνου πάϊς with ἀγκυλομήτεω is a recent creation of the *Iliad* poet.

The shorter phrase |$_{T}$ Κρόνου πάϊς is not traditional either. First of all, we must note that the metrical slot of Κρόνου πάϊς is also filled by Κρονίων, and that the latter actually occurs there 4 times in Homer.[158] It is remarkable that verse-final Κρονίων is usually preceded by an aorist indicative form (see the next section), and that the same is true without exception for |$_{T}$ Κρόνου πάϊς in the *Iliad* and for

157 In the *Hymn to Demeter*, we also find |$_{T}$ Κρόνου πολυώνυμος υἱός (in the repeated line *h. Dem.* 18 = 32), referring to Hades.

158 These places are *Il.* 17.269; *Od.* 17.424, 19.80 and 20.273. Note that Κρόνου πάϊς cannot be used before words starting with a consonant, while Κρονίων can (and actually is so used at *Od.* 20.273).

the three occurrences of |$_{T}$ Κρονίων in the *Odyssey*.[159] The only occurrence of |$_{T}$ Κρονίων in the *Iliad* (17.269), on the other hand, is preceded by the noun phrase λαμπρῇσιν κορύθεσσι. That |$_{T}$ Κρονίων was originally more frequent in this position is also suggested by the fact that the gen. |$_{T}$ Κρονίονος occurs twice. In view of these distributions, it is likely that Κρόνου πάϊς is a relatively late replacement of Κρονίων in its position after the trochaic caesura.

What about the second verse half |$_{P}$ θύγατερ / θυγάτηρ μεγάλοιο Κρόνοιο: must the scansion of Κρόνοιο be a reflex of Epic *$\digamma$? Again, attestations are limited to the *Iliad*. The ending -οιο in verse-final position gives the verse an archaic appearance, but we must keep in mind that -οιο is productive in Epic Greek. Furthermore, the nominative verse is probably a transformation of the vocative verse, because πρέσβα 'Venerable Lady' seems to be an original vocative (probably after πότνα 'Lady'). Once πρέσβα had been transformed into a nominative, it was also used in the phrases πρέσβα Διὸς θυγάτηρ Ἄτη (*Il.* 19.91) and πρέσβα Κλυμένοιο θυγατρῶν (*Od.* 3.452).

As for the genesis of the phrase |$_{P}$ θύγατερ μεγάλοιο Κρόνοιο referring to Hera, I propose it was formed on the model of |$_{T}$ Κρόνου πάϊς ἀγκυλομήτεω, which refers to her husband Zeus. The motive for creating a new formula may have been the masculine caesura after Ἥρη πρέσβα θεά: there is no other verse-final formula in this slot referring to Hera. An additional argument is the following: if the formula for Zeus were based on that for Hera, one would expect θυγάτηρ μεγάλοιο Κρόνοιο to be mirrored as *πάϊς μεγάλοιο Κρόνοιο, rather than the attested Κρόνου πάϊς ἀγκυλομήτεω. By creating a vocative verse ending in |$_{P}$ θύγατερ μεγάλοιο Κρόνοιο, the *Iliad* poet permitted himself an incidental use of *McL*, probably encouraged by his use of the same license in |$_{T}$ Κρόνου πάϊς. Moreover, the acceptability of Κρόνοιο at verse end was no doubt enhanced by the existence of Κρονίων in the same position. The generic epithet μεγάλοιο may have been taken over from the older phrase |$_{T}$ μέγας Κρόνος ἀγκυλομήτης, the oldest shape of the formula.

In sum, the formulae |$_{T}$ Κρόνου πάϊς ἀγκυλομήτεω and |$_{P}$ θύγατερ μεγάλοιο Κρόνοιο both show signs of recent modification; they presuppose the existence of the formula |$_{T}$ μέγας Κρόνος ἀγκυλομήτης, and hence also the traditional localization of Κρόνος before the bucolic dieresis. The unextended phrase |$_{T}$ Κρόνου πάϊς is a replacement of Κρονίων in the same position. Thus, nothing requires us to posit Epic *$\digamma$ for Κρόνος, and the use of Κρόνος in the fourth thesis speaks against this. For Κρονίων the situation is different, as we shall now see.

159 With the exception of *Il.* 16.431, |$_{T}$ Κρόνου πάϊς ἀγκυλομήτεω is always preceded by a κ-aorist.

TABLE 19 Attestations of the stem Κρονίον- in Homer + Hesiod

Case	Form	##	Noteworthy phrases
nom. sg.	Κρονίων	42 + 3	Usually verse-final after finite verb, e.g. (|$_{H}$ κατέ-)|$_{B}$ νεῦσε Κρονίων (3× *Il.*) |$_{H}$ ἐτέλεσσε Κρονίων (2× *Od.*) |$_{H}$ ἐτάνυσσε Κρονίων (2× *Il.*) |$_{T}$ ἐπεκραίαινε Κρονίων (2× *Il.*) Also 4× after |$_{T}$
gen. sg.	Κρονίονος	2 + 0	Both times after |$_{T}$, in apposition to a preceding gen. Ζηνός. Cf. Μολίονε in the same position.

7.3.6 *Κρονίων*

The theonym Κρονίων, which is used as an metrical alternative for Ζεύς, is commonly analyzed as a patronymic formation in -ίων meaning 'son of Kronos'. Remarkably, it occurs in two different stem forms, one in -ίων, -ίονος (with long ῑ), the other in -ίων- (with short ι). *McL* scansion is applied only in the first stem with long ῑ. These stems are attested as represented in Tables 19 (above) and 20 (next page).

The long ῑ of nom. Κρονίων is usually explained as a metrical lengthening.[160] This assumption is problematic for several reasons. First of all, it would entail that two metrical peculiarities (metrical lengthening and *McL*) were introduced at the same time in a form that would normally scan without a problem. Κρονίων with short -ῐ- was eminently suited for use in the dactylic hexameter, and its complete absence from Homer may well be due to a secondary replacement by Κρονίδης, which has the productive patronymic suffix -ίδης and occurs 37× in Homer.[161] Secondly, the number of parallels for metrical lengthening in the sixth arsis in Homer is small, and many cases can be analyzed as secondary nonce-forms (cf. Wyatt 1969: 222–232).[162]

160 E.g. Ruijgh (1968: 146), Chantraine (1958: 104), Solmsen (1901: 55).

161 The same goes for the vocative Κρονίδη. In Homer, Κρονίων is never used as a vocative, but Pindar does have a vocative Κρονίων (*Pyth.* 1.71, *Nem.* 9.28, 10.76).

162 For instance, verse-final Στυγὸς ὕδωρ (only *Il.* 14.271) is an incident: it may be due to a displacement 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), where the metrical lengthening in a tribrach is regular. Differently, Solmsen (1901) judges the metrical lengthening in forms like ὕδωρ, ἀνήρ to be an old license at verse end and before \|$_{B}$.

TABLE 20 Attestations of the stem Κρονίων- in Homer + Hesiod

Case	Form	##	Noteworthy phrases
gen. sg.	Κρονίωνος	3+1	|$_{T}$ ἐρισθενέος Κρονίωνος (1× *Il.*, 1× *Od.*, 1× *Th.*)
dat. sg.	Κρονίωνι[163]	16+3	|$_{T}$ Διὶ Κρονίωνι ἄνακτι (4× *Il.*, 1× *Op.*)
			|$_{T}$ ὑπερμενέι Κρονίωνι (4× *Il.*, 1× *Th.*)
			|$_{T}$ κελαινεφέϊ Κρονίωνι (3× *Il.*)[164]
			|$_{T}$ Διὶ Κρονίωνι μάχεσθαι (2× *Il.*)
acc. sg.	Κρονίωνα	10+0	|$_{T}$ Δία Κρονίωνα + verb (3× *Il.*, 1× *Od.*)[165]
			|$_{T}$ ὑπερμενέα Κρονίωνα (2× *Il.*)
			|$_{T}$ κελαινεφέα Κρονίωνα (1× *Il.*)[166]
			|$_{T}$ Δία Κρονίωνα ἄνακτα (1× *Il.*)

This means that the *McL* scansion of verse-final Κρονίων is structural and traditional, and therefore to be analyzed as a trace of Epic *$\digamma$. Since the same does not hold for Κρόνος, this means that Κρονίων -ίονος and Κρονίων -ίωνος are originally two distinct lexemes. This conclusion may come as a surprise, but it is reinforced by various other considerations.

First of all, considering the Homeric names in -ίων generally, we find two synchronically distinct types: (1) patronymics in -ίων, which have short -ῐ̄- and maintain long -ω- in all case forms; (2) forms in -ίων which have a long -ῑ̄- throughout and display suffix ablaut (gen. -ίονος). As Ruijgh (1968) has argued, the two types may have different etymological origins. The patronymic type was historically derived from the adjectives of appurtenance in -ιος (cf. Mycenaean patronymics in *-i-jo* /-ios/) with the individualizing suffix -ων. The second type contains a suffix *-*īu̯on-*, attested in Mycenaean in the PNs *a-ri-wo* /Arīwōn/ (= Hom. Ἀρίων) and *a-ki-wo-ni-jo* /Alkīwonios/.[167]

163 Attested both in *Th.* + *Op.*, but not in *Od.*

164 Also in the *Hymns* and the pseudo-Hesiodic *Scutum*.

165 The accusative formulae with Δία are probably transformations of the corresponding dative formulae (since Δία is analogical for older Ζῆν, Ζῆνα), but this is irrelevant for present purposes.

166 Also 1× *h. Aphr.*

167 As Ruijgh (1968: 145) notes concerning the names in -ῑων-, "… 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 -ῑων-, eux aussi, appartiennent à la vieille tradition épique, représentant une formation qui n'est plus productive à l'époque classique". The origin of the suffix *-īu̯on-* seems identical to that of *-āu̯on-*, which is more frequently attested,

Importantly, the ablaut of types (1) and (2) is meticulously kept distinct in Homeric Greek—with the sole exception of Κρονίων. In Homer, type (2) is residual; apart from Κρονίων it is attested only in a few names (Ἀρίων, Ἀμφίων, Ἰξιόνιος, Μολίονε, perhaps Ὑπερίων) and in the invective κυλλοποδίων 'lame-foot' (nickname of Hephaestus).[168] These names are not patronymics, but sobriquets; in most cases, they look like truncated forms of compounds with a first member in -ι-.[169]

Secondly, assuming that only the patronymic Κρονίων -ίωνος (with metrical lengthening of *iota* in the nominative) is old would mean that the genitive form Κρονίονος was secondarily formed. This is, however, unlikely given the predominance of the long-vowel stem Κρονίων-. It was rather the stem with long *iota* that was being replaced: as we have seen, after the trochaic caesura Κρόνου πάϊς was in the process of replacing Κρονίων in the *Iliad*. Thus, |$_{\text{T}}$ Κρονίονος looks like a retained archaism, and *a fortiori* the coexistence of both stem-forms is a relic.[170] Note that Pindar, the only non-epic author to use Κρονίων, uses only the nominative form, both with long and short *iota*.[171]

Thirdly, there is an interesting distribution between both stems: while formulae with Κρονίωνα, Κρονίωνος, Κρονίωνι are usually accompanied by an inflected case-form of Ζεύς earlier in the same sentence, the frequent nom. sg. Κρονίων usually stands on its own, and refers to Zeus by itself.

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e.g. in Myc. dat. sg. *o-qa-wo-ni*, Hom. ὀπάων 'member of the retinue', PN 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 (cf. ὀπάων). This means that an original suffix *-u̯on-* that lengthened a preceding vowel (in Indo-European terms, **-Hu̯on-*) was added to forms ending in *-ă̆-* and *-i-*. Subsequently, **-ā̆u̯on-* was reanalyzed as an independent suffix creating sobriquets and invectives.

168 Perhaps also in βραχίων 'upper arm' if this was originally an invective "shorty" (see section 6.9.5).

169 For instance, Ἰξίων may be 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 with ἀμφι-.

170 A final remarkable difference is the following. Upon 38 verse-final cases of the nom. sg. Κρονίων, the form Ζεύς never occurs earlier in the same verse, with only one exception (*Od.* 21.102). In three of the four non-verse-final instances, |$_{\text{T}}$ Κρονίων stands in apposition to a preceding Ζεύς (*Od.* 17.424 = 19.80, 20.273; without Ζεύς in *Il.* 17.269). This shows that verse-final Κρονίων was originally used without a preceding Ζεύς (thus always in the *Iliad*). On the other hand, the patronymics Κρονίων- and Κρονίδης are regularly accompanied by forms of Ζεύς.

171 The -ι- of Κρονίων 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.

For these reasons, I suggest that nom. Κρονίων (gen. Κρονίονος) belongs to the derivational type in *-*ī̯on-*, whereas acc. Κρονίωνα (etc.) is a patronymic in *-īōn-*. The attested nom. Κρονίων was originally not a patronymic, but a sobriquet derived from a form starting with **kr̥n-* or **kr̥ni-*, possibly a compound. Though its further etymology, unfortunately, remains uncertain,[172] only an analysis involving **r̥* allows us to explain the structural *McL* scansion. When Epic **r̥* was eliminated, **Kr̥nī̯ōn* would have developed to *Κρανίων according to the rules posited in this chapter. We may assume that this *Κρανίων was reshaped as Κρονίων once the nickname was identified with the patronymic Κρονίων- 'son of Kronos', which had never contained a syllabic liquid. Note that the ongoing replacement of Κρονίων by Κρόνου πάϊς after the trochaic caesura presupposes that this identification was made.

This scenario involving two etymologically different words may look overly complicated, but I feel that the metrical evidence asks for such a drastic solution.

7.3.7 *κροαίνω*

In Homer, the verb κροαίνω is attested only in a simile (*Il.* 6.506–511, repeated verbatim at *Il.* 15.263–268) that starts as follows:

> ὡς δ' ὅτε τις στατὸς ἵππος ἀκοστήσας ἐπὶ φάτνῃ
> δεσμὸν ἀπορρήξας θείῃ πεδίοιο κροαίνων
> εἰωθὼς λούεσθαι ἐϋρρεῖος ποταμοῖο
> *Il.* 6.506–508
>
> As when a stalled horse that has fed its fill at the manger breaks its halter and runs κροαίνων across the plain, being used to bathe in the river with its beautiful streams (…).

The context of the simile does not allow us to recover the precise meaning of κροαίνων. This is reflected in the diverging opinions of scholiasts and ancient grammarians: some 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 phrase as 'longing (ἐπιθυμῶν) for the plain'. Later Greek does not help in narrowing down the meaning:

172 From a phonological perspective, there is one obvious candidate: PIE **ḱr̥no-* 'horn', attested in Germanic, Celtic, and Italic (Lat. *cornu*). An original meaning 'horny' might fit the adulterous character of Zeus, but of course, this remains pure speculation.

after Homer, the word is used only by Oppian (κροαίνοντες πεδίοιο *Cyn.* 1.279, clearly based on the Homeric phrase).

In terms of formulaic language, the hemistich |$_{\text{P}}$ θείῃ πεδίοιο κροαίνων need not have a high antiquity. The long-vocalic stem of the subjunctive θείῃ is odd, but several explanations are possible.[173] For the construction, we may compare |$_{\text{P}}$ πολέος πεδίοιο θέοντος (*Il.* 23.521) and |$_{\text{P}}$ πολέος πεδίοιο θέουσαι (*Il.* 4.244), in which a participle form of θέω takes the place of κροαίνων.

The etymology of κροαίνω is problematic, too. It is mostly thought to be related within Greek to κρούω 'to beat, stamp', which has possible Slavic cognates (e.g. Ru. *krušit'* 'to stamp, pound', *kroxa* 'crumble'; see *GEW* s.v. κρούω, reconstructing a PIE root **krous*-). This reconstruction requires that Homeric κροαίνω arose from **krō̯u̯anie̯/o*- by prevocalic shortening after digamma loss. The suffix -αίνω might have been taken over from a few other verbs with comparable semantics (μενεαίνω 'to rage', βλεμεαίνω 'to exult', κραδαίνω 'to brandish'). It is remarkable, however, that these verbs are all epic, while the assumed prevocalic shortening is a late development of the Ionic vernacular.

Thus, the value of the quasi-hapax κροαίνων in our present discussion is problematic: it is unclear what the pre-form was, and the meaning is not entirely certain. Therefore, the scansion of κροαίνων is best viewed as an incidental instance of *McL.*

173 It is unlikely, given the context of the simile, that θείῃ reflects an aorist subjunctive form **t*^{h}*eu̯-s-e/o*-. Moreover, no other aorist forms of θέω are attested in Greek (except for a very late instance), and the Vedic cognate *dhā́vati* does not form an old aorist either. Moreover, δραμεῖν is the normal aorist beside θέω, both in Hom. and Hdt. (see Kölligan 2007a: 186–193). The verb thus appears to be atelic in origin. It has been assumed that θείω reflects an alternative present formation **d*^{h}*eu̯-i̯e/o*- beside **d*^{h}*eu̯-e/o*- (e.g. *LIV*^{2}), and Kölligan (2007a: 195) derives θείω from a lengthened grade ('Narten') present **d*^{h}*ēu̯-e/o*-. A third possibility, which is more likely in my view, is that the variant θείω arose within Epic Greek (cf. already Chantraine 1958: 346 and 492). The idea is that 6 out of 8 attestations of θείω concern the pres. inf. θείειν, which always occurs before a consonant, with the root syllable θει- occupying the thesis. This infinitive may be reconstructed as **t*^{h}*eu̯e*^{h}*en*, whose ending *-εεν was retained within Epic Greek after the contraction to *-ē̯n* in the vernacular. After the subsequent digamma loss and contraction of **-eu̯e*-, the ensuing form **t*^{h}*ē̯en* was eventually replaced with *t*^{h}*ē̯ē̯n*, written θείειν, with the normal infinitive ending. The subjunctive θείῃ in our repeated verse (the only remaining evidence for θείω) may have been based on this infinitive. If this is correct, the verse containing κροαίνων is a recent creation.

7.4 Conclusions

We started this chapter with the question whether an Aeolic origin may account for Homeric words with **r̥* < -ρο-, or whether these words are better explained within the framework proposed in chapter 6. There are two general arguments against an Aeolic origin. First, and crucially, an Aeolic origin does not explain the *McL* scansion found in most such words. Secondly, some of the words in question (e.g. βροτός) are in fact unattested in Aeolic poetry, or they cannot be Aeolic for morphological reasons and have characteristics that are more reminiscent of Mycenaean or a similar dialect (e.g. ἀνδρεῖφόντῃ).

Having reviewed the evidence in this chapter, we may conclude that there is indeed a correlation between -ρο- < **r̥* in typical Homeric words and a preceding labial consonant. The clearest cases are βροτός < **mr̥tó-* and its various derivatives, ἤμβροτον < **āmr̥ton* and ἀβροτάξομεν. Furthermore, I have argued that Ἀφροδίτη, ῥοδόεντ-, πρός (plus πρόσω and πρόσωπον) and perhaps πρόξ also derive from pre-forms with **r̥* (**Aphr̥dītā*, **u̯r̥dou̯ent-*, **pr̥ti̯-* and **pr̥k-*). These reconstructions allow us to explain the existence of by-forms with -ορ- in other dialects (Cretan Ἄφορδιτα, πορτι; Myc. *wo-do-we*) without taking recourse to liquid metathesis, to avoid positing unlikely analogical developments (πρόξ), and most importantly, to explain the structural occurrence of *McL* scansion in Ἀφροδίτη (word-internal), πρός, πρόσω and πρόσωπον.

As for the counterevidence to the claim that ρο is a conditioned reflex of Epic **r̥*, the metrical behavior of θρόνος in the *Odyssey* can be secondary, and its pre-form probably did not contain **r̥*. In ἀνδροτῆτα, the reflex -ρο- instead of expected -ρα- is probably due to a recent reshaping, as in some other words with ἀνδρο-. We also find a reflex of **r̥* in Κρονίων, but the etymology of this name is unknown, and I have argued that Κρονίων -ονος < **Kr̥nīu̯on-* and Κρονίων -ωνος < **Kroniōn-* were originally two different words. I assume that the regular reflex of **Kr̥nīu̯on-* was influenced by **Kroniōn-*.

It is therefore possible to posit a conditioned development Epic **r̥* > -ρο- after labials, but -ρα- elsewhere. This phonetically natural development was not paralleled in the Proto-Ionic vernacular, where *a*-coloring is regular also after labial consonants (cf. ἁμαρτεῖν beside Epic ἤμβροτον, ἀβροτάξομεν).[174] This shows that an independent phonetic change took place within Epic Greek, posterior to the Proto-Ionic vocalization **r̥* > -αρ-. The Cretan parallel for preceding labials as a conditioning factor is not pertinent: in Cretan the anaptyctic vowel developed before the liquid, in Epic Greek after the liquid.

174 On the problematic reflex -ορ- in Att. πόρρω < πόρσω < **pr̥sō*, see section 9.3.

TABLE 21 The vocalization of Epic *$r̥$: chronology

Proto-Greek	Dark Age epic	Homeric	Textual tradition
*$mr̥tos$	> *$mrətos$	> */mrotos/	> βροτός
*$amr̥tos$	> *$amrətos$	> */amᵇrotos/ > */a.mro.tos/	> ἄμβροτος > f. ἀβρότη
*$anr̥tāta$	> *$anrətāta$	> */a.nra.tā.ta/, */a.dro.tā.ta/	> ἀνδροτῆτα
*$anr̥k^{wh}ontāi$	> *$anrəp^{h}ontāi$	> */a.nra.pʰon.tāi/, */a.dro.pʰon.tāi/	>> ἀνδρεϊφόντῃ

TABLE 22 Development of nasal plus /r/ before vowel or consonant

Proto-Gr.	Mycenaean	Dark Ages	Alphabetic Greek
*mrV	mrV? (*o-mi-ri-jo-i*?)	?	perhaps ὄμβρος
*$mr̥C$	*$mr̥C$ (unattested)	*$mrəC$	dial. μροτο-, Hom. βροτός
*$anrV$	$andrV$- (*a-di-ri-ja-te*)	$andrV$-	ἀνδρ-, e.g. ἀνδρίας
*$nr̥C$	$nr̥C$ (*a-no-qa-si-ja*)	*$anrətāt$-	Hom. ἀνδροτῆτα

Another important issue for which a solution has been proposed in this chapter is the irregular scansion of ἀνδροτῆτα and ἀνδρεϊφόντῃ, which has divided Homeric scholarship for a long time. This scansion is explained in a natural way by positing Epic *$r̥$. The developments can be schematically represented as in Table 21.

It is likely that forms of the type μροτο- were sung by the *Iliad* and *Odyssey* poets and that βροτός, though ubiquitous in the textual transmission of the epics, developed only *after* the monumental compositions had taken shape. Forms like ἀβρότη resulted from the syllabification /a.mro/, with a light initial syllable and no epenthetic stop. It is conceivable that the situation for *nr (from *$nr̥$) was similar, i.e. that the 'monumental composer' of the *Iliad* still sang /a.nra.tā.ta/ and /a.nra.pʰon.tāi/, or respective forms with /a.nro-/. The lack of consonant epenthesis in *nr that developed from *$nr̥$ within Epic Greek can be explained by relative chronology; compare the developments shown in Table 22.

The new scenario resolves various issues at once. It explains the divergent vowel slot of various Homeric words containing -ρα- or -ρο-, but also the aberrant scansion of many of these words, in particular those with word-internal

McL (Ἀφροδίτη, ἀβροτάξομεν, νὺξ ἀβρότη, ἀσπίδος ἀμφιβρότης) and the forms ἀνδροτῆτα, ἀνδρεϊφόντῃ. Finally, it explains the occurrence of προκείμενα < **pr̥-keimena*, a word that would never have been integrated into a vernacular as long as the verb παρατίθημι, παράκειμαι was current. It must have arisen artificially within the formulaic verse in which it occurs, and is comparable to the case of τραπείομεν discussed in chapter 6.

As for the dialect from which the forms with **r̥* entered the epic tradition, for some words this may well have been Mycenaean, as Heubeck (1972) already suggested. The following epic forms have a remarkable parallel in Mycenaean: τράπεζα ~ Myc. *to-pe-za*, ἀνδρεϊφόντῃ ~ Myc. PN *a-no-qo-ta*, ῥοδόεντι ~ Myc. *wo-do-we*, and cf. also ἀνδροκτασίη beside Myc. *a-no-qa-si-ja*. On the other hand, there are no Homeric forms with -ορ- < **r̥*. Now, in chapter 2, we concluded from a scrutiny of the entire evidence that the regular Mycenaean reflex of **r̥* was certainly not *-ro-*, but either *-or-* or retained *-r̥-*. If we suppose that the regular outcome is *-or-*, it would follow that the forms just quoted do not come from Mycenaean, but from some other dialect which retained **r̥*. Though this cannot be completely excluded, it would be a highly artificial assumption. It is therefore probable that Mycenaean preserved **r̥*. Note that the development **r̥* > -ρο- in Proto-Aeolic (cf. chapter 3) must have already taken place in the 12th century or earlier.

CHAPTER 8

The Reflexes -αρ- and -ρα- in Aorist Stems

Introduction

Since most Greek aorist stems have an etymological zero-grade root, the aorist is an important source of reflexes of *$\mathring{r}$. Although the extent to which thematic and reduplicated aorists reflect PIE formations may be debated, it is certain that reconstructions like *lik^{w}-*e/o*- (λιπεῖν) and *$d\mathring{r}k$-*e/o*- (δρακεῖν) pre-date the vocalization of the syllabic liquids.

8.1 The Evidence

Aorists with a root of the phonological shape /CraC-/ are presented in Table 23 (when attested in Homer, no first attestation is indicated) on p. 357.[1] Aorist stems (attested in Homer, classical Attic or both) with a root of the phonological shape /CarC-/ are presented in Table 24 (on p. 358).

Of the verbs mentioned in these Tables, the following forms have no bearing on the issue of the double reflex of *$\mathring{r}$ in Ionic-Attic:

– In six aorist stems, the reflex of *$\mathring{r}$ may have been influenced by the full grade in a corresponding present or perfect stem: ἔδραμον (-δέδρομε), δραπών (δρέπω), ἔπαρδον (πέρδομαι), ἐτάρπην, ταρπώμεθα and τετάρπετο (τέρπομαι), ἔτραπον (τρέπω), ἐτράφην and ἔτραφον (τρέφω).
– No conclusions regarding the regular Ionic-Attic vocalization of *$\mathring{r}$ can be based on the form ἔπραδες in Sophron, the 5th c. Syracusan poet who composed mimes in a form of literary Doric.[2] The normal aorist of Attic πέρδομαι 'to fart' was ἔπαρδον (mostly with preverb). On the other hand, for assessing the regular vocalization in Syracusan or Corinthian the form ἔπραδες is highly relevant (see chapter 3).
– The Homeric *hapax* ἀνέκραγον (*Od.* 14.467) contains a secondary zero grade beside the full grade *CRāC*- in the pf. κέκρᾱγα, which is either onomatopoeic

1 On the intr. aor. 3pl. βλάβεν, which may contain the regular reflex of *$\mathring{l}$ or have introduced the reflex of a vocalized nasal from the present βλάβομαι, see section 10.3.1.

2 Sophron's fragment is known through Hesychius ν 734. In addition, the Suda has the forms ἐπράδει, ἐπράδειν (without dialect indication), which look like imperfects of a contract verb.

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or reflects a root *krh_2g-.[3] The model for such a reshaping was provided by roots of the shape *Ceh_2C-, e.g. πήγνυμι, ἐπάγην.[4]

– Another secondary zero grade is ὑπερράγη, which stands beside the root ῥηγ- < *$\mu reh_1\acute{g}$- (LIV^2 698).
– The relation between the present stem τρώγω and aorist stem ἔτραγον cannot be understood in terms of Indo-European morphophonology. Assuming *ō*-vocalism in a thematic root present would be entirely unmotivated. Hackstein (1995; taken over by LIV^2: 647) reconstructs a PIE root *trh_3g- on the basis of a comparison with Toch. B *treṣṣäṃ* 'chews'; in this case, the zero-grade vocalism of ἔτραγον must be secondary. If one insists on reconstructing a Proto-Greek thematic aorist stem *$tr̥g$-*e/o*-, the vowel slot of τραγ- may have been influenced by that of the present stem τρώγω. However, the vocalism of ἔτραγον may also have been influenced by its near-synonym ἔφαγον.
– Homeric ἔβραχε does not have a convincing etymology; it is therefore uncertain whether its pre-form contained *$r̥$.
– The Homeric aorist ἔχραον 'dashed, attacked' has no ascertained cognates either (its relation with χραύω 'to glance off' is uncertain), and there is no indication that the pre-form contained *$r̥$.
– The same holds for πέφραδε, which belongs to a non-ablauting root φραδ- without established etymology.
– The Homeric reduplicated aorist τετάρπετο and the 1st plural subjunctive forms τραπείομεν < *$tr̥pē$-*o*-*men* and ταρπώμεθα (all belonging to τέρπομαι) have been discussed in section 6.8.5. It was shown there that ταρπώμεθα and τετάρπετο may be analogical creations, and that τραπείομεν has the reflex -ρα- of Epic *$r̥$.

This leaves us with three Homeric aorists with a root of the shape /CraC-/ (from *$Cr̥C$-*e/o*-) that cannot be an analogical reflex: ἔδραθον (no cognates with a full grade root), ἔδρακον (δέρκομαι) and ἔπραθον (πέρθω). At first sight they seem to contradict our hypothesis that -αρ- is the regular Proto-Ionic reflex of *$r̥$.

There are, however, serious reasons to doubt that -ρα- is the *vernacular* outcome of *$r̥$ in these three thematic aorists. First of all, as we will see it is difficult to give a convincing analogical explanation for the reflex -αρ- in Attic κατέδαρ-

3 The reduplicated aorist stem κεκραγ- is frequent in Aristophanes. The present κράζω 'to screak' occurs once in the same author and is probably a late formation, replacing the older 'intensive' perfect; the compounded verb ἀνακράζω occurs only as a thematic aorist (Hom., Pi., X., Ar., etc.).

4 For secondary vocalism in a thematic aorist, cf. also Hom. διέτμαγον 'I crossed', διέτμαγεν 'they separated' beside pres. (ἀπο-)τμήγω, aor. (δια-)τμῆξαι.

TABLE 23 Aorist formations with -ρα- in Greek

Aorist with -ρα-	**Other attested formations**
ἔβραχε 'resounded'	no clear cognates
κατέδραθον 'went to sleep'	Att. καταδαρθάνω, aor. κατέδαρθον
ἔδρακον 'beheld, looked'	pres. δέρκομαι 'look', pf. δέδορκα
ἔδραμον 'ran'	pf. ἀνα-, ἐπι-δέδρομε 'runs up / over'
ptc. δραπών (Pi.)[5]	pres. δρέπω 'reap'
ἀνέκραγον 'spoke up'	pf. κέκρᾱγε 'shrieks' (post-Hom.)
ἔπραδες (Sophr.)[6]	pres. πέρδομαι 'fart', aor. ἔπαρδον
ἔπραθον 'pillaged'	pres. πέρθω 'pillage, destroy'
(ὑπ-)ερράγη 'broke up'	pres. ῥήγνυμι 'break', pf. ἔρρωγα
ἔτραγον 'ate'	pres. τρώγω 'gnaw, chew, eat'
τραπείομεν 1pl. subj. < **tr̥pē-o-men*	pres. τέρπομαι 'to enjoy oneself'
ἔτραπον 'turned' (tr., intr.) ἐτραπόμην 'turned' (intr.)	pres. τρέπω 'turn, direct', pf. mid.-pass. τέτραπται
ἔτραφον 'was raised, grew up' ἐτράφην 'id.; got thick/fat, etc.'	pres. τρέφω 'rear' mid. τρέφομαι 'get thick/fat, etc.'
πέφραδε 'showed'	pres. φράζω 'show', φράζομαι 'notice'
ἔχραον 'dashed, attacked'	(?) pres. χραύω 'to glance off'

θον and ἤμαρτον (Hom. ἄμαρτε). Secondly, and crucially, ἔδραθον, ἔδρακον and ἔπραθον are typical Homeric forms, unattested in Classical prose. For these reasons, we must consider the possibility that these forms contain the reflex of Epic **r̥*, following the framework elaborated in chapter 6.[7]

I will now first argue that the forms κατέδαρθον and ἤμαρτον display the regular reflex of **r̥* in Proto-Ionic (section 8.2), then discuss the actual evidence for -ρα- < **r̥* in the type ἔδραθον (section 8.3), and finally explain how such forms may have come into being within Epic Greek (section 8.4).

5 Cf. also Aeol. aor. subj. 3pl. δρόπωσι.

6 The *LIV*[2] (s.v. **perd-*) reconstructs a PIE root aorist **perd-* / **pr̥d-* on the basis of YAv. *pərəδən* and the Greek thematic aorist ἔπαρδον. 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. However this may be, the inner-Greek variation between Att. ἔπαρδον and the 2sg. aor. ind. ἔπραδες (attested in Sophron fr. 136 K-A) guarantees the antiquity of a zero-grade thematic aorist **pr̥d-e/o-* within Greek.

7 Cf. in particular the table at the start of chapter 6.

TABLE 24 Aorist formations with -αρ- in Greek

Aorist with -αρ-	Other attested formations
ἄμαρτε, Att. ἥμαρτον 'failed'	pres. ἁμαρτάνω; νημερτής 'unfailing'
Att. κατέδαρθον 'slept'	pres. καταδαρθάνω (Att.)
Att. ἔπαρδον 'farted'	pres. πέρδομαι (Att.)
ἐτάρπην 'got satisfaction' ταρπώμεθα 'let's satisfy ourselves' τετάρπετο, τεταρπώμεσθα	pres. τέρπομαι 'to enjoy oneself'

8.2 The Regular Development *$\underset{\circ}{r}$ > -αρ- in the Thematic Aorist

8.2.1 *Homeric ἔδραθον versus Attic καταδαρθάνω, κατέδαρθον*

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 (5×), παρέδραθον 'lay down beside' (2×).[8] After Homer, the aorist stem δραθ- is found only in the epic poet Antimachus and later in Hellenistic poetry (Theoc., Call.). The only genuine Attic form, on the other hand, is κατέδαρθον 'slept, fell asleep' (attested in Attic prose and Aristophanes, but absent from Ionic prose). Thus, we have a genre distribution: ἔδραθον is epic, whereas κατέδαρθον is the non-poetic classical form.

Let us first consider whether the different vocalizations can be explained by influence of a full grade root. The thematic aorist κατέδαρθον / κατέδραθον has no direct cognates, neither in Greek nor in other languages, and is therefore primary, at least from a Greek perspective. It could be an inherited formation in view of the similar Indo-European roots **drem-* (cf. Lat. *dormiō* 'sleep', CS *drěmati* 'doze, slumber') and **dreH-* (Ved. opt. 3sg. *ni-drāyā́t* 'to sleep, slumber').[9] Thus, for the Greek aorist we may start from a zero grade root **$\underset{\circ}{d}r\underset{\circ}{d}^h$-*.[10]

8 For the Homeric semantics, see the discussion in Kölligan (2007a: 173–179), 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.* 3.349–351, *Od.* 10.11–12. This means that ἔδραθον is attested only as a compound.

9 CS *drěmati* derives from a lengthened grade formation **drēm-* (see *EDSIL*, q.v.).

10 Note that Attic -δαρθ- excludes a reconstruction **drm̥-d^h-* for Hom. ἔδραθον.

Is it possible to determine the full grade slot of this root? In the *LIV*[2], Kümmel mechanically reconstructs a root **derd^h-*, adding the comment: "für Vollstufe I spricht die analogische R(z) gr. att. δαρθ-." However, although δραθ- is attested earlier, it does not follow that δαρθ- arose as a reshaping. On the contrary, given the full grade slot of the Indo-European root variants **drem-* and **dreH-* just mentioned, one could argue for an original full grade **dred^h-*, in which case Attic δαρθ- must be the regular outcome of **dr̥d^h-*.

In any case, to invoke the influence of a hypothetical ablauting full grade form is unwarranted: the only old formation within Greek is the non-ablauting thematic aorist, PGr. **dr̥t^h-e/o-*. This aorist was used in suppletion with εὕδω (Homer), καθεύδω (Classical Attic); beside this stative present, the aorist has complexive value. As Kölligan (2007a: 172) notes, the first author to attest the paradigm καταδαρθάνω : κατέδαρθον 'to fall asleep' is Plato, who uses the new present stem to specifically refer to catching sleep as an ongoing process.[11] That is, καταδαρθάνω was based on the ingressive reading of the aorist κατέδαρθον, and is therefore unlikely to be of high antiquity. The same holds, *mutatis mutandis*, for the intransitive aorist καταδαρθῆναι.

Thus, the only form reconstructible for Proto-Ionic is the thematic aorist. Even if κατέδαρθον does not occur before the fifth century, it must be the regular reflex of PGr. **-dr̥t^h-e/o-* in the Attic vernacular.[12] The variant ἔδραθον, on the other hand, must have an artificial epic reflex (see section 8.4 below).

8.2.2 *ἁμαρτάνω, aor. ἥμαρτον and Homeric ἤμβροτον*

The present ἁμαρτάνω and the thematic aorist ἥμαρτον (ἁμαρτεῖν) are attested in Homer and Classical Ionic and Attic alike. Beside these forms, Homer also has an aorist ἤμβροτον, with an *o*-colored reflex that cannot have originated in the Proto-Ionic vernacular.[13]

Most scholars have explained the vowel slot of ἥμαρτον as analogical, invoking analogy with the full grade attested in νημερτής 'unfailing'. This is an emergency solution, because νημερτής is a fossilized nominal compound, attested only in early Greek epic and three times in Aeschylus. Since a relic nominal form can hardly be expected to have influenced the shape of the verbal stem in

11 See Kölligan (2007a: 181–182): "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; the only classical form is κατέδαρθον] zusätzlich die Bedeutung 'einschlafen'."

12 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.

13 The hapax ἀβροτάξομεν has already been discussed in chapter 7 and will be left out of further consideration here.

the vernacular, an analogical explanation of ἤμαρτον 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 in fact been proposed by Ruijgh (1992: 91). Being unable to explain the vocalization to -αρ- in δαρθάνω, he assumed that the present secondarily acquired a zero grade root, replacing *δερθάνω. The alleged model for introducing this zero grade is the aorist ἔδραθον, which had a zero grade root all along. In a similar vein, Ruijgh claims that ἁμαρτάνω is secondary for *ἀμερτάνω after a hypothetical *ἄμ(β)ρατον, a form which itself was supposedly superseded by ἤμαρτον (after ἁμαρτάνω).

This scenario cannot be upheld. First of all, as we have just seen, the present καταδαρθάνω is probably a late creation based on the aorist κατέδαρθον. Similarly, ἁμαρτάνω beside the aorist ἤμαρτον follows a productive pattern and looks like a relatively recent formation. Secondly, a full grade root would be out of place in an inherited nasal present: wherever such a full grade nasal present is attested, it must have been influenced by the aorist (cf. δείκνυμι 'point out' beside ἔδειξα, πέρνημι 'sell' beside ἐπέρασα).[14] Thirdly, the assumed chain of analogical influences is too complicated to be credible: supposing the existence of an aorist **amrat-e/o-*, the *a*-vocalism would first have spread into the present stem, but maintaining a different vowel slot (ἁμαρτάνω); after that, the vowel slot of the present stem would have been introduced into the thematic aorist.

Clearly, scenarios like the one advocated by Ruijgh are developed only in order to maintain the claim that -αρ- (in forms like ἁμαρτεῖν) cannot be the regular reflex of *$r̥$. In reality, the only straightforward way to explain δαρθάνω and ἁμαρτάνω is to assume that these presents were created (or reshaped) on the basis of the corresponding thematic aorists *after* the vocalization *$r̥$ > -αρ- had taken place in Proto-Ionic. The vernacular form ἁμαρτάνω was then also introduced into Epic Greek.

It remains to explain the origin of epic ἤμβροτον, the alternative thematic aorist form. It is generally assumed to be of Aeolic origin, because an infinitive αμβροτην is attested in epigraphic Lesbian (see section 3.3.2). Indeed, thus far this has been the only way to make sense of the combined appearance in ἤμβροτον of the reflex -ρο- < *$r̥$ and psilosis. In section 7.2.4, however, I pointed out that ἤμβροτον can be analyzed as the regular epic reflex of an augmented preform **āmr̥ton*. This **āmr̥ton* was a traditional element of Epic Greek. In spoken Ionic-Attic, the same form vocalized with -αρ- and a non-etymological initial aspiration was added, yielding ἁμαρτάνω, ἤμαρτον. These vernacular forms were

14 Apart from κευθάνω and ληθάνω, all thematic nasal presents cited by Ruijgh have a zero grade root. In fact, both ληθάνει (verse-initial in *Od.* 7.221) and ἐκεύθανον (*Il.* 3.453) are *hapax legomena* that look like artificial extensions of λήθω and κεύθω, respectively.

introduced at some point into the epic tradition.[15] When Epic *$r̥$ developed to -ρο- after labial consonants, the ensuing form *$kʷēmroton$ > ἤμβροτον no longer resembled the Ionic aorist, so there was no reason to introduce the aspiration.

Thus, the similarity between epic ἤμβροτον and Lesbian ἄμβροτε (αμβροτην) *might* be accidental. The pair ἦμαρτον beside ἤμβροτον is another Homeric doublet consisting of an Ionic vernacular form and an artificial epic form (compare καρδίη : κραδίη, τέταρτος : τέτρατος, etc.).

8.3 The Pattern of Attestation of the Thematic Aorists with -ρα-

If -αρ- is the regular outcome of *$r̥$ in ἔδαρθον and ἦμαρτον, the appearance of -ρα- in a number of other aorists must be accounted for. The focus of this section will be on the three forms singled out earlier in this chapter, ἔδρακον, ἔδραθον, and ἔπραθον, in which -ρα- cannot be explained by a simple analogy with other verbal stems.

Before discussing these forms, let us first consider three other aorists where -ρα- is the expected analogical reshaping: ἔδραμον, ἔτραπον, and ἔτραφον. The first two regularly occur from Homer onwards, and must have been present in Proto-Ionic. The transitive active ἔτραπον was replaced in Classical Greek by the sigmatic form ἔτρεψα, but the middle ἐτραπόμην remained current as an intransitive counterpart denoting body motion.

The antiquity and provenance of the third form, ἔτραφον 'grew up, was reared' (beside Hom. and Class. ἐτράφην 'id.'), are less clear. West (1998: xxxvi) thinks the thematic form is old and pleads, following an old proposal by Buttmann, for restoring 3sg. τράφεν, 3pl. τράφον in place of 3sg. τράφη, 3pl. τράφεν in the Homeric text (in many places against the entire tradition). It is true that the thematic aorist looks old in the verse-end γενέσθαι τε τραφέμεν τε 'to be born and raised' (2× *Il.*, 1× *Od.*). However, it is difficult to see why and how the vernacular form ἐτράφην would have been created secondarily as a replacement for ἔτραφον. It is conceivable that there were originally two aorist stems, perhaps reflecting a semantic difference: ἔτραφον 'was raised' versus ἐτράφην 'got thick'. Alternatively, ἔτραφον could be a traditional form that came from a different dialect contributing to the epic language. Finally, ἔτραφον could be

15 It is not straightforward to indicate the origin of this aspiration, which may have been adopted from a different lexeme. Even so, the relic adjective νημερτής 'unfailing' shows that the aspiration cannot be old (cf. Beekes 1969: 109).

viewed as an artificial creation of Epic Greek: the form is attested only there, and the normal vernacular form ἐτράφην was hard to use in the hexameter.[16] We do find ἐτράφην in Epic Greek, but only before vowels in the 3pl. τράφεν, ἔτραφεν and the 3sg. τράφη.[17]

8.3.1 *ἔδρακον*

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 present δέρκομαι 'to look, gaze; behold' (also with preverbs) denotes the volitional activity of directing one's eyes at something: δεινὸν δερκόμενοι (*Il.* 3.342, cf. 23.815) denotes the "fearsome gaze" of warriors. The aorist appears mainly in combination with preverbs (ἀνα-, ἐσ-, δια-) and has complexive or ingressive value, as will be illustrated below. The perfect δέδορκα is stative and, combined with adverbials, means 'to have a certain appearance': cf. σμερδαλέον δὲ δέδορκεν ἑλισσόμενος περὶ χειῇ "and it [a snake] looks terrible as it crawls around in its lair" (*Il.* 22.95).[18] While δέρκομαι occasionally retains these meanings in later poetry, Classical Attic expresses the same types of events with βλέπω 'to look, gaze; behold; to look like' (see Kölligan 2007a: 273–274). Clearly, βλέπω (a verb without a decent etymology) has replaced the poetic archaism δέρκομαι.

Let us now consider the Homeric uses of the aorist more closely. There are two clear instances of an ingressive aorist:

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16 A similar picture is shown by the intransitive aorist of βλάπτω, which is usually ἐβλάβην in Classical Ionic-Attic, but ἐβλάφθην in Homer (with the exception, again, of the 3pl. forms 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; cf. τραφθῆναι at *Od.* 15.80). In the case of βλάπτω, on the other hand, creating a thematic aorist may have been avoided in view of possible confusion with the archaic thematic root present βλάβομαι.

17 At *Il.* 23.84 van Thiel prints ἀλλ' ὁμοῦ, ὡς *ἐτράφημεν* ἐν ὑμετέροισι δόμοισιν (with *McL*); there is also a well-attested variant reading ἐτράφην περ (the reading of the vulgate). However, the problem is that Aeschines, *Contra Timarchum* cites this passage with two plus-verses after line 83, and has our line 84 start with ὡς ὁμοῦ ἐτράφεμέν περ (ἐτράφομέν περ conj. Scaliger). West prints ἀλλ' ὁμοῦ, ὡς τράφομέν περ, a conjecture by Buttmann that was also accepted by La Roche. See for further discussion Richardson ad loc., with reference to Van der Valk.

18 The Homeric perfect can translated as "avoir telle ou telle expression dans le regard" (Chantraine 1927: 11), or "einen bestimmten Blick, Gesichtsausdruck haben" (Kölligan 2007a: 260). After Homer, the perfect occurs absolutely in the meanings 'to be visible' (e.g. κλέος … δέδορκε, Pi. *Ol.* 1.93) and, in the tragedians, 'to have eyesight' (as opposed to being blind).

– ἀνέδρακον 'looked up again' (*Il.* 14.436, of Hector who has just regained his conscience). The form is an archaism: ὁράω / εἶδον is not attested in combination with ἀνα-, and Classical Greek uses ἀναβλέπω.[19]
– ἐσέδρακον ἄντην 'I looked [the god] in the face' (*Il.* 24.223).

The other four attestations are complexive aorists:

– When the maid Eurycleia tells how she tried to make eye contact with Penelope, she phrases this as follows: Πηνελόπειαν ἐσέδρακον ὀφθαλμοῖσι, πεφραδέειν ἐθέλουσα "I looked towards Penelope with my eyes, wishing to give her a sign" (*Od.* 19.476–477); this is a complexive use of the activity verb ἐσδέρκομαι.
– καπνὸν … ἔδρακον … διὰ δρυμὰ πυκνὰ καὶ ὕλην "I saw smoke through the thick forest" (*Od.* 10.197), where discerning the smoke is the result of a volitional action.
– ἔνθ' οὔ τις τὴν νῆσον ἐσέδρακεν ὀφθαλμοῖσιν "At that point, no one could see the island with his eyes" (*Od.* 9.146); again the subjects are performing a volitional activity (trying to discern the island through a thick mist).
– οὐδ' ἂν νῶϊ διαδράκοι Ἠέλιός περ "not even Helios could discern us (through the clouds)" (*Il.* 14.344).

There are indications that ἔδρακον and εἶδον 'saw' were occasionally used as metrical alternatives. Kölligan (2007a: 264–265) compares ἐσέδρακον ἄντην (*Il.* 24.223) with ἄντην εἰσιδέειν (*Il.* 19.15), and καπνὸν … ἔδρακον ὀφθαλμοῖσι (*Od.* 10.197) with καπνὸν … ὁρῶμεν (*Od.* 10.99), ἐπεὶ ἴδον αἴθοπα καπνόν (*Od.* 10.152). It seems as if the old form ἔδρακον was retained when corresponding forms of εἶδον were metrically problematic. This would account for the formulaic phrases |$_{T}$ ἀνέδρακεν ὀφθαλμοῖσι and |$_{T}$ ἐσέδρακεν ὀφθαλμοῖσι (2×): they were metrically distinct from the corresponding compounds of εἶδον. Interestingly, the instrumental dative ὀφθαλμοῖσι is not redundant in these cases, whereas it often seems superfluous when preceded by ἴδον. It is therefore possible that certain instances of the ptc. ἰδών are replacements of δρακών, which was metrically awkward as it required tautosyllabic scansion of δρ-. This would explain why so few remnants of the aorist ἔδρακον are left in Homer.

After Homer, ἔδρακον remains rare: there is only one attestation in Pindar (κατέδρακεν 'looked down' *Nem.* 4.23, again with preverb), one in Stesichorus (ptc. δ]ρακοῖσα fr. S135.9), and six cases in Aeschylus and Euripides.[20] In addition, two alternative aorist formations are found: Pindar uses the participle δρακέντ- of the η-aorist; furthermore, ἐδέρχθην 'looked at' is attested seven times

19 See Kölligan (2007a: 264–265).

20 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

in Sophocles and the author of the *Prometheus Vinctus*.[21] 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 verbal paradigm. Since Forssman (1964), it is usually analyzed as deriving from an archaic PIE root aorist ptc. **dr̥ḱ-ént-*. As I will argue below, however, δρακέντ- may have been created within Greek.

In sum, δέρκομαι often occurred with preverbs, especially in the aorist (cf. ἀνέδρακον, ἐσέδρακον, διαδράκοι) but also in the present stem (ποτιδέρκομαι *Il.* 16.10, *Od.* 17.518, 20.385). The present stem refers to a volitional activity; the aorist has ingressive or complexive value, and the perfect denotes a state. Contrary to what is usually stated, the present stem δέρκομαι must be inherited from PIE. The restriction of the verb to poetic texts and the general paucity of attestations in post-Homeric Greek (even in poetry) are compatible with the assumption that ἔδρακον is an epicism. The low frequency of ἔδρακον in Epic Greek can be due to its ongoing replacement by εἶδον.

8.3.2 *ἔπραθον and the Etymology of πέρθω*

The verb πέρθω 'to raze, pillage' is a relic of Epic Greek and the poetic language; it is not attested in Classical prose.[22] The normal verb derived from this root in Classical Attic, with the same meaning, is πορθέω. Given that its meaning is typical for heroic poetry, πέρθω may well be an epicism in authors like Pindar. I will therefore concentrate on the Homeric forms.[23]

The most frequent stems in Homer are the thematic aorist ἔπραθον (9×, including prefixed forms) and especially the sigmatic stems aor. ἔπερσα, fut. πέρσω (35×, including prefixed forms). The only genuine attestation of the present stem is the dual πέρθοντε (*Il.* 18.342), a precious archaism.[24] As in Classi-

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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.

21 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). Sophocles uses only δερχθῆναι, while Euripides and Aeschylus use only δρακεῖν (except for the *Prometheus Vinctus*, of which Aeschylus was probably not the author).

22 It is "auch nach Homer nur dichtersprachlich überliefert" (Forssman 1997: 42). *LSJ* translates "*waste, ravage, sack*, in Homer only of cities", but as we will see there are traces of an original meaning 'cut off'. Janda's proposal (2000: 229–240) to translate πέρθω with '*erbeuten*' cannot be upheld: see below.

23 The thematic aorist πραθε/ο- occurs 4× in Pindar, alongside the *s*-aorist περσα- (also 4×) and the pres. ptc. περθόμενοι (1×). The tragedians only use the sigmatic stem περσ-.

24 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

cal prose and poetry, the productive present stem formation was πορθέω already in Homer (5×, including prefixed forms): the 3pl. impf. ἐπόρθεον (*Il.* 4.308, with synizesis of εο) was preferred over *ἔπερθον. The productive aorist stem περσα- may well be an innovation (cf. also the future πέρσω).[25] Thus, the oldest paradigm seems to be pres. πέρθω, aor. ἔπραθον, fut. πέρσω.

The etymology of πέρθω is not quite clear. Janda (2000: 229–240, followed by *LIV*[2] s.v. **b^{h}erd^h-*) reconstructed **b^{h}er-d^{h}h$_1$- "Beute machen" > erbeuten* (i.e. 'to seize as booty, capture'), where **b^{h}er-* would be the root of φέρω 'to carry'. Such an analysis is possible in theory, because several other Greek verbs (both presents and aorists) have an extension -θω.[26] There are, however, no directly comparable formations in other IE languages that could confirm this idea.[27] An important objection against Janda's analysis is that the object of πέρθω is (with one exception) always a city, rather than the booty contained in it; the synchronic Homeric meaning is therefore 'to raze, pillage'.[28]

In fact, a number of post-Homeric attestations suggest that the meaning 'to raze' may have developed from 'to cut off', cf. 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 off my chin" (A. *Pers.* 1056). For this semantic development we may compare for instance κείρω, which according to *LSJ* (s.v.) occurs in the following meanings:

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older thematic aorists *πάρθετο, *παρθομένη (see Chantraine 1958: 384 and 389–390, with further references). As for the *hapax* πέρθετο, Forssman (1997) agrees that this is an aorist formation, and suggests a conceivable scenario for its artificial creation. In addition, he argues that the aor. inf. πέρθαι is artificial. The participle περθομένη was probably an aorist, too, because it only occurs in conjunction with the aorist ptc. ἁλοῦσα. This leaves us with the dual form πέρθοντε as the only ascertained attestation of the present πέρθω.

25 As for the motive to create the aorist stem περσ(α)-, it is conceivable that the ptc. πέρσαντες was first made as an alternative for metrically problematic πραθόντες.

26 Cf. e.g. πλήθω 'to be filled', αἰσθέσθαι 'to perceive' < **h$_2$eu̯is-d^h(h$_1$)-e/o-*, λήθω 'to go unnoticed, be hidden', aor. λαθεῖν 'to escape notice'; in all such cases, -θ- has become part of the verbal stem.

27 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: in the second phrase, 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.

28 Cf. *LSJ* s.v. πέρθω: "in Hom. only of towns"; s.v. διαπέρθω: "always of cities". The only exception occurs with ἐκπέρθω: τὰ μὲν πολίων ἐξεπράθομεν "that [booty] which we took from cities", *Il.* 1.125. Janda puts too much emphasis on this single instance: usually ἐκπέρθω (like ἐξαλαπάζω 'id.') governs an accusative object, which shows that the preverb ἐκ- has no spatial value.

1. "*cut short*, *shear*, *clip*, esp. of hair";
2. "*cut down*" (of trees), whence "*ravage* a country, esp. *by cutting down* crops and fruit-trees" (thus in Hdt., Th.);
3. "generally, *destroy*, *consume*".

Thus, if the verb's original meaning was 'to cut off', especially of hairs and plants, the development of meaning to 'raze' (of cities) is straightforward.[29] In PIE terms, we would have to posit a verbal root *b^herd^h- meaning 'to shear, lop' (of hairs, crops, foliage). Interestingly, there is perhaps further evidence for such a root in Italic: Umbrian *furfa*- denotes an action carried out on sheep as a direct object, and has consequently been translated as 'shear' (cf. Meiser 1986: 101).[30] What is more, the noun for 'beard', reflected only in European branches (e.g. OPr. *bordus*, Lith. *barzdà*, Ru. *borodá*, OHG *bart*), can also be derived from this root. This would semantically be very attractive: the original meaning would be something like 'haircut' (cf. again γενείου πέρθε … τρίχα, just quoted from Aeschylus). The internal sibilant of Lithuanian *barzdà* complicates the reconstruction, but we may posit a root *b^hersd^h- and assume that Greek lost the sibilant in the *e*-graded root (*p^herst^h- > *p^hert^h-), after which the aorist *$p^hr̥st^h$- may have been changed along to *$p^hr̥t^h$-.[31]

Irrespective of the etymology just proposed, the thematic aorist ἔπραθον is old within Greek and its zero grade reflex requires an explanation. In what follows, it will be of some importance that this form occurs either with a preverb (δια- 6×, ἐξ- 1×) or in the phrase πόλιν ἔπραθον (2×).

8.3.3 *Conclusion*

The aorist forms with -ρα- in which Homer deviates from Classical Ionic and Attic are limited to poetry, and rarely attested outside of epic. The forms ἔδραθον and τραπείομεν are exclusively epic. After Homer and before the end of the Classical period, the aorist ἔπραθον is found only in Pindar (4×) and Corinna (1×), while ἔδρακον is attested only in Pindar, Stesichorus (each 1×) and the tragedians (6×).[32] However, the last two forms also compete with other formations

29 Another semantic development undergone by πέρθω is to '*destroy, slay*', cf. Τιρύνθιον ἔπερσαν … στρατόν (Pi. *Ol.* 10.32), ἔπερσεν ἀνθρώπους (S. *Aj.* 198).

30 Lat. *forfex* 'tongs, pincers; shears, scissors' is semantically close, but its *-rf-* cannot be the result of regular sound change in Latin, so it could be a borrowing (from a Sabellic language? See *EDL* s.v. *forfex*). De Vaan (l.c.) also compares the Umbrian form *furfa*- to Greek πέρθω, but does not comment on the semantics, which makes the proposal gratuitous.

31 The phonology of Lat. *barba* 'beard' (word-initial *b*-; *a*-vocalism) is not well understood, and its analysis remains uncertain.

32 After the Classical period, ἔδραθον and ἔδρακον are used exclusively in Hellenistic poetry, and ἔπραθον is no longer current.

(ἔπερσα, ἐδέρχθην). It is therefore plausible that the thematic aorists with -ρα- are epicisms.

8.4 Epic *$\mathring{r}$ in the Thematic Aorist?

No analogical account of the reflex -αρ- in the prose forms κατέδαρθον (Attic) and ἤμαρτον (Ionic and Attic) seems within reach. On the other hand, *ex hypothesi* the forms ἔδραθον, ἔδρακον, ἔπραθον cannot have the regular Ionic outcome of *$\mathring{r}$. We must therefore consider the possibility that -ρα- in the poetic forms ἔδραθον, ἔδρακον, ἔπραθον is an artificial epic reflex, as in τραπείομεν. This idea receives support from the distribution between δαρθ- (Attic prose) and δραθ- (only epic). The pair ἤμαρτον (Attic, Ionic and epic) versus ἤμβροτον (epic) can also be interpreted in this way.

I can see two basic ways to account for an artificial reflex -ρα- in ἔδραθον, ἔδρακον and ἔπραθον: (i) -ρα- in these aorists reflects Epic *$\mathring{r}$; (ii) it arose as a secondary reshaping of -ρο-, which was the regular reflex of *$\mathring{r}$ in varieties of Aeolic that contributed to the tradition at an early stage. Before investigating these possible scenarios in more detail, it is necessary to consider the distributions and rhythmical behavior of these aorist stems.

8.4.1 *Distributions and Metrical Behavior of Thematic Aorists with -ρα-*

As argued in chapter 6, the one-time presence of Epic *$\mathring{r}$ in a specific Homeric form can be assumed if it is plausible that the lexeme in question was absent from the vernacular at an early date (e.g. κραταιός) or if there was a plausible motive for not introducing the vernacular form (e.g. metrically awkward καρδίη). Since there would have been no motive for avoiding forms like κατέδαρθον, *ἔδαρκον and *ἔπαρθον on the basis of their rhythmical structure, we must assume that these forms no longer existed in Ionic when other forms with -αρ- became available for introduction into Epic Greek (such as the pre-forms of καρδίη, καρτερός, ταρφέες). This assumption is unproblematic for ἔδρακον and ἔπραθον which, as we have seen, are poetic relic forms.

More remarkable is the coexistence of Attic κατέδαρθον and Epic ἔδραθον. The Attic form presupposes that Proto-Ionic preserved this word when *$\mathring{r}$ developed into -αρ-. Ionic prose, however, preserves no trace of this verb: Herodotus and the Hippocratic Corpus use the aorist κατεκοιμήθην 'to go to sleep', an innovative form that also occurs in Homer but is absent from Attic prose. It therefore seems that the vernaculars of Homer and his immediate Ionian predecessors had already lost κατέδαρθον (and replaced it by κατεκοιμήθην), but also that the tradition resisted the introduction of Ionic forms at an earlier stage, when κατέ-

δαρθον was still current in spoken Ionic. If this reasoning is correct, it shows that, at the stage when *$\mathring{r}$ had just developed to -αρ- in Proto-Ionic, Ionic was not yet the default language of epic poets.[33]

Turning to prosodic issues concerning the active thematic aorists with -ρα-, the problems can be summarized as follows: the rhythmical behavior of these forms is at odds with a prolonged presence of *$\mathring{r}$, but their phonological reflex -ρα- (instead of expected -αρ-) is explained most naturally as the regular outcome of Epic *$\mathring{r}$.

One prosodic issue is that we find no traces of *McL* scansion in the thematic aorists with -ρα-. This means that participle forms such as δρακών, δρακόντος are unattested. Given the large number of attestations of these aorists, this is probably not due to chance: apparently the forms with *McL* were actively avoided, in line with the general tendency to avoid *McL* when possible (cf. chapters 6 and 7, especially concerning βροτός and its derivatives).[34] Nevertheless, one wonders why δρακών and similar participle forms were apparently disallowed, while traditional epic forms like δράκων 'snake' and βροτοῖσι were tolerated.

This distribution between forms with *McL* and forms without *McL* would receive a natural explanation if we assume that the thematic aorists with -ρα- arose from a reshaping of earlier Aeolic forms with -ρο-, while δράκων 'snake' and βροτοῖσι continue pre-forms with Epic *$\mathring{r}$. On the other hand, the distribution does not by itself exclude that the pre-forms of ἔδραθον, ἔδρακον, ἔπραθον had Epic *$\mathring{r}$. For one thing, it is conceivable that poets found a workaround for undesired *McL* scansions in the thematic aorists, but not in the case of δράκων 'snake' and βροτοῖσι. For instance, as we have just seen it is plausible that δρακών was replaced by ἰδών. Another relevant factor is that word-internal *McL* (in augmented indicatives like ἔδρακον and in prefixed forms) was much more strongly avoided than word-initial *McL* (in δράκων and βροτοῖσι).

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33 This does not imply the existence of an Aeolic phrase. However, I am no longer certain of the claim (which I made in Van Beek 2013) that there was an uninterrupted Ionian tradition. In the wake of works like Hooker 1977 and Hoekstra 1981, I would now rather assume a conservative poetic language that was preserved from Mycenaean times, containing both Mycenaean and (continental) Aeolic elements. During the Dark Ages this traditional language became popular especially with Ionian poets, who introduced forms with αρ < *$\mathring{r}$ such as καρτερός, ταρφέες and χάρμη. At a certain point, probably in the 9th or 8th c. BCE, they also started to modernize or update the language more structurally. This would be a natural period in which to date the vocalization of Epic *$\mathring{r}$.

34 The middle aorist τραπέσθαι is used 7× with *McL* (see section 6.8.9); note that this form may have been protected against replacement because it also remained current in the vernacular.

Another noteworthy prosodic fact concerns the opportunity to generate length by position. This option is widely used in all thematic aorists under discussion, especially in forms with augment and/or preverb such as κατέδραθον, διαδράκοι, ἐτράπετ(ο). Again, this behavior seems to be at odds with the idea that pre-forms of these aorists had Epic *$r̥$. The same issue is at play in κρατερός 'fierce', which seems to reflect a pre-form with Epic *$r̥$ (given its reflex -ρα- < *$r̥$), but at the same time has an onset that often generates length by position. On the other hand, we have seen that κραδίη < *$kr̥diā$- and βροτός < *$mr̥to$- were hardly used to generate length by position.[35] Again, the high number of attestations of κραδίη, κρατερός and βροτός virtually excludes a coincidence.

Let us zoom in on κραδίη versus κρατερός. Given the high number of attestations of both forms, the difference in their rhythmical behavior cannot be due to chance. As argued in chapter 6, the precursor of κραδίη was retained unaltered in the form *$kr̥diā$- until Epic *$r̥$ developed into -ρα-. As for *$kr̥terós$, I propose that its root vocalism may have been influenced by the related form κρατύς, which had acquired -ρα- already in Proto-Ionic by analogical leveling (see chapters 4 and 5). Introducing the root shape κρατ- into *$kr̥teró$- was highly attractive, as it enabled poets to use κρατερός after words ending in a short vowel, including prepositions like κατά and ἐνί. This development also led to a marginalization of κρατύς, which is retained only in the name-epithet formula κρατὺς Ἀργεϊφόντης. In *$kr̥diā$-, on the other hand, no model for an early introduction of -ρα- was available.

We will now consider whether the metrical behavior of thematic aorists like ἔδρακον can be explained like that of κρατερός, looking first at the reconstruction with Epic *$r̥$, and then turning to the possibility of an Ionicized Aeolic form.

8.4.2 *A Possible Origin of -ρα- in ἔδρακον, ἔδραθον, ἔπραθον*

Most of the approximately 60 active thematic aorist stems have a light root syllable before the thematic vowel.[36] In such cases, the structure of the stem is *VCVC-e/o-*, *CVC-e/o-*, or *CCVC-e/o-*. Only the last two types are of interest here: at first, forms like *$dr̥k$-*e/o*- had the structure *CVC-e/o-*, whereas the Homeric

35 See section 6.1 and 7.2.1, respectively.

36 The only exceptions to this claim are ἦλφον, ἦλθον (beside ἤλυθον), εὗρον, ἔχραισμε, ἔειπον, ἐπαυρεῖν, ὄλισθε(ν), ἔνεικα, and ἄμαρτε (see Risch 1974: 238 ff. for the Homeric forms). 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.

TABLE 25 Localization of thematic aorist forms with -ρα- in Homer

Root in:	4th thesis		5th thesis	Elsewhere		Total
	+ prev	– prev		+ prev	– prev	
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[37]	6	4	7		4	21
Total	**42**	**12**	**13**	**10**	**8**	**85**

outcome δρακε/ο- had the structure *CCVC-e/o-*. If we reconstruct the pre-forms of these thematic aorists with Epic **r̥*, the elimination of this sound would have changed the possibilities to use them in the epic hexameter quite drastically.

In order to show this, let us consider the token frequency and localization of the relevant thematic aorist forms, as summarized in Table 25. I have not included forms of ἔτραφον in view of the numerous variant readings such as aor. ἐτράφη or impf. ἔτρεφεν (see above), nor forms of τραπέσθαι with *McL*, of which the root syllable is placed in the 2nd half of the thesis. Thus, all forms included in the table have their root syllable in the 1st thesis syllable.

In ἔδραμον and ἔτραπον (active and middle), the Homeric stem is identical to that of the corresponding vernacular form. These two frequent stems account for 62 instances (72.9%).[38] Moreover, in both stems -ρα- was also present in the Ionic vernacular as the analogically restored reflex of **r̥*. On the other hand, the stem of the other 23 instances (27.1%) did not appear in the vernacular (ἔδρακον, ἔπραθον), or had a different shape there (ἔδραθον vs. Att. κατέδαρθον).

The high number of forms occurring in the fourth foot (54×, or 63.5%) can be ascribed to two factors: a general tendency to put clause-final verb forms in

37 Mostly ἐτράπετ'; the unelided middle ἐτράπετο occurs only 4×.

38 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 6.8.9. The transitive semantics of the active τραπέειν and the alternation with an intransitive middle τραπέσθαι are not paralleled in the other five thematic aorists discussed here.

the fourth foot (cf. Parry 1971: 41) and the high number of forms with preverb (42×, or 49.4%). I have listed such forms with preverb separately, as they strongly determine the localization: forms like ἀνέδρακον fit exactly between the third foot caesura and the bucolic dieresis, and they could hardly be used in other places.[39] The augmented simplex forms (e.g. ἔδραμον, ἔτραπον), given their dactylic structure, naturally tend to occupy the 1st, 4th or 5th foot.[40] Thus, the localization of the forms follows directly from their rhythmical structure. Note that only τραπε/ο- is frequent as a simplex; the other four stems (δρακε/ο-, πραθε/ο-, δραθε/ο-, δραμε/ο-) mainly occur with preverbs, with 8 exceptions.[41]

In order to test the hypothesis that these thematic aorists had Epic **r̥*, we must now ask how the prehistoric forms **dr̥ke*, **dr̥me*, **dr̥tʰe*, **pr̥tʰe* and **tr̥kʷe* would have been used in epic verse. First of all, prefixed forms could not have been used in forms like **anedr̥ke* or **epedr̥me*, with four consecutive light syllables. Thus, if these stems were predominantly used with preverbs already at an early stage of the tradition, the question becomes how they could have been used at all.

At first sight, it seems that this problem could have been resolved by means of metrical lengthening of the second of four consecutive light syllables. Upon closer consideration, however, this idea appears to be problematic: there are no secure traces of a metrically lengthened augment with other roots of the structure **CVC*-, where the same problem would have occurred.[42] On the contrary, a different traditional means of creating heavy prefixed syllables appears to have been used, involving the apocopated preverbs κατ- and ἐκ-. For instance,

39 In view of Hermann's bridge, prefixed forms are used in the fifth foot only when they are vowel-initial and preceded by a prepositive word, as in καὶ ἐσέδρακον ἄντην (*Il.* 24.223).

40 A similar distribution is found for ἔχραον 'attacked' (ἔχραε 3× in the 5th foot, once verse-initially; ἐπέχραον 3× in the 4th foot).

41 Most of these cases are in tmesis; they include the phrase πόλιν ἔπραθον (2×), ἔδραθ' ἐνὶ προδόμῳ (*Od.* 20.143, nowhere in later Greek), and ἔδρακον ὀφθαλμοῖσι (*Od.* 10.197), which looks like a truncated form of the second hemistichs ἀνέδρακον ὀφθαλμοῖσι and ἐσέδρακον ὀφθαλμοῖσι.

42 Even the phenomenon of 'resonant lengthening' cannot be adduced as a parallel. In ἔμμαθεν (*Od.* 17.226) and ἔμμαθες (*Od.* 18.362) as against μάθον (*Il.* 6.444) the phenomenon is exceptional and clearly secondary; the same holds for the non-etymological gemination in ἔλλαχε (*h. Cer.* 86 and 87), against which Homer only has ἔλαχον or λάχον without resonant lengthening. Contrast the metrical behavior of λιπε/ο- 'to leave', where root-initial λ- generally counts as a single consonant (72× λιπε/ο- in the first thesis syllable, against only once ἐνὶ πτόλεϊ λίπετ' ἀνήρ *Il.* 24.707). In ἔλλαβον 'took' the geminate reflects etymological **hl-* < **sl-*, and εὔαδε 'it was agreeable' reflects **e-hu̯ad-e*. See Chantraine (1958: 176–177), and Eben (2004) for a more extensive discussion of 'resonant lengthening' in Homer.

in Homer κάλλιπε, κάββαλε, and κάππεσε occur in the same meaning as ἔλιπε, ἔβαλε, ἔπεσε. Likewise, ἔκφυγε + acc. functions as a metrical alternative for φύγε 'escaped'.[43]

A second option, again merely theoretical, might have been to use alternative forms of the preverb in -αι-. Thus, a preverb παραι- (instead of παρα-, παρ-) appears in παραιπεπιθοῦσα, παραιφάμενος and in the nominal derivative παραίφασις. Thus, we might in theory account for παρέδραθεν (*Od.* 20.88) and παραδραθέειν (*Il.* 14.163) by positing a pre-form **parai-dr̥t^{h}e*. However, in Homer the alternative form with -αι- is practically limited to παραι-: the only exception is the compound καταιβαταί (*Od.* 13.110); the alternative form διαι- beside δια- first develops after Homer. Since the prefixed forms of δρακ- (ἀνέδρακον, διαδράκοι, ἐσέδρακον) and πραθ- (ἐξεπράθομεν, διαπραθέειν) never occur with παρα-, they cannot reflect pre-forms in *-*ai*-.

In view of these problems, let us consider how the problem of using preverbs was solved with other thematic aorist indicatives to roots of the structure **CVC*-. It is instructive to compare the aorist stem θορε/ο- 'to jump', because this is attested almost exclusively[44] with preverb and semantically close to δραμε/ο-. Its indicative is used mainly in two ways:

– with a prefixed preverb if this ended in a consonant: e.g. ὑπέρθορον (*Il.* 9.476), ὃ δ' ἄρ' ἔσθορε φαίδιμος Ἕκτωρ (*Il.* 12.462), ὃ δ' ἔσθορε δαίμονι ἶσος (*Il.* 21.18), ἔνθορε μέσσῳ (*Il.* 21.233), ἔνθορ' ὁμίλῳ (*Il.* 15.623), ἔκθορε δίφρου (*Il.* 16.427);
– with a preverb 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 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 current, one would expect to find dactylic forms of the type **katdr̥t^{h}e*, **andr̥ke*, alongside forms with preverb in tmesis such as **ana … dr̥me* or **an d' edr̥me*. There is, however, no evidence for such forms among the roots πραθ-, δρακ- and δραθ-, apart from one instance of the 3rd dual καδδραθέτην (*Od.* 15.494).

At first sight, this seems detrimental to the idea that these aorists reflect preforms with Epic **r̥*, for wouldn't one expect to find more instances of tmesis in Homer? On second thoughts, however, this lack of attestations *could* be due to the metrical convenience of compounded forms like ἀνέδρακον once these

43 This explains why Homer could use unaugmented κάτθανε (*Il.* 9.320) as a gnomic aorist, instead of metrically difficult ἔθανε (for the problem, see already Meister 1921: 35, in whose view κάτθανε stands in for κατέθανε).

44 The only exception is χαμᾶζε θορών (*Il.* 10.528).

became available, and the metrical inconvenience of the tmesis construction.[45] The main question is therefore: how could forms like ἀνέδρακον develop?

In Van Beek 2013, I proposed that -ρα- was introduced into **dr̥ke/o-*, **dr̥tʰe/o-* and **pr̥tʰe/o-* from the vernacular forms ἔτραπον and ἔδραμον. Given the metrical convenience of the latter two forms (and compounds), one could expect that they ousted the traditional forms with **r̥* from Epic Greek soon after they became available. Not only was ἔδραμον the most frequent thematic aorist with -ρα- in Homer, but it was used exclusively with preverb (ἀνα-, δια-, ἐπι-, ὑπο-, etc.). This means that pre-forms like **ana* / *dia* ... *dr̥me* (with tmesis), which were difficult to use, were ousted by ἀνέδραμε(ν), διέδραμε(ν) once these became available. The same holds for the replacement of **epi* ... *tr̥kʷe* with e.g. ἐπέτραπε(ν). I therefore supposed that the two frequent stems δραμε/ο- and τραπε/ο- dragged the other three forms **dr̥ke/o-*, **dr̥tʰe/o-*, and **pr̥tʰe/o-* along with them. That is, when the forms ἔδραμε and ἔτραπε had become available as alternatives for **dr̥me* and **(e)tr̥kʷe* and were in the process of replacing them, the forms ἔδρακε, ἔδραθε and ἔπραθε were artificially created as metrical alternatives for forms with preverb of **dr̥ke*, **dr̥tʰe* and **pr̥tʰe*, which were inconvenient to use because the preverb usually had to be placed in tmesis.

If this possibility is granted, the introduction of -ρα- also generated a problem that has already been discussed in the previous section. Participles and many subjunctive and optative forms of the aorists δραμε/ο- and τραπε/ο- could not be used: at this early stage, *McL* was still out of the question. An artificial introduction of -ρα- into **dr̥ke/o-*, **dr̥tʰe/o-* and **pr̥tʰe/o-* would have entailed that their participles and many modal forms could no longer be used. However, this probably would not have been detrimental: these verbs mainly occurred as compounds anyway, and compounded participle forms like **anadr̥kont-* could not be used either. In reality, it is likely that alternative ways of expression had emerged already at earlier stages of the tradition: consider the ptc. (ἐκ)πέρσαντ- of the sigmatic aorist, which occurs instead of the reflex of **pr̥tʰont-*; ἰδών in the meaning 'looking, glancing (at)' instead of the reflex of **dr̥kont-*; and μετάλμενος, ἐπάλμενος 'jumping among/at' instead of unmetrical *μεταθορών, *ἐπιθορών.

It remains to explain why -ρα- was not introduced in the thematic aorist ἤμβροτον. If we assume that this form reflects **āmr̥te/o-* with Epic **r̥*, the reasons are not difficult to find: the augmented pre-form **āmr̥te* already had a dactylic structure, so there was no clear motivation to introduce -ρα-. Moreover,

45 Note that apocope of the preverb was not an available option for pre-forms with ἐπι- (ἐπέδραμον), ἀπο- (ἀπέδραμον), δια- (διέπραθον, διέδρακον, διέδραμον), and περι- (περίδραμον). The pre-forms with **r̥* could only be combined with such preverbs by using the tmesis construction.

since the root structure of **amr̥t-* was different from that of **dr̥m-* and other similar forms, there was no obvious model. At some point the Ionic vernacular form ἄμαρτε was introduced as a convenient metrical alternative to **ām̥rte*. We may assume that the latter form was preserved as such, and that it eventually took part in the regular vocalization of Epic **r̥*, yielding ἤμβροτον.

8.4.3 *Reconsidering the Possibility of Aeolisms*

The form ἤμβροτον, with its reflex -ρο- < **r̥*, could also be an Aeolism. In view of the problems involved in reconstructing Epic **r̥* for the thematic aorists with -ρα-, let us reconsider whether these can be accounted for as Aeolisms. The simplest scenario would be that their stems, at an early pre-stage of Epic Greek, had the Aeolic vernacular reflex -ρο- < **r̥*, and that their vocalism was changed into -ρα- under influence of corresponding Ionic vernacular forms. This would indeed work well for ἔτραπον and ἔδραμον, cases where the aorist stem is attested both in Ionic and in Aeolic (cf. τρόπην Alc. fr. 70.9, ὀνέτροπε fr. 72.8, πεδέτροπ[ε fr. 75.11; δρό[μωμεν Alc. fr. 6.8). Such a scenario would be the easiest way of accounting for the rhythmical behavior of the thematic aorists with -ρα- in Epic Greek: as we have seen, their root-initial PL-onset is always heterosyllabic in Homer.

However, it is less trivial to view ἔδρακον, ἔπραθον and ἔδραθον as Ionicized versions of original Aeolic forms with -ρο-. Such forms are not attested in literary Lesbian or in inscriptions from the Aeolic dialects, and the aorists ἔδρακον and ἔπραθον are poetic relics. Furthermore, ἔδραθον is unattested in this specific shape in Attic-Ionic: the verb is absent from Ionic, and found only in the form κατέδαρθον in Attic. If we assume that ἔδαρθον influenced the vocalism of an older Aeolic *ἔδροθον (with a different vowel slot), we are confronted with several further questions. For instance, why wasn't ἤμβροτον changed into *ἤμβρατον under the influence of ἤμαρτον? Why wasn't ἔδαρθον introduced into Epic Greek?

In order to avoid such problems, I propose the following scenario: when ἔτροπον, ἔδρομον were in the process of being replaced by their Ionic counterparts ἔτραπον, ἔδραμον in the epic tradition, the root vocalism of the other three thematic aorists *ἔδροκον, *ἔπροθον and *ἔδροθον (stemming from some early Aeolic dialect) was changed accordingly. Phrased differently, given the existence of two frequent thematic aorists with Ionic ρα beside Aeolic ρο, it is conceivable that Ionic poets extended the same equivalence to other thematic aorists with ρο that were current in the tradition.

If this is accepted, we must note that a similar scenario will not account for the forms with ρα discussed in chapter 6. There is no evidence that poetic relic forms like δράκων 'snake', κραταιός 'strong' and τραπείομεν 'let us get satisfac-

tion' originally had *o*-vocalism (corresponding Aeolic forms with -ρο- are non-existent), or that they owe their *a*-vocalism to a now-lost Ionic counterpart. Furthermore, an important reason for *not* reconstructing Aeolic predecessors with -ρο- of these forms, but instead to posit pre-forms with Epic **r̥*, is their prosodic behavior (*McL* scansion) in Homer.

Thus, if this scenario is correct, the following picture emerges. For an Early Dark Age stage of the epic tradition, we must assume a coexistence of forms preserving **r̥* (some of which were of Mycenaean origin) with forms showing the Aeolic vernacular reflex -ρο- < **r̥*. At a later stage, Ionic forms with -αρ- (and analogical -ρα-) < **r̥* were also introduced. In cases where an appropriate model existed, Aeolic forms with -ρο- < **r̥* had their vocalism changed into -ρα-. In addition, new instances of -ρα- and -ρο- came into being when Epic **r̥* was vocalized.

8.5 Pindaric δρακέντ-

It remains to explain the reflex -ρα- in the Pindaric participle δρακέντ-.[46] Traditionally (e.g. *LSJ* s.v. δέρκομαι), this form has been interpreted as what it appears to be: a participle of the η-aorist. However, in a brief and influential contribution, Forssman (1964) argued that δρακέντ- reflects a relic ptc. form PIE **dr̥ḱ-ént-* of the athematic root aorist. In his view, the participle survived only in Pindar, whereas the indicative had been thematicized already in Homer.

This analysis has become widely accepted among Indo-Europeanists.[47] If it is correct, δρακέντ- could directly continue PIE **dr̥ḱ-ént-* in non-Epic Greek and thus constitute a potential counterexample to the regular vernacular vocalization to -αρ- defended here. However, it is not quite clear from which variety of Greek δρακέντ- stems. The origins of Pindar's poetic language are notoriously difficult to pin down, and if -ρα- was indeed the regular outcome in some West Greek dialect (cf. chapter 3), δρακέντ- might stem from there and thus lose its probative force for Ionic-Attic.

Moreover, I wonder whether the traditional interpretation of δρακέντ- as an η-aorist can really be rejected. Forssman's first objection against this interpretation is that δρακέντ- takes a direct object in all three attestations. In reality, this is true for two instances, ἀκτῖνας … μαρμαρυζοίσας δρακείς (*fr.* 123.2–3) and οὐ

46 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.

47 Cf. e.g. Peters (2004); Willi (2018: 294).

φάος, οὐ μέλαιναν δρακέντες εὐφρόναν (*Nem.* 7.3), but not for the third: in δρακεῖσ' ἀσφαλές (*Pyth.* 2.20) "looking with a straight gaze", we find an internal accusative construction that is clearly old and frequent with this verb.[48] However this may be, the direct object is not an argument for reconstructing an old root aorist, as the thematic aorist ἔδρακον is often transitive, too: thus, Homeric ἔδρακον may also have a direct object (κάπνον … ἔδρακον, *Od.* 10.196–197). Moreover, the construction of δέρκομαι without preverb and with direct object is found mainly with the aorist stem and may well be a secondary syntactic development of this aspectual form.

Forssman's second argument against viewing δρακέντ- as an intransitive aorist is that the indicative *ἐδράκην is not attested anywhere else in Greek. This *argumentum e silentio* is weak: δέρκομαι has a low overall frequency in Greek, and the single attestation of the thematic aorist indicative κατέδρακεν in Pindar could easily be an epicism.[49]

Is it really excluded that δρακέντ- originated as a reshaping of δρακόντ-? In my view, it is not. Another intransitive aorist ἐδέρχθην is attested in the tragedians, always in the indicative, meaning 'to look at, behold'. In fact, in five out of seven attestations, ἐδέρχθην governs a direct object, thus completely undermining Forssman's argument concerning δρακέντ-.[50] Its analogical creation (on the basis of the present) may be explained by the observation of Allan (2003: 159) that δέρκομαι becomes non-volitional in Classical Greek; for this reason, its aorist could be aligned with other mental process middles that formed an intransitive aorist in Classical Greek, such as ἐφράσθην 'I noticed' to φράζομαι.

Allan, too, thinks that Pindaric δρακέντ- is a secondary creation. He compares the replacement of thematic ἔτραφον (Hom.) with ἐτράφην (Hom.+), where only the latter is used by Pindar as a medio-passive aorist of τρέφω.[51]

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48 Cf. especially πῦρ δ' ὀφθαλμοῖσι δεδορκώς "looking like fire with his eyes", i.e. "blazing fire" (of a boar, *Od.* 19.446). See also δεινὸν δερκόμενος "with a fearsome gaze" (*Il.* 3.342, 11.37, and 23.815), ὄμματι δέρκομαι λαμπρόν lit. "I look bright with my eye" (Pi. *Nem.* 7.66), and σμερδαλέον δὲ δέδορκεν "(the snake) looks terrible" (*Il.* 22.95).

49 Note that the preservation of κατέδρακεν in hexameter verse would be well-motivated: **kateu̯iden* would be unmetrical. The Pindaric passage goes: φίλοισι γὰρ φίλος ἐλθὼν ξένιον ἄστυ κατέδρακεν Ἡρακλέος ὀλβίαν πρὸς αὐλάν (*Nem.* 4.22–24). The interpretation of these lines continues to present problems: Willcock (1995: 97) even states that "the expression is awkward". Taking ξένιον ἄστυ with κατέδρακεν and ὀλβίαν πρὸς αὐλάν with ἐλθών requires a heavy hyperbaton. In my view, the idea to emend αὐλάν to a gen. pl. αὐλᾶν is worthy of consideration, because this yields a natural interpretation of πρός: "For having come as a friend to friends, he looked down upon a hospitable city *from* the blessed halls of Heracles."

50 E.g. ὡς τρισόλβιοι κεῖνοι βροτῶν, οἳ ταῦτα δερχθέντες τέλη μόλωσ' ἐς Ἅιδου (S. *fr.* 387).

51 The form τράφε (*Nem.* 3.53) is best analyzed as an imperfect: cf. Slater (1969, s.v. τρέφω).

In my view, it is conceivable that Pindar viewed the archaism ἔδρακον as a typical epic form, like ἔτραφον. Moreover, the creation of a ptc. δρακέντ- beside the Homeric indicative ἔδρακον may have been favored by the absence of the participle δρακόντ- from Homer.[52] A final point is that the same replacement seems to have occurred in the ptc. ἐριπών 'collapsing' (Hom.) → ἐριπέντ- (Pi.).[53]

In conclusion, I think that Forssman was wrong in viewing the Pindaric ptc. δρακέντ- as an archaism; and even if he were right, it cannot be excluded that δρακέντ- is a West Greek element of Pindar's language.

8.6 Conclusions

In thematic aorist forms, Classical prose has *$r̥$ > -αρ- in the following forms:
– κατέδαρθον 'went to sleep' (only Attic);
– ἔπαρδον 'broke wind' (only Attic);
– ἥμαρτον 'missed; erred' (Att.-Ion., Hom.).
While ἔπαρδον may be analogical beside πέρδομαι, this explanation is not available for κατέδαρθον and ἥμαρτον which are both, from a Greek perspective, primary thematic aorists. From this fact, I have concluded that κατέδαρθον and ἥμαρτον have the regular outcome of Proto-Greek *$r̥$.

A number of aorist forms with -ρα- can easily be explained as analogical. For instance, the vowel slot of ἔδραμον 'ran' corresponds to that of the perfect δέδρομε (Hom.) and the noun δρόμος 'course', while the vowel slot of ἔτραπον, ἐτραπόμην 'turned' and ἔτραφον, ἐτράφην 'was reared' matches that of τρέπω and τρέφω.

The reflex -ρα- in ἔδραθον 'slept', ἔδρακον 'looked, saw' and ἔπραθον 'razed, pillaged' causes more difficulties. These forms are virtually restricted to Epic Greek. Moreover, there are good reasons to assume that ἔδρακον and ἔπραθον were restricted to poetry at an early date: this allows us to account for the

52 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." However, I fail to understand how δρακών and δράκων, given their different accents, could ever be confused.

53 Forssman (1964: 18 n. 6) remarks: "δρακέντ- ist also nicht mit ἐριπέντι (dat.) 'stürzend, fallend' Pi. Ol. 11 43 auf eine Stufe zu stellen (…), das gegenüber hom. ἐριπών (zu ἤριπε) auf ἐριπείς weist: Hier handelt es sich um ein intransitives Verbum." However, I see no reason why δρακέντ- and ἐριπέντ-, attested more than two centuries after Homer, could not be replacements of older thematic aorist forms.

absence of by-forms with -αρ- in Homer. We have considered in detail two scenarios accounting for the reflex -ρα- in ἔδραθον, ἔδρακον and ἔπραθον:

– to reconstruct pre-forms with Epic *$r̥$ (archaisms of the epic tradition) whose root vocalism was adapted to ρα at an early date under the influence of the thematic aorists ἔδραμον 'ran' and ἔτραπον 'turned';
– to reconstruct pre-forms with ρο of Aeolic origin, which were turned into Ionic-sounding forms with ρα under the influence of the correspondences ἔδραμον ~ Aeol. ἔδρομον and ἔτραπον ~ Aeol. ἔτροπον.

In both scenarios it must be assumed that the reflex -ρα- in ἔδραθον, ἔδρακον and ἔπραθον is a secondary adaptation to the vocalism of ἔδραμον and ἔτραπον, verbs which are not only frequent in Homer but also remained current in spoken Ionic. In the first scenario, ρα cannot be the regular outcome of Epic *$r̥$, as this would fail to account for the prosodic behavior of ἔδραθον, ἔδρακον and ἔπραθον (absence of *McL*; regular position length). The second scenario, Ionicized Aeolisms, is preferable because it accounts for this prosodic behavior without a problem.

The scenario sketched in this chapter allows us to view the vocalism of κατέδαρθον and ἤμαρτον as the regular vernacular reflex of *$r̥$ in Proto-Ionic. At the same time we may account for the restriction of ἔδρακον and ἔπραθον to poetry, and for the distribution between ἔδραθον (epic) and κατέδαρθον (Attic). I have also proposed an account of the prosodic behavior of κρατερός (which normally makes position in Homer) as opposed to that of κραδίη (which hardly ever makes position). A traditional form *$kr̥terós$ may have been changed into κρατερός under the influence of κρατύς (with an analogical vowel slot) well before the elimination of Epic *$r̥$. A similar substitution was not possible in the isolated noun *$kr̥diā$. It was therefore retained in this form, and yielded κραδίη only later, when Epic *$r̥$ was vocalized.

CHAPTER 9

Remaining Issues Concerning *$\mathring{r}$

Introduction

The preceding chapters have provided us with the framework within which various kinds of remaining evidence for *$\mathring{r}$ can be discussed. The purpose of the present chapter is to tie up these loose ends.

First, I will discuss three sorts of potential counterevidence against a regular reflex -αρ- in Ionic-Attic: words with -ρα- < *$\mathring{r}$ before -σ- (section 9.1), three problematic verbs with a root of the structure *CraC-* (section 9.2), and some possible evidence for *o*-vocalism in Ionic-Attic (section 9.3). Next, I will look at the evidence for two special environments in all dialects: *-$\mathring{r}$- before nasals (section 9.4) and word-final *-$\mathring{r}$ (section 9.5), in both cases with special attention to relative chronology. Further possible evidence for the reflex -αρ- in isolated nominal formations is gathered in section 9.6, where some additional examples are presented. Finally, I will give an overview of remaining evidence that can be left aside for various reasons (section 9.7).

9.1 The Development of *-$\mathring{r}s$- in Ionic-Attic

Some words with etymological *-$\mathring{r}s$- have -ρα- as the outcome before -σ-. The reason to treat these words together are the problems surrounding the adjective θρασύς 'bold' (section 4.5). There are two basic options to account for the form θρασύς:

– a conditioned sound change *$\mathring{r}$ > -ρα- | _*s* (θρασύς the regular Proto-Ionic form);
– an unconditioned change *$\mathring{r}$ > -αρ- (θρασύς an artificial epic creation).

Since θρασύς is attested also in Ionic-Attic prose, it seems an important piece of counterevidence against a Proto-Ionic vernacular change *$\mathring{r}$ > -αρ-. The arguments for considering θρασύς an artificial creation of Epic Greek are as follows (cf. section 4.5). First, the spread of *a*-vocalism through the derivational system of θάρσος, θαρσέω, θαρσύνω presupposes the existence of an adjectival base form with θαρσ-. The adjective that is derivationally related to these forms synchronically in Homer is θαρσαλέος, not θρασύς. However, θαρσαλέος was probably influenced in its root vocalism by θάρσος, because old and isolated cases of -αλέος have an *e*-grade root. Therefore, it would make good sense if the replacement of

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the *e*-grade root took place under influence of *θαρσύς. Secondly, in Homer the factitive verb θαρσύνω was probably derived from a *u*-stem adjective, but the base form was not θρασύς, which has a different root shape (cf. *DELG* s.v. θρασύς); in Attic θρασύνω is clearly a recent creation.

As we have seen, there are concrete indications suggestive of an epic origin of θρασύς. The *McL* scansion in the Homeric formula θρασειάων ἀπὸ χειρῶν in combination with the archaic meaning points to a pre-from *$t^hr̥su$- with Epic *$r̥$ (section 6.8.8). Furthermore, the same traditional form *$t^hr̥su$- may have been preserved in onomastic material and in compounds because it offered a metrical alternative to θερσι-. Finally, in Homer θαρσαλέος has various meanings matching those of Attic θρασύς. Of course, none of this really proves that θρασύς did not also exist in the Attic vernacular, but the material does suggest that θρασύς is old in the epic tradition. Given its martial meaning 'bold, daring, reckless', it would not be surprising if θρασύς was borrowed from the epic tradition into the vernaculars.

In theory, an alternative way to account for θρασύς would be scenario (1), but assuming a conditioned phonological development would require further underpinning in terms of phonetics. Let us therefore first review the entire evidence for *-$r̥s$-, in order to see whether -ρασ- is really the expected outcome of this sequence. Before this can be done, it is necessary to resolve a preliminary issue. If intervocalic *s underwent an early lenition to *h in Greek, why wasn't the pre-form of θρασύς affected? A possible answer to this question, proposed by Forbes (1958), could be that *-$r̥sV$- was (perhaps under certain conditions) exempted from the lenition. In order to judge the likelihood of such a scenario, we must first consider the lenition *s > h after syllabic nasals.

9.1.1 *The Development of *-$n̥sV$-*

An etymological *s is retained after a syllabic nasal in δασύς 'hairy, densely grown'. This retention is odd in two ways. From a phonetic viewpoint, one would not expect a preceding nasal vowel to inhibit the lenition. Furthermore, in other zero grade reflexes of the PIE root *$dens$- in Greek, the final *-s- was in fact lenited. The verbal root is represented by the reduplicated pres. διδάσκω 'to teach' (whence the secondary aor. διδάξαι), by the Homeric aorists δαῆναι 'to learn', δέδαε 'taught', and in the first member of δαΐφρων 'prudent'. The verb has clear cognate formations in Iranian.[1] In view of these forms, it cannot be

1 Old Av. 1sg. pres. mid. *dīdaiŋ́hē* 'I learn', 3sg. inj. pres. act. *didąs* 'teaches'. The Vedic causative stem *daṃsáya-* is probably secondary.

doubted that *-N̥sV- underwent a regular lenition to *-N̥hV-, probably independent of the position of the accent.[2]

Since *u*-stem adjectives could not be formed out of the blue in Greek, δασύς clearly continues an old and inherited formation.[3] Moreover, **dn̥s-u-* served as the basis for another adjective δαυλός (or δαῦλος) 'dense, hairy, shaggy' < **dn̥s-u-ló-*, again with regular lenition.[4] But how to explain the retention of -σ- in δασύς? Neither expressive gemination (Szemerényi 1954: 261) nor a "double treatment" of *-N̥sV- (*DELG* s.v. δαυλός) offers a satisfactory solution.[5] The retention of -σ- can be explained, however, if we suppose that δασύς was levelled from an ablauting paradigm **déns-u-*, **dn̥s-éu̯-*. It may be assumed that the lenition **s* > *h* in intervocalic position took place before the first stages of the first compensatory lengthening started to affect intervocalic *-Ns-*.[6] If so, **dn̥h-eu̯-* could be restored as **dn̥s-eu̯-* on the basis of the strong stem **dens-u-*. In δαυλός, the *-s-* was not restored because the paradigm was non-ablauting. Thus, the pair δασύς beside δαυλός is best interpreted as evidence for a retention of paradigmatic root ablaut in the *u*-stem adjectives in Proto-Greek.[7]

Interestingly, the Hittite cognate *daššu-* 'strong, powerful; heavy, well-fed; difficult, important' equally points to a pre-form **dens-u-*, with a full grade root, in view of its geminate sibilant (cf. *EDHIL* q.v.). An etymological relation between *daššu-* and δασύς is often doubted,[8] but in reality the meanings are certainly compatible: if the basic meaning was 'thick', this could develop into 'heavy, well-fed' and then into 'important, powerful', on the one hand, and into 'dense' on the other.[9] Indeed, one of the meanings of Lat. *dēnsus* is 'thick'. In δασύς, the meaning 'thick, dense' was apparently restricted to animal hairs and the foliage of trees.

In my view, the verbal root **dens-* 'to learn, become skilled' and the root contained in the adjective **dens-u-*, **dn̥s-eu̯-* 'dense' are etymologically identical.

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2 For a discussion of further evidence for *-N̥sV-, see Manolessou and Pantelidis (2011). In my view, there are no sufficient grounds for their claim that the position of the accent influenced the development of *-N̥sV-. The etymological connection between ἄσις 'mud' and Skt. *ásita-* 'dark' and/or Hitt. *hanzana-* 'black(?)' cannot be relied upon: see *EWAia* and *EDHIL* s.vv.

3 The Latin cognate *dēnsus* 'thick, dense' may continue **dn̥s-ó-* or **dens-o-*; in my view, a direct counterpart of δασύς is Hittite *daššu-* 'thick, heavy, strong, etc.'; see below in the main text.

4 On the accentuation, see Radt (1982 and 1994) and Probert (2006: 368); on the reconstruction, see Lamberterie (l.c.), Schwyzer (1939: 307), *GEW* and *DELG* (both s.v. δαυλός).

5 Szemerényi accepts Meillet's view "that -σ-, earlier -σσ-, is due to expressivity", while deriving δαυλός from **dn̥sulo-*. This view is accepted by Lamberterie (1990: 702).

6 For this idea, see also Nikolaev (2010: 238–239, 241, with references to earlier literature).

7 For further evidence for reconstructing PD ablaut in *u*-stem adjectives, see section 4.1.1.

8 See e.g. *EDHIL* s.v. *daššu-*, *EDL* s.v. *dēnsus*.

9 Cf. also section 4.3.1 on the semantics of ταρφύς and τρέφω.

Although a semantic development from 'dense' to 'skilled' may seem odd at first sight, suggestive parallels are found in Greek. Beside πυκνός, πυκινός 'close-fit, dense' and πύκα 'closely fit, frequently', πυκιμήδης 'shrewd' literally means "with dense plans"; cf. also πυκινόφρων "with dense mind". And whereas λάσιος normally means 'hairy, densely grown', the Homeric formula λάσιον κῆρ can be understood as denoting a clever mind. Nussbaum (1976: 69) already drew attention to the following verses:

> δαυλοὶ γὰρ πραπίδων
> δάσκιοί τε τείνουσιν πόροι (...)
> A. *Supp.* 93–94
>
> For dense and heavily shadowed the ways of his mind stretch out

Thus, the verbal root **dens-* may have originally referred to a specific type of cognitive or rhetorical skill; it underwent a semantic development from 'thick' to 'complicated', hence 'skilled, experienced' (of the mind).[10] Interestingly, one of the meanings of Hitt. *daššu-* is 'difficult', which may be an intermediate stage of the semantic development seen in the verbal root. In this way we may also explain how the first compound member **dn̥s-i-* (reflected in δαΐφρων) corresponds semantically to Ved. *dasrá-* and OAv. *daŋra-* 'wise, skilled' < **dn̥s-ró-*. These Indo-Iranian adjectives were derived from the verbal root relatively late; δασύς and Hittite *daššu-* belong to an older stratum of derivatives.[11]

9.1.2 *Retained -σ- in Words Reflecting *-r̥s-*

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

10 We may also compare the use of adjectives like ποικίλον 'complicated' (*Od.* 8.448), παντοίην 'manifold' (*Od.* 6.223) to qualify an object of learning in Homer (*LfgrE* s.v. δαῆναι). In my view, the motivation for this reinterpretation 'dense' > 'skilled, clever' may have been, specifically, that the verb referred to the ability of speaking and deliberating. The language of a clever speaker is literally impenetrable: a complex and intricately woven web of words and their potential references. By contrast, someone whose words can be straightforwardly unraveled (and whose plans can therefore be easily seen through) is shallow and therefore unskilled as a speaker.

11 The etymological identity of δήνεα 'plans, wiles' with Ved. *dáṃsas-* 'skill', Av. *daŋhah-* cannot be doubted. Both the Greek word and the Avestan phrase *hizuuō daŋhah-* 'skill of the tongue' confirm that speaking and deliberation are prototypical skills denoted by the PIE root **dens-*. For the debate on the exact reconstruction of δήνεα (does it reflect PIE **dens-es-* with a dialectal reflex of the 1st CL, or the Ionic reflex of a reshaped Proto-Greek pre-form **dans-eh-*?) see Hackstein (2002: 185–186) with further literature.

(2011) have reconsidered all the alleged cases of *-$\mathring{r}$s-.[12] The following examples are candidates to have retained the sibilant:

– θρασύς 'bold' (cf. θάρσος 'perseverance, courage', etc.);
– τρασιά 'hurdle for drying figs', ταρσός 'hurdle for drying cheese; sole of the foot';
– πράσον 'leek';
– γράσος 'smell of a goat' (γράω 'to eat');
– the dat. pl. in -ράσι of *r*-stem substantives, e.g. πατράσι, θυγατράσι, ἀνδράσι;
– ἄρσην 'male'.

The idea that the sibilant developed differently, depending on whether the liquid was syllabic or consonantal, was first proposed by Forbes (1958: 249–250). In her scenario, intervocalic *-*rs*- first underwent voicing, while intervocalic *-*s*- (also after syllabic liquids) was at first retained (and lenited to *h* later). Thus, *$d^h\mathring{r}su$- was retained when *d^h*ers*- developed to *d^h*erz*-, and later on *$d^h\mathring{r}su$- caused a reshaping *d^h*erz*- >> *d^h*ers*-. In this way, Forbes wishes to explain why various cases of *-*rs*- take part in the 1st compensatory lengthening. In order for this scenario to work, she must assume (among other things) that the lenition of *-*s*- took place after the vocalization of *$\mathring{r}$, which is chronologically highly unlikely, if not impossible. Moreover, she did not systematically examine all words with -ρα- < *-$\mathring{r}$-. In my view, the explanation proposed by Wackernagel (1888) for the twofold reflex of intervocalic *-*Ls*- is still the most likely one: *-*Ls*- was retained only when directly preceded by a syllabic nucleus carring the lexical accent, and otherwise developed to -*L*- with compensatory lengthening of the preceding vowel.[13]

Two other explanations are conceivable for the retention of -σ- in the forms just listed. First, it is possible that *-*s*- regularly underwent lenition also after *$\mathring{r}$, and that instances of retained -σ- were analogically restored from cognate forms with a full-grade root.[14] In essence, this would be the same explanation

12 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 *-$\mathring{r}$s*V*- "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 a second time.

13 The evidence of the (pseudo-)sigmatic aorists is complicated and cannot be discussed in detail here, but at the very least it can be reconciled with Wackernagel's idea (cf. Miller 1976). As Miller observes, the middle τέρσομαι 'to become dry' is strong evidence against the claim by Forbes (1958) that *-*Ls*- was regularly reduced to -*L*- with compensatory lengthening. See now also Batisti 2017a.

14 Lamberterie (1990: 701ff.).

proposed above for δασύς beside δαῆναι. In the pre-form of θρασύς, the -σ- may have been reintroduced from forms with a full grade *t^h*ers-* (where the lenition would not have taken place), whether such forms were present in the adjectival paradigm itself or introduced from cognate formations such as *θέρσος (later >> Ion.-Att. θάρσος).[15]

A second possibility is that *-*r̥s-* escaped the lenition of intervocalic **s*, i.e. that **r̥* behaved differently compared to full vowels. Phonetically, it would be 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 [ɕ] *vel sim.* (due to the *ruki*-rule) escaped the lenition.[16] There is no concrete indication that such an effect was operative in an early form of Greek, but there is no principled reason to exclude this scenario on forehand.

Examining the evidence, however, there appear to be two potential pieces of evidence in favor of a lenition *-*r̥sV-* > *-*r̥hV-*. Lamberterie (1990: 701–703), taking up a suggestion by Wackernagel, argued that τραυλός 'lisping, stammering' continues a pre-form **tr̥s-u-ló-*, an adjective in *-ló-* derived from the weak stem of the PIE *u*-stem adjective **tr̥s-ú-* 'dry'.[17] For the semantic development, he points to ἰσχνόφωνος 'stammering', which literally means "with a dried up voice", and which appears in conjunction with τραυλός in Hdt. 4.155. A second relevant form is γράω 'to eat', which could be derived from a zero grade thematic formation **gr̥s-e/o-*, to be compared with the Vedic root *gras* 'to devour'. As we will see below, however, this second example may reflect a different pre-form **grn̥s-*, rather than **gr̥s-*.

If the lenition of **s* took place early enough, it would be possible to ascribe its retention in **tr̥s-ó-* (underlying τρασιά and ταρσός), in θρασύς, and in the dat. pl. in *-*r̥si* (ἀνδράσι, πατράσι) to an analogical reintroduction of **s* from post-consonantal forms. The issue therefore depends on our evaluation of τραυλός as an example in favor of lenition, and of πράσον and γράσος as counterexamples.

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15 Manolessou and Pantelidis 2011 posit the same rule for *-*N̥sV-* and *-*r̥sV-*: retention of *-s-* only when the accent follows (as in δασύς and θρασύς), lenition in other cases. In my view, the evidence does not warrant such a drastic solution. It is problematic that Wackernagel's rule for intervocalic *-*Ls-* (1888), where only a directly *preceding* accented syllable causes the *-s-* to be preserved, predicts exactly the opposite.

16 Cf. Hoffmann and Forssman 2004: 91 and 104.

17 For the type of formation, cf. e.g. δαυλός, λιγυρός, γλαφυρός (the latter two by liquid dissimilation); see also section 10.4.3.

9.1.3 *The dat. pl. in -Cράσι*

In the dative plural of ablauting *r*-stems, we find ἀνδράσι and ἀστράσι (both Hom.+), θυγατράσι (Hes. *fr.* 165.7+), and the much rarer forms πατράσι, μητράσι, and γαστράσι. Instead of θυγατράσι Homer uses θυγατέρεσσι (with metrical lengthening of the first syllable), which may be an artificial creation.[18] The Mycenaean form *tu-ka-ṭọ-ṣi* or *tu-ka-ṭạ-ṣi* (MY Oe 112.2) is badly readable. If the underlying phonological form contains an anaptyctic vowel, it arose before the liquid, but the Mycenaean evidence also allows the conclusion that /r̥/ was retained (see chapter 2).

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 not probative for the development of **r̥* either, because other weak case forms had a zero grade of the suffix, too (cf. dat. sg. ἀνδρί, θυγατρί). It is therefore conceivable that e.g. **andrəsi* was preferred over **anərsi* so as to avoid introducing a new stem allomorph.

No firm conclusions can be based either on the dative forms of 'four'. Classical Attic has τέτταρσι, and Ionic and the Koine have τέσσερσι; both forms were analogically influenced by the nom. pl. τέτταρες or τέσσερες, respectively. A relic form τέτρασι is attested in Early Greek Epic (Hes. fr. 294.2, Aegimus fr. 5.2) and in Pindar. This form is the outcome of Proto-Greek **kʷetu̯r̥si* > **kʷetr̥si* (see section 2.6), and in view of its exclusively poetic attestation it may show the development of Epic **r̥*. The Attic dat. pl. τέτταρσι cannot be the outcome of **kʷetu̯r̥si* by sound change, since the vocalization to -αρ- was posterior to the loss of **-u̯-* before **r̥*. It is possible that **kʷetr̥si* was vocalized as Proto-Ionic **kʷetərsi* > **kʷetarsi*, perhaps under influence of stem-forms with a full grade like **kʷetu̯er-*, and that **-tu̯-* (or its reflex) was subsequently reintroduced. Finally, the vocalism of the dat. pl. may have been generalized in Att. τέτταρες: this would explain the difference with the Ionic and Koine form τέσσερες.[19]

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18 Note that the dat. pl. forms in -ράσι cannot be used as evidence for or against an accent-conditioned development of **r̥*. At first sight, one could think that ἀνδράσι and ἀστράσι preserve an inherited accentuation, in view of Vedic *pitr̥bhyas* (RV), *pitr̥ṣu* (AV) and *nr̥ṣu*. However, the accent of the Greek forms could theoretically also be due to Wheeler's Law (retraction of a final accent to the penultimate syllable in a word of dactylic structure), in which case the development would be PGr. **patr̥sí* (with the expected accentuation of the loc. pl. ending) > **patrasí* > πατράσι. Moreover, the accent of the Vedic forms can be due to columnarization after the other case forms, and the same can be assumed for the Greek paradigm (cf. πατέρες, πατρῶν and the discussion in Meier-Brügger 1992b: 288).

19 See Stüber (1996: 117–118). With McCone (1993: 54), she assumes that the suffix allomorph -αρ- in τέσσαρες originated in the dative, but neither of them notes that the outcome -σσ-, -ττ- < **-tu̯-* (rather than -τ- as in τέτρασι) is unexpected.

9.1.4 *γράσος and γράω*

Since Solmsen 1909: 228–235, it is thought that γράσος 'smell of a he-goat' (Eupolis, Ar., etc.) derives from the root of γράω 'to eat' (cf. *DELG* s.v. γράσος). Indeed, as Solmsen notes, the closely-resembling τράγος 'he-goat' (*Od.*+) is also attested with the meaning 'smell of a he-goat', and the same is true of Lat. *hircus*. In line with the analysis of τράγος as reflecting **tr̥g-o-* from the root of τρώγω, ἔτραγον 'to eat, gnaw, devour', γράσος is supposed to reflect a **gr̥s-o-* "who grazes", whence 'he-goat'.

It must be stressed, however, that the precise ablaut relation between τρώγω and τράγος remains unclear (see section 8.1). The root reconstruction **tr̥h$_3$g-* advocated by Hackstein (1995: 180) casts doubts on the pre-form **tr̥go-* assumed for τράγος, and thence also on the presence of **r̥* in γράσος.[20] Another important issue is whether the thematic present γράω must be derived from **gr̥s-e/o-*. In order to answer this question, a brief discussion of its attestations is necessary.

– An impv. 2sg. γράσθι is assumed to be attested as *ka-ra-si-ti* in the Cypriot 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!".[21]
– The gloss γρᾶ· φάγε. Κύπριοι Hsch. (and perhaps also καγρᾶ· καταφαγᾶς. Σαλαμίνιοι Hsch.) points in the direction of Cyprus.[22]
– A verb form ἔγραε is attested in Callimachus: καὶ γόνος αἰζηῶν ἔγραε κηδεμόνα (*fr.* 551 Pfeiffer).[23] It is traditionally analyzed as an imperfect, but in view of the absence of further context, a thematic aorist cannot be excluded. Indeed, Cypriot γρᾶ is glossed with an aorist φάγε, and *ka-ra-si-ti* is probably an aorist imperative in view of its conjunction with the root aorist /pōt^{h}i/.
– The verbal root also underlies γαστήρ 'belly' (*Il.*+). Its pre-form underwent dissimilatory *r*-loss (on which cf. Vine 2011), probably in the stem-form **γρα-

20 The reconstruction **trh$_3$g-*, it is true, seems based only on the Greek present τρώγω. The thematic aorist τραγεῖν would have to be an innovation; did it arise beside τρώγω under influence of φαγεῖν?

21 Similar zero grade imperative forms are φάθι 'speak!' < **b^{h}h$_2$-d^{h}i*, ἴσθι 'know!' < **u̯id-d^{h}i*, and especially ἴσθι 'be!' beside Av. *zdī* < PIE **h$_1$s-d^{h}i*.

22 The second gloss, however, is an emendation, cf. Solmsen 1909: 229. On the other hand, the formation and dialectal origin of γραίνειν· ἐσθίειν (Hsch.) remain unclear. A possible formal comparandum is δραίνω, the Ionic form of Attic δράω 'to do, perform', and on this basis Solmsen ascribes the gloss γραίνειν to Ionic. It is perhaps conceivable that the present γραίνω arose in Cyprian beside the contracted aorist form ἔγρᾱ, by analogy with pres. βαίνω : aor. ἔβᾱ.

23 However, the text of the first hemistich is an emendation: see Solmsen 1909: 229.

στρ-. The non-epic paradigm is nom. γαστήρ, acc. γαστέρα, gen. γαστρός, dat. γαστρί, i.e. it reflects a PIE hysterokinetic paradigm.[24] Such a preservation of PIE ablaut is rare in Greek: it was preserved only in a few relic words like πατήρ, but leveled out in the types σωτήρ, σωτῆρος and ποιμήν, ποιμένος. This strongly suggests that γαστήρ is an inherited word.[25]

– The gloss πολυγράῳ· πολυφάγῳ occurs in Galen's glossary of obsolete terms from Hippocrates, so is perhaps of Ionian origin.
– The etymological appurtenance of γράστις 'green fodder' (pap. 3rd c. BCE) to the above forms is uncertain. A by-form of this word is κράστις 'id.' (Ar.+), which has older attestations in Attic. Solmsen (1909: 234) assumes that the onset of γράστις was devoiced due to the voiceless onset of the next syllable; Frisk (*GEW* 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).

There are no clear instances of *-ra-* < **r̥* in Cyprian, but we do have a few good cases of *-ro-* or *-or-* < **r̥* (section 3.4). Considering also the noun γαστήρ, we must reconstruct a Proto-Greek verbal root **gras-* / **grah-*, rather than **gr̥s-*. Since both Cypr. *ka-ra-si-ti* and γαστήρ preserve archaic morphology, we have to look for an IE origin of the root.

Given that the existence of a phoneme **a* in PIE is doubtful,[26] the most logical option is to reconstruct the pre-form as PIE **gr̥ns-*.[27] This reconstruction is indeed confirmed by the etymological relatives of γράω. The only serious *comparandum* is the Vedic root *gras* 'to devour, digest', attested in *grásetām* (3du. impv. pres. mid.), *jagrasāná-* (ptc. pf. mid.), *grasitá-* (*ta*-ptc.), *grásiṣṭha-* (superlative, 'devouring most').[28] It is remarkable that the root is non-

24 The by-forms gen. sg. γαστέρος (once in Hom.) and dat. sg. γαστέρι (only Hom., Hes., E.) were clearly created for metrical reasons, just like e.g. Hom. μητέρος, μητέρι.

25 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). As an alternative to the traditional etymology, Beekes retains Szemerényi's speculation to connect the Callimachean word γέντα 'sacrificial meat, innards'. However, this does not account for the agent noun formation of γαστήρ.

26 Cf. Lubotsky 1989 and recently Pronk 2019.

27 The present argument does not change if one reconstructs the root as PIE **gras-* (as e.g. Sihler 1995: 153).

28 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,

ablauting: from a root **gres-*, Sanskrit would normally form a middle perfect *jāgṛsāná-** and a *ta*-ptc. *gṛṣṭá-**, with a zero grade root. Thus, the Vedic and Greek forms point in the same direction: a root **grens-* of which only the zero grade **grn̥s-* is reflected.[29] Since the primary formations of this root are difficult to reconstruct, it is difficult to determine why and how this zero grade was generalized.[30]

In conclusion, it appears impossible to explain the retention of intervocalic *-s-* in γράσος *and* its lenition in πολυγράῳ, ἔγραε and γρᾶ· φάγε at the same time. Since the lenition certainly took place, we must leave γράσος out of further consideration here, whatever the ultimate explanation of its retained intervocalic -σ-. It is not excluded that the form contains a secondary suffix -σος, for which Solmsen (1909: 232) compared μέθυσος 'drunkard', κόμπασος 'braggart' and πολλαγόρασος 'who sells much', apparently all deverbal nouns with a derogatory meaning.

9.1.5 *ταρσός and τρασιά, ταρσιή*

The verb τέρσομαι 'to become dry' is attested only in Homer, together with an aor. inf. τερσῆναι, τερσήμεναι, in which the full-grade root was introduced.[31] The normal verb in Classical Greek is the denominative ξηραίνω 'to dry', so τέρσομαι is clearly an archaism. What weight should we attach 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' (*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

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Lat. *grāmen* could also be compared with the Germanic verb PGmc. **grōan-* 'to grow' (*EDL* s.v. *grāmen*). The reconstruction *γρά-jω assumed by Manolessou and Pantelidis (2011: 369) is unmotivated.

29 Kümmel (*LIV*^{2} s.v. **gres-*) remarks that "Gegen Nasal spricht jedoch *grásiṣṭha-*", but one wonders how old this superlative really is.

30 The coexistence of middle present and middle perfect forms in Vedic could point to an older activity verb meaning 'to devour, digest grass'. Gr. γαστήρ would be the organ that (habitually, continuously) digests. On the other hand, Cypr. γράσθι seems to be the 2sg. impv. **grn̥s-d^{h}i* of a root aorist, with the zero grade of the root expected in such a formation. However, if one wishes to assume that **grns-* 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*, 3pl. *ákṣan* (< **g^{wh}es-*, but only attested in Indo-Iranian) and PIE **g^{w}erh$_3$-* 'devour'. There may well have been semantic nuances between these roots that are now beyond recovery.

31 Cf. the *u*-stem adjective attested in other IE languages: Ved. *tṛṣú-* 'greedy', Av. *taršu-* 'dry', Goth. *þaursus* 'dry'.

foot' (*Il.* 11.377 and 388, Hdt., Hp.), thence a designation of various flat objects, e.g. 'blade, rudder', whence 'row of oars' (Hdt., Th., E.+). The appurtenance of this word 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, and meaning 2. 'sole of the foot' is in my view best derived from 'callous skin', rather than from 'flat object' (as assumed in *GEW* and *DELG*, q.v.).[32] The archaic appearance of the zero grade formation **tr̥s-ó-* is matched by the wide semantic range of ταρσός in Greek.[33] The same IE verbal root served as a basis for Arm. *t'aṙ* 'stick for drying grapes etc.' (reflecting zero grade **tr̥s-*) and OHG *darra* 'rack for drying fruit or grains' (*quasi* PIE **tors-eh*$_2$-).

A second etymon containing the zero grade root is the rare word τρασιά (Eup., Ar., S.), ταρσιή (Semon. fr. 39 W) 'hurdle for drying figs; dried figs; place for drying cereals'.[34] The oxytone suffix -ιά (see Chantraine 1933: 82, Risch 1974: 116–117) creates nouns referring to a collection of objects, or to a place where such objects are collected.[35] As 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 made of dry materials (cf. ταρσός, meaning 1.).

Now, since τρασιά is attested in the Classical period only in Aristophanes and in fragments of Sophocles and Eupolis, it looks like an Attic vernacular word. In this case it would be attractive to view τρασιά as the regular outcome of **tr̥s-iā́-*, and assume 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 to this analysis, however, that τέρσομαι is not a productive verb anymore in Ionic-Attic (it had been replaced by e.g. 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 up' already for speakers of Proto-Ionic,

32 "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 'trocknen', z.B. ξηραίνω, ersetzt wurde" (Frisk, *GEW* s.v. ταρσός).

33 For the zero grade root of **tr̥s-ó-*, cf. other inherited formations like ζυγόν 'yoke', καρπός 'harvest'. Note that the verb τέρσομαι has lost all traces of ablaut (τερσῆναι, fact. aor. τέρσηνε).

34 Aelius Herodianus also mentions the form θαρριά· τρασιά, which may show a transfer of aspiration. The gloss ταρσῆται· ἀγγεῖα, ἐν οἷς οἱ τυροὶ ψύχονται 'vessels in which cheeses are dried' (Hsch.) presupposes an agent noun ταρσήτης 'dryer'.

35 In Homer, a collective meaning is found in e.g. πρασιή 'garden bed with leeks', λοφιή 'back bristles of a boar', σποδιή 'heap of ashes', ἀνθρακιή 'heap of glowing coals'. Other forms refer to a location, e.g. σκοπιή 'lookout place', ἐσχατιή 'boundary, extremity'.

while τρασιά is still semantically and morphologically perspicuous as a "place for drying".[36] In other words, given the semantic isolation of ταρσός 'sole of the foot', it is problematic to assume that a pre-form *τρασός was influenced by τέρσομαι if τρασιά escaped this influence.[37]

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. Not only does Homer have a large number of such derived nouns in -ιή, but in addition this formation yielded convenient dactylic forms in cases where the root ended in a short vowel plus a single consonant. There would be a clear motivation for retaining **tr̥siā́-*: just like καρδίη, the form ταρσιή (attested for Semonides) would have been ill-suited to the metrical demands of dactylic poetry. Drying hurdles are mentioned in the epics, 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* before **s*, on account of τρασιά, then it must be accepted that ταρσός contains the restored outcome of **r̥*. This is not unproblematic 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- < **r̥*, also before **s*. In my view the second option is preferable.

9.1.6 *τρήρων and τραυλός*

The form τρήρων means 'timorous, shy, easily frightened' in Ar. *Pax* 1067, where it is used in apposition to κέπφοι 'a species of waterbird'. 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.* 12.62–63, τρήρωσι πελειάσιν *Il.* 5.778). At first sight, then, it looks as if τρήρων is an adjective, but the compound πολυτρήρων (*Il.*) 'rich in pigeons' implies the existence of a noun τρήρων 'pigeon'. Moreover, barytone nouns in -ων- usually refer to individuals that have the base form as a characteristic property (cf. the overview in Risch 1974: 56). It is therefore possible that τρήρων still was a word for 'dove, pigeon' in Homer, and that πέλεια may function as a feminine form of the adjective for 'grey' (cf. *GEW* s.v. πέλεια).

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36 "Die auffallende Bedeutungsverschiebung (…) wurde dadurch erleichtert, dass das primäre Verb der poetischen Sprache vorbehalten blieb und in der Prosa von anderen Ausdrücken für 'trock[n]en', z.B. ξηραίνω, ersetzt wurde" (*GEW* s.v. ταρσός).

37 It is futile to discard the reconstruction **tr̥só-* in favor of a different pre-form like **tr̥sṷ-ó-*, as *per* Forbes (1958).

At first sight, the most likely derivation of τρήρων starts from the root of τρέω 'to flee from; be afraid of, shirk' (cf. Ved. *trásanti* 'they tremble, quiver') as **tr̥s-ró-* 'easily frightened, timorous' > **trasró-* > **trāró-*.[38] From **trāró-*, a derivative **trā́rōn* "shy guy" could be productively derived (cf. e.g. στραβός 'squinting' → στράβων 'squinter'). Indeed, the reconstruction **trāró-* is confirmed by the glosses τρηρόν· ἐλαφρόν, δειλόν, ταχύ, πλοῖον μικρόν "nimble, cowardly, quick; a small vessel", τραρόν· τ⟨ρ⟩αχύ, and ταρόν· ταχύ (all Hsch.). The latter two prove etymological **-ā-*.[39]

If -αρ- was the regular outcome of **r̥* in Ionic-Attic, the reflex **-ra-* in **trahró-* must be accounted for. To assume a conditioned change to **-ra-* before **h* would be phonetically conceivable (avoidance of the sequence */rh.r/), and at first sight it seems that such a development is paralleled by τραυλός 'stammering', which appears to reflect PGr. **tr̥s-u-ló-* (see below). For purposes of relative chronology, it is interesting that τρήρων took part in the first compensatory lengthening, implying that the vocalization of **r̥* (and its phonologization as *ar* or *ra*) took place before the loss of *-h-* in sonorant clusters: **tr̥sro-* > **tr̥hro-* > **trəhró-* > **trahró-* > **trāró-*.

However, we must be careful not to draw rash conclusions. First of all, the pre-form **tr̥hro-* would contain a highly specific phonetic environment: the expected vocalization *-ar-* would have yielded a consonant cluster /rhr/ that may have been avoided for phonotactic reasons. More importantly, the present **trehe/o-* > Hom. τρέω may have influenced the place of the anaptyctic vowel, also taking into account that **tarh-* would have looked like an allomorph of **ters-* 'to dry up'.[40] Another case of **r̥s* followed by a sonorant is Hom. ἀρνειός 'ram' (Att. ἀρνεώς), which probably derives from **u̯r̥sn-ēu̯-ó-*, a thematicized form corresponding to Myc. *wo-ne-we* qualifying male sheep (Peters 1993b). Unfortunately, again there is no guarantee that **u̯r̥hnēu̯ó-* regularly developed into **u̯ar(h)nēu̯ó-*, as ἀρήν, ἀρνός 'lamb' and/or ἄρσην 'male animal' may have influenced the vocalization.[41] Returning to *τρηρός, it is not even excluded that

38 Cf. *LSJ* (s.v. τρήρων), Beekes (*EDG* s.v. τρήρων).

39 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 (Hsch. τ 198) may reflect a linguistically real dissimilation, but other scenarios cannot be excluded. In Aristophanes, τρήρων must be an epicism because ᾱ would be retained after ρ in Attic (cf. τρήρωνι πελείῃ *Av.* 575).

40 In fact, all traces of ablaut were eliminated from τρέω and its productive derivatives, cf. ἄτρεστος 'fearless'.

41 The problem of the lacking reflex (*pace* Peters 1993b) of initial digamma in Homeric ἀρνειός may be solved either by assuming that the word was a relatively late introduction from the Ionic vernacular into the epic tradition (see *GEW* s.v.), or by positing influence of ἄρσην 'male' and/or ἀρήν 'lamb'.

the pre-form was **tr̥h-aro-* (>> **trah-aro-*), given the limited productivity of this suffix variant in Greek (cf. ἰθαρός 'cheerful'; West Greek ἰαρός for **His-ró-* > Hom. ἱρός 'holy'; cf. García Ramón 1992). If this **traharo-* underwent an early loss of *h* between like vowels, the contraction product may have joined the Ionic shift **ā* > η.

Turning to τραυλός, Batisti (2017b) has recently provided an extensive discussion of the meaning and etymology of this word. He criticizes the idea that ἰσχνόφωνος serves as a semantic parallel for 'dryness' of voice, and instead proposes (with due caution) that its root was also **tres-* 'tremble', as verbs with this meaning are often used to denote speech defects. At the very least, we have to admit the possibility that a vocalized zero grade **trah-* of the root **tres-* / **treh-* exerted an influence on τραυλός. If τραυλός does not necessarily derive from **ters-* 'to dry up', it ceases to be a compelling example for a regular change **r̥* > -ρα-.

In sum, τρήρων reflects an adjective **trāró-* deriving from **tres-* 'tremble', but it is uncertain whether the pre-form was **trahró-* < **tr̥hró-* or **trah-aró-*. Moreover, τραυλός may also derive from this root rather than from **ters-* 'to dry up'; it furnishes strong evidence for a regular lenition of **s* in the environment **r̥sV*. In both τρήρων and τραυλός, the vowel slot of **trah-* may be analogical.

9.1.7 *ἄρσην and ἀρνειός*

The form ἄρσην is found in Homer, literary and epigraphic Attic, the Koine, and in Arcadian and Ionic inscriptions (Miletus, Thasus). A variant ἔρσην / ἐρσήν 'id.' is attested epigraphically in Lesbian, Coan, Gortynian Cretan, Messenian, and in the dialects of Epidaurus, Cyrene and Elis.[42] It could therefore seem likely that South Greek had ἄρσην, while North Greek had ἔρσην, but it is problematic that Herodotus also has ἔρσην, contrary to the epigraphic evidence from Eastern Ionic. Moreover, the form ορσεν occurs in an unpublished Thessalian inscription quoted by García Ramón (2007c, cf. 2018: 40–43). Hence, it is not impossible that both root allomorphs were present in Proto-Aeolic and perhaps in Proto-Ionic. Arcadian now also attests ορεν (with single spelling of geminate ρρ) in a recently published festival calendar (Carbon-Clackson 2016).[43] Finally, as we have seen in the previous section, the noun ἀρνειός 'ram' (Att. ἀρνεώς) is probably related to ἄρσην, reflecting **u̯r̥sn-ēu̯-ó-*, while Myc. *wo-ne-we*, also qualifying male sheep, may reflect **u̯r̥sn-ēu̯-*.

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42 Minon (2007: 200–201) doubts the dialectal authenticity of the form in Elis.

43 This form confirms that κατορρεντερον γενος 'in the male line' (*IG* V,2 262.21 and 27, Mantinea, 5th c. BCE; Dubois 1986, II: 94ff.), on which cf. García Ramón 2018: 43 and Peters 1993b: 380, is the sandhi outcome of κατ=το=ορρεντερον.

The reconstruction of all these words is beset with difficulties. A pre-form with *u̯r̥s- is traditionally reconstructed for ἄρσην 'male animal' in view of the cognate Ved. *vr̥ṣan-* m. 'id.; bull', but there is no secure evidence for digamma in any of the Greek words just listed.[44] The lacking digamma reflex in ἀρνειός 'ram' can be ascribed to influence of the generic term ἄρσην, and such influence may even have taken place at a relatively recent time. In order to explain the consistent lack of evidence for digamma in Homeric ἄρσην, it has been assumed that its onset was influenced by that of ἔρσην / ἐρσήν, for instance by Peters (1993b: 378, following other scholars).[45] This presupposes, however, that the two coexisted as different words.

Peters (1993b) gives an ample discussion of previous treatments of this word and argues that ἔρσην / ἐρσήν is etymologically different from ἄρσην. Only ἄρσην would be related to Ved. *vr̥ṣan-* < *u̯r̥s-en-*, while the homonym ἐρσήν < PIE *h_1r̥s-én-* is comparable to YAv. *aršan-* 'id.'. The main problem with this reconstruction is the fact that both forms have exactly the same meaning in Greek, and also highly similar meanings in Indo-Iranian. One would have to assume that two unrelated words referring to different types of male animals were conflated. Another point is that Peters did not yet have access to the Thessalian form ορσεν. García Ramón (2018: 40–43) thinks that it can be reconciled with the scenario proposed by Peters and that it is etymologically identical to ἄρσην (rather than ἔρσην), directly reflecting *u̯r̥s-en-* with *ŕ̥ > ορ and subsequent loss of initial digamma.

An alternative scenario has been proposed by Pronk (2009): in the pre-form *u̯r̥s-en-*, *u̯- would have been lost already in late PIE due to the frequent occurrence of this word in a compound *$g^{\text{w}}h_3$eu̯-u̯r̥s-en-* 'male cow' = 'bull'. This would have resulted in *$g^{\text{w}}h_3$eu̯r̥sen-* by simplification of the two subsequent labial glides, and could then be reinterpreted as *$g^{\text{w}}h_3$eu̯-r̥sen-*, after which the simplex would have lost its initial glide. The occurrence of this compound in the proto-language is made probable by the fact that reflexes occur in North Germanic as well as Tocharian. This scenario is ingenious, but it also has problematic aspects. The assumed re-segmentation and the reshaping of the simplex presuppose that the compound *$g^{\text{w}}h_3$eu̯r̥sen-* was much more frequent than the simplex, while in reality the compound has left not a single trace in Greek or

44 A possible exception to this is Myc. *wo-ne-we*, on which see section 2.3.1.

45 Peters tries to show that the Homeric evidence does not exclude a digamma, but this presupposes particular views about position length in Homer that I cannot subscribe to. In my view, the absence of positive evidence for digamma (in the form of hiatus or position length before forms of ἄρσην) strongly speaks against the erstwhile presence of digamma in this word, as far as the epic tradition is concerned.

Indo-Iranian. On the other hand, the coexistence of forms with and without **u̯-* in Vedic Sanskrit suggests a recent loss of **u̯-*, and is at odds with the absence of traces of this compound.[46]

No matter which scenario accounting for the loss of **u̯-* is correct, we must reconstruct a pre-form **r̥s-en-* for an early stage of Greek, perhaps for Proto-Greek. As Ion.-Att. ἄρσην, Arc. ορεν / κατορρεντερον and Thess. ορσεν show, word-initial **r̥-* would develop according to the same coloring rules as word-internal **-r̥-*. However, the vowel slot of Thess. ορσεν is at odds with the word-internal development **-r̥-* > Aeolic -ρο-; it could be ascribed to the influence of **érs-ēn*,[47] or else a different vocalization in word-initial position could be assumed. If the presence of ἔρσην in Herodotus tells us anything about the Proto-Ionic situation, the vowel slot of Ion.-Att. ἄρσην may also have been influenced by that full grade form. Finally, in ἄρσην, ἔρσην the retention of -σ- after a liquid may have been caused by the accent on the preceding syllabic nucleus.[48] In sum, then, these words teach us nothing about the development of **-r̥s-*.

9.1.8 *Uncertain and Irrelevant Evidence for -αρσ- and -ρασ-*

The adjective ἐπικάρσιος 'transverse, crosswise' was derived from the Homeric adverb ἐπικάρ 'cross-hill', containing the zero grade of the root **kers-* 'cut off' (see section 9.6.4). Both forms are irrelevant for the treatment of word-internal **-r̥s-*: ἐπικάρσιος may have been derived at a relatively late date, from the pre-form **epikars*.

Although πράσον 'leek' does not occur in Homer, its existence at an early date is presupposed by the derivative πρασιή 'garden bed' (i.e. "place where leeks or similar vegetables are grown"), attested in the *Odyssey*.[49] Itself, πράσον first occurs in Attic Old Comedy and then in medical and scientific authors (Hp., Thphr.+). The plant is often mentioned together with γήθυον, γήτειον 'onion', which is a clear substrate word in view of the variation in the dental stop and

46 Pronk's scenario requires a highly archaic type of paradigm (the hysterodynamic type posited by Beekes 1985) with a root-accented nom. sg. **u̯érs-ēn* beside acc. **u̯r̥s-én-m*, gen. **u̯r̥s-n-és*. This is not impossible, but it should make us somewhat cautious about the reconstruction.

47 Cf. Lesbian ἔρσην, which suggests that both stem forms were current in Proto-Aeolic, whether as part of a single paradigm with root ablaut (as *per* Pronk) or as distinct lexemes (as *per* Peters).

48 Laconian εἰρήν 'young adult, ephebe' could show that **-rs-* underwent the 1st CL, provided that this form is related and reflects an oxytone stem-variant **ersén-* 'virile; young male'. For further discussion of this form, see Peters (1993b).

49 Πρασιαί also occurs as a toponym in Laconia and is the name of an Attic deme. Oxytone nouns in -ιή are frequent in Homer; for other examples see Risch (1974: 116–117).

the suffix, suggesting that it was borrowed in different shapes at different times (Beekes, *EDG* s.v.).[50] On the basis of Greek πράσον and Lat. *porrum* 'leek', a preform **pr̥so-* could be reconstructed,[51] but the etymological dictionaries (*GEW*, *DELG*, *EDG* s.v.) rightly doubt the value of this etymology, in view of the possibility that the word was borrowed in the Mediterranean together with the plant. Indeed, Guus Kroonen has recently argued in unpublished work (pers. comm.) that πράσον and *porrum* could be borrowings from a Near Eastern language; he compares Sum. *garaš*, Akk. *karašu-*, *kurissu-*, Hebr. *karēša-*, Arab. *kar(r)āṯ*, *kur(r)āṯ*, and Hitt. *ki-ru-ú-ša-*, which indicate that πράσον was borrowed with an initial labiovelar. Whatever the precise explanation of Lat. *porrum*, this idea forbids us to use πράσον as compelling evidence in the present discussion, for it would be impossible to determine whether the word was borrowed with **r̥* or **ra*, or what exactly the intervocalic -σ- reflects.[52] We may compare κέρασος 'cherry', another culture word ending in -ασο- that cannot be traced back to PIE.

The neuter φάρσος 'quarter, part of a city' (Hdt. 1.180 f. 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*). The comparison with Hitt. *parši-*$^{a(ri)}$, *parš-*$^{a(ri)}$ 'to break', *parša-* 'morsel, fragment' is cited with some hesitation by Kloekhorst (*EDHIL*, q.v.) and accepted by Beekes (*EDG*, q.v.).[53] In my view, it is preferable to view φάρσος as a loanword in view of its marginal attestation.

9.1.9 *Conclusions on *-r̥rs-*

There is no reliable evidence for a conditioned development **r̥* > -ρα- before a sibilant. No conclusion can be based on dat. pl. forms in -Cρασι, where we may

50 It is not certain that 'leek' was the original referent of πράσον. Note that E. *leek* is related to G. *Lauch*, Du. *look*, which originally denote any kind of plant that can be peeled (cf. *Knoblauch*, *knoflook*).

51 Wachter (2006) mentions a suggestion by Weiss to compare the alleged **pr̥so-* 'leek' with PIE **persó-* as reflected in the Indo-Iranian word for 'sheaf, ear of grain', Ved. *parṣá-* and YAv. *parša-*. In view of the possibility that πράσον is a borrowing (see below), this speculation may have to be abandoned. However, the etymology of the mythological name Persephone proposed by Wachter (Att. inscr. Περροφαττα < PGr. **perso-k^{wh}r̥t-i̯a* 'she who threshes ears of grain', directly comparable with Indo-Iranian phraseology) is not affected by this objection, and in my view remains plausible.

52 Ringe (1989: 142–143) suggests that πράσον was borrowed into Greek in the form **pr̥so-* after the lenition of intervocalic **s*, but this remains speculation.

53 "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

either assume analogical influence of other weak stem forms in -Cϱ- or even (in the case of τέτρασι) a pre-form with Epic *ϱ̥. It is uncertain whether πράσον, γράσος or φάρσος ever contained *ϱ̥, and ἄρσην may have been influenced by the by-form ἔρσην, whatever the ultimate explanation for the coexistence of both forms.

The remaining suggestive cases for *ϱ̥ > -ρα- before -σ- are θρασύς and τρασιά 'drying hurdle'. From a lexical point of view, however, the word ταρσός 'sole of the foot' is a much better candidate than τρασιή to contain the unrestored outcome of *ϱ̥. One would have to assume that the lexically isolated form ταρσός underwent an analogy with τέρσομαι 'to dry', and that the perspicuous derivative τρασιά 'place used for drying' did not undergo this analogy, but this stretches the imagination. It is more likely that ταρσός contains the regular outcome of *-ϱ̥s- and that the rare poetic word τρασιά was adopted from an epic source.

Concerning the development of *-ϱ̥sV-, if the derivation of τραυλός 'stammering' from *tϱ̥s-u-ló- (whether with *ters- 'dry up' or *tres- 'tremble') is correct, it is a compelling piece of evidence for *-ϱ̥sV- participating in the early pan-Greek lenition of intervocalic *-s-. The evidence for retained -σ- in this environment can be explained either by analogy (e.g. PGr. *t^{h}ϱ̥su- restored after *t^{h}ers- in related forms) or as borrowings.

9.2 Verbs with a Non-ablauting Root *CraC-*

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'.[54] A *yod*-present is found in βλάπτω, δράσσομαι, πλάσσω, and φράσσω.[55] The forms with -λα- (βλάβομαι, γλάφω, πλάσσω) will be discussed in chapter 10, and γράω derives from *grn̥s-e/o- (see section 9.1.4). It remains to account for the reflex -ρα- in γράφω, δράσσομαι, and φράσσω.

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preserved between vocalic resonant and vowel. The Hitt. word is compared with the Gmc. 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).

54 On the so-called Doric presents στράφω, τράφω, τράχω, τράπω (corresponding to Class. στρέφω, τρέφω, τρέχω, τρέπω), see section 3.1.

55 And also ῥάπτω 'to sew, stitch together', which has no etymology and did not contain *ϱ̥ (witness Myc. *e-ra-pe-me-na* and *ra-pte-re*).

9.2.1 *δράσσομαι and δραχμή*

The verb δράσσομαι 'to grasp with the hand; clutch at' (+ gen.) is not frequent in Classical Greek and mainly occurs 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, clutching at the bloody dust" (*Il.* 13.393, 16.486). Further derivatives like δράγμα 'sheaf, bundle' and δραγμός 'action of grasping' were productively formed from the verbal root.

Etymologically, a connection with the Avestan root *dranj* 'to hold; fix', YAv. pres. *dražaite* 'holds', makes good sense. Just like δράσσομαι, the Avestan verb is a deponent and can be derived from PIE **drn̥gʰ-i̯e/o-*.[56] Thus, as already noted by Haug (2002: 61), the root vowel of δράσσομαι may reflect a syllabic nasal rather than **r̥*. The same nasal present may be continued in OIr. *dringid* 'climbs, clambers; advances' and MW *dringo*, but this is less certain because the meaning is different. Finally, if the Slavic verb OCS *drьžati*, Ru. *deržát'* 'to hold' is also cognate, it points to a nasal-less root **dregʰ-*, suggesting that the nasal is originally an infix.[57]

A nasal-less root is also found in δάρκες· δέσμαι 'bundles; handfuls' (Hsch.). As a root noun, this form must be compared primarily with δράξ, -κός 'handful' (*LXX*, Hsch.).[58] However, the root-final -κ- of these forms is at variance with the probable cognates and with the noun δραχμή, which point to **-gʰ-*.[59] In view of this, and since the dialectal origin of these late forms (including the glosses in Hsch.) is unclear, they can play no role in the debate about the Ionic-Attic reflex. If they do indeed reflect an old root noun, we may assume that the gloss δάρκες is of Cretan origin: the Cretan alphabet did not have a separate sign for the aspirate /kʰ/, and the dialect has -αρ- < **r̥* (see chapter 3 for further details). Alternatively, the voiceless velar in δάρκες and δράξ may have been generalized from the position before voiceless consonants.

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56 This connection is accepted in the *LIV²* (s.v. **dregʰ-*). Although it cannot be entirely excluded that the Avestan present reflects a thematic root middle PIE **dregʰ-e/o-* extended with *-ya-* (cf. *LIV²*, l.c.), it is attractive to directly equate the Greek and Avestan formations. The older comparison between δράσσομαι and Arm. *trcʿak* "Reisigbündel" (see *GEW*, *DELG* s.v. δράσσομαι) leads nowhere: Arm. *-cʿ-* may derive from **-Ḱs-*, but the formation is not matched in Greek.

57 If I correctly hypothesized that accented syllabic nasals caused voicing of a following occlusive (Van Beek 2017b on βλάβομαι < **mln̥kʷ-e/o-*), one would expect **drn̥gʰ-i̯e/o-* to develop into *δράζομαι. However, such a form would have been reshaped to δράσσομαι because roots ending in a velar productively have a *yod*-present in -σσω / -ττω.

58 It is uncertain whether δρακτόν 'a small vase' (inscr.) belongs here.

59 There is no reason to assume that the cluster χμ in δραχμή reflects **-ksm-*.

The etymology of δραχμή (the weight and monetary unit) is not quite clear, and the word need not have an inner-Greek etymology.[60] Since a δραχμή originally had the weight of six obols or *obeliskoi* (metal spit-shaped bars), the meaning of the potential cognate δράγμα 'sheaf, bundle' 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. If the Proto-Greek root was indeed **dr̥k^h-*, there is a natural explanation for the difference between -γμ- and -χμ-: assimilation took place only in productive formations like δράγμα, δεδραγμένος where a synchronic morpheme boundary was present.[61]

In this case, how can we explain the difference between δραχμή and the dialectal forms δαρχμα (attested in Elis, Arcadian, Boeotian, and Knossian Cretan) and δαρχνα (Elis, Gortynian Cretan)?[62] Cretan δαρκνα has been explained as showing an assimilation -χμ- > -χν- (spelled -κν-) specific for this dialect (Schwyzer 1939: 215), but this is not supported by further evidence, and it does not explain why the same form occurs in Elis. Is it possible that a pre-form **dr̥k^{h}mnā-* was preserved as such until Proto-West Greek, and that the dialects treated the word-internal cluster in different ways? It is difficult to cite clear parallels for the phonetic environment: most other examples of **-mnā-* were preceded by a vowel or diphthong, and one expects an early reduction to **-mā-* or **-nā-*, except when the group was directly preceded by a short vowel (as in βέλεμνα, ἀπάλαμνος, ἀτέραμνος).

If a pre-form **dr̥k^{h}mnā-* was indeed retained until Proto-West Greek, -αρ- in δαρχμα and δαρχνα may represent the regular vocalization in Cretan and parts of the Peloponnese and/or Central Greece.[63] We cannot avoid the conclusion that the form with -αρ- was borrowed into various dialects: in Arcadian and Boeotian the form δαρχμα would have to be ascribed to West-Greek Koine influence. Therefore, this scenario remains tentative, but in any case it shows that -ρα- in Ionic-Attic δραχμή is not necessarily the regular outcome of **r̥* in this particular dialect. Its vocalism may have been influenced by the verb, or the word may be an interdialectal borrowing.

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60 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*.

61 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 there is no further motivation for this assumption.

62 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 BCE]) cf. Haug (2002: 61). The appurtenance of Myc. *do-ka-ma* is uncertain, see section 2.3.2.

63 However, note that there is no unambiguous further evidence for **r̥* > -αρ- in Elis, and some

9.2.2 *γράφω and Dialectal (Epigraphic) Forms in γροφ-*

The present γράφω 'to scratch; write' is the primary stem of this verb; the aorist γράψαι carries the productive suffix *-s-* (cf. *LIV*[2] s.v. **gerbʰ-*). The present is, however, barely attested in pre-Classical Greek.[64] This pattern can be understood from semantic developments: the present stem was frequent as long as the verb meant 'to scratch' (denoting an activity), but the aorist became more frequent when the meaning changed into 'to write, inscribe', which caused the lexeme to become telic and resultative.

Etymologically, γράφω is thought to derive from a PIE root **gerbʰ-*, continued in the Germanic group of OE *ceorfan* 'to carve, engrave' and perhaps also in Baltic: OPr. *gērbt* 'to speak', *gīrbin* 'number', Lith. *gerbiù* 'I honor', inf. *geřbti*.[65] It is normally assumed that γράφω derives from a zero-grade thematic present **gr̥bʰ-e/o-* or even from an ablauting athematic root present PIE **gerbʰ-* / **gr̥bʰ-*.[66] However, the Greek verb is attested as γράφω in all dialects, including those where **r̥* normally develops an *o*-colored reflex. For instance, on Lesbos we only find epigraphic evidence for γραφω, and no forms with γροφ- are attested until the late (2nd c. CE) poetess Balbilla, in whose text the form γρόππατα must be a hyper-Aeolism.[67] The same is true of Arcadian (cf. the discussion in Haug 2002: 61). In Cretan, γραφω is also the normal form, notwithstanding the fact that the expected reflex of **r̥* would be -αρ- in this dialect (see section 3.1).[68] Although γραφ- might theoretically be due to Koine influence in some of these dialects, the uniform attestation of γράφω throughout Greek,

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evidence for a development to -ρα- (chapter 3). According to Thumb-Kieckers (1932: 244), δαρχμα has a "zentralgriechische Lautform".

64 Only A. *Choe.* 450, Xenophanes fr. 15 DK. In Homer, only the aorist (ἐπι-)γράψαι is found (7×), normally meaning 'to graze, scratch the surface' (of the skin or a helmet). This earlier meaning is also found in the derivatives γραπτύς 'scratching' (*Od.* 24.229) and ἐπιγράβδην 'scratching the surface' (*Il.* 21.166) (cf. *DELG* s.v. γράφω). Only in one instance does Homer refer to writing: σήματα λυγρὰ γράψας / ἐν πίνακι πτυκτῷ "inscribing / scratching baneful signs on a folded tablet" (*Il.* 6.168–169). It is not entirely clear to what kind of writing this passage refers, and on what kind of material it was done (cf. Kirk 1990 ad loc.).

65 The semantic developments underlying the Baltic forms may have been 'number' < 'carved number', 'honor' < 'honor by engraving'. Although written sources in Northern Europe are comparatively recent, the use of carvings for counting may well be much older.

67 Cf. the discussion in Slings 1979: 251–252 n. 37.

68 The oldest attested Cretan forms have γραφ-, e.g. γεγραπτ[αι] (Eleutherna, *IC* II, 13.7, 6th c.) and εγραμενα (*Lex Gortyn* I.55). Later on, forms with γροφ- are found beside forms with γραφ-, sometimes in one and the same inscription (e.g. in Knossos). Bile (1988: 124) thinks that the original Cretan form is γροφ-, and that this form is found only in later texts due to the lacunary documentation of the dialect, but it seems more likely to me that γραφ- was, at an early date, the only root allomorph in the verbal paradigm, as in many other dialects. The origin of εγιρτται (*IC* IV 41, I.11, Gortyn) is entirely unclear.

also in *o*-coloring dialects, casts doubts on the reconstruction of a Proto-Greek present **grp^h-e/o-*.

Another complicating factor is the existence of nominal forms with γροφ-, which are found scattered across inscriptions from various dialects; in some dialects these forms are highly frequent. Chantraine ascribes these forms to different dialectal vocalizations of **r̥*.[69] However, the forms with *o*-vocalism occur mainly in West Greek dialects which do not normally develop an *o*-colored reflex of **r̥*. Let us consider them in more detail:[70]

– γροφευς 'secretary, registrar' is widespread on the Peloponnese (Argolic, Mycenae, Epidaurus, Sicyon, Arcadia, Elis) and its colonies (Cyrene).[71] The same official is called γραμματεύς at Athens.
– 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' (one attestation on 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-).
– The only instance[72] of a verb γρόφω is απογροφονσι (*IC* IV, 174 [Gortyn] A.52), but the attestation is relatively late (2nd c. BCE) and stands against many older attestations of γράφω in the same dialect.

Clearly, the forms with γροφ- are concentrated on the Peloponnese. The only form found in more than two different dialects is γροφευς, and most other cases concern deverbal nouns and adjectives in -γροφος (of the type class. ἄγραφος 'not written', with recessive accent and passive interpretation of the second member). The only dialect where γροφ- is found beyond these two categories is Argolic.[73]

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69 "Plutôt que d'un vocalisme *o* alternant, il s'agit d'un flottement dans le timbre en grec même, cf. στρότος" (*DELG* s.v. γράφω).

70 I gathered the material from Bechtel (1921–1924, II: 114), and checked it against the searchable database of Greek inscriptions at the Packard Humanities Institute.

71 Perhaps also in Delphi (*FD* III, 1:578, l. 27: γροφευ[).

72 A PN Γρόφων appears on a stone found in Olympia and signed by a Melian (Γροφον εποιε Μαλιος, *IvO* 272 = *Del.*^{3} 209). For this reason, γροπηον (Melos, *IG* XII,3 1075) is probably a proper name, rather than the ptc. of a verb γρόφω (as per Bechtel).

73 See Nieto Izquierdo (2008: 147–148) for the Argolic forms and their attestations. The forms καταλοβει and καταλοβευσι (*IG* IV^2,1 1485), from the root λαβ- 'to take, seize', are found in the dialect of Epidaurus. Here, too, a secondary *o*-grade appears in an agent noun in -εύς in a variety of Argolic, and nowhere else in Greece.

In Elis, γροφευς is attested at an early date (6th c.), but it stands on its own against numerous attestations of γραφ- in other derivations. Minon suggests that the stem γροφ- originated in this agent noun, which is of the same type as φονεύς.[74] 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 Peloponnese and on Crete, I think the form could well be a relic from the Mycenaean period. The Mycenaean word for 'writing' is unknown, but professional scribes certainly existed. The compounds in -γροφος, which are also widespread, may also be relics of technical vocabulary dating from this time. Note that Argolic, the dialect where γροφ- is most widespread, also attests the form γραθματα (from **grap^{h}mata*, with a special dissimilatory development of colliding labials at a morpheme boundary, Lejeune 1972: 76). This may be explained in the same way: *a*-vocalism in productive deverbal derivations, *o*-vocalism in fossilized technical vocabulary.

Whether this scenario is correct or not, the root allomorph γροφ- still has to be accounted for. It has been assumed that the original form of the verb was *γρέφω.[75] Indeed, this would yield by far the most straightforward explanation of the Greek data: in this case, γροφεύς and the deverbal nouns in -γροφος are simply formed according to expectation, and the productive root shape γραφ- in Ionic-Attic and Cretan (and possibly in other West Greek dialects) could have an analogical vowel slot. However, reconstructing a pre-form *γρέφω would contradict the Baltic and Germanic *comparanda*, which require a full grade **gerb^h-*. Perhaps, then, we must assume that these branches created a secondary full grade root after the emergence of the vocalized zero grade (PGmc. **kurb-*, Baltic *girb-*).[76]

A second possibility, which I cautiously suggested in Van Beek 2013, would be that the pre-form of γράφω was PGr. **gr-n̥-p^h-e/o-*, a thematic (or thematicized) nasal infix present. In Greek, there are hardly any old nasal infix presents to roots ending in an occlusive (type athematic Ved. *yunákti*, thematic Lat. *iungō*), but there is at least one certain instance: λάμπω 'to glow, shine' to the root PIE

74 "… 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 φονός 'tueur', avec φονεύς." (Minon 2007: 301).

75 See e.g. Bechtel (1921–1924, II: 114), Bile (1988: 124).

76 Frisk (*GEW* s.v. γράφω) assumed that the forms with γροφ- continue an *o*-grade PGr. **gorp^h-* which was remodeled as γροφ- only after the vocalized zero grade γραφ- had come into being. In this case, however, I would instead expect a generalization of either γραφ- or **gorp^h-*, or even the development of an analogical zero grade *γαρφ-.

**leh$_2$p-*.[77] Further possible parallels for a thematic nasal infix present are βλάβομαι 'to falter; be distracted' < **mlm̥k^{w}-e/o-* (beside athematic Av. 3pl. *mərəṇcaite*), δράσσομαι (see the previous section), and the Indo-Iranian present Ved. *kṛ́ntáti*, Av. *kərəṇtaiti* 'to cut'.[78] As for γράφω, it is true that no cognate nasal present formations are attested, but reconstructing PGr. **grm̥p^{h}-e/o-* would directly explain why almost every Greek dialect has γραφ-. It could perhaps even allow us to explain the forms with γροφ- as reflecting a syllabic nasal in a labial environment (as perhaps in Mycenaean, cf. section 1.3.3). However, the reconstruction **grm̥p^{h}-e/o-* > γράφω is contradicted by the idea that accented syllabic nasals caused voicing of a following occlusive (cf. Van Beek 2017b), in which case one would expect **grḿp^{h}-e/o-* > *γράβω.[79]

Thus, the prehistory of γράφω remains somewhat enigmatic. Perhaps, the idea of an original root shape *γρεφ- should be reconsidered, as it would allow us to view the root shape γροφ- as an *o*-grade allomorph, and to explain the vowel slot of Ionic-Attic γραφ- as secondary. In this case, the occurrence of γραφ- in dialects like Lesbian and Arcadian must be due to borrowing.

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 cram, fill' and *frequēns* 'crowded; frequent', but this connection is semantically far from evident (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.[80] In Homer,

77 A nasal-less 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. **lap-saro-*. Greek may have preserved the outcome λαμπ- of the nasal infix formation **lh$_2$np-* because the root had been reanalyzed as atelic: cf. the presence of the nasal in the deverbal adjective λαμπρός 'brilliant'.

78 For -ρα- reflecting a sequence of liquid plus syllabic nasal, cf. also γράω 'to eat' < **grn̥s-e/o-* (section 9.1.4).

79 A root of this shape is actually attested in the middle perfect form γεγράβαται (*SEG* 4.30, Camarina, 5th c. BCE), but the value of this isolated form in the present discussion is questionable.

80 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^{h}ŗk-*. 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'. These words are often thought to be borrowings from an Indo-European substrate language, in view of the semantically attractive

φράσσω clearly has military connotations and means 'to fence off, fortify'.[81] While this meaning remains in use after Homer, the most frequent meaning in Classical Greek is 'to bar, obstruct, block', especially of roads and passages.[82] As Taillardat (1965) has shown, the middle has a special meaning in nautical vocabulary, 'to raise the deckboards'.[83]

Beekes (*EDG* s.v. φράσσω) has proposed that the verb is of Pre-Greek origin, taking into consideration not only the interchange between φραξ- and φαρξ-, but also πύργος 'fortification' and the gloss φύρκος· τεῖχος (Hsch.). This suggestion is hard to test: although πύργος and φύρκος may be borrowings from another Indo-European language, this does in no way guarantee that the interchange between φραξ- and φαρξ- is a substrate phenomenon. In any case, Beekes's view loses much of its viability in view of the possibility that φράσσω contains the PIE root *$b^herǵ^h$- 'to rise'. This etymology was suggested by Puhvel (1999), who proposed to translate Hitt. *parkiie̯/a-^{zi}* on the Neo-Hittite Bronze Tablet as 'to fence off, put beyond reach'. From this semantic and formal match, he concludes that φράσσω and Hitt. *parkiie̯/a-^{zi}* both continue an inherited present formation *$b^hr̥ǵ^h$-ie̯/o-. The Greek *s*-aorist φράξαι would have been formed secondarily on the basis of φράσσω.[84]

Although the root etymology is attractive, I disagree with Puhvel about the derivation of the Greek verb. Let us first discuss the likelihood of an inherited PIE present *$b^hr̥ǵ^h$-ie̯/o-. The primary root meaning of PIE *$b^herǵ^h$- seems to have been telic and intransitive, as reflected in Hitt. *parktaru* (impv. mid.) 'may it rise up!' and Toch. B *pärk-^{ā}* 'to rise' (of celestial bodies).[85] Hitt. *parkiia-^{zi}* 'to raise' can be analyzed as a factitive beside the primary formation *parktaru*,

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comparison with derivatives from PIE *$b^herǵ^h$- 'to rise', e.g. Goth. *baurgs* 'fortress', Av. *bərəz-* 'elevation'. Therefore, these glosses are better left aside from the present discussion of φράσσω.

81 Cf. φράξαντο δὲ νῆας ἔρκεϊ χαλκείῳ "they fortified the ships with a wall of bronze" (*Il.* 15.566–567).

82 See *LSJ* (s.v. φράσσω).

83 This nautical meaning is found already in Homer: φράξε δέ μιν ῥίπεσσι διαμπερὲς οἰσυΐνῃσι, κύματος εἶλαρ ἔμεν (*Od.* 5.256–257), and also in Alc. fr. 6.7 (on which see below) and A. *Sept.* 62–64 and 795–798.

84 This account is followed, with some hesitation, in *LIV*^{2}. The absence of traces of Grassmann's Law in Greek is not surprising, because the root-final consonant was deaspirated before a following consonant in all attested formations (ἄφρακτος, πεφραγμένος, etc.). Cf. θράσσω 'to stir up' from *$d^hreh_2g^h$- beside the Homeric perfect τέτρηχα.

85 The creation of adjectives like Hitt. *parku-*, Arm. *barjr* 'high' < *$b^hr̥ǵ^h$-ú-*, 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-* represents an archaic formation, too (cf. the names OIr. *Brigit*, OHG *Purgunt* reflecting the old feminine).

which only occurs in the middle in the oldest Hittite sources.[86] 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. *parkiia-* is likely to 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 may well be connected with the verb's factitive semantics. In fact, the Ionic present φράσσω is attested only once in Herodotus (2.99); Attic φράττω first appears in Xenophon and Plato. On the other hand, as a present stem Thucydides, Sophocles and Aristophanes use not φράσσω / φράττω, but φράγνυμι.[87] Thus, nothing suggests that the *formation* of φράσσω is inherited, as Puhvel assumed.[88]

It is now necessary to consider the Greek attestations more closely. The forms in Homer and Herodotus seem to belong to a regular denominative paradigm based on a non-ablauting root φραK-, apparently reflecting $*b^{h}r̥g^{h}$-. However, this root shape cannot be utilized as evidence for a regular development $*r̥$ > -ρα- without further ado: Attic and other dialects have a considerable number of forms with -αρ-. The evidence from (primary and secondary) literary sources is as follows:

– φαρξώμεθ' (Alc. fr. 6.7 = *POxy*. 1789), where the long-vowel subjunctive is a strong indicator of Ionic or epic origin (Bowie 1981: 126–127), suggesting that the entire form (with its reflex -αρ- < $*r̥$) is of Ionic origin;
– πεφαργμένος ἀντὶ τοῦ πεφραγμένος καὶ ἐφάρξαντο ἀντὶ τοῦ ἐφράξαντο καὶ φαρκτὸν φρακτόν (*Etym. Magn*. 667.22, referring to the treatise περὶ παθῶν ascribed to Herodian);
– ἄφαρκτος· ἀφύλακτος 'unguarded, undefended' (Hsch. α 8564);
– ἐφάργυσαν· ἔφραξαν (Hsch. ε 7342);
– φάργμα· φραγμός 'fence' (Hsch. φ 164);
– φάρκτου· φυλακὴν σκεύαζε 'prepare the guard' (Hsch. φ 176), i.e. from a verb φάρκτομαι attested in other lexicographical sources.

Forms with -αρ- are also well-attested epigraphically, in various dialects, in temple building records from the late fifth century onwards:

86 Cf. *EDHIL* s.v. *parkiie/a-*^{zi}.

87 S. *Ant*. 241, Ar. fr. 367 (Edmonds), Th. 7.74.2. It is possible that φράγνυμι was formed analogically after πήγνυμι (aor. πῆξαι) 'to fix, attach' or especially the opposite ῥήγνυμι 'to break through' (in Hdt. also of a dam); cf. also εἴργνυμι 'to fence in'.

88 According to Kölligan (2007a: 128–129), in Homer the aor. φράξαι stands in suppletion with the pres. ἐέργω, εἴργω, though only in the meaning 'to fortify, shut in' (the meaning 'to shut out, keep away' is attested only for ἐέργω, not for φράξαι). He speaks of "überlappende Suppletion, die nur für die homerische Sprache anzunehmen ist".

– φαρχσαι το βαθρον τοιν αγαλματοιν και τας θυρας "to provide with a fence the steps of the statues, and the doors" (Attic, *IG* I² 371.20, 421/0–416/5 BCE);
– διαφαρχσαντι τα μετακιονια τετταρα οντα τα προς το πανδροσειο κομονι (Attic, *IG* I² 373.251, 409/8–407/6 BCE);
– φαρξιν ναου (*IG* IV²,1 102.75, building records from Epidaurus, 4th c. BCE) glossed as "Vergitterung (des Tempels)" by the editor;
– φαρχματα (same inscription, line 253);
– φαργμα (*Del.*³ 89.8, Argos, 3rd c. BCE).

Thus, there is independent evidence for -αρ- in this word from three dialects: Attic, Argolic, and the variety of Ionic from which Alcaeus borrowed the form φαρξώμεθα. This evidence must be taken seriously, but it is less clear how the forms with -ρα- are to be accounted for: starting with Homer, the entire manuscript tradition of both prose and poetic texts exclusively has forms with -ρα-. Most editors of the tragedians and of Thucydides print forms with -αρ-, based on the observation that Attic inscriptions start to use forms with -ρα- only in the fourth century.[89] While emendating the unanimous evidence of manuscripts is usually a questionable editorial practice, something may be said for it in this case, as the two oldest epigraphic attestations of the verb in Attic (contemporaneous with the tragedians and Thucydides) have the aorist φαρχσαι.

One approach to this problem has been to regard -αρ- as old in the aorist, as against -ρα- in the present φράσσω. There is no instance of the present stem among the epigraphic forms with -αρ-, and it is remarkable that Herodian (as quoted in *Etym. Magn.*, see above) mentions the middle perfect ptc. 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".[90] However, is it likely that -ρα- was introduced from the present stem into the other stems? Such influence of the present stem is not very common in Greek generally, and highly unlikely in this particular verb: as we have seen, the aorist and middle perfect stems are the most widely used, in agreement with the verb's factitive semantics.

A second, chronological problem is that the spread of -ρα- in the variety of Ionic underlying the Homeric epics, where all instances of φράσσω already

89 Cf. the comment in *LSJ* (s.v. ἄφρακτος): "ἄφρακτος, Old Attic ἄφαρκτος (although this form has generally been altered by the copyists)".

90 This explanation was retained in Threatte (1980: 477). However, as noted above, the oldest Attic present was not φράττω, but φράγνυμι.

have -ρα-, would have to be dated much earlier. On the other hand, φαρξώμεθα occurs already in Alcaeus was a borrowing from pre-classical Ionic (or from Epic Greek). In this connection, it is important to note that -αρ- may be substituted for -ρα- without metrical consequences in any of the five Homeric attestations of φράσσω. The same holds for the only attestation in Pindar,[91] and (as far as I have seen) for all instances in the tragedians. Thus, the situation is at least consistent with the view that Koine forms with -ρα- (whatever their origin)[92] were at some point introduced into the manuscript tradition of most classical texts.

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 φράττω / φράγνυμι and the oldest aorist form φάρξαι came into being. This distribution would be left unexplained if we followed Puhvel's view that Proto-Greek had a present *$b^hr̥ǵ^h$-i̯e/o-* beside an aorist *$b^hr̥ǵ^h$-s-*.[93] Phonologically, a conceivable solution would be that the present stem contained a vocalized nasal, i.e. that the formation underlying both φράττω and φράγνυμι was *$b^hrn̥ǵ^h$-e/o-*. Interestingly, such a form indeed seems to underlie Ved. *bṛṃhati* 'fortifies', but for Greek the reconstruction *$b^hrn̥ǵ^h$-e/o-* is not without problems: why wasn't the reshaped present stem formation based on the frequent aorist stem **p^harks-*? The comparative support is not strong either: Ved. *pári bṛṃhati* 'fortifies' (ŚB+) may have replaced the older causative present *barháyati* 'strengthens' (RV+) under the influence of *dṛṃhati* 'fixes' (RV+).[94]

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 nominal forms like PIE *$b^hr̥ǵ^h$-

91 ἔρνεσι φράξαι (Pi. *Isthm.* 1.66), where φρ- is tautosyllabic.

92 One could envisage whether the Homeric forms with -ρα- may contain the reflex of Epic **r̥*. If the Ionic and Attic vernaculars had -αρ- throughout the verbal paradigm early on, the introduction of -ρα- in the Koine could then be ascribed to Homeric or poetic influence. Problematic for such an assumption, however, is the absence of the alleged vernacular forms with -αρ- from Epic Greek (the Homeric forms do not have a special meaning: both φαρξώμεθα in Alcaeus and φράξε at *Od.* 5.256 have the technical meaning 'to provide with deckboards'). Another problem is that the expected outcome of Epic **r̥* after a labial consonant is -ρο-, according to the scenario developed in chapter 7.

93 The assumption that -αρ- was regular only before stop plus *-s-* (O'Neil 1971) is phonetically unmotivated and completely *ad hoc*.

94 See Gotō (1987: 215). The Armenian nasal present *barnam* 'raises' was probably secondarily formed beside the aorists *ebarj* 'raised', *barjaw* 'rose'. See further the discussion in LIV² (s.v. *$b^herǵ^h$-).

'stronghold, elevation' and PGr. *$\underset{\circ}{n}$-$p^h\underset{\circ}{r}k^h$-*to-*.[95] Such a scenario is paralleled in other factitive verbs. As Tucker (1990: 297–306, esp. 305) has shown, denominative verbs in -όω that were derived from nouns are instrumentatives: type πυργόω = 'to provide with a πύργος'.[96] Like φράσσω, such verbs are rare in the present stem: they often occur as an aorist (with factitive meaning) or a middle perfect indicative or participle ('provided with ramparts'), and they often pair with negated adjectives (Hom. ἀπύργωτος 'without fortifications'). Tucker concludes that the factitive type πυργόω was based on pairs like πεπυργωμένος beside ἀπύργωτος.

This type of pairing is widespread within Greek (see Meillet 1929) and already attested in Mycenaean.[97] From Homer onwards, we find pairs like τετελεσμένος : ἀτέλεστος and κεχαρισμένος : ἀχάριστος which have an archaic appearance. An instructive example is 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" (Hdt. 5.6, about the Thracians). 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"). In a similar way, φράσσω 'to fortify' may have been based on the pair πεφραγμένος 'fortified, with raised defenses' beside ἄφρακτος 'without fortifications, unarmed'.

Since the instrumentative factitives in -όω were derived from nouns, it is attractive to assume that φράσσω was ultimately based on the PIE root noun *$b^herǵ^h$-, *$b^h\underset{\circ}{r}ǵ^h$- 'elevation, stronghold' (Av. *barš* 'mountain', MIr. *brí* 'hill', Goth. *baurgs* 'town', OHG *burg* 'stronghold' < *$b^h\underset{\circ}{r}ǵ^h$-, also ON *bjarg*, OHG *berg* 'hill, mountain' < *$b^herǵ^h$-). The antiquity of the form *$b^h\underset{\circ}{r}ǵ^h$-*to*- is perhaps corroborated by Lat. *fortis* 'strong', which can be derived from the same pre-form in view of OLat. *forctus* (attested in Festus).[98] Moreover, the same forma-

95 Other comparable compounds in Classical Greek are ναύφρακτος 'ship-fenced' (on which see Taillardat 1965), κατάφρακτος 'with raised deckboards' and, with *r*-dissimilation, δρύφακτος 'latticed wooden fence in a lawcourt'.

96 The meaning of πυργόω 'to provide with fortifications' is close to that of φράσσω in Homer.

97 Cf. *ka-ko , de-de-me-no* /k^{h}alkōi dedemeno-/ 'fixed 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 for 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'.

98 The comparison between Lat. *fortis* and Ved. *-bṛḍhá-* was already suggested by Brugmann on several occasions. I do not subscribe to de Vaan's objection (*EDL* s.v.) that this etymology "does not explain the meaning of *fortis*". Although the meaning of *fortis* in Classical Latin is generally 'strong, brave', especially of men, it is conceivable that the older meaning was 'strong, well-defended'.

tion is attested in Vedic. The only Vedic verbal forms with the meaning 'to strengthen' are *pári … babṛhāṇá-* 'strengthened on all sides, fortified' (*hapax*, RV 5.41.12), said of a rock (*ádri-*) that functions as a stronghold, and *pári bṛṃhati* 'fortifies', *pari-bṛḍhá-* 'fortified' (both ŚB).[99] Like πεφραγμένος and ἄφρακτος in Greek, these reflect pre-forms *b^he-$b^hr̥ǵ^h$-mh_1no- and *$b^hr̥ǵ^h$-to-. The formal and semantic match is perfect.

Thus, the reflexes of the root noun *$b^hr̥ǵ^h$- and its derivative *$b^hr̥ǵ^h$-to- formed the basis of a factitive verb meaning 'to fortify'. This derivational scenario not only elucidates why φράσσω has factitive semantics, but it also explains why all stems contain a zero grade root allomorph, and why no primary verbal formations are attested.[100] The uncommon presents φράγνυμι and φράσσω follow productive patterns and are unlikely to have caused the introduction of -ρα- in the rest of the paradigm. In later Attic and the Koine, the root shape with φρα- gained ground. Although the precise origin of this φρα- remains unclear, it is not evident that it represents something old.

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-.

– It is possible to analyze the root of δράσσομαι 'to grasp with the hand' as containing a nasal; morphologically it would be a nasal infix present. A reconstruction *$drn̥g^h$-$i̯e/o$- for δράσσομαι would be matched by the cognate YAv. *dražaite* 'holds'. In this connection, note that βλάβομαι (chapter 10) and γράω (section 9.1.4) favor the idea of a regular vocalization *$CLn̥C$ > *CLaC*, rather than ˣ*CLanC*.
– The root shape γροφ- (probably an *o*-grade) in derived forms may suggest that the vocalization in γράφω 'to write' is analogical. If so, the occurrence of γραφ- in dialects with *o*-colored reflexes (e.g. Lesbian) must be due to borrowing. The possible cognates of γράφω in Germanic and Baltic suggest that the root was *$gerb^h$-, but if that is the old root shape, the occurrence of γροφ- in derived forms remains unexplained. Therefore, the interpretation of the root shape γραφ- remains somewhat enigmatic, but it is not an argument in favor of *$r̥$ > -ρα- in Ionic-Attic.

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99 The Indo-Aryan root *barh* 'to strengthen' is certainly derived from 'to be high': note that *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.

100 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".

– φράσσω 'to fence in' is to be derived etymologically from the zero grade of PIE *$b^herǵ^h$- 'to rise'. From Homer onwards, the verb normally has forms with -ρα- in all its stems and derivations, but there are various indications for an older reflex -αρ- in forms like aor. φάρξαι, ἄφαρκτος, φάργμα attested in Alcaeus as well as in Attic and Argolic inscriptions and the lexicographical tradition. Unfortunately, the precise origin of the double reflex in this word remains unclear.

9.3 An *o*-colored Reflex in Attic?

As noted in chapter 1, some scholars resign to the conclusion that *a*- and *o*-colored reflexes may appear in all dialect groups without further conditioning (Bader 1969: 57–58). Let us briefly consider the examples adduced by Bader for *o*-vocalism in Ionic-Attic in more detail.[101]

Cases of *o*-vocalism in a non-labial environment are easily accounted for in alternative ways. For instance, μητρόπολις 'metropolis' (Th.) may contain the compositional vowel -ο-. Forms like μητρόθεν 'from the mother's side' (Pi., Hdt., trag., later also πατρόθεν) with the ablative case-suffix may have been influenced by the genitive μητρός or by compounds with μητρο-.[102] Likewise, in compounds with a first member 'man-' the normal form is ἀνδρο- reflecting *$an(d)r$-*o*-; three words with ἀνδρα- (ἀνδραφόνος 'manslayer', ἀνδρακάς 'man by man' and ἀνδράποδα 'slaves') are archaisms in which compositional -*o*- was not introduced.[103] Finally, certain words with -ρο- < *$r̥$ in Ionic-Attic occur mainly or exclusively in poetry: βροτός 'mortal' < *$mr̥tó$-, ῥόδον 'rose' < *$u̯r̥do$- (cf. Myc. *wo-do-we* 'rose-scented' beside Sapph. βρόδον). In view of their restricted distribution, these forms cannot be used as evidence for the Ionic-Attic reflex. Bader also mentions θρόνος 'chair' (Myc. *to-no*), but it is uncertain whether this reflects *$t^hr̥no$-.[104]

Thus, there is no reason to doubt that the default reflex in Ionic-Attic was *a*-colored. In my view, the only potentially promising example of a vernacu-

101 There are also instances of *o*-vocalism in Cretan and Theran, see section 3.1.2.

102 Boeotian επιπατροφιον 'patronym' (Tanagra, *Del.*^{3} 462 A 28, 3rd c.) has been adduced as evidence for the Aeolic reflex -ρο-, under the assumption that it was built on an old instrumental *πατρόφι < *$patr̥p^hi$. However, as Ruijgh (1961: 196) remarks, the -ο- in this form could be a "voyelle de liaison".

103 See section 7.3.3, also for the reflex -ρα- (rather than -αρ-) in these forms. Cf. also the PN Ανδραπομπος (*IG* XII,3 1139, archaic period, Melos).

104 See chapter 7 for a further discussion of these forms with -ρο- in Homer.

lar reflex -ορ- in Attic is πόρρω 'further', which could reflect PGr. **pr̥tį̊ō*.[105] The variants of the stem are distributed as follows:

– πόρρω 'further' (old com., Pl., X., orators);
– πόρσω 'id.' (Pi., lyrical parts of tragedians);
– πρόσω 'forward, further' (Hom., Ion., trag., X.);
– πρόσσω 'id.' (Hom.);
– denominative verb πορσύνω, πορσαίνω 'to prepare, provide for, arrange' (Hom.+, poetic: Pi., trag.).[106]

Homer has the Ionic form πρόσω as well as (Aeolic or archaic) πρόσσω, but does not use πόρσω (except indirectly in πορσύνω, πορσαίνω). Att. πόρρω (πόρσω) and Ion./Hom. πρόσω (πρόσσω) must be the same word in origin, given their complementary dialectal distribution and identical semantics.[107] In fifth century Greek, πρόσω is usual in Ionic (Herodotus, Hippocratic corpus), whereas in Attic the form only occurs in the tragedians (who apparently avoided the genuine Attic form πόρρω) and Xenophon (who also uses πόρρω). Clearly, πόρρω was the Attic vernacular form.[108]

The shape of the Ionic form may have been influenced by πρό 'in front; forward', but the Attic form is more difficult to explain. It would be problematic to assume that πόρσω contains an *o*-grade, as this would entail that Proto-Greek had two formations for what is clearly the same word.[109] Furthermore, if the development of the PGr. intervocalic cluster **-rtį̊-* (cf. pan-dialectal ἔρρω 'to go crookedly' < **u̯ertį̊ō*, cf. Forssman 1980) was indeed different from that of PGr.

105 Pindar also uses πόρσιον 'farther' and πόρσιστα 'farthest', secondary forms of comparison of the adverb.

106 This 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) is probably the older form of the verb.

107 Cf. *DELG* s.v. πόρσω, *pace GEW*.

108 The form πόρσω is found in Pindar and in lyrical parts of Euripides and Sophocles, but not in Aeschylus; all four authors use πρόσω, mainly in dialogue. The tragedians clearly avoided using the Attic vernacular form with -ρρ-, and they may have viewed πόρσω as a form too specifically connected with lyric poetry; hence their choice for πρόσω, which was also metrically convenient in iambic trimeters.

109 In the meaning 'forward' PIE had **pr̥* and **pro*, but not **por*. Note that the comparison between Att. πόρρω and Lat. *porrō* (e.g. *GEW* s.v.) is probably illusory, because it does not explain the other Greek forms. An alternative explanation deriving Lat. *porrō* from **pr̥-s* plus *-ō* has been proposed by Nussbaum (1994: 173 with n. 43) and is accepted by *EDL* s.v. por-.

intervocalic *-*rs*- (preserved in Homer and many dialects as -ρσ-), πόρσω cannot be derived from **portḭō*. It has been proposed that the variation between Attic πόρρω and Ionic πρόσω is due to liquid metathesis (e.g. *DELG* s.v. πρόσω, Nussbaum 1994: 173), but this remains speculative, especially since this metathesis did not take place in Attic πρός. Furthermore, all five instances of Hom. πρόσω are used before a consonant with *McL* scansion, and never before a vowel with epic correption. I see no other way to understand this odd prosodic behavior than to assume that πρόσ(σ)ω reflects **pr̥tḭō*.

Explaining πόρρω / πόρσω from **pr̥tḭō* requires, first of all, that *-*tḭ*- underwent its normal development to σ after a syllabic nucleus *-*r̥*- (contrast again ἔρρω < **u̯ertḭō*). This possibility is not contradicted by literary Doric κάρρων < **kr̥tḭōn*, because the precise dialectal origin of that form is unclear (it could stem from a dialect in which -ρρ- and -ρσ- merged). A second requirement is that the *o*-reflex of *-*r̥*- in Attic πόρρω / πόρσω was conditioned by the preceding π-. This is more difficult, but not impossible. A general conditioning by preceding labial consonants is contradicted by e.g. ἁμαρτεῖν < PGr. **amr̥te/o*- and especially by the isolated verb μάρναμαι < **mr̥na*-. One could therefore assume that -ορ- developed only after bilabial *stops*.[110] There is some apparent counterevidence, but in most cases a different explanation is conceivable.[111] Two more serious counterexamples are φράσσω 'to fence in' reflecting a zero grade of the root **bʰerǵʰ*- 'rise', and the local adverb πάρ 'beside' < **pr̥*. Although the aorist φαρχσαι attested in Attic inscriptions might show the regular reflex of **r̥*, we have also seen (section 9.2.3) that the distribution between αρ and ρα in this verb remains quite obscure, which may cast doubt on whether the root really contained **r̥*. As for πάρ, παρ-, it is unlikely that this shows the word-final reflex of *-*r̥* as it was normally used as a proclitic or a host to enclitics. On the other hand, it is not excluded that πάρ, παρ- was influenced by the extended form παρά, which may reflect a pre-form **prh₂e* or **prh₂o* (cf. Myc. *pa-ro*).

In sum, it is not excluded that πόρρω / πόρσω derives from a Proto-Greek adverb **pr̥tḭō* 'forward, further'. Such a reconstruction would explain the *McL* scansion of Homeric πρόσω, as well as the fact that the anaptyctic vowel

110 The regular treatment after labiovelars may be seen in κυρτός < **kʷr̥tó*- (section 1.3.2), while βραδύς from **gʷr̥d-ú*- could have an analogical *a*-vowel (chapter 4).

111 The Homeric aorist ἔπραθον 'to pillage' has analogical *a*-vocalism (see chapter 8). In the case of Hom. πραπίδες 'midriff; senses', the derivation from **pr̥kṷ-íd*- 'rib cage' proposed by Balles is not certain (see section 9.7.1). Moreover, neither form is used in Attic. Finally, πράσον 'leek' is probably a borrowing (see section 9.1.8). Note that in all these examples the *a*-vowel follows the liquid. The etymologies of παρθένος 'maiden' and of φάρσος 'part' are uncertain (sections 9.7.2 and 9.1.8, respectively).

appears after the liquid there, but not in the Attic form πόρρω. Assuming that πόρσω arose from πρόσω by liquid metathesis is *ad hoc* and does not explain the prosodic behavior of Homeric πρόσω. However, there is no further compelling evidence for an *o*-colored reflex in Ionic-Attic. We must therefore leave the case undecided.

9.4 The Development of **r̥rn*

As mentioned in section 1.2.5, Haug (2002: 54) has suggested that **r̥* developed to -αρ- before nasals in all Greek dialects. However, the two pieces of evidence adduced by him did not withstand closer scrutiny. I will now consider whether there is further evidence for a Pan-Greek *a*-colored development of **r̥rn*, or for an early, Pan-Greek development **r̥rn* > **-ərn-* (with subsequent dialectal coloring of **ə*). The following discussion will confirm that -αρ- is the regular Ionic-Attic reflex also in this environment, but it will also show that there is little evidence for a Pan-Greek vocalization **-ərn-*.[112]

First of all, let us note that the development of **l̥*, **r̥* in the Celtic languages yields a possible parallel for the development envisaged here. Normally, the syllabic liquids are reflected as *-li-*, *-ri-* before stops and *m*:
– OIr. *cride* 'heart' < PIE **ḱr̥di̯o-*;
– MW *clyd* 'warm' < PCelt. **klito-* < PIE **ḱl̥to-* (Lith. *šil̃tas* 'id.');
– OIr. *cruim* 'worm' < PCelt. **kʷrimi-* < PIE **kʷr̥mi-* 'id.'.
However, PIE **l̥*, **r̥* yielded Proto-Celtic *-al-*, *-ar-* before *n*, **s* and *u̯*:
– MW *carn* 'hoof' < **ḱr̥no-* 'horn' (cf. Lat. *cornu*, PGmc. *hurna-*);
– OIr. *marb* 'dead' < **mr̥u̯ó-*, generally analyzed as a contamination of **mr̥tó-* 'dead' and **gʷih₃u̯ó-* 'alive';
– OIr. *arcaid* 'asks, pleads' < PCelt. **farske/o-* < PIE **pr̥(ḱ)-ske/o-* (cf. Lat. *poscō* 'ask', Ved. *pr̥cchá́ti* 'id.');
– OIr. *carr* 'wagon' < **kr̥so-* (cf. PGmc. **hursa-* 'horse').[113]
Therefore, it would not be outlandish if we found evidence for a special (presumably earlier) vocalization of **r̥* not only in the position before glides (cf. section 1.2.2), but also before nasals.

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112 The group **l̥n* is treated in section 10.5.

113 For all these etymologies, see the relevant lemmas in EDPC. For a discussion of the question whether the reflex *-ar-*, *-al-* before the nasal present infix (cf. OIr. *at·baill* 'dies' < **ad* plus **balni-* < PIE **gʷl̥-ne-h₁-*, W. *sarnu* 'strew, spread' < PIE **str̥-n(e)-h₃-*) is regular or due to morphological pressure, see McCone (1991: 11–23).

In Ionic-Attic, there are two potential examples for a reflex -ρα- before -ν-:[114]

– Hom. κράνεια 'cornel tree', Thphr. κράνον 'id.', which is sometimes reconstructed as PIE **kr̥no-* in view of Lat. *cornus* 'id.'. We have discussed the difficulties concerning the reconstruction of this word in section 6.9.4. Taken together, the various suffixes attested in Greek (cf. also the variants κρανία and κρανέα) and the botanical referent of the word make it difficult to exclude a borrowing.
– κράνος (n.) is the usual word for 'helmet' in Herodotus and Classical Attic, where it has replaced the various Homeric terms (cf. *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'. 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 suffixation **-n-es-*). In view of its absence from Homer, I find it hard to believe that κράνος is an inherited word.

In nominal formations with a pre-form containing **r̥n*, there is no clear-cut evidence for -αρ- either:[115]

– The gloss κάρνος· φθείρ, βόσκημα, πρόβατον 'louse; head of cattle' (Hsch.) could reflect PIE **ḱr̥no-* 'horned animal' (see Nussbaum 1986: 6), at least in its second meaning. It may derive from **ḱr̥no-* and thus offers a much more likely continuant of the 'horn'-word than κράνος 'helmet'. Its formation can be reconciled with *n*-stem forms attested in other branches, and the meaning 'cattle' fits well (cf. OHG *hrind* 'cow'). However, since there is no dialect indication, κάρνος cannot serve as evidence for the Ionic-Attic reflex.
– The adjective σπαρνός 'sparse, rare' (class.) contains the root of σπείρω 'to disseminate' and can be reconstructed as **spr̥-nó-*. The suffixation may have been taken from the opposites πυκνός or συχνός (cf. *GEW* s.v. σπαρνός), and the verb may have influenced the vowel slot in the adjective.

The following verbal forms which continue **-r̥n-* have the vowel before the liquid:

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114 The Homeric forms κραναός 'rocky' and ὀλιγοδρανέων 'powerless' have no convincing etymology. The aorist δραμεῖν 'to run' < **dr̥m-e/o-* can be analogical after δέδρομε or δρόμος. The noun τέτραμος 'trembling' (Hp.+) may have been influened by the full grade slot of τρέμω. The reconstruction of τράμις 'perineum' (Archil.+) as **tr̥mi-* and its further connection with the verbs τείρω or τετραίνω, though accepted by Frisk (*GEW*), lacks motivation; the more remote connection with Germanic **parma-* 'intestine' is a guess.

115 The gen. sg. ἀρνός 'lamb' must be analogical after the nom. sg. ἀρήν in view of the laryngeal reflex in πολύρρην 'rich in lambs' and Ved. *úran-* 'lamb'.

– θόρνυμαι 'to mount' (Hdt.) and θάρνυσθαι· ὀχεύειν, κυΐσκεσθαι 'to mount, get pregnant' (Hsch.), generally assumed to reflect PIE *$d^hr̥$-*n*-h_3-, from the root of θρῴσκω 'to jump'.
– μάρναμαι 'to battle' (Hom.+) < PIE *$mr̥$-*n*-h_2-, dissimilated βαρναμενος (Att. and Corc. inscr.); cf. also μορνάμενος· μαχόμενος 'fighting' (Hsch.).
– πορνάμεν· πωλεῖν 'to sell', πορνάμεναι· κεντούμεναι, πωλούμεναι (both Hsch.) < *$pr̥$-*n*-h_2-, beside Class. πέρνημι 'to sell', which took over the root vocalism of its aor. περάσαι.
– πτάρνυμαι 'to sneeze' (Class.), aor. ἔπταρον (*Od.*) < PIE **pstr̥-nu-*.
– στόρνυμι 'to spread out', probably for *στάρνυμι < *$str̥$-*n*-h_3- with the root vocalism of its aor. στορέσαι.

The question is whether any of these forms is compelling evidence for the regular, undisturbed outcome of **r̥n*. The presents πτάρνυμαι and θόρνυμαι can be reconstructed as PGr. **ptr̥-nu-* and PGr. *$t^hr̥$-*nu-* (for PIE *$d^hr̥$-*n*-h_3-), respectively, and their vowel slot may theoretically have been influenced by the thematic aorists πταρεῖν and θορεῖν. Moreover, as the gloss θάρνυσθαι (Hsch.) shows, the vowel quality of θόρνυμαι was indeed influenced by the aorist θορεῖν. Therefore, we must assume that the same development took place in στόρνυμι for older *στάρνυμι.[116] This renders uncertain the value of most such nasal presents as evidence for a Pan-Greek vocalization to -αρ-.

The two forms πορνάμεν and μορνάμενος, however, definitely speak against a Pan-Greek *a*-anaptyxis because they show an *o*-vowel which cannot be analogical. Both are only attested as glosses, but there is no philological reason to doubt their authenticity. In πορνάμεν, the combination of *o*-vocalism with the infinitive ending -μεν suggests a Thessalian or Boeotian origin.[117] It is true that the anaptyctic vowel was normally inserted after the liquid in Aeolic dialects (cf. στρότος), but in πορνάμεν the corresponding aorist stem (cf. Ion.-Att. περάσαι) may have influenced the place of anaptyxis.[118]

Even better evidence is provided by μορνάμενος and μάρναμαι. We are dealing here with a defective paradigm without any other stems, meaning that both forms probably contain the regular and unrestored outcome of **mr̥na-*. The epic and lyric form μάρναμαι can only stem from Ionic-Attic. There is no

116 For πτάρνυμαι one may doubt this scenario, because the νυ-present is probably inherited (in view of Lat. *sternuō*, cf. LIV² s.v. **pster-*), and the aor. ἔπταρον may have been based on this present within Greek. There is, however, no reason to insist on this point.

117 But a Cretan origin cannot be entirely excluded either, cf. section 3.1.2 on the evidence for *o*-vocalism after labials in this dialect.

118 Note that Ionic has introduced the vowel of the aorist περάσαι in the present πέρνημι 'to sell'; but in μάρναμαι, which has no aorist, the root has the expected *a*-vocalism.

indication of dialect in the gloss μορνάμενος, but a reflex -ορ- would be regular in Arcadian, and possibly in Cretan (only after labial consonants) and Cyprian (see chapter 3). No matter from which concrete dialect these two glosses were taken, they prove that the vocalization of *$C\underline{r}nV$- differed per dialect. This refutes Haug's claim that *$C\underline{l}NV$- resulted in Common Greek *$CaLNV$-.

The nasal present μάρναμαι 'to fight, contend' (Hom.+), with the by-form βαρναμενος of the participle (inscr.),[119] is the only formation of this root attested in Greek. The etymological identification of this nasal present with Ved. *mṛṇā́ti* 'to rob, grab', as from PIE *$m\underline{r}$-n-h_2-, is plausible.[120] Reciprocal semantics in the Greek middle present would explain the semantic development to 'fight' (via "to catch hold of one another", e.g. in a wrestling match). It was formerly thought (e.g. Kuryłowicz 1968: 318) that the variation μάρναμαι ~ βαρναμενος (with *b*-) presupposed an original vocalization *$m\underline{r}namai$ > *$mranamai$ > *$branamai$. However, this scenario cannot be correct because there would have been no clear model to reshape a putative *$branamai$ or *$mranamai$ as βάρναμαι or μάρναμαι, respectively. There is no further trace of the root *$merh_2$- in Greek, let alone of an ablauting full grade form.[121] 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 *$\underline{r}$ > -αρ- before n. The glosses πορνάμεν and μορνάμενος prove that the reflex of *$\underline{r}n$ underwent the *o*-coloring of other dialects (Aeolic, Arcado-Cyprian, perhaps Cretan), thus disproving Haug's idea of a Pan-Greek vocalization *$\underline{r}$ > -αρ- before n. Moreover, μορνάμενος proves that some *o*-coloring dialect also had the same vocalization slot as Attic μάρναμαι, but unfortunately the gloss has no indication of dialect. Given the evidence, it is possible to assume

119 The form βαρναμενος is attested three times: *IG* IX,1² 868 (Corcyra, 6th c.); *IG* IX,1² 214.4 (Acarnania, 5th c.); *IG* I² 934.46 (Attic, 4th c.).

120 It is accepted by Mayrhofer (*EWAia* s.v. *MAR*$^{I\ 2}$), referring to Thieme for the distinction within Vedic from *mar*^{i} (*mṛṇā́ti*) 'to crush', which probably derives from a different root with PIE *l.

121 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 "*$m\underline{r}\underline{n}h_2$-*enti*" (*LIV*^{2}), from the same paradigm as *$m\underline{r}$-neh_2-*ti*, can hardly be correct: *$mrnh_2$-*enti* (without the vocalization signs) would yield *$mrananti$ (*CRh_2e- > $CaRa$-). It is better to compare μαραίνω with *mer- 'to disappear' (with a secondarily added suffix -αίνω, for which Frisk (*GEW* s.v.) compares κηραίνω 'to destroy' and ἰαίνω 'to invigorate'), or else to leave it without etymology.

an early, Pan-Greek anaptyxis *$\mathring{r}n$ > *-*ərn*-, but it is difficult to prove this because the Ionic-Attic forms may also show the regular development of *$\mathring{r}$ before other consonants.[122]

9.5 Word-Final *-$\mathring{r}$

Concerning word-final *-$\mathring{r}$, there are two questions to be answered. First, various scholars have posited an early, Common Greek change *-$\mathring{r}$ > -αρ which took place prior to the vocalization of *$\mathring{r}$ in word-internal position.[123] Given that something similar happened in Indo-Iranian and Celtic,[124] this would be typologically plausible. It must be asked, however, whether all dialect groups underwent such a change, as there is also some evidence for a reflex -ορ: according to Ruijgh, this is found in the old epic words ἦτορ 'heart' and ἄορ 'sword'. A second question is whether the anaptyctic vowel was always inserted before the liquid in word-final position, and if so, whether it is possible to determine more precisely when this anaptyxis took place.

9.5.1 *-$\mathring{r}$ > -αρ *or* -ορ*?*

Let us first discuss the attestations of ἦτορ and ἄορ in more detail, as these are the two key examples for -ορ < *-$\mathring{r}$.

In Homer, ἄορ is attested in the nom.-acc. sg. (10×) and dat. sg. ἄορι (12×, mostly as a dactyl with metrical lengthening of ἄ-).[125] Its inflection as a non-heteroclitic neuter in -ορ is aberrant, and the etymology is unclear. The traditional derivation as a root noun belonging to ἀείρω (PIE *$h_2\underline{u}er$-) as 'what is attached, what hangs' ("Gehänge", *GEW* q.v.) is phonologically impossible if the

122 However, in the case of *$\mathring{l}n$, as we will see in sections 10.5 and 10.6 a Pan-Greek development to *-*əln*- can be excluded on account of the West Greek adverb αϝλανεῡς 'all together' (Elis), ἀλανέως· ὁλοσχερῶς, Ταραντῖνοι (Hsch.).

123 See e.g. Schwyzer (1939: 342), Lejeune (1972: 196), García Ramón (1985), Sihler (1995: 92).

124 See García Ramón (1985: 203), and for the possibility of a conditioned development of *-$\mathring{r}$ in Latin, see Frotscher (2012). In Vedic $\mathring{r}$ was preserved in word-internal position, but the vocalization of final *-$\mathring{r}$ had already occurred, cf. *ū́dhar* 'udder' < PIE *(*H*)*úHd*$^{h}\mathring{r}$ and the verbal ending 3pl. pf. ind. *-úr*. Frotscher (2012) has argued that accented *-*ŕ* yielded *-úr*, as also in *sthātúr* 'immovable wealth', as opposed to unaccented *-$\mathring{r}$ > *-ar*. In Irish, the word-final change *-$\mathring{r}$ > *-ar* (OIr. *arbor* 'grain' < PCelt. **araṷr* < PIE *h_2erh_3-*ur*) differs from the word-internal development *-$\mathring{r}$- > *-ri*- (OIr. *cride* 'heart' < *$\acute{k}\mathring{r}d$-*io*-); again, the latter change must have taken place later.

125 The *hapax* acc. pl. ἄορας (*Od.* 17.222), irreconcilable with a neuter form, must be secondary (cf. *GEW* q.v.).

Mycenaean PN *a-o-ri-me-ne* /ahori-menēs/ is related. Moreover, there are other issues: neuter root nouns are exceedingly rare,[126] and the assumed semantic development is not compelling, to say the least. The alternative reconstruction *ṇs-r̥ (based on the comparison with Lat. *ēnsis* 'sword', Skt. *así-* 'knife', and perhaps Palaic *ḫasira-* 'dagger') is better from a semantic viewpoint, but it leaves the divergent suffixation of the Greek word unaccounted for.[127] Analyzing *ṇs-r̥ as "life-saver", with the zero-grade root of νέομαι 'to return' (Ruijgh 1985: 153), is semantically far-fetched. In view of these problems, and since we are dealing with an item of material culture, a borrowing seems more likely (cf. synonymous φάσγανον). For these reasons, I will exclude ἄορ from the evidence.

The neuter ἦτορ is a much more serious case. It only occurs in the nom.-acc. sg. in Homer (95×, mostly verse-final),[128] but unlike for ἄορ, cognate formations are attested. In Classical prose we find ἦτρον 'abdomen', and the outer-Greek cognates (OHG *ādara* f. 'vein', possibly OIr. *inathar* 'entrails, bowels') contain an *r*-suffix as well. All these forms seem to be thematicizations (or extensions) of a PIE stem *h_1eh_1t-*r*-. It is therefore reasonable to reconstruct PGr. *ētr̥ as the input form of ἦτορ.

The question then remains from which dialect this form may stem. Ruijgh (1961: 205) supposes that ἦτορ is an Achaean element of Epic Greek. In his view, in every individual dialect the anaptyctic vowels arising in word-internal position had the same quality as those arising in word-final position; the only difference between both positions was the place of the anaptyctic vowel (internal *-*rə*- versus final *-*ər*). He therefore thinks that *-r̥ > -ορ was regular in Achaean and Aeolic, while -αρ was the regular reflex in West Greek and Ionic-Attic. His main pieces of evidence for this conclusion are ἦτορ and ἄορ.

In reality, however, there is also evidence for /-ar/ in Mycenaean. Ruijgh considers the forms Myc. *a-mo-ra-ma* /āmōr-āmar/ 'day by day' < *āmōr-āmr̥ (cf. also Cypr. *āmar*) and Myc. *AREPA* 'unguent', a monogram representing nom.-acc. /aleipʰar/ < *aleipʰr̥.[129] Both words are heteroclitic neuters, and in such paradigms the same reflex -αρ is also found in the Lesbian poets. In Ruijgh's view, this reflex is due to the analogical introduction of *a*-vocalism from the oblique cases in *-at-* < *-ṇt- into the nom.-acc. sg., which would have originally

126 One of the very few cases is κῆρ 'heart' < *kḗrd. It cannot be excluded, though, that ἄορ secondarily acquired neuter gender following other words denoting an offensive weapon, such as φάσγανον, ξίφος, ἔγχος, δόρυ.

127 For further criticism of this etymology, see *EDL* s.v. *ēnsis*, with refs.

128 The dat. sg. ἤτορι is found only once in Pindar (fr. 52f.12) and is clearly secondary.

129 Incidentally, *aleipʰr̥ may in my view have arisen from *aleipʰ-u̯r̥ by a regular loss of the bilabial glide after a labial obstruent.

ended in *-*or* in these dialects.[130] However, although such an analogical development is certainly conceivable, we unfortunately do not know from which dialect ἦτορ was taken. This means that we have no unambiguous evidence in favor of *-*r̥* > -*or* in the 'Achaean' dialects.

There is, in fact, further evidence for a development *-*r̥* > -*ar* in the 'Achaean' dialects.[131] García Ramón (1985: 212–216) gives a number of arguments, of which the following is strongest.[132] The Homeric adversative conjunction αὐτάρ (cf. Homeric ταρ < **tr̥*) turns up as *autar* in Cyprian, a dialect which furnishes evidence for an *o*-colored reflex in word-internal position (see section 3.4).[133] Unlike the evidence for heteroclitic neuters, this form cannot have undergone analogical influence within a paradigm. If Cypr. *autar* (and Hom. αὐτάρ) indeed contain the reflex of an inherited particle **tr̥*, they speak in favor of an early word-final outcome -*ar* in the Achaean dialects.

Returning to the problematic origin of ἦτορ: Peters (1980: 237) follows Ruijgh's scenario in several important respects, but views ἦτορ as an Aeolism of Epic Greek.[134] He also adduces another piece of evidence for an Aeolic reflex

130 Peters (1980: 237) suggests that neuters in -αρ in Sappho and Alcaeus are Ionic forms that were introduced later in the texts of the Lesbian poets, supplanting original forms in -ορ. This is not excluded, but it seems unnecessary to me. Ruijgh also uses the assumed Mycenaean development to -ορ to explain the *o*-vocalism in neuters like *pe-mo*, but as we have seen in section 1.3.3, such a leveling does not solve all problems.

131 *Pace* Haug (2002: 51), the evidence for word-final *-*r̥* in Achaean dialects does not consist only of heteroclitic neuters.

132 In addition, García Ramón notes that the monogram *AREPA* (with an underlying nom. sg. form) probably came into being at an early date. It is true that this would diminish the likelihood that the form was analogically influenced by the oblique cases, but it does not guarantee anything. Furthermore, García Ramón views the particle chain in Myc. *o-de-qa-a*$_2$, *o-da-a*$_2$, *o-a*$_2$ as containing a particle *-a*$_2$ /-(h)ar/ and compares it with Hom. ἄρ, ῥα, ἄρα, which he derives from PIE **r̥*. However, I agree with Haug (2002: 52) that it would be hazardous to base any conclusions on the reconstruction of this particle. Finally, Arc. παρ (also adduced by García Ramón) is a problematic form: as a preposition or local adverb, the form was usually proclitic, so one would perhaps expect it to show the word-internal development. However, the word-internal reflex in Arcadian was *o*-colored, not only after labials (cf. the form τετορτος and see section 3.4.3). This could imply that παρ does not reflect **pr̥* but an extended form (perhaps **pr̥h*$_2$*o* as reflected in Myc. *pa-ro*, but cf. also Class. παρά) that underwent apocope. The unextended form **pr̥*- of this preverb probably remained in use too, cf. Hom. προκείμενα < **pr̥-keimena* under the interpretation proposed in section 7.2.7.

133 Katz (2007) argues that ἀτάρ and αὐτάρ are two separate particles, and that only αὐτάρ contains the old particle ταρ < PIE **tr̥* (Luw. *=tar*).

134 García Ramón (1985: 214) suggests that the vocalism of ἦτορ and ἄορ was taken secondarily from the compounds in -ήτωρ, -άωρ (μεγαλήτωρ, χρυσάωρ). I doubt whether this can be correct, because the supposed analogy would have led to the introduction of a novel

-ορ: Aeol. ὄνοιρος 'dream' is analyzed most naturally as a contamination of PGr. **oneri̯o-* (Class. ὄνειρος) with *ὄνορ, assuming that this was the Lesbian outcome of **onər* (Class. ὄναρ) (Peters 1980: 198).[135] This scenario receives support from the Cretan forms ἄναιρον and ἄναρ (glossed respectively as ὄνειρον and ὄναρ in Hesychius): in this dialect, too, the reflex of **oneri̯o-* seems to have been influenced by that of the neuter noun.[136] Thus, a word-final reflex -ορ in Aeolic has some plausibility.

In sum, Homeric ἦτορ militates against a Common Greek change **-r̥* > -αρ. The form is almost certainly a vestige of a dialect with **-r̥* > -ορ—probably some Aeolic dialect (Peters 1980: 237), or else a Bronze Age Greek dialect that we no longer know of. Moreover, given that the normal Aeolic word-internal reflex of PGr. **r̥* is -ρο-, it seems likely that the anaptyctic *shwa* was phonologized earlier before word-final **-r̥*.

9.5.2 **-r̥ in Ionic-Attic: -αρ versus -ρα and Chronology*

Ionic-Attic has αρ < **r̥* in both word-internal and word-final position. Therefore, when arguing for a chronological priority of the word-final development, we are looking for arguments of a different nature. Before dealing with this chronological question, however, we must consider the potential evidence for word-final **-r̥* > -ρα.

Hoenigswald (1988: 201–202) proposed that the outcome of **-r̥* depended on the weight of the preceding syllable. He noted that most instances of word-final -αρ follow a heavy penultimate syllable, e.g. ἦμαρ 'day' (Myc. *a-mo-ra-ma*), φρεῖαρ 'source', ὄνειαρ 'benefit' (all Hom.+) < PGr. **āmr̥*, **pʰrēu̯r̥*, **onāu̯r̥*. He posited a conditioned development **-r̥* > -ρα after a light syllable in the following instances:

– ἄρουρα f. 'farmland' (Myc. *a-ro-u-ra*) from a heteroclitic PGr. **aro-u̯r̥* (n.) derived from ἀρόω 'to plow' (the change of gender and inflection type would be secondary);

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morphological type (neuters in -αρ were a well-established category, and they co-occur with compounds in -ωρ) and because it does not explain why only these two words were affected.

135 In addition, Peters claims that Proto-Greek already had **-ər* (with phonemic *shwa*) as the reflex of word-final **-r̥*, and that this *shwa* was colored differently in Aeolic and Achaean, compared to Ionic-Attic and West Greek. This requires that Proto-Greek already had a phoneme /ə/, which originated in **CRHV*-sequences. That claim hinges on the interpretation of certain Lesbian forms, chiefly τόμοντες and χόλαισι (on which see section 1.2.1).

136 It is in my view unlikely that Aeol. ὄνοιρος arose from **onōri̯o-* by Osthoff's Law (a pre-form also required for Arm. *anurǰ* 'dream') as this would multiply the forms to be reconstructed for Proto-Greek beyond necessity.

– ὑπόδρα adv. '(looking) sternly' < PIE **upo-dr̥ḱ*;
– τόφρα conj. 'up to that point, that long', which has been reconstructed as PIE **tó-bʰr̥-t*, literally "carrying that", by Hamp (1983).[137]

There are two general issues with Hoenigswald's idea. As we have seen in section 1.4.5, his account does not adequately explain the evidence for word-internal **r̥*. Secondly, there are various counterexamples:[138]

– ἔαρ n. 'spring' < PIE **u̯es-r̥*
– θέναρ n. 'palm of the hand' < PIE **dʰen-r̥*
– Att. δέλεαρ n. 'bait' < PGr. **gʷéle-u̯r̥*
– ὄναρ n. 'bad dream' < **h₂on-r̥* and ὕπαρ 'waking vision' < **sup-r̥*[139]
– ἄφαρ adv. 'straightaway; suddenly, swiftly' (34× in Homer, often followed by δέ), if this reflects **h₂ebʰr̥*.[140]

For ἔαρ, Hoenigswald assumes that -αρ was introduced from other heteroclitic neuters, but in that case, it would remain unclear why this did not happen in the precursor of ἄρουρα. Note in particular that ἔαρ and θέναρ are completely isolated, while the assumed **aro-u̯r̥* may still have been analyzable as a deverbative formation (ἀρόω 'to plow').[141] As we will see below, ἔαρ probably did not undergo analogical influence of its oblique stem because the latter never became -ατ-; the same holds for θέναρ.

Att. δέλεαρ is synchronically isolated: note the palatalized labiovelar reflex δε- (as opposed to restored or dialectal β- in Homeric βέλος, βέλεμνα). In my view, it has the older meaning 'pierce' of the PIE root **gʷelh₁-* continued in βάλλω 'to throw, hit'. Admittedly, it cannot be excluded that **gʷeleu̯ar* is analogical on the basis of the oblique stem **gʷeleu̯at-*, but the lexicalized meaning 'bait' (rather than an abstract meaning "that which has been pierced") renders this less likely. The forms ὄναρ and ὕπαρ are less compelling evidence, as the

137 The *-t*-extension in compounds with root nouns as a 2nd CM was regular for roots ending in a liquid or glide already in PIE: cf. the Vedic compounds in *-kr̥t-*, *-vr̥t-*, and especially *bhāra-bhr̥t-* 'carrying a burden'.

138 Most scholars assume that ἀτάρ reflects **h₂et* (Lat. *at*) plus the particle ἄρ, ῥα (see Katz 2007), and I will refrain from pronouncing myself on the reconstruction of that form. Thus, contra Van Beek 2013, ἀτάρ cannot used in this discussion.

139 Or perhaps rather **sup-u̯r̥*, as bilabial glides were lost regularly after a labial occlusive.

140 The reconstruction of ἄφαρ as **h₂ebʰr̥* may receive support from the arguments given in section 7.2.8 for the reconstruction of Ἀφροδίτη as **h₂ebʰr̥-diH-teh₂-* 'she who appears straightaway (at dawn)'.

141 As an alternative reconstruction, Hoenigswald (l.c., n. 15) posits a pre-form **u̯ēs-r̥*. However, reconstructing a lengthened grade is *ad hoc* given that Homeric εἰαρ- can be adequately explained by metrical lengthening in a tribrachic sequence.

place of the anaptyxis in ὄναρ could be accounted for relatively easily as influenced by ὄνειρος, and the words may have mutually influenced each other.

Thus, in Hoenigswald's scenario it remains unclear why forms like ἔαρ, θέναρ and δέλεαρ were analogically restored, while ἄρουρα escaped restoration. What is more, upon closer consideration it appears that none of the three examples adduced by Hoenigswald is compelling. To start with the reconstruction of ἄρουρα, the Old Irish paradigm *arbor*, gen. *arbe* 'grain, corn' < PCelt. **araṷr̥*, **arṷens* indeed reflects an original heteroclitic neuter, but this does not mean that ἄρουρα continues the same formation.[142] In fact, the Greek word is more commonly reconstructed as **aro-ṷr-i̯a* (PIE *Transponat* *h_2erh_3-ur-ih$_2$), which would directly account for its inflection type.[143] It must be admitted, however, that the non-vocalization of *r* in a cluster **-ṷri̯-* is not self-evident, and that there are no direct parallels for the development of **-ṷri̯-*.

Alternatively, ἄρουρα could reflect the neuter plural of a thematic derivative PGr. **aro-ṷr-o-* that was reanalyzed as a feminine singular *i̯a*-stem. There are at least two other Greek words that reflect thematicizied heteroclitics:

– ἄλευρον, plur. ἄλευρα 'flour' < **ale-ṷr-o-m* beside Hom. ἀλείατα, cf. also Arm. *aliwr* 'flour' < **alēṷr̥* or **alēṷōr* < PIE *$h_2$léh$_1$-ṷ(ō)r*;[144]
– νεῦρον and νευρά, both 'sinew, bowstring' < PIE **snéh$_1$-ur-o-m*, **-éh$_2$-*. In this case, Greek has lost the old heteroclitic preserved in YAv. *snāuuarə* 'sinew' < PIE **snéh$_1$-ur-*.

As for τόφρα, Hamp's reconstruction PIE **to-b^{h}r̥-t* is merely a possibility: the identification of -φρ- as reflecting **b^{h}er-* 'carry' is not implausible, but other reconstructions of the final -α can be imagined. For instance, τόφρα could reflect the neuter plural of a thematic formation **to(d)-b^{h}r-o-*. Alternatively, -α may have been taken over from another temporal conjunction (cf. ἔνθα 'then; when' or ἔπειτα 'then') after the loss of **-t*, at a time when syllabic and consonantal *r* were allophones.

This brings us to ὑπόδρα < **upo-dr̥ḱ*, a very serious piece of evidence. It only occurs in one single epic formula ὑπόδρα ἰδών |$_P$ 'looking sternly' (26× Hom.) from **upodra ṷidōn*.[145] Since all other forms with etymological word-

142 Widmer (2004: 45–46) comments on the semantic difference between 'grain' in Celtic and 'cultivated land' in Greek.

143 The problems are discussed in detail by Peters (1980: 143 ff., following a suggestion by Solmsen 1909: 269). Peters assumes that ἄρουρα reflects a motional feminine **aroṷri̯a*, and that it constitutes the sole example of the unrestored outcome of PIE **-CRih$_2$* in Greek.

144 Cf. also Myc. *me-re-u-ro* 'id.' < **mele-ṷr-o-*, the same formation but with a different root meaning 'grind'.

145 Otherwise only attested in primary sources as ὑπόδρα ἰδοῦσ' (*Scut.* 445). The secondary

final *-r̥ have already ended up with -αρ or -ορ in Homer, it would be attractive to ascribe the different outcome in ὑπόδρα to the one-time presence of a word-final occlusive. Thus, I propose that the vocalization of word-final *-r̥ preceded the loss of final *-*k*, and that ὑπόδρα is the outcome of a form **upodr̥* with Epic *r̥. This yields the following relative chronology:

– word-final vocalization *-r̥ > -αρ or -*ər* (**upodr̥k* retained)
– loss of word-final occlusives (**upodr̥k* > **upodr̥*)
– creation of the epic phrase **upodr̥ u̯idōn*[146]
– vocalization of remaining vernacular *r̥ > -αρ- (**upodr̥ u̯idōn* preserved)
– vocalization of Epic *r̥ as -ρα- / -ρο- (**upodr̥* > ὑπόδρα)

There is one complication: the reconstructed phrase **upodr̥ u̯idōn*, with its sequence of four light syllables before the masculine caesura, did not fit in a hexameter. This means that we have to assume an old metrical lengthening in the arsis of the second foot. This is conceivable: a similar case is provided by the pair ἀπειρέσιος ~ ἀπερείσιος 'countless, unlimited', both adaptations of a pre-form **n̥-per-eto-* 'which cannot be traversed'.[147] Interestingly, the choice of the syllable to undergo metrical lengthening depended on the construction: ἀπειρέσιος (4×, of which 3× before |$_{\text{P}}$) contains the default metrical lengthening, and the alternative ἀπερείσια (13×) naturally occurs in the neuter plural, cf. verse-final ἀπερείσι' ἄποινα and ἀπερείσια ἔδνα. The objection that **upodr̥ u̯idōn* consists of two words is irrelevant: it functioned as a single phrasal unit, and as such required metrical lengthening (cf. the phrases Στυγὸς ὕδατος and Στυγὸς ὕδωρ, with metrical lengthening of the first syllable of ὕδωρ and ὕδατος). Two further Homeric cases of old metrical lengthening in the second arsis are ἠγάθεος (a traditional epithet of Pylos occurring 11×, always before |$_{\text{P}}$) and the phrase ὥρῃ ἐν εἰαρινῇ (4× before |$_{\text{P}}$), on which see below.

As far as I am able to see, this is the only way to account for the deviant outcome -ρα of etymological *-r̥*T* in ὑπόδρα, as opposed to -αρ < *-r̥ in all other word-final examples. The loss of word-final stops was very early: it has left no prosodic reflexes in Epic Greek, nor any ascertained phonological traces in Greek generally. Thus, ὑπόδρα furnishes indirect evidence for an early, Common Greek vocalization of word-final *-r̥.[148]

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reshaping ὑποδράξ 'id.' occurs first in the Hellenistic poets Callimachus and Nicander. On the use of the Homeric formula, see Holoka 1983.

146 A more original shape of the formula may have been **upodr̥ dr̥kōn*; see section 8.3.1 on the semantics of the root δερκ-.

147 For this semantic interpretation and the deverbal derivation of ἀπειρέσιος, ἀπερείσιος, see Vine (1998: 26 ff.).

148 On the basis of ὑπόδρα, various scholars have claimed that the *word-internal* development

Are there further arguments supporting such an early vocalization? García Ramón (1985: 212–213) has drawn attention to ἔαρ (gen. sg. ἔαρος) 'spring' < PGr. **u̯esr̥*. In his view, this form proves the chronological priority of **-r̥* > -αρ over the intervocalic lenition **-s-* > *-h-*, as he thinks this lenition could only have operated on a form ending in *-ar*, not **-r̥*. However, Haug (2002: 51) rightly remarks that a development PGr. **u̯esr̥* > **u̯ehr̥*, followed only later by a vocalization of **-r̥*, cannot be excluded. The example does prove that final **-r̥* vocalized before the loss of intervocalic **h*, but the same probably holds for word-internal **r̥* (cf. τραυλός 'lisping' < **trahuló-*, ultimately reflecting **tr̥suló-* with the root **tres-* 'tremble': see section 9.1.6). Thus, the *reflex* in ἔαρ does not prove a chronologically distinct word-final vocalization of **r̥*.

The paradigm of ἔαρ and its derivatives provide a more promising indication. The only attested oblique stem is ἔαρ-, and in Homer the adjective meaning 'spring-' has the form εἰαρινός, with metrical lengthening, in the first hemistich ὥρῃ ἐν εἰαρινῇ (4×), probably replacing an earlier *ὥρῃ (ϝ)εἰαρινῇ (cf. Chantraine 1958: 128). We also find a verse-final phrase with the genitive, εἴαρο[ς ὥρῃ 'in spring' (Hes. fr. 70.13), ἤαρος ὥρῃ (*h. Dem.* 174), again with metrical lengthening. This evidence suggests that -αρ- was generalized in the weak stem at an early date.

The PIE ancestor of ἔαρ may have been a heteroclitic neuter **u̯es-r̥*, **u̯es-n-*.[149] Greek, like various other languages, lost the oblique stem with a nasal. We may reconstruct the prehistory of the attested Greek forms as follows:

**r̥* > -ρα- pre-dated the loss of word-final stops, e.g. Meier-Brügger (1992b: 288) and Barnes (2011: 2 with n. 6). However, this argument depends on two crucial premises: (1) that the normal word-internal development in Ionic-Attic was **r̥* > -ρα-, and (2) that word-final **-r̥* > -αρ necessarily occurred around the same time as word-internal **r̥* > -ρα-. In my view, neither assumption can be upheld.

149 No individual IE language attests such a paradigm, but a suffix *-n-* in this word is attested in Slavic (e.g. OCS *vesna* 'spring'), while Lith. *vāsara* 'summer' has a form with *-r-*. Moreover, the suffix of Ved. *vasantá-* 'spring' contains a nasal, while YAv. *vaŋri* 'in spring' reflects **u̯és-r-i*. Gąsiorowski (2012) has argued that Lat. *vēr vēris* arose by analogical leveling of a paradigm **vērer vēris* << **vērer vēnis* < **u̯ēsr u̯esn-V-*, and that ON *vár* continues PGmc. **wezró-* with loss of the sibilant after Verner's Law. In Van Beek 2013, I doubted whether a heteroclitic form could be reconstructed for PIE and assumed that the *-n-* in Slavic was taken from the word for 'autumn' (OCS *esenь*, OPr. *assanis*). I now think that this is unnecessary, and that the PIE word may have had an endingless locative: see below. A pre-form **u̯és-r̥* > unattested Ved. *vásar** could also be reflected in the derived *vr̥ddhi*-adjective *vāsará-* 'matutinal' (Ved. *vasarhá-* is of unclear meaning), while Ved. *básri* 'in the morning' (if with secondary *b-*) might be a direct counterpart of YAv. *vaŋri*; both would be extensions of the old endingless locative.

nom. sg. *̯*ués̯r*	> *̯*ués̯ər*/*̯*uéhər*	> ἔαρ
loc. sg. *̯*ués̯r-i* (cf. YAv. *vaŋri*)	>> *̯*ués̯ər-i*	> *ἔαρι > ἦρι ‘in spring’
adj. *̯*ues̯ri-nó-* (cf. Lat. *vernus*)	>> *̯*ues̯ər-inó-*	> Hom. εἰαρινός[150]

One would expect to find the outcome of *̯*ues̯ri-nó-*, *εἰρινός. It is relevant that there is no trace of such a form, because a putative *εἰρινὸς ὥρη ‘spring season’ (and inflected forms) would have yielded a highly convenient verse-final formula. It is therefore probable that *εἰρινός no longer existed in the earliest recoverable stages of the epic tradition, and that the stems *̯*uehar-* and *̯*ueharinó-* (earlier *̯*uehər-*, *̯*uehərinó-*) had been generalized early on. This presupposes a relatively early vocalization of final *-r̥*. Why exactly the stem in -αρ- was generalized is more difficult to say, but it seems likely that there was some special feature in the oblique case forms which made ἔαρ different from neuters of the type ὄνειαρ -ατος (there would have been no reason to reshape a paradigm *̯*uéhar ̯*uéhatos*). It seems possible to me that the oldest locative form was endingless, *̯*ués-r̥*, and that this form (reshaped as *̯*ués̯ri* and later as *̯*ués̯əri*) ousted the reflex of the original oblique stem *̯*ues-n-*.

These considerations suggest that ἔαρ regularly reflects *̯*ues̯r̥*, with the unrestored outcome of word-final *-r̥*. Similar considerations may apply to θέναρ ‘palm of the hand’ (Hom. only gen. sg. θέναρος *Il.* 5.339; nom.-acc. sg. Pi.+): there is no trace of heteroclitic inflection either, and the locative of this word must have been frequent, too.[151] A more general point is that we have ample evidence for a prolonged retention of word-internal *r̥* in Epic Greek, after its vocalization in the vernacular dialects (cf. chapters 6 and 7), but not for word-final *r̥*. The only possible exception is ἄρ versus ῥα, but it is difficult to base any conclusions on that particle.

All in all, then, the evidence suggests that the word-final development *-r̥ > -αρ had already taken place when Epic *r̥* arose. This means that *-r̥* was eliminated before word-internal *r̥* in the vernaculars. Furthermore, if the above analysis of the prehistory of ὑπόδρα ἰδών is correct, originally word-final *-r̥* developed to *-ər* before the loss of word-final occlusives.

150 The classical form ἠρινός is a contraction of *ἐαρινός.

151 The word must be compared primarily with OHG *tenar* m. ‘id.’ < *d^hen-r-ó-* and YAv. *danarə* n. ‘handful’ < *d^hen-r*. Cf. Risch (1974: 62). If Lat. *femur*, *-inis* ‘thigh’ is related, the word was originally heteroclitic, but the semantics and the different nasal speak against this. The stem in -αρ- was also generalized in post-Homeric κύαρ ‘eye of a needle, orifice’ (Hp.+).

9.6 Further Potential Evidence for -αρ- < *r̥

In the preceding chapters, the following forms have been shown to be strong evidence for a regular development *r̥ > -αρ- in Proto-Ionic:
– Ion.-Att. ἁμαρτεῖν 'to miss' < *amr̥te/o- (section 8.2.2);
– Att. -δαρθεῖν 'to sleep' < *-dr̥tʰe/o- (sections 8.2.1 and 8.4);
– Att. καρδία, Ion. καρδίη 'heart' < *kr̥diā- (section 6.1);
– Ion.-Att. καρτερός 'steadfast, firm' < *kr̥teró-; κάρτα 'very' < *kr̥ta (chapter 5);
– Hom. ταρφέες 'dense, frequent' (*plurale tantum*) < *tʰr̥pʰéu̯-es (section 4.3.1);
– Ion.-Att. τέταρτος 'fourth' < *kʷétr̥to- (section 2.6).
In this section I will list and discuss further possible evidence supporting this development. Some of the forms have already been discussed in passing, but their pertinence to the issue of the regular vocalization has not yet been properly evaluated. The evidence is treated in alphabetical order.

9.6.1 ἄρπη

ἄρπη 'sickle' is clearly related to Latv. *sirpis*, *sìrps* and Proto-Slavic *sьrpъ (OCS *srьpъ*, Ru. *serp*), all with the same meaning.[152] The form seems to be isolated within Greek, and the Balto-Slavic cognates also reflect a zero grade root. The default assumption is, therefore, that ἄρπη < PGr. *sr̥p-ā- displays the regular, unrestored vocalization of *r̥ in Ionic-Attic.[153] We are dealing with a zero grade root noun *sr̥p- which received an extension *-ā- in Greek, as in δίκη 'manner; verdict', βλάβη 'harm; damage' and similar forms.

One proviso must be made: in my view, it is plausible that the gloss ὄρπη· σίδηρος, ἐν ᾧ τὸν ἐλέφαντα τύπτουσιν "iron tool in which ivory is struck" (Hsch. ο 1307) is a cognate of ἄρπη.[154] This raises the question whether the root vowel of ὄρπη may continue an inherited *o*-grade. Could ἄρπη and ὄρπη reflect the different stems of a root noun *sorp- / *sr̥p- of the type discussed by Schindler

152 See *GEW* and *DELG* s.v. ἄρπη. According to Matasović (*EDPC* s.v. *serrā), it is possible that Proto-Celtic *serrā* 'sickle' (MIr. *serr*, OW *serr*) reflects *serp-eh₂-, but these words have also been analyzed as borrowings from Lat. *serra* 'saw'. This has been judged semantically implausible, but that is not necessarily the case, given that several Indo-Iranian relatives of Ved. *sr̥ṇí-* 'sickle' also mean 'saw': Khot. *harraa-*, MoP *arrah* 'id.' < PIr. *hr̥na-ka-*. The relation between these Indo-Iranian words and *sr̥p- 'sickle' remains unclear. In my view, it is likely that Lat. *sarpiō* 'to prune' is related, too, but its root vocalism is not well understood.

153 For Beekes, the fact that *r̥ would be reflected as -αρ- in ἄρπη was a sufficient reason to discard the commonly accepted etymology in favor of assuming a European substrate word (*EDG* s.v. ἄρπη). Now that -αρ- appears to be the regular reflex of *r̥, this problem vanishes.

154 The form is mentioned as a possible cognate in *DELG* s.v. ὄρπη, but ignored in *GEW* and *EDG*.

(1972: 34–35)?[155] This is not plausible, because there is no further evidence for an *o*-grade in this etymon. If ὄρπη is a poetic (epic) form of non-Ionic origin, it could also reflect **sr̥pā-*, with an Ionicized ending -η. In Aeolic the vowel slot would be unexpected at first sight, as the regular Aeolic reflex of **r̥* was -ρο-. However, it is conceivable that -ορ- was the regular Aeolic reflex in initial position and after *h*-. Another (and perhaps preferable) possibility is to assume an 'Achaean' origin, given that the processing of ivory (*e-re-pa*) is well-attested in the Linear B tablets. This means that ἄρπη < PGr. **sr̥p-ā-* is a strong example of the regular vocalization in Ionic-Attic.

9.6.2 ἄρχω

Previously, ἄρχω has never received an etymology that has managed to convince the entire scholarly community. Recently, Le Feuvre (2015: 506–507) has argued in favor of the proposal by Klingenschmitt (1974) to reconstruct an inchoative present stem **h₂r-ske/o-*. This proposal is referenced with relative favor by Dieu (*CEG* 15, 2016; see there for other proposals). Le Feuvre also mentions an idea by Bader (1976: 25) according to which the root of ἄρχω would be an extension **ser-gʰ-* of the root **ser-* meaning 'to oversee'. Obviously, as long as no well-defined function for the 'extension' **-gʰ-* is established, this proposal has little value.

However, a reconstruction **serǵʰ-* or **sergʰ-* for the root of ἄρχω may well be spot on, though not in the sense of a root extension of **ser-*. The point is that a veritable PIE root **serK-* is presupposed by Hitt. *šarku-*, *šargau̯-* adj. 'pre-eminent, powerful', *šarkiške/a-zi* 'to be eminent', and Toch. B *ṣärk-* 'to surpass', meanings which are very close to what is probably the oldest meaning of ἄρχω, 'to be first'. This means that ἄρχω may reflect either a zero grade thematic present **sr̥ǵʰ-e/o-* 'to stand out, be eminent' (via PGr. **hr̥kʰe/o-*) or an inchoative present **sr̥K-ske/o-* (> PGr. **hr̥sKe/o-*). In the latter case, **K* could represent a voiceless or aspirated (palato)velar stop.

It is interesting to consider the objections formulated by Le Feuvre (2015: 506 n. 33) against the reconstruction **sr̥ǵʰ-* with initial **s-*. First of all, comparing ἔχω beside ἕξω, she states that one expects to find a trace of the initial aspiration in the future tense. This objection is irrelevant, as the future of a high frequency verb like ἔχω may have escaped analogical leveling (note that

155 In theory Att. ὄρπηξ -ηκος m. 'sapling, young shoot' (ep. ὄρπηξ, Aeol. and Dor. ὄρπαξ -ᾱκος) could belong to this etymon too, if one assumes an original meaning 'thing pruned'. In this case, it would probably reflect an *o*-grade form extended with a suffix -ᾱκ-. However, the etymological dictionaries are cautious about this analysis, and with good reason. Vine (1998) derives ὄρπηξ from the root of ἕρπω 'to creep'.

the effects of Grassmann's Law were levelled out in most verbal paradigms, e.g. πείθω 'to persuade' < PGr. *p^heit^h-*e/o*-, fut. πείσω). Therefore, leveling of the onset of original *ark^he/o*-, **harkse/o*- to ἄρχω, ἄρξω is simply expected.

A second objection advanced by Le Feuvre is that one would expect to find traces of root-initial **h*- in compounds with -αρχος, as one also finds such traces in compounds ending in **-o-hok^{h}os* derived from ἔχω, yielding -οῦχος with a lengthened contraction product. Again, this is not directly relevant, as the elision of the thematic vowel before both initial *a*- and *ha*- is again what one expects in productive formations. Moreover, in Homer compounds in -αρχος are not yet common (we find only ἄναρχος and ἔξαρχος, both *hapaxes*), and only in the classical period do we find determinative compounds with the noun ἀρχός as a head. Moreover, if compounds in **-o-hark^{h}os* existed at an early stage, the sandhi product may well have been **-ārk^{h}os*, which would have been shortened to -αρχος.

The third objection formulated by Le Feuvre is more serious: the verb ἄρχω and its derivatives occur in various Greek dialects, including Aeolic and Arcadian, where one would expect an outcome *ὄρχω < PGr. *$\underset{\circ}{h}rk^he/o$-.[156] This brings to mind cases like καρπός 'fruit' < *$\underset{\circ}{k}rpó$- and γράφω 'to write' < *$\underset{\circ}{g}rp^he/o$-, which also appear with α in dialects with a regular *o*-reflex (e.g. Lesbian). Two things may be said against this objection. First of all, it cannot be excluded that the word was borrowed from Ionic-Attic into other dialects. In order to exclude this, one would have to show that ἄρχω or one of its derivatives was structurally present in one of the *o*-coloring dialects at an early date. Secondly, in spite of the scenario proposed by Le Feuvre (2015), it is possible after all that the archaic Homeric noun ὄρχαμος 'leader' (occurring in verse-final formulae) is related to ἄρχω; in that case it is best analyzed as a derivative of such a verb *ὄρχω in an 'Achaean' or early Aeolic dialect.

In sum, I see no compelling objections to the semantically attractive new proposal to connect ἄρχω with Hitt. *šarku*- 'pre-eminent, powerful' and Toch. B *ṣärk*- 'to surpass'. It is thereby established as a new instance of the regular treatment of *$\underset{\circ}{r}$ in Ionic-Attic. Again, as with ἄρπη beside ὄρπη discussed in the previous section, we must take into account that the development of *$\underset{\circ}{h}r$- in ἄρχω and in Hom. ὄρχαμος may have been comparable to that of word-initial *$\underset{\circ}{r}$- in ἄρσην (Thess. ορσεν, Arc. ορ⟨ρ⟩εν).

156 I assume here that PGr. *$\underset{\circ}{h}r$- would be treated in Aeolic dialects just like *$\underset{\circ}{r}$- in the word for 'male', Thess. ορσεν, i.e. that it would develop to ορ rather than ρο after word-initial *h*-.

9.6.3 *ἀτραπός ~ ἀταρπός*

The etymology of ἀτραπός ~ ἀταρπός f. 'trail, footpath' is in need of clarification. An etymological connection with τρέπω 'to direct, turn towards' is found already in antiquity, e.g. in the second part of the gloss ἀτραπός· ὁδὸς τετριμμένη, μὴ ἔχουσα ἐκτροπάς, ἀλλ' εὐθεῖα (Hsch.), which means "not having turns, but straight". Chantraine (*DELG* s.v. ἀτραπός) rightly remarks that this connection is folk-etymological. Instead, both Frisk and Chantraine (*GEW* and *DELG* s.v. ἀτραπός) prefer an analysis of the word as consisting of copulative or intensive ἀ- and the root of τραπέω 'to tread (grapes)' (*Od.*+), τροπέοντο· ἐπάτουν 'they were treading' (Hsch.). The original meaning is supposed to be 'well-trodden': "C' est la piste foulée", says Chantraine (*DELG*, q.v.).

The connection with τραπέω also goes back to antiquity, as shown by the first part of the gloss just quoted (ὁδὸς τετριμμένη "trodden road"). It is made also at Ar. *Ra*. 123, where Dionysus asks Heracles about the roads leading into Hades, and the latter mentions the ἀτραπὸς ξύντομος τετριμμένη, ἡ διὰ θυείας "the pounded short-cut, the one through the mortar" (by which he means death by hemlock, which was prepared with mortar and pestle). Clearly, the use of τετριμμένη contains a pun on the meaning of τρίβω 'to rub, wear out', which may mean 'to pound' but could also refer to the treading of a road (cf. the derivative ὁ/ἡ τρίβος 'beaten track').

For the analysis of ἀ- as copulative or intensive, it is somewhat problematic that the passive semantics ('trodden') would normally require a formation in **-tó-*, given that τραπέω is a transitive verb. Moreover, the assumed interpretation 'well-trodden path' is at odds with the fact that an ἀτραπός in several cases specifically denotes a trail (as I will show below). Incidentally, note that Greek had other nouns meaning '(trodden) path, (beaten) track', such as πάτος or the just-mentioned τρίβος. Finally, assuming copulative alpha does not account for the absence of initial aspiration in Attic prose and comedy. As an alternative, Beekes (*EDG* s.v. ἀτραπός) suggests that the variation between ἀτραπός and ἀταρπός is a substrate phenomenon, comparing Ru. *tropá* 'path', but this is nothing more than a guess and does not illuminate anything.

I propose that ἀτραπός was originally an adjective of the type ἄγραφος 'unwritten', and reconstruct a pre-form **n̥-tr̥p-o-* 'untrodden', where **tr̥p-* is indeed the root of τραπέω.[157] Starting from phrases like **ἄτραπος ὁδός or **ἄτραπος κέλευθος 'untrodden path', the oxytone accentuation of ἀτραπός could be

157 Cf. *LIV*^{2} s.v. 1. **trep-*, where τραπέω is included as an iterative **tr̥p-eie̯-* along with relatives in Balto-Slavic: Lith. *trem̃pti* (1sg. *trempiù*) 'to tread, stamp down', OPr. *er-treppa* "sie übertreten", ORu. *trepati* 'to beat'. The connection is not completely certain: as *LIV*^{2} remarks, "die Semantik der Wurzel bedarf ebenfalls noch weiterer Klärung".

ascribed to its substantivization. The meaning 'untrodden' neatly fits the attestations: in Herodotus and Thucydides, ἀτραπός is used to refer to the shortcut at Thermopylae by means of which the Persians take the corridor, and indeed *LSJ* glosses the word as "*short cut*, or generally, *path*". In the passage from Aristophanes quoted earlier, the ἀτραπός is called ξύντομος, which again literally means 'shortcut', and the same author uses the phrase μύρμηκος ἀτραπούς 'ant trails' (*Thesm.* 100), which is echoed in Aristotle, who speaks of ants as ἀεὶ μίαν ἀτραπὸν πάντες βαδίζουσι "they all walk the same path all the time" (Arist. *HA* 622b25). Finally, such an interpretation is also presupposed by the Homeric phrases κατὰ παιπαλόεσσαν ἀταρπόν 'along a rugged path' and τρηχεῖαν ἀταρπόν 'rough path'. All this suggests that an ἀτραπός was a trail through rocky or mountaineous terrain, rather than a trodden path.

Previous treatments of this word have left the variation -ρα- ~ -αρ- unexplained. The prose form was clearly ἀτραπός, while the variant ἀταρπός (which is less common) is limited to poetic authors.[158] This distribution is different from the one observed in section 6.1, where it was found that -ρα- is usually limited to epic and poetic words, while variant forms with -αρ- are common both in prose and poetry. As we will see now, the specific distributions between ἀτραπός and ἀταρπός can be explained.

With one exception, ἀταρπός is found in verse-final position of a hexameter. The same variation appears in ἀταρπιτός 'id.' (*Il.* 18.565, *Od.* 17.234, *h. Ap.* 227, Parm. fr. 20) beside ἀτραπιτός (only *Od.* 13.395). This word is probably a contamination of ἀταρπός ~ ἀτραπός with the more usual word ἁμαξιτός adj. 'traversable by wagons', subst. 'carriage-road' (*Il.*+). Again, the most widely attested epic form has -αρ-. Chantraine (*DELG*, q.v.) remarks that ἀταρπός is preferred for metrical reasons, but the dactylic form ἀτραπός was not inconvenient *per se*.

Now, if ἀτραπός (unattested in Homer) contained the older vocalization, it would remain unclear how ἀταρπός came into being, and why ἀτραπός should have been avoided by hexameter poets. We may therefore hypothesize that ἀταρπός is in fact the older form (preserved in formulaic material in verse-final position), directly reflecting Proto-Ionic **n̥-tr̥p-o-*, and that the prose form ἀτραπός was secondarily influenced by the root of τραπέω, or perhaps even folketymologically by τρέπω 'to turn'. In τραπέω itself, the vocalization -ρα- can be due to the full grade **trep-* of the verbal root, given the possibility that τροπέοντο· ἐπάτουν (Hsch.) has an *o*-grade.[159]

158 Hom. (*Il.* 17.743, *Od.* 14.1), Alcm. (fr. 102), Parm. (fr. 2), and Emp. (fr. 112).

159 The rarity of τραπέω can be explained with the assumption that it was ousted by πατέω 'to tread', a denominative of πάτος 'path'.

9.6.4 *ἐπικάρσιος*

The adjective ἐπικάρσιος 'transverse, crosswise, at a right angle' (*Od.* 9.70, of ships; further Hdt.+) cannot be derived from a phrase ἐπὶ καρσί, as assumed by Bechtel 1914 s.v.). It contains the root **kers-* 'to cut' reflected in κείρω 'to shave; pillage', ἔκερσα 'to cut off; obstruct'; cf. in particular ἐπικείρω 'to cut short, thwart'. The semantic motivation for deriving a word meaning 'crosswise' from 'cut' is that cutting is usually done at a transverse angle with regard to the object to be cut. Semantic parallels (containing the homonymous root **kert-* 'cut', which may also be reflected in ἔκερσα) are Lith. *skeřsas* 'crosswise', Ru. *čérez* 'across'.

In an as yet unpublished paper,[160] I argue that ἐπικάρσιος was derived by adding the de-adverbial suffix -ιος to an adverb **epikr̥s*, the pre-form of Homeric ἐπικάρ which (as I argue) means something like 'cross-hill'.[161] I criticize the widely accepted derivation of ἐπικάρ from the PIE word for 'head' (Nussbaum 1986) as well as its alleged meaning 'headlong'. It is likely that ἐπικάρ regularly reflects **epikr̥s*, but we cannot exclude that its vowel slot was influenced by verbal forms with κερσ-. It is possible, but not certain that ἐπικάρσιος and ἐπικάρ show the regular Ionic-Attic reflex of **r̥*.

9.6.5 *καρπός*

In section 2.2, it was argued that καρπός 'fruit; harvest' is unrelated to Myc. *ka-po*, which may reflect /kāpos/ 'plantation' instead. Assuming that καρπός contains a secondary zero grade **CaRT* of the type advocated by Kuryłowicz (section 1.4.4) is completely unmotivated. Since the verbal root **kerp-* 'to pluck' has left no other traces in Greek, καρπός < **kr̥p-ó-* is strong evidence for a regular change **r̥* > -αρ-. The word is also attested in many West Greek dialects, including Cretan, Elean and Cyrenaean. It is somewhat problematic that no alternative vocalization is attested anywhere in Greek, but the reconstruction **kr̥p-ó-* cannot be doubted.

9.6.6 *κάρφω*

The present κάρφω 'to dry up, wither, wrinkle', especially of the skin, is first found in Hesiod; its sigmatic stems are attested in the *Odyssey*. The verb is 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

160 Cf. also Chantraine (*DELG* s.v. ἐπικάρσιος) who derives the word from **kert-* 'to cut'.

161 This means that ἐπικάρσιος does not require the existence of an older form **-kr̥t-*(*o-*) or **-kr̥-t*(*o*)-, as maintained by Chantraine (*DELG* s.v.) following Strömberg (1946: 92).

'hay' (X.), and notably καρφαλέος 'arid' (*Il.* 13.409, *Od.* 5.369) which clearly influenced the forms αὐαλέος 'id.' and ἀυσταλέος 'id.'.[162] Chantraine (1933: 253–254) suggests that καρφαλέος was derived from κάρφος, but given the concrete lexicalized meanings of κάρφος, this is not evident; it is equally conceivable that καρφαλέος is deverbal. In addition, one might speculate that an older *u*-stem adjective existed, in view of the gloss καρφύνεσθαι· ξηραίνεσθαι, φθείρεσθαι 'to dry up, wither' (Hsch.).

Letoublon and 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'.[163] This comparison is excellent both semantically and formally, except that their reconstruction **kreb^h-* would entail a root containing both a voiceless and an aspirated stop, violating a root structure constraint of the proto-language. Given that the root has *s*-mobile, this problem can be solved by positing **(s)g^{h}reb^h-*, with Grassmann's Law in Greek. Further cognates are found in Germanic: ON *skarpr* 'shriveled' and *skorpinn* 'wrinkled', from a root which acquired its *-p-* by degemination from **-pp-*, which in turn developed from **-b^{h}n-* by Kluge's Law. In his study of the Germanic *n*-stems, Kroonen (2011: 108) compares the nasal present of Lith. 1sg. *skrembù* directly with OE *scrimman* 'to shrivel' < PGmc. **skremb-n-*, MHG *schrimpfen*, *schrumpfen* 'to shrink' < PGmc. **skrump^p-* < **skrumb-n-*. Since the reconstructed root **(s)g^{h}reb^h-* would have a full grade II, this etymology furnishes additional evidence for a regular vocalization **r̥* > -αρ- in Ionic-Attic. Note that this etymology entails the reconstruction of a zero grade thematic present **g^{h}r̥b^h-e/o-*, a type for which there is some (but limited) evidence in Greek.[164]

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162 The neuter καρφος is also attested in Cyrenaean, a West Greek dialect. See section 3.2.1 for further possible evidence for αρ < **r̥* in this dialect.

163 "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'). A further possible relative is Lith. *skir̃bti*, 1sg. *skirbstù* 'to become sour, shrink, become lean'.

164 According to Létoublon and 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 the present stem (yielding τρέφω), as also happened in cases like δείκνυμι (beside δεῖξαι, cf. Cret. δικνυμι), ἔρδω (beside ἔρξαι, cf. Myc. *wo-ze*). However, note that τρέχω 'to run' (Dor. τράχω) cannot have acquired its vocalism from the aorist. See also section 3.1, and Willi (2018: 351–355) for the contrary view that the type *tudáti* is a secondary development of Indo-Iranian.

9.6.7 *χάρμη*

A final attractive example is the Homeric word χάρμη. It has been thought since antiquity that this word means 'battle lust' and therefore contains the root of χαίρω 'to rejoice'. If that etymology were correct, χάρμη could be used in this discussion only with certain reservations, because the root χαρ- of χαίρω may have originated in the *yod*-present and then spread to nominal derivations (cf. χάρμα 'reason for joy').

In reality, the etymology of χάρμη is probably totally different. Janda (2014: 131–142) convincingly argues that χάρμη referred to a battle rage or frenzy, and that it belongs to an inherited verbal root **g^{h}rem-* meaning 'to rage, be angry'. This root is reflected in the Germanic strong verb **grimman-* 'to rage', attested in the oldest Germanic languages, beside which there exists also a causative **gramjan-* 'to provoke' (Goth. *gramjan*, OE *gremian*, ON *gremja*, etc.) < **g^{h}rom-éie-*, and in the adjective **grama-* 'raging, angry' (ON *gramr*, OE, OS and OHG *gram*) < **g^{h}romó-*.[165] The PIE status of the root is supported by the Iranian root *gram-* 'to anger', which is attested in Avestan in the participles *gramaṇt-* and *graṇta-* 'angry'.[166] Homeric χάρμη must be reconstructed as PIE **g^{h}r̥m-eh$_2$-*, a zero-grade deverbal abstract. Given that the root is PIE **g^{h}rem-*, χάρμη is a very strong example in favor of a development **r̥* > -αρ-.

9.7 Evidence for -αρ- and -ρα- Left Out of Consideration

The forms in this section cannot be considered compelling evidence for the development of **r̥*. In most cases, previous authors have proposed a pre-form with **r̥*. The material is divided in two parts. I will first discuss etymologies that are possible, but not more than that (section 9.7.1), and then turn to etymologies that are untenable (section 9.7.2). The material is treated in alphabetical order. No separate attention is given to forms with paradigmatic ablaut (such as σπαρτός 'sown' beside σπείρω 'to sow') or to etymologies with an obvious weakness.[167]

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165 The root-final geminate in **grimman-* probably stems from a nasal present (Kroonen, *EDPG* q.v.).

166 The root **g^{h}rem-* is widely attested in Indo-European languages as a sound verb meaning 'to roar, thunder'. This root may or may not be etymologically identical with **g^{h}rem-* 'to rage'; this issue is not relevant in the present context.

167 I mean words such as (1) πάρνοψ 'grasshopper', Lesb. Boeot. πόρνοψ. This word may well have been borrowed from a Pre-Greek substrate in view of its suffix, its meaning, and because of the variants with initial κ- (cf. Beekes, *EDG* s.v.). That is, in this word the dialec-

9.7.1 *Ambiguous or Uncompelling Evidence*

Vine (1998: 81–82) has proposed to derive the nominal form ἅρπαξ 'rapacity; rapacious; robber' (Hes.+) and the denominative verb ἁρπάζω 'to rob, seize, plunder' (*Il.*+, plus further derivatives) from a compound *$s\underline{r̥}$-ph_2g-. He connects the first part *$s\underline{r̥}$- with αἱρέω 'to take, seize', which in his view can be reconstructed as a *$s\underline{r̥}$-$i\underline{e}$/*o*- that was influenced by ἀγρέω 'to seize' (1998: 48–49).[168] However, Vine leaves open the analysis of the second element *-ph_2g- of this compound. As such, the etymology remains uncertain.

In view of the retained reflex of compensatory lengthening and the initial aspiration in εἵμαρται 'has obtained by lot or fate' (Hom.+), it would be attractive to view this form as the regular outcome of PGr. **hehmr̥to* in Ionic-Attic. However, we cannot exclude that the root vowel slot is analogical after that of μείρομαι and ἔμμορε 'id.' (both Hom.). The same analogy can be invoked for the Aeolic counterpart ἐμμόρμενον (Alc.), replacing the expected Aeolic reflex with -μ(β)ρο-, possibly under influence of the active perfect ἔμμορε. In lexicographical sources, two variants with a sequence -μβρα- are attested: ἐμβραμένα· εἱμαρμένα (*EM* 334.10) and ἔμβραται· εἵμαρται (Hsch.).[169] Both are ascribed to Sophron (fr. 114 K-A), a writer of prose dialogues in the dialect of Syracuse, a colony of Corinth. The independent evidence of two glosses cannot be lightly dismissed, but since they are not of Ionic-Attic origin, they are of no consequence for the present discussion.[170]

The noun καρπός m. 'wrist' (Hom.+) has been connected etymologically with the Germanic strong verb **hwerban*- 'to turn', e.g. Goth. *hvairban* 'to move around, dwell'.[171] Phonologically, this identification is unproblematic: *k^w … *p* may have undergone dissimilation to κ … π in Greek, whether *k^w derives from PIE *k^w- or from *$k\underline{u}$-.[172] However, the semantic match is not compelling,

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tal variants with -αρ- / -ορ- are not necessarily due to different vocalizations 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.).

168 Itself, ἀγρέω can be analyzed as a denominative verb derived from compounds in *-*agro*- 'seizing'. These in turn can be derived from the root of ἀγείρω 'to gather' (cf. Tucker 1990: 168).

169 The gloss βεβραμένων, cited in the etymological dictionaries, is not retained in Latte's edition of Hsch.

170 It is not easy to evaluate the evidence from the Doric dialects of Magna Graecia: there is some evidence for both -ρα- and -αρ- (see section 3.2).

171 Cf. also ON *hverfa* 'to turn around; disappear', OE *hweorfan* 'to turn, travel, move around, change', etc. See *GEW* s.v. 2. καρπός with further literature and *EDPG* s.v. **hwerban*-.

172 See section 10.4.3 and Schwyzer (1939: 302) for the evidence.

but merely possible, and we are dealing with an equation between only two branches. For this reason, καρπός 'wrist' is at best a possible example of the vocalization to -αρ-. The same holds for the epic adjective καρπάλιμος 'agile, swift'.[173] A connection with the root *$k^{w}erp$- is semantically plausible (cf. e.g. ON *hverfr* 'quick'),[174] but the lack of a direct counterpart of the suffix -άλιμος suffices to eliminate καρπάλιμος from the compelling evidence.[175]

The compound ὀφιόσπρατον 'sown or engendered by serpents' (thus *LSJ*) is attested in Herodian and *EM* 287.14 as a variant of ὀφιό-σπαρτον. The form has been used in previous treatments (e.g. Kuryłowicz 1968: 247) as evidence for a regular Ionic-Attic outcome -ρα- < *r̥. The grammarians adduce the form in order to illustrate the swapping of liquid and vowel in the Homeric *hapax* δρατά 'flayed' beside expected δαρτά. As a compound, ὀφιόσπρατον is clearly poetic; given its metrical structure, it may have been taken from some now-lost epic text.[176]

The PIE root *$perḱ$- furnishes potential evidence for *r̥ > -ρα- in the gloss πρακνόν· μέλανα 'black' (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. *Cyn.* 5.22). The underlying formation can be compared with Ved. *pŕśni-* 'speckled' and OHG *forh*(*a*)*na* 'trout', both reflecting PIE *$\text{pr̥}ḱ$-*n*-. 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 Ionic-Attic, because the origin of the gloss is unknown. It cannot be excluded, for instance, that πρακνόν was taken from a variety of West Greek where -ρα- was the regular reflex.[177]

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173 In Homer mostly adverbial καρπαλίμως, which often accompanies verbs denoting an action involving the hands or feet. The adjective only occurs in the dat. pl. with ποσί or πόδεσσι.

174 Bechtel (1914 s.v.) suggested that καρπάλιμος was derived from the hippological term κάλπη 'trot' by dissimilation from *καλπάλιμος. This seems less likely to me.

175 Like e.g. -αλέος, -άλιμος is a mildly productive Caland suffix in Homeric Greek (see Risch 1974: 105).

176 It is possible in theory to understand -ρα- in ὀφιόσπρατον as an instance of Epic *r̥, along the lines set out in chapter 6. However, if the regular reflex of Epic *r̥ after a labial consonant was -ρο- (see chapter 7), ὀφιόσπρατον would have to be a compromise form between σπαρτόν 'sown' and the expected epic outcome *ὀφιόσπροτον. This does not seem impossible. In any case, ὀφιόσπρατον cannot be used to argue for -ρα- as the regular vocalization of *r̥ in Ionic-Attic.

177 Cf. also section 7.2.6 on the glosses πράκες· (…) ἔλαφοι 'deer' and πόρκας· ἐλάφους (both Hsch.). It is not without interest that a full grade II is attested in another gloss, πρεκνόν· ποικιλόχροον. ἐλαφρόν 'with varicolored skin; nimble' (Hsch., ἐλαφρόν perhaps to be cor-

The *plurale tantum* πραπίδες f. 'midriff', whence 'heart, soul' is attested in Homer in the formulaic phrases |T ἰδυίῃσι πραπίδεσσι and ἦπαρ ὑπὸ πραπίδων |P. The word has no ascertained etymology,[178] but a proposal by Balles (2002) deserves closer consideration. Balles 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, in her formulation, 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 referred to an individual, concrete item pertaining to (made from, located in) the rib-cage. Balles' further argument is relatively complicated and cannot be rendered here in every detail. In my view, the simplest scenario would be that the singular *πραπίς denoted an organ located in the chest; πραπίδες would then have denoted the collection of such organs, and thence also the 'chest' or 'rib-cage'.

This *πραπό- can be compared to Ved. *párśu-* f. 'rib; sickle' (RV+), *pārśvá-* n. '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 noun **perḱ-u-*. A derivative **pr̥ḱ̯u-ó-* 'consisting of ribs' (cf. the *vr̥ddhi*-derivation Ved. *pārśvá-*) could then yield the required pre-form *πραπό-, provided that *-ḱ̯u- resulted in a non-geminated -π- and that *r̥ > -ρα-. As Balles points out, there is only one relatively secure instance of the geminate treatment -ππ- (ἵππος 'horse' < **h*$_1$*eḱ̯uo-*), but in view of the well-known problems with the reconstruction of that word (the *i*-vocalism, dialectal forms like ἴκκος, the ini-

rected to ἔλαφον 'deer'). If this form is to be taken seriously, no conclusions concerning the regular outcome of *r̥ can be based upon the etymon of περκνός.

178 Cf. Frisk's judgment (*GEW* 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).

tial aspiration), she argues that the outcome of intervocalic *-*ḱu̯*- in Greek may have been -π- after all.[179]

Although this etymology for πραπίδες is not implausible from a semantic point of view, Balles' attempts to solve the problem of -π- < *-*ḱu̯*- are in my view not entirely satisfactory. As an alternative solution, one could think that *-*ku̯*- was retained longer intervocalically (in ἵππος) than after **r̥* (in πραπίδες). There are more environments where **r̥* did not behave like a normal vowel (cf. the reduction of *-*tu̯*- to -*t*- before **r̥*, section 2.6), and it would perhaps be conceivable that a pre-form **pr̥ḱu̯-ó*- would result in pre-alphabetic **pr̥kʷó*-, whence **pr̥kʷ-íd*-. Since πραπίδες only occurs in poetry and in particular in Epic Greek, a pre-form with Epic **r̥* could be considered. In this case, however, it would be problematic that we do not find an *o*-colored outcome of Epic **r̥* after a labial consonant (see chapter 7).[180] In sum, in view of the large number of problems involved, I will not base any conclusions on πραπίδες.

The noun σάρξ 'meat' (in Homer, pl. σάρκες) reflects a root noun PIE **tu̯r̥ḱ*-. The problems with the reconstruction of this word have been discussed in sections 1.3.2 and 2.6. One possible scenario mentioned there is that the form σύρξ, cited as Doric and Aeolic in Ancient grammarians and lexicographers, reflects an *o*-grade **tu̯orḱ*-. This means that **tu̯r̥ḱ*- > **tu̯ərk*- > σαρκ- might in theory be an analogical vocalization, for instance replacing a re-vocalized form **turk*-. Therefore, no conclusions can be based on this word.

χειρόμακτρον 'towel' arose by dissimilation from *χειρόμαρκτρον, a compound of χεῖρ and an instrument noun with zero grade root derived from ὀμόργνυμι 'to wipe', i.e. PGr. **ómr̥g-tro-n*. It is generally admitted that this **ómr̥g-tro-n* was vocalized as PIon. **ómarktron*, but the vowel slot may have been influenced by full grade forms of the verb ὀμόργνυμι.

9.7.2 *Irrelevant Words; Untenable and Doubtful Etymologies*

The etymology of ἀστραπή 'lightning', ἀστράπτω 'to flash' and related forms has been discussed by Beekes (1987). He concluded that the word cannot be Indo-European in view of the odd interchange ἀ- ~ Ø. This interchange occurs in ἀστεροπή beside στεροπή (both Hom.) and in ἀστράπτω (Ion.-Att.) beside

179 An alternative suggestion made by Balles is that a pre-form *πραππό- may have been reduced to *πραπό- as a result of dissimilation. This seems unlikely to me.

180 Note that πραπίδες generates position length when preceded by a preposition ending in a short vowel (ὑπὸ πραπίδων, ἀπὸ πραπίδων). This seems to speak against the assumption of Epic **r̥*, but we could compare the heterosyllabic scansion of δρ in ὑπόδρα 'looking sternly' (cf. section 9.5.2).

στράπτω (only in S. and A.R.). Beekes convincingly argues against the earlier reconstruction as PIE *h_2ster-h_3ok^w-eh_2 'star-eye', which is not evident semantically and leads to phonological problems. In addition to this, Schrijver (1997: 310) has attractively suggested that ἀστραπή is related to OIr. *sraib* 'sulphur' and *sraif-tine* 'lightning' (< "sulphur-fire") as a European substrate word. The Irish word is derived by Schrijver from **strab-i-*.[181]

It has been assumed that ἄτρακτος 'spindle; arrow' (general Ion.-Att.) contains the reflex of a zero grade root *$tr̥k$-, which allegedly also underlies ἀτρεκής 'precise' (Hom.+), see *GEW* s.v. ἄτρακτος. Apart from the fact that such a root is not attested anywhere (as Frisk admits), ἄτρακτος cannot be used as evidence for various reasons. First, there is no good outer-Greek *comparandum*:[182] 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. Secondly, there is a variant ἄδρακτος (Hsch. α 8134 s.v. ἄτρακτος), which could point to Pre-Greek origin (thus Beekes, *EDG* s.v. ἄτρακτος). Finally, the word-formation is unclear: it makes no sense to think of copulative or intensive ἀ-. Given that the word denotes a concrete object, for which the various IE languages have different names, it is probable that we are dealing with a borrowing.

The glossed word βράκανα 'wild herbs or vegetables' (Pherecr., Hsch.) is usually compared with Germanic and Slavic words for 'edible root, carrot' (OHG *moraha*, G. *Möhre* < PGmc. **murhōn-*; PSl. **mъrky*). The Greek meaning, however, is different from that of the Northern European words, and the formation of βράκανα is also different. Moreover, the Greek word is weakly attested. If the comparison is tenable at all, we could be dealing with a European substrate word. Beekes (*EDG* s.v. βράκανα) further mentions the assumption of Furnée (1972: 330) that the word is Pre-Greek, comparing βάκανον 'cabbage'; *DELG* (s.v.) merely remarks that there is no established etymology. For doubts concerning the possibility to reconstruct this word, see also Kroonen (*EDPG* s.v. **murhōn-*).

Although the formation of εὐτράπελος 'dexterous; witty' (Pi., Th.+) is not entirely perspicuous (cf. a similar suffix in εὐπέμπελος and εὐτρόχαλος), the

181 In theory, even if ἀστραπή and cognates were borrowed, one could think that some of them were borrowed in a form with *$r̥$: compare the glosses στροπά· ἀστραπή. Πάφιοι (Hsch., Ael. Herod.), στορπάν· τὴν ἀστραπήν (Hsch., Ael. Herod., without dialect indication), and epigraphic Arcadian gen. sg. Διος Στορπαο (*IG* v,2 64, 5th c.). However, this remains mere speculation, especially since the by-form (ἀ)στεροπή may have exerted influence on the vocalism of these forms.

182 Chantraine (1933: 301, cf. also *DELG* s.v.) rightly judges the etymology to be "douteux".

semantic interpretation as "sich leicht wendend" (*GEW* s.v., based on the German translation 'gewandt') and the derivation from the thematic aorist stem τραπε/ο- 'to turn, direct' (Chantraine 1933: 243) are acceptable. This means that the form merely contains a restored outcome of **r̥*.

The adjective καθαρός often means 'pure, clean, proper'. It has a dialectal variant κοθαρός, attested in derivatives in various West Greek dialects[183] as well as in Lesbian κόθαρος (Alc. fr. 38). Peters (1993a: 95–101) has tried to revive Brugmann's old comparison with Ved. *śithirá-* 'loose', reconstructing a PIE pre-form **ḱr̥th₂r̥-ó-* (*sic*, with prevocalic **r̥*).[184] He further posits an inherited present **ḱroth₂r̥-i̯é/ó-* on the basis of a comparison between the Vedic *hapax śratharyáti* (RV 10.77.4, of the earth) and καθαίρω 'to purify, clean'. He accounts for the Lesbian and West Greek variant with κοθ- by positing yet another pre-form PGr. **ḱroth₂-ro-* > Pan-Greek κοθαρός, allegedly with 'vowel assimilation' to καθαρός in Ionic-Attic (o.c. 98). The *o*-vocalism of PGr. **ḱroth₂-ro-* is supposed to have been introduced from the *yod*-present.

There are severe problems with almost every step in this reconstruction. A pre-form **ḱr̥th₂r̥-ó-* (which according to Peters was derived from an abstract noun **ḱr̥th₂r̥* 'Lösung') is questionable because PIE probably did not have a separate phoneme **r̥*.[185] The *hapax śratharyáti*, on the basis of which Peters reconstructs an inherited *yod*-present, occurs immediately after the semantically close form *vithuryáti* 'totters, shakes' in the previous *pāda* of RV 10.77.4. Therefore, *śratharyáti* is best analyzed as a nonce formation. As for the claim that κοθαρός resulted in Ion.-Att. καθαρός, to assume 'vowel assimilation' is not a real solution for the different vocalism, but simply an *ad hoc* assumption.[186]

There are also grave semantic objections. Peters assumes that 'loose' and 'to loosen' are the original meanings of καθαρός and καθαίρω, leading to 'dissolve' and then to 'clean, rinse'. For this shift of meaning, he compares Hom. λῦμα 'dirt', which is thought to be derived from λύω 'to loosen'. However, Homer uses

183 The variant κοθαρος is attested epigraphically in Thurii (*IG* XIV 641, 4th c. BCE) and Heraclea (*IG* XIV 645 I, 103); derivatives are attested in Olympia (κοθαρσι τελειαι 'with complete purification', *IvO* 7.2) and again Heraclea (the verbal form ἀνκοθαρίοντι, *IG* XIV 645 I, 132).

184 Mayrhofer (*KEWA* s.v.) rejects the comparison with καθαρός, but in *EWAia* retains the comparison with Gmc. **hreddan-* 'save' (OE *hreddan*, G. *retten*) as a possibility.

185 It would be much more natural to start from a pre-form **ḱr̥th₂-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 Greek. In his view, **-th₂V-* would yield -θV-, while **-th₂C-* would result in -ταC-.

186 See Van Beek (2011a) for criticism of a number of frequently cited examples of "vowel assimilation".

καθαρός three times as a substantivization meaning 'open or cleared space'.[187] For example:

> νόσφι νεῶν ἀγαγὼν ποταμῷ ἔπι δινήεντι,
> ἐν καθαρῷ ὅθι δὴ νεκύων διεφαίνετο χῶρος
> *Il.* 8.490–491
>
> [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.
> tr. WYATT 1999

As remarked by Chantraine (*DELG* s.v.), 'clearing, open space' is the only meaning attested in the *Iliad*. This crucial fact is completely ignored in most previous treatments of the word (e.g. *GEW*, Peters 1993a). This meaning is not uncommon after Homer: compare the following passage from Pindar, treating the foundation of the Olympian games by Heracles (*Ol.* 10.43–49):

> ὁ δ' ἄρ' ἐν Πίσᾳ ἔλσαις ὅλον τε στρατόν
> λάφυρά 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**, and he made the surrounding plain a resting-place for banqueting, and honored the stream of Alpheus along with the twelve ruling gods.
> tr. RACE 1997

Various other peculiar uses of καθαρός are clarified once we posit 'cleared, open' as the original meaning. In Pindar, κέλευθος καθαρά refers to a 'clear(ed) path' (without obstacles, not overgrown). Sophocles uses the phrase ἐν καθαρῷ

187 "clear of objects, free", "open space" (*LSJ*, mg. 3).

βῆναι 'to leave the way clear' (*OC* 1575). The meaning is not limited to poetry: Herodotus has 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, the same meaning is found in the Heraclean Tables, where ανκοθαριοντι … τα παρ τα αυτων χωρια ρεοντα means 'to clear [of rubbish] the gullies beside their own plots of land' (with the purpose of avoiding inundations).[188]

We may conclude that the original meaning of καθαρός was not 'loose' but rather 'cleared, without obstacles'. In combination with the phonological problems in reconstructing the Proto-Greek and PIE pre-forms, this casts grave doubts on Peters' etymology. Beekes (*EDG* s.v.) remarks that the interchange καθαρός ~ κοθαρός could point to a substrate word. As long as convincing alternatives are lacking, this seems the best available option to me.

κρήνη 'source' (non-Ionic κράνα) has no clear outer-Greek comparanda. Within Greek, κρήνη is often compared to the poetic word κρουνός 'source, stream'. This would work only if we start from pre-forms **kr̥snā-* > **krahnā* > κρήνη and **krosno-* > κρουνός (both with the 1st Compensatory Lengthening).[189] The form κρουνός could then be compared with a Germanic word for 'wave, flood', ON *hrǫnn*, OE *hræn* < PGmc. **hraznṓ-* (see *GEW* s.v.). However, Lobeck (see *DELG* s.v. κρουνός) already drew attention to the possibility that κρήνη reflects a pre-form **krāhnā* < **kŕh₂s-n-* 'head'. For the semantics, Lobeck compared Lat. *caput fontis* and Gr. κεφαλή in the meaning 'fountain'. Indeed, Hesychius also attests a gloss κράνα· κεφαλή. Lobeck's proposal would preclude a connection between κρήνη and κρουνός, but the connection between κρουνός and the Germanic words may perhaps be retained.[190]

The poetic (epic and tragic) 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 sound (see Beckwith 1996: 105–106). However, before this specu-

188 *IG* XIV 645, I, 130–133.

189 The reconstruction **kr̥snā-* is incompatible with the Aeolic form κράννα (Alc. *fr.* 150.5). This was also remarked by Beekes (*EDG* s.v. κρήνη): "all dialects have the vocalization **-ra-*, so the etymon probably did not have vocalic **r̥*. Therefore, the explanation remains uncertain." It is not clear, however, whether Aeolic κράννα really belongs in this discussion: since the interpretation of the context is unclear, the meaning of κράννα cannot be established.

190 If the Aeolic form κράννα belongs here (but see the previous footnote), this would be a strong argument in favor of a pre-form PGr. **krāhnā*.

lative possibility is further investigated, the problems with the reconstruction and etymology of μάρπτω must be addressed.

The dialectal origin of μάρπτω is unclear. The aorist ἔμαρψεν is ascribed to Cyprian by the *glôssai kata poleis* (cf. Ruijgh 1957: 166), but 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.

From these glosses, it is not easy to obtain a clear picture about the origin and root meaning of μάρπτω. We could assume a relation between βράψαι and μάρπτω in view of the interpretation of the former as συλλαβεῖν 'to grasp', θηρεῦσαι 'to hunt down'. However, it remains unclear how other meanings like κρύπτειν or ἀφανίζειν are connected. It is also suspect that a slightly different root shape βρακ- is attested in the glosses βρακεῖν· συνιέναι and βράξαι· συλλαβεῖν, δακεῖν, καταπιεῖν (both Hsch.), with clearly similar meanings. The interchange of root-final velar and labiovelar could point to substrate origin (cf. Beekes, *EDG* xxvii–xxviii).[191] Moreover, in Homer there is a sigmatic aorist stem βροξ- 'to gulp down' (cf. also βρόξαι· ῥοφῆσαι 'to slurp' Hsch.),[192] where the meaning is clearly similar to some of the glosses on forms with -α- (e.g. ἐλάφυξεν, κατέφαγεν, καταπιεῖν). The variation in root vocalism may again point to Pre-Greek origin (*EDG* s.v. βρόξαι). This conclusion is perhaps corroborated by βρόγχος 'windpipe, throat' beside βράγχος 'hoarseness, angina', with the same variation in root vocalism, if we assume that both forms have the typical Pre-Greek prenasalization (cf. *EDG* s.vv.).

Thus, in view of the numerous problems with the reconstruction of μάρπτω and the lack of a decent etymology, it is completely uncertain whether this verb ever contained a syllabic liquid. Returning to the problematic forms μεμάποιεν and μαπέειν, the fact that they are attested exclusively in the pseudo-Hesiodic *Scutum* does not favor the idea that they contain a reflex of *r̥. Le Feuvre (2015: 161–162) has argued that the forms may have been created artificially, by *metri causa* deleting -ρ- in the expected but metrically problematic form μεμάρποιεν.

The noun μάρτυς, gen. μάρτυρος 'witness' has no good etymology. The main problem is posed by its morphological analysis: the surface form of the suffix

191 Differently Le Feuvre (2015: 158), who argues that the glosses with βρακ- are etymologically unrelated to βραπ-, μαρπ-.

192 καταβρόξειε (*Od.* 4.222), ἀναβρόξειε (*Od.* 12.240).

-(*t*)*ur*- is unparalleled in Greek. The connection with a root **smer*- 'to remember', which is otherwise attested only in Indo-Iranian, is difficult for this reason. Frisk (*GEW* s.v.) proposes to start from an abstract noun **már-tu*- 'testimony', which he recognizes as the original form in acc. sg. μάρτυν (Simon. *fr.* 11.1), dat. pl. μάρτυσι. This abstract would then have secondarily changed its stem to attested *mártur*- under the influence of a derived form **mártu-ro*-, perhaps starting from the gen. pl. μαρτύρων. Several steps in this reasoning need special pleading, as is stressed by Chantraine (*DELG*) and Beekes (*EDG*); the latter assumes a substrate word, following Furnée (1972: 296).[193]

The word for 'maiden', παρθένος (Hom.+), is a beloved object of etymological speculation. A fair number of scholars have embraced the reconstruction proposed by Klingenschmitt (1974), **pr̥-steno*- "die Brüste hervor habend" (i.e. "with protruding breasts").[194] Such a denomination would in my view have been completely inappropriate, and I view the etymology as a curiosum of the history of Indo-European scholarship. A more serious proposal was made by Hamp (1972): παρθένος would reflect **b^{h}r̥ǵ^{h}-u̯en*- 'having height' comparable to **b^{h}r̥ǵ^{h}-ént*- (Ved. *bṛhánt*- 'elevated') and **b^{h}r̥ǵ^{h}-n̥t-ih$_2$* (OIr. *Brigit*, Ved. *bṛhatī́* epithet of Uṣas). This form would have been remodeled to PGr. **p^{h}r̥k^{h}-u̯en-ó*- "the elevated one", which then developed to **p^{h}r̥k^{wh}enó*- > παρθένος (with accent retraction by Wheeler's Law). Semantically, this etymology is attractive because **b^{h}r̥ǵ^{h}-n̥t-ih$_2$* was the main epithet of the mythical maiden *par excellence*, PIE **h$_2$eus-ōs* 'Dawn'. However, the lack of good parallels for a suffix **-u̯en*- in Greek renders the idea uncertain. Moreover, it must be taken into account that the word appears in the form φαρθενος in Arcadian (*IG* V,2 262, Mantinea), that is, in a dialect where -αρ- cannot be the regular reflex of **r̥*. No conclusions can therefore be based on this etymon.

For πράμος, a *hapax* in Aristophanes, Frisk (*GEW* s.v.) 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' might be a shortened form of πρόμαχος 'id.'.

The adjective ῥαδινός 'slender, tapeable', of branches or young women (Hom.+), Aeol. βράδινος 'id.', Hom. ῥοδανός 'id.' (of reeds).[195] The suffixation

193 Beekes' argument that a pre-form **smr̥tu*- would have to vocalize as **smratu*- obviously cannot be used as an indication of Pre-Greek origin.

194 Klingenschmitt has to assume that the preposition παρ- was reintroduced in the compound, because in his view unaccented word-medial **r̥* would have to yield -ρα-.

195 The *hapax* ῥοδανόν has a v.l. ῥαδαλόν, see West (2001: 133 ff.). It is uncertain whether ῥάδαμνος 'branch' (cf. also ὀρόδμανος) is related to ῥοδανός. If so, one might envisage an earlier form **ῥάδανος*, in which the ending was replaced by -αμνος after a semantically close

-ινός calls to mind 'Caland' formations like πυκινός 'dense' beside πυκνός and πυκι-, and also ἀδινός 'thick, full, rich' beside ἀδρός (*sh_2d-). However, the difference between ῥαδινός and ῥοδανός is difficult to explain within Greek. Moreover, the root ῥαδ- has no clear-cut etymology: the connection with the *hapax* Ved. *ávradanta* 'were weakened' (mentioned by Mayrhofer s.v. *VRAD*) cannot be relied upon. 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 *$\underset{\circ}{u}rak$-, given the existence of glosses with βρακ- in Hesychius. 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, *EWAia* s.v. *VRAŚC*) is uncertain. Unless one wishes to follow the speculations discussed by Frisk (*GEW* s.v. ῥάκος), there is no indication that the word is inherited, nor that it ever contained *r.

Ionic-Attic has several related words for 'rope, cord': σπάρτον (Hom., Hdt., Th. etc.), σπάρτη (Ar.), σπαρτίον (X.+). They can 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.*+). The suffixes and ablaut are compatible with an inherited word *spr-*to*-. Given that the paradigms of σπάρτον (etc.) are non-ablauting, that no corresponding verbal root is attested in Greek, and that the meanings are clearly lexicalized, there is no reason to assume that the vocalism of σπάρτον was influenced by a full grade form. In this respect, the case would be different from ἄσπαρτος 'unsown' and σπαρνός 'rare', which may both have been influenced by the full grade of σπείρω and/or the zero grade of forms like ἐσπάρην, ἔσπαρμαι. However, the fact that no clear cognates are attested in other Indo-European languages should make us cautious regarding this example.[196]

The group of στραβός 'squinting', στρεβλός 'bent, twisted, curled, shrewd' (cf. στράβηλος 'wild olive tree') must primarily be compared with στρόβος 'whirl',

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lexeme like θάμνος 'thicket' or ῥάμνος 'thorny shrub'. Of course, this remains pure speculation.

196 It is conceivable 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.

στρόμβος 'id.'. Since the root-final stop has pre-nasalization, the etymon is most probably Pre-Greek (cf. *EDG* s.v.).

The gloss τετάρπετο· ἐτρέπετο (Hsch.) is corrected in Latte's edition to τετάρπετο· ἐτέρπετο (i.e. derived from τέρπομαι 'to enjoy'). Since the reduplicated aorist τετάρπεσθαι 'to enjoy' is attested in Homer, Latte's conjecture is attractive.

The noun τράχηλος 'neck, throat' (Hdt., E.+) is usually connected with the root of τρέχω 'to run, turn' (originally of a wheel). The semantic development 'which turns/runs' > 'pivot' > 'neck' has good parallels (cf. Lith. *kãklas* 'neck' from PIE **kʷekʷlo-* 'wheel, circle'). If this identification of the root is correct,[197] the form is likely to be the substantivization of an adjective in -λος that was formed to a verb in -άω or -έω (i.e. *τραχάω or *τραχέω). Although these exact verbs are not attested, we may note the existence of closely parallel formations τροχάω 'to revolve' (of the stars, Arat.) and τρωχάω 'to run, gallop' (Hom.+). In a base verb *τραχάω or *τραχέω 'to turn round, run in circles', the reflex of **r̥* may well have been influenced by the vowel slot of τρέχω (or τροχός).

197 I no longer consider it necessary to doubt that τράχηλος is related to τρέχω (as in Van Beek 2013; cf. also the doubts in Chantraine 1933: 242). Beekes (*EDG* s.v. τράχηλος) follows Furnée (1972: 115 n. 5) in assuming a substrate word because of possible evidence for a Pre-Greek suffix -ηλο-; this is jumping to conclusions.

CHAPTER 10

The Reflexes of *$\underset{\circ}{l}$

Introduction

This chapter discusses the developments affecting the lateral liquid when it served as a syllabic nucleus. There can be no doubt that the Proto-Ionic reflex of *$\underset{\circ}{l}$ was *a*-colored. The mainstream view is that -λα- is the regular outcome; the main aim of this chapter is to examine whether *$\underset{\circ}{l}$ > -αλ- can be excluded, still keeping in mind that there was an early vocalization to -αλ- in some environments (e.g. before laryngeal plus vowel, cf. section 1.2.1).

The fact that there is much less evidence for *$\underset{\circ}{l}$ than for *$\underset{\circ}{r}$ makes it difficult to draw clear-cut conclusions. As we will see, many potential examples are inconclusive for various reasons: the etymology is not compelling (section 10.1), the full grade vowel slot may have been levelled (section 10.2), or *$\underset{\circ}{l}$ is not reflected directly for another reason (section 10.3). A number of strong pieces of evidence for *$\underset{\circ}{l}$ > -λα- are discussed in section 10.4, and the possibility of a special development *$\underset{\circ}{l}$ > -αλ- before nasals is examined in section 10.5. Finally, the scanty evidence from other dialects is treated in section 10.6.

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 and 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.) and λαπάρη 'flank of the body' (*Il.*+);
– πλαδαρός 'humid, damp; flaccid' (Hp., A.R.), πλαδάω 'to be flaccid' (Hp.+);
– φλαδεῖν 'to be rent' (*hapax*, A. *Choe*. 28); φλάω 'to bruise, crush' (Pi.+).
For discussion of these words, I refer to the standard etymological dictionaries.

Various middle perfect forms are analogical creations on the basis of present or aorist stems with a full grade root, e.g. ἐπὶ … ἐτέταλτο (Hom.) to ἐπιτέλλω 'to

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enjoin, give a command' and ἔσταλμαι (*Scut.*+) to στέλλω 'to prepare, equip'. An analogical origin of ἐτέταλτο follows from the fact that τέλλω etymologically belongs to a root ending in a laryngeal, *$telh_2$- 'lift'.

In other cases, discussed in alphabetical order in the following subsections, there are serious reasons to doubt a reconstruction with *$l̥$ that has been proposed by previous scholars.

10.1.1 αὖλαξ *and* ἄλοξ

These words are attested in the acc. sg. as αὔλακα 'furrow' (Hes., Pi.+), ἄλοκα (trag.), ὦλκα (Hom.).[1] The traditional etymology (*GEW* s.v. ἄλοξ, *LIV*^{2} s.v. *$h_2u̯elk$-) derives these words from the same root as Lith. *vil̃kti* (1sg. *velkù*) 'to draw', OCS 1sg. *vlěkǫ* 'to drag', Av. *varək*- 'to draw', which was reconstructed by Schindler (1972) as *$h_2u̯elk$- (with *h_2- based on the Greek noun). Assuming that Hom. ὦλκα continues *ἄϝολκα, this form has been derived, together with αὔλακα, from a Proto-Greek ablauting paradigm containing the forms acc. sg. *$au̯olk$-$m̥$, gen. sg. *$au̯l̥k$-*os*. This is theoretically possible, but it would remain unclear why ἄλοκα, attested in the tragedians with an alleged Aeolic vocalization to -λο-, has no trace of digamma (cf. the preserved trace in Hom. ταλαύρινος < *$tala$-$u̯rīnos$). To assume that ἄλοκ- is a reshaping of *ἄολκ- (*GEW*, l.c.) is unmotivated. Moreover, various dialectal by-forms are attested: Dor. εὐλάκᾱ and the glosses αὐλάχα and ὄλοκες in Hsch. Since it is not possible to reduce these to one proto-form, the word is most probably a borrowing: Beekes (*EDG* q.v.) views it as Pre-Greek in view of the interchanges κ/χ and word-initial α/ο- attested in the Hesychius glosses.[2]

10.1.2 γάλα

Beside γάλα, γάλακτος (*Il.*+) a few by-forms with a different root shape are found: γλακτοφάγος 'who live on dairy' (*Il.* 13.6), name of a Scythian people (Hes. fr. 151), γλάγος n. 'milk' (*Il.* 2.471 = 16.643, Pi. fr. 106.4), περιγλαγής 'overflowing with milk' (*Il.* 16.642).[3] There are also some glosses of unclear interpretation: κλάγος· γάλα. Κρῆτες; γλακῶντες· μεστοὶ γάλακτος 'full of milk', and γλακκόν·

1 The nom. sg. is not attested in archaic and classical Greek.

2 Schrijver (2019: 369) tentatively proposes to identify the source from which αὖλαξ and relatives were borrowed as Minoan (Lin. A) *au-re* 'pig'. For the semantic connection between 'pig' and 'plow' he draws attention to OIr. *soc* 'pig's snout; plowshare' as well as French *soc* 'plow', which was borrowed from this Celtic word for 'pig', PClt. **sukko*-, **sukkā*-.

3 After the classical period, γλάγος is again found in Hellenistic hexameter poetry (Nic., Mosch.), probably in imitation of Homer. Callimachus has γάλακι (*Hec.* 1.4.4); Lycophron (4th c. tragedian) attests thematic (-)γλαγο- in compounds; and πολυγλαγής appears in Aratus (*Phaen.* 1.1100).

γαλαθηνόν 'sucking milk' (all Hsch.). The variation between γαλακτ- and γλακτ- can be explained as originating in the monosyllabic nominative **glakt* > **gla* > γάλα.[4] The question is, then, whether the Greek forms with γλα- must be derived from a pre-form with **ḷ*.

Unfortunately, it is quite uncertain how the 'milk'-word is to be reconstructed for PIE, and if it can be reconstructed at all. The most obvious *comparandum* is Lat. *lac, lactis* 'milk', which could be the outcome of a pre-form **glgt-* if we assume the validity of Schrijver's rule **CRDC-* > pre-Lat. **CRaDC-*.[5] A second possible cognate is Class. Arm. *kaŧcʿ* 'milk', which might reflect a nom. **glKt-s*.[6] Taken together, these words for 'milk' could point to a pre-form **glKt-* (Armenian excludes a form with **dl-*). Finally, it has been suggested that this **glgt-* was derived from the verbal root of Hitt. *kalank-ⁱ* 'to soothe, appease' (cf. also *galaktar* 'a soothing substance').[7] Indeed, it is conceivable that milk, as the nourishment given to infants, was referred to as a soothing substance.[8] Problematic, however, are the structure of the reconstructed root **glg-* with two *mediae*, and the fact that word-initial **gl-* should have been retained in Latin. The first problem could be addressed by reconstructing the root as **gleǵʰ-*, but in this case the Latin vocalism and the root shape of Greek γλάγος, περιγλαγής would remain unexplained. The second problem could be resolved by reconstructing a different *anlaut* (**dl-* or **ml-*), or by assuming a dissimilation **glakt-* > Lat. *lact-*.[9] In view of these problems, it is best not to base any conclusions regarding the development of **ḷ* on the word for 'milk'.

10.1.3 κλαγγή

The noun κλαγγή 'piercing sound, cry' (*Il.*+) is also attested as a root noun (dat. sg.) κλαγγί (Ibyc.), and has given rise to a derived verb κλάζω < **klang-i̯e/o-*, aor. κλάγξαι. Latin *clangō* 'to cry' (pres. only) has been compared, but if the word is onomatopoeic, it would be unwise to use it as evidence, because in that case the

4 A parallel is γυνή, Boeot. βανά 'woman', both from PGr. **gʷnā* (cf. Beekes, *EDG* s.v. γάλα).

5 Schrijver (1991: 479–480).

6 Weitenberg (1985), also *apud* Kortlandt (2003: 65). Weitenberg derives the dialectial form *katʿn* from the acc. sg. **glKt-m*.

7 Puhvel, *HED* s.v. *kala(n)k-, gala(n)k-*. 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.', and reconstructs the root as **gleǵʰ-* because of the non-acute root in Baltic.

8 Since drugs are often prepared with milk, another idea could be that γάλα originally denoted milk mixed with drugs.

9 For the latter assumption, see Meiser (1998: 114) and *EDL* s.v. *lac*.

original form may have contained **a* rather than **l̥*.[10] Another possibly related form within Greek is the intensive perfect κέκληγα (Hom.+), with the aor. κλαγεῖν (B., E.).[11] Nothing in this lemma decisively points to a pre-form with **l̥*.

10.1.4 λάσιος

The adjective λάσιος (*Il.*+) means 'hairy, shaggy' (of animals, of the human chest); 'overgrown, wooded' (of land), cf. λασιαύχην 'with hairy neck' (*h. Herm.*).[12] For the first meaning, the etymological dictionaries compare OIr. *folt* 'hair' < PClt. **u̯olto-*; for the second, a Germanic word for 'uncultivated field; wood' (G. *Wald*, OE *weald* < **u̯óltu-*).[13] In view of these, λάσιος has been derived from an inherited noun PIE **u̯l̥to-* with a suffix -ιος. There are, however, several issues with this reconstruction: we are dealing with a root etymology, and the zero grade is only attested in Greek. Moreover, the Balto-Slavic word for 'panicle' (e.g. Lith. *váltis* f.), whose acute root points to **u̯olH-* and thereby excludes a comparison with λάσιος, is probably related to the Germanic word.[14] It would therefore be unwise to draw conclusions concerning **l̥* from λάσιος.

10.1.5 λαγαρός *and* λαγωός

The adjective λαγαρός 'hollow, sunken; thin, lean' (Ion.-Att.; epigraphically at Cos) is clearly related within Greek to λαγών, attested mostly in the plural λαγόνες 'the flanks of an animal' ("sunken spots"). Furthermore, it is attractive to reconstruct λαγωός 'hare' (Hom.) as PGr. **slag-ou̯s-ó-* or **sl̥g-ou̯s-ó-* "slack-eared [animal]" (cf. Peters 1980: 59). Outside of Greek, these forms are to be compared primarily with the Germanic group of ON *slakr*, OE *slæk* 'weak, floppy' < PGmc. **slaka-* < PIE **sloǵo-*.[15]

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10 For an extensive discussion of this word group, cf. Tichy (1983: 41–48). The Germanic group of ON *hlakka* 'to cry; rejoice' is probably related to **hlah(j)an-* 'to laugh' (cf. *EDPG* s.v. **hlakkōn-*) and has nothing to do with κλαγγή, unless in the sense that both are onomatopoeic.

11 One could assume that κέκληγα derives from a root **kleh₂g-* and is unrelated to κλαγγή.

12 Bader (see *DELG*, Supp. q.v.) 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'. Bader's reconstruction is questionable, however, because she has to assume an irregular laryngeal metathesis.

13 For these, and possible Slavic cognates, see *GEW*, *DELG* and *EDG* s.v. λάσιος.

14 The reconstruction of this material is further complicated by the existence of another word for 'hair': **u̯olḱo-*, attested in Skt. *válśa-* 'sprout, twig', Av. *varəsa-* 'hair (on the head)', Ru. *vólos* 'hair', etc. The roots **u̯olH-* and **u̯olḱ-* may have influenced each other.

15 See *EDPG* s.v. **slaka-*, where it is proposed that OIr. *lacc* 'slack' (which is clearly related to the Germanic adjective) could reflect **slg-no-*.

The further reconstruction of these words is muddled by the multitude of potential cognate forms. First of all, within Greek etymological dictionaries compare λαγαρός with λάγνος 'lustful, horny' (Arist.+) and its derivations λαγνεύω 'to have intercourse', λαγνεία 'intercourse'.[16] However, the semantic connection is weak; in my view, λάγνος is better derived from the root PIE **selǵ-* 'to let go' (Ved. *sarj* 'release, set free', Av. *harəz*) together with Cretan λαγαιω, aor. λαγασαι 'to release' and λαγάσσαι· ἀφεῖναι 'to let go' (Hsch. λ 39).[17] This root has a different full grade compared to the Germanic words reflecting **slaka-* (and hence also λαγαρός), suggesting that the latter belong to a different root **sleg-* 'weak, slack'.

The reconstruction of λαγαρός is complicated further by the existence of words in other languages with more or less similar forms, but diverging semantics:

– Lat. *laxus* 'spacious, wide, loose' with *laxō, -āre* 'to extend; relax; release' (reflecting pre-Italic **sl̥g-s-o-* by Schrijver's rule **RDC* > *RaDC*),[18]
– Lat. *langueō* 'to be faint, be languid';
– Ved. *ślakṣṇá-* 'smooth, slippery, soft' (AV+), MoP *lašn* 'smooth';[19]
– Toch. A *slākkär* 'sad', B *slakkare* 'darting'.

Although the Tocharian forms have a similar appearance to Greek λαγαρός, they are probably unrelated for semantic reasons.[20] In my view, the appurtenance of the Indo-Iranian words for 'smooth' is uncertain in view of the considerable semantic difference. On the other hand, I would propose to derive at least Lat. *laxus* from **selǵ-* 'to let go', because the derived verb *laxō, -āre* means 'to relax; release' (cf. Cret. λαγασαι and Ved. *sarj*). Lat. *langueō*, however, is semantically close not to *laxus*, but to the Greek verbs λαγγάζω 'to give way, yield' and λογγάζω 'to loiter, waste time', ascribed to Aeschylus, Aristophanes and Antiphanes in the lexicographical tradition.[21] In λογγάζω one might even see evidence for a

16 See *GEW*, *DELG*, and *EDG*, all s.v. λαγαίω.

17 See also Van Beek (2018: 59–60 with n. 72 and 73), where I have also suggested that ἀσελγής 'brutal' reflects PGr. **ad-selges-*, containing a trace of the PIE preverb **h₂ed* and of an *e*-grade verbal stem based on PIE **selǵ-*.

18 *EDL* s.v. *laxus*. Schrijver himself did not explain *laxus* with his rule (1991: 136 and 165), as he followed Lubotsky's proposal that the root contained a laryngeal.

19 Connected by Mayrhofer (*EWAia* q.v.) with most of the words listed above: λαγαρός, λαγαίω, Lat. *laxus*, ON *slakr*.

20 Cf. *DTB* s.v. *slakkare* and *EDL* s.v. *langueō*.

21 Cf. λογγάσαι· ἐνδιατρῖψαι, στραγγεύεσθαι 'to waste time, loiter' (Hsch. λ 1192), λογγάσω· στραγγεύσομαι 'loiter' (Phot. λ 370 = A. fr. 112); λογγάζειν· τὸ διαδιδράσκειν τὸ ἔργον 'to shirk' (Phryn., = Ar. fr. 811; according to Phrynichus, in the passage in question the subject of λογγάζειν are horses pretending to have lame legs); λαγγάζει· ἀντὶ τοῦ ἐνδίδωσιν 'gives way, yields'. Ἀντιφάνης Ἀντερώσῃ (= Antiph. fr. 37, in Antiatticist lexica).

different root with an internal nasal (perhaps to be connected with Lat. *longus* 'long', Goth. *laggs* 'id.').[22] It is therefore attractive to reconstruct Lat. *laxus* as **sl̥ǵ-s-o-* and to disconnect it from *langueō* etymologically.[23]

It is possible to argue that λαγαρός 'hollow, lean' and λαγωός 'hare' must be compared primarily with PGmc. **slaka-* 'weak, floppy', reflecting a zero grade **sl̥g-*, and that forms with an internal nasal (λαγγάζω, Lat. *langueō*) are to be derived from a different root. On the other hand, from a semantic perspective this would be arbitrary. Thus, no firm conclusions can be based on λαγαρός, λαγόνες and λαγωός, as too many problems are involved in the reconstruction of the root. On the other hand, λάγνος 'horny' (and derivatives) and Cretan λαγαιω, λαγασαι 'to release' derive from PIE **selǵ-* and are strong pieces of evidence. On these forms, see further sections 10.4.5 and 10.6.1.

10.1.6 λάχνη

The noun λάχνη 'frizzy or curly hair' (e.g. of a sheep's fleece or the human chest) is traditionally reconstructed as PGr. **u̯l̥k-snā-*.[24] A root **u̯olḱ-* 'hair' is indeed attested in Balto-Slavic and Indo-Iranian (e.g. Ru. *vólos* 'hair'. Ved. *válśa-* m. 'sprout, twig'), but the lack of precise cognate formations is disturbing (cf. above on λάσιος), and assuming a suffix *-snā-* is an emergency measure. In fact, λάχνη can be plausibly connected within Greek with the adjective λάχεια (f.) 'wooded' (Hom.), λαχύ-φλοιος 'with a hairy rind' (v.l. in Nic. *Al.* 269), and perhaps ἀμφιλαχαίνω 'to weed' (*Od.*). The etymology of this second group has been extensively discussed by Lamberterie (1975; 1990: 732–742), who plausibly compares λόχος 'ambush' < *'bush, thicket', and relates -νη in λάχνη to the suffix -νο- in θάμνος 'thicket', πυκνός 'compact, close, thick'. Against the reconstruction λάχνη < **u̯l̥k-snā-*, he argues that an initial digamma is excluded by the Homeric attestations (1990: 733), and concludes that the Greek evidence points to a root λαχ- / λοχ- of unknown origin (1990: 741–742); it is therefore impossible to reconstruct a common PIE pre-form.

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22 Beekes (*EDG* s.v. λαγγάζω and λαγαίω) views the internal nasal of λαγγ- beside the root λαγ- in λαγαρός as well as λαγαίω as a substrate phenomenon.

23 A recent treatment of the semantics and etymology of Lat. *laxus* is Höfler 2017, as I discovered when finalizing the manuscript of this book. Höfler and I converge in criticizing the assumed etymological relation between *laxus* (*laxāre*) and *langueō*, but in my view he is mistaken in rejecting the reconstruction **sl̥ǵ-s-o-* and the connection with PIE **selǵ-* 'to let go'. Höfler's own reconstruction **sl̥k-s-o-* to a hypothetical PIE root **slek-* is subject to two problems: the evidence for such a root is very marginal, and **sl̥k-s-o-* does not actually yield **lakso-*. Höfler resorts to positing a pre-form **sl̥ₔk-s-o-* with *shwa secundum*, but he gives no clear morphological motivation for this.

24 Cf. *IEW* s.v. **u̯el-* 4.

10.1.7 *μαλθακός*

The adjective μαλθακός 'soft, mild, weak' (class.), Aeol. μόλθακος (Alc.), is supposed to be related within Greek to μάλθη (Hippon., Crat., S.), μάλθᾰ (Ar. *fr.* 157). The last-mentioned word is a technical term for a mixture of wax and pitch used for caulking ships, but it may also denote wax (S. *Ichn.* 140). From a semantic point of view, this comparison could work if we start from a basic meaning *'soft stuff', but from a morphological perspective it is less evident. There is a derivative μάλθων (ascribed to Socrates by Stobaeus 4.15.16) which perhaps means "softie", as opposed to ἐργάτης in the sense of a hard-working man; this may indeed imply that -ακος was later added as a suffix. However, an adjectival suffix -ακος is not productive, and although influence of μαλακός 'soft' on μαλθακός is conceivable, this would be an additional assumption.

The meanings attested for μαλθακός are diverse. It qualifies nouns referring to physical objects like soft soil, cushions, the skin, limbs, etc. More often, however, the word is used metaphorically—either negatively (e.g. cowardly warriors) or positively (e.g. soothing words, mild sleep). In view of this, the often cited connection with the Germanic adjective for 'mild', e.g. OHG *milti* 'merciful', Goth. **unmilds*, is semantically quite attractive.[25] However, in view of the problems just discussed, this root etymology is not more than a fairly remote possibility.[26] Finally, it is not certain that the dialectal difference between Ion.-Att. μαλθακός and Aeol. μόλθακος must be ascribed to a syllabic liquid: compare the dialectal distribution of καθαρός and κοθαρός 'pure' (section 9.7.2).

10.1.8 *πλάγιος and πλάζω*

The adjective πλάγιος (Pi.+) 'athwart, oblique, sideways' occurs in substantivized form as τὰ πλάγια 'the flanks/sides', of the body but especially of an army (Hdt., Th.+). It has no established Indo-European etymology, and accordingly there is no unambiguous evidence that πλαγ- developed from *$p\underset{\circ}{l}g$-. There are two possible cognates within Greek: the root πλαγγ- in πλάζω 'to go astray', and on the other hand Hom. ἔκπαγλος 'terrible, outrageous' (if this was dissimilated from *-*plag-lo*-).

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25 For this comparison and other uncertain suggestions, see *NIL* 485 f. The further connection of this alleged PIE *$meld^h$- with Ved. *márdhati* 'to neglect, abandon' is semantically not evident (cf. the remarks in *EWAia* s.v. *mardh*); morphologically, *márdhati* could be viewed as an intransitive present in *-d^he/o- of the type πλήθω to the root *mer- 'disappear' (cf. also the extensions Ved. *marṣ* 'forget' and *marḍ* 'be merciful').

26 Kroonen (*EDPG* s.v. **melda*-) now reconstructs the Germanic adjective as PIE *$melh_2$-*tó*-, comparing Skt. *mlāta*- 'soft' and OIr. *mláith* 'id.'. In my view, the *Schwebeablaut* speaks against this etymology; moreover, I would reconstruct the PIE root for 'crush' as *$melh_1$- (see chapter 4), although this does not *per se* affect the connection.

The verb πλάζω 'to turn sth. away from, thwart, make deviate' (act.), 'to go astray, waver' (mid.-pass.) is the epic and poetic counterpart of the prose form πλανάομαι. Frisk (*GEW* s.v.) compared this to Lat. *plangō* (*plānxi*, *plānctus*) 'to beat, strike; mourn', assuming that the Greek meaning 'to drive astray' developed from 'to beat off track'.[27] However, the Greek *comparandum* to Lat. *plangō* is not πλάζω but πλήσσω, which has same the duality of meanings, 'to beat' and 'to beat the chest, mourn' (cf. Goth. *faiflokun* 3pl. 'beat the chest'). Frisk explains the root-internal nasal of the aorist ἐπλάγχθη as imported from the present stem, but this assumption is gratuitous, as a root πλαγγ- underlies all stems of this verb (including πλάζω < **plang-i̯e/o-*, where the nasal disappeared by regular sound change). One could assume that an infixed present stem **plh$_2$-n-g-* developed first to **plāng-*, and then to the attested *plang-* by Osthoff's Law. However, in view of the semantic gap between 'to beat' and 'to deviate', this etymology remains uncertain.

A better *comparandum* for some of the Greek words is a North-Germanic verb meaning 'to swerve': ON *flakka* 'to rove about', Far. *flakka* 'to roam', which is derived by Kroonen from an *o*-grade iterative PGmc. **plog-neh$_2$-* (*EDPG* s.v. **flakkōn-*). It is difficult to include πλάζω in this comparison in view of its root-internal nasal, but πλάγιος 'athwart' could constitute a more serious *comparandum* for the Germanic words.

There is, however, a second possibility: the interchanges between the various roots meaning 'to go astray' *et sim.* can be taken as reflexes of a substrate origin.[28] The attested root shapes are:

– **plang-* > πλάζω, ἐπλάγχθη 'to drive off course';
– **plag-* > πλάγιος 'athwart'; ἔκπαγλος 'outrageous'
– **a-m(b)lak-* > Att. ἀμπλακεῖν, ἀμβλακεῖν 'to err' (trag.);
– **mlāk-* > βλάξ, gen. βλᾱκός 'stolid, stupid'.

As there is no way to derive all these forms from an Indo-European root, and in view of the absence of clear cognates, it is a distinct possibility that they were all borrowed. Therefore, I will not use πλάγιος and πλάζω in this discussion.

10.1.9 πλάσσω

The verb πλάσσω 'to knead; mold, shape, form' (Hes.+) has no ascertained etymological *comparanda* (cf. *GEW*, *DELG* s.v.), and Beekes (*EDG*) even considers

27 This judgement is taken over by de Vaan (*EDL* s.v.).

28 See Beekes (*EDG* s.vv. ἀμπλακίσκω, πλάγιος, and πλάζω), who adopted my suggestion to reconstruct a Pre-Greek verbal root **(a)^{m}pla^{ŋ}k-* on the basis of these comparisons. I also included πλάνη 'errand' in the comparison, assuming a root-final nasal velar **-ŋ-* in the substrate language, but that is much more hypothetical.

a Pre-Greek origin. That the root ended in -θ- is shown by the compound κοροπλάθος 'modeler of figurines' (Pl., Isoc.) and πλάθανον 'cake mold' (Theoc.). Compounds such as καταπλάσσω 'to smear, plaster over' (Hdt., Ar.+) illustrate that the connection with malleable materials such as dough and plaster is old.

The non-ablauting root πλαθ- in combination with a *yod*-present suggests that the verb is denominative. I would like to propose an etymological connection with the PIE root *b^hlend^h- 'to mingle; become turbid' which is reflected in Germanic (Goth. *blandan* (*sik*) 'to mix, mingle', ON *blanda* 'to blend, mix', cf. *EDPG* s.v. **blandan*-) as well as in Balto-Slavic (cf. notably Lith. *blę̃sti* (1sg. *blendžiù*) 'to sleep, stir flour into soup, talk nonsense, become cloudy' < *b^hlend^h-$\underline{i}$e/o-). The Germanic strong verb is suggestive of an Indo-European origin.

If we start from an original meaning 'to mix flour (dust, sand) through a liquid; make turbid' (as in the meaning 'stir flour into soup' of Lith. *blę̃sti*), we may suppose that an early form of Greek had reflexes of nominal derivatives such as *$b^hl\underline{n}d^h$-*tó*- (cf. πλαστός) or *$b^hl\underline{n}d^h$-*éh*$_2$- (cf. the form πλαθά 'modelled figure' mentioned as Doric in Plutarch) denoting a dough or wall-plaster. Starting from such a form it would be possible to create a denominative verb *$b^hl\underline{n}d^h$-$\underline{i}$e/o- denoting the process of working dough or plaster, i.e. 'to knead; smear'.

A problem for this reconstruction is the fact that Grassmann's Law has applied in πλάσσω, πλαστός, πλάσμα and all other derivatives (instead of expected ˣφλάσσω, ˣφλαστός, ˣφλάσμα, etc.). By itself, a deaspirated word-initial stop spreading through all derivatives containing the root would not be shocking: cf. πιστός, πίστις, πισυνός with the root of πείθομαι 'to give ear to, obey', and paradigmatic forms like ἔπεισα and πέπεισμαι. However, in that case there was a clear basis of forms where Grassmann's Law did operate: the verbal stems πείθω, πείθομαι, ἐπιθόμην, as well as the old perfect πέποιθα.

This issue could be resolved by assuming that the denominative verb was derived from a nominal form such as *πλαθή (cf. Dor. πλαθά mentioned above) after Grassmann's Law had applied there. A comparable case seems to be πεῖσμα n. 'rope': its root no doubt reflects PIE *b^hend^h- 'to bind', but the verb is absent from Greek. In fact, this form suggests another possibility: Grassmann's Law may not have operated in forms where -θμ- was preserved relatively long, such as *πεφλαθμένος > *πεπλαθμένος (later >(>) πεπλασμένος) or *φλάθμα > *πλάθμα (later >(>) πλάσμα). If one is prepared to accept this possibility, it is attractive to connect πλάσσω with the root *b^hlend^h- in the way just described.

10.1.10 *σκαλμός and σκάλμη*

σκαλμός m. 'thole, i.e. the pin by which the oar was fastened to the τρωπητήρ' (*h. Hom.*, A.+), σκάλμη 'a type of knife or dagger' (S. *fr.* 620, Hsch.). A possi-

ble connection with PGmc. **skalma-*, **skalmō-* as attested in various concrete meanings (e.g. ON *skǫlm* 'tip of a fork', OHG *scalm* 'canoe') is mentioned by *DELG* and *GEW* (both s.v. σκαλμός). Frisk suggests that the Greek words have an identical origin with these Germanic words (i.e. PIE **skol-mo-*, **skol-meh$_2$-*), but that their vocalism was secondarily influenced by that of the verb σκάλλω 'to hoe, stir up' in a more original meaning such as 'to split off' ("hat sich nach σκάλλω gerichtet, u. zw. in einem ursprünglicheren Sinn von 'spalten' o. ä."). Chantraine (*DELG* s.v. σκαλμός) is slightly more vague, but agrees that the vocalism may have been influenced by σκάλλω. Beekes (*EDG* s.v. σκάλλω) apparently views σκαλμός and σκάλμη as inner-Greek derivatives of σκάλλω and does not mention the possibility of comparing the Germanic words.

In any case, since the PIE root **skelH-* 'split, slit' is now reconstructed with a laryngeal on account of Lith. *skélti* 'to split; strike fire', Hitt. *iškalla-^{i}* 'to slit, split' (cf. Kloekhorst, *EDHIL* s.v. *iškalla-^{i}*, who argues that the laryngeal was **h$_2$* or **h$_3$*), the root of σκαλμός and σκάλλω cannot reflect a pre-form with **l̥* (*pace LIV*^{2} s.v. **skel-*, where σκαλμός is cited as the main reason to posit a laryngeal-less root). Beekes (*EDG* s.v. σκάλλω) envisages whether σκάλλω may reflect an inherited **skl̥H-i̯e/o-* (with loss of laryngeal by the so-called 'Pinault Effect') or a nasal present **skl̥-neH-* (cf. βάλλω, on which see section 10.5.1). In my view, it is more likely that σκάλλω is a denominative, cf. forms like σκαλίς 'pickaxe' (Att. inscr., 4th c. BCE) and the related denominative σκαλεύω 'to stir; poke (the fire)' (Ar.+), forms in which σκαλ- could well reflect a prevocalic zero grade **skl̥H-*. Thus, σκάλλω may reflect a denominative PGr. **skal-i̯e/o-*.

Finally, note that σκαλμός has also been compared to PGmc. **helman-* > OE *helma* 'rudder' (E. *helm*), ON *hjalm-vǫlr* 'id.', which is semantically very close. However, this connection is uncertain, as the Germanic words lack the initial *s-* and could instead be connected with the word for 'stalk, reed', **ḱlh$_2$-m-* (Kroonen 2011: 162–163, *EDPG* s.v. **helman-*).

10.1.11 σπλάγχνα

σπλάγχνα (n. pl.) 'entrails, viscera' (Hom.+) refers 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*). This word is clearly related to YAv. *spərəzan-* m. 'spleen', nom. sg. *spərəza*, 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:[29] the

29 "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, *GEW* s.v. σπλήν).

lack of a root-final velar in Greek σπλήν is mostly assumed to be due to taboo deformations.[30]

In Frisk's view, σπλάγχνα stands for earlier *σπλάχνα, with a secondary internal nasal.[31] This collective would reflect a PIE *Transponat* *$spl̥ǵ^h$-*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 probably contains the weak stem of the PIE paradigm, e.g. gen. sg. *$spl̥ǵ^h$-*n*-*ós*, and is likely to contain a regular vocalization to -λα-.[32] I see no particular reason to assume that the vowel slot of σπλάγχνα was influenced by that of σπλήν.[33] On the other hand, it would be unwise to base any conclusions on σπλάγχνα, because most of its cognates in other IE languages have undergone irregular deformations.

10.1.12 *φαλλός*

φαλλός m. 'penis' is attested in the classical language from Hdt. and Ar. onwards. There are possible cognate forms in two other branches: in Celtic we find OIr. *ball* 'member', *ball ferda* gl. membrum virile < PClt. **balno-*, and possibly also W. *balleg* 'sack, purse'. Latin has *follis* 'bag; testicles', which may derive from *b^holni- or *$b^hl̥ni$-. It is possible to posit a pre-form PIE *$b^hl̥nó$-, which would account for Gr. φαλλός as well as the Celtic words.[34] While it is true that the word lies in a sphere of taboo, there is no principled reason to doubt the validity of this comparison. However, Greek also has another synonymous word, φάλης -ητος (also φαλῆς -ῆτος) m. 'penis'. Since there is no obvious way to derive this variant from a pre-form in *$b^hl̥$-, it is doubtful whether φαλλός must reflect *$b^hl̥nó$-.[35]

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30 However, note the proposal of Puhvel (1999: 74) to derive φρήν and σπλήν from *$b^hreǵ^h$-*n*-*s* and *$spleǵ^h$-*n*-*s*, respectively, by a regular development PIE *-*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*).

31 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.).

32 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').

33 Cf. *DELG* (s.v. σπλήν): "il n'est pas sûr que les Grecs aient senti la parenté entre σπλήν et σπλάγχνα."

34 Cf. *EDPC* s.v. **ballo-*.

35 In the opinion of Beekes (*EDG* s.v.), φαλλός could be a substrate word.

10.2 Cases of -λα- and -αλ- Influenced by a Full Grade Form

The outcome of a number of forms with *$\underline{l}$ 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.

10.2.1 *ἔπαλπνος, ἁρπαλέος and ἄλπνιστος*

A root shape ἀλπ- is found in the following forms:

– ἔπαλπνος, only in Pi. *Pyth*. 8.84 (modifying νόστος), glossed as 'cheerful, happy' by *LSJ* but possibly rather meaning 'hoped for'; the adjective seems derived from the verb ἐπέλπομαι 'to hope'.

– ἄλπνιστος, a superlative 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 an appellative ἄλπιστον. This is attractive, because Pindar's phrase ἄωτον … τὸν ἄλπνιστον is directly mirrored in the Aeschylean passage: Περσᾶν τὸν ἄωτον, τὸν σὸν πιστὸν πάντ' ὀφθαλμόν, μυρία μυρία πεμπαστάν, Βατανώχου παῖδ' ἄλπιστον (…).[36] In my view, the -ν- in Pindar's ἄλπνιστον could be caused by an attempt (by scholiasts or grammarians?) to explicitly connect ἄλπιστον to ἔπαλπνος.

– ἁρπαλέος 'with pleasure' (*Od*.), probably with dissimilation λ…λ > ρ…λ and folk-etymological aspiration taken from ἁρπάζω 'to rob; snatch away'. Indeed, the meaning of ἁρπαλέος may have been influenced by that of ἁρπάζω already in Homer, where ἁρπαλέος occurs three times.[37] The non-dissimilated form is attested in the gloss ἀλπαλέον· ἀγαπητόν 'cherished' (Hsch.).

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36 For a discussion of the competing hypotheses and their relative merits, see Garvie ad loc. Schmitt (1978) remarks that Ἄλπιστος cannot be a genuine Iranian name, but this is not judged decisive by Garvie because Aeschylus made up several other Iranian-sounding names in the *Persae*.

37 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 (…),

As for the etymology of these adjectival forms, it is commonly accepted that their root reflects the zero grade of ἔλπομαι 'to surmise, reckon; expect, hope'.[38] Possibly, Pindar's ἔπαλπνος was derived directly from the verb (ἐπέλπομαι 'to hope', cf. Hom. ἐπιέλπομαι 'to aspire to') when the root was still capable of undergoing ablaut; for deverbal -νός cf. τερπνός 'agreeable' (τέρπομαι 'enjoy'). It must also be taken into account that adjectives in -αλέος and -νός occur more often as a pair: cf. σμερδνός 'terrible' beside σμερδαλέος 'id.' (quasi-opposite in meaning to ἀρπαλέος), and post-Hom. ἰσχνός 'withered, thin, lean' beside Hom. ἰσχαλέος 'withered, dry' (*hapax*).

For these reasons, it is likely that a simplex *ἀλπνός < *u̯alp-nó- once existed. Under its influence, an original superlative *u̯elp-isto- may have been reshaped as *u̯alpisto- (cf. section 4.1.2). As a deverbal adjective, *u̯alp-nó- may owe its vocalism (instead of expected *u̯lap- < *u̯l̥p-) to the influence of verbal forms with *u̯elp-, or to the comparative and superlative. For this reason, ἀρπαλέος and ἄλπιστος cannot be used as cogent evidence for a regular *l̥ > -αλ-.[39]

10.2.2 γλάσσα

An Eastern Ionic by-form of γλῶσσα 'tongue' is γλάσσα, attested in late literary Ionic in Herodas (a Hellenistic, 3rd c. BCE 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. Possibly, γλάσσα was preserved beside γλῶσσα in Eastern Ionic because of its semantic specialization. It may continue the original form of the motional feminine *dl̥kʰ-i̯a, which was derived from the weak stem of a root noun *dlōǵʰ-, *dl̥ǵʰ- 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 Greek. It cannot be excluded that the outcome -λα- in γλάσσα <

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." (*LfgrE* s.v. ἁρπαλέος).

38 *DELG* comments on the adjectives: "groupe archaïque altéré ensuite par l'étymologie populaire". The older root meaning of ἔλπομαι is 'to think, surmise, reckon', cf. Lachnit (1965). This casts some doubts on the connection with Lat. *volup* (adv.) 'with pleasure', which can be derived from *u̯elp-i- (de Vaan 2008 s.v.) and would thereby reflect the same formation as Gr. ἐλπίς.

39 This also answers the objection made by Beekes (*EDG* s.v. ἄλπνιστος): "It is doubtful to interpret ἀλπ- as *ϝαλπ-, a zero grade of *ϝελπ- in ἔλπομαι, ἐλπίς (for wouldn't one expect *ϝλαπ-?)".

*$d\underset{\circ}{l}k^h$-$\underset{\circ}{i}a$ 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 *$\underset{\circ}{l}$ in Ionic-Attic.

10.2.3 *πλατύς*

The adjective πλατύς 'broad; flat' is quoted as a prime example for the development of *$\underset{\circ}{l}$ in almost every manual. Its forms of comparison are secondary (πλατύτερος and -τατος).[40] The adjective is also attested in Lesbian poetry (πλάτυ Alc. fr. 74).[41] Other forms attested in Greek with this root are πλαταμών m. 'flat stone or object', πλάτος n. 'breadth, width; plane surface' (*Cypr.* fr. 1.2, Simon., Hdt.+), and adjectives in -πλατής (X., Th., Arist.). The old form of the adjectival feminine is probably reflected in the toponym Πλάταια. It is possible that -λα- directly reflects *$\underset{\circ}{l}$, but it cannot be excluded that the vocalization was influenced by a now-lost full grade reflex *$pleth_2$- > PGr. *$plet(a)$- (cf. Ved. *práthas*- n., *práthate*) that was originally present in the forms of comparison, or by the older form **pletos* of the neuter abstract. After this, the stem form πλατ- would have spread from the adjective to all other derivatives. Therefore, πλατύς and related 'Caland system' forms do not offer absolutely compelling evidence for the regular reflex of *$\underset{\circ}{l}$.

10.3 The Pre-form Did Not Necessarily Contain *$\underset{\circ}{l}$

10.3.1 *βλάβομαι, βλάπτω*

As I have argued extensively elsewhere (Van Beek 2017b), the root of βλάπτω 'to hinder; harm' must be reconstructed as *$m\underset{\circ}{l}k^w$- in view of the etymological comparison with Ved. *marcáyati* 'to slander, injure' (caus.) and OAv. *mərəc* 'to destroy' (*vel sim.*).[42] This connection is accepted by both *GEW* and *DELG* (s.v. βλάβη) and is supported by phraseological material.[43] I will now summarize the arguments; for the details the reader is referred to Van Beek 2017b.

40 The comparative πλατίον (Epich. fr. 100 K-A) is probably secondary for expected *πλάσσον.

41 It is uncertain whether this is an authentic Lesbian form or a borrowing from Ionic; see section 10.6 on the dialectal evidence.

42 Since the object of Av. *mərəc* is often *ahu*- 'righteous life' or *aša*- 'order', better translations than 'to destroy' might be available, e.g. 'to disturb'.

43 The comparison of the Indo-Iranian root with Hitt. *markiye/a-zi* 'to disapprove of', as accepted by *HED* and *EDHIL* (q.v.), therefore has little to recommend it. Beekes' view (*EDG* s.v. βλάβη) that βλάπτω is of Pre-Greek origin cannot be substantiated either. See Van Beek 2017b: 55–56 for criticism of these and other views.

There are two old formations in the verbal paradigm: the thematic root present βλάβεται 'to be distracted (of a speaker); to give way (of the knees)', attested only in the *Iliad*, and the intransitive aor. ἐβλάβην 'was impeded' (beside younger ἐβλάφθην)[44] attested from Homer onwards.[45] Compared to these intransitive forms, the causative active paradigm βλάπτω, βλάψαι is clearly secondary. As for the nominal forms, there are two archaic-looking formations. First, the compound ἀβλαβής 'unharmed; unwavering, securely' is old within Greek (it is also attested in Cretan: see below) and could be compared with the root compound in *-*mḷk*^{w}- underlying Old Avestan *a.mərəxš* 'which does not harm', *ahu.mərəxš* 'harming life'.[46] Secondly, βλάβη 'harm; curse' (A.+) may reflect an old root noun with later addition of *-*ā* in Proto-Greek.[47] Other nominal derivatives follow productive patterns and may be relatively recent creations.[48]

The oldest meanings of βλάπτω are 'to hinder, impede' and 'to mislead' (*Il.*+); the meaning 'to damage' first appears after Homer. A second remarkable use of βλάπτω is found in Hesiod: the verb means 'to slander, pronounce a false oath', i.e. it refers to deceiving someone else with crooked words.[49] The meaning 'to speak falsely or deceptively' arose metaphorically from 'to put off track, mislead' (with words). It is probably of PIE age in view of the corresponding phrase *marcáyati dváyena* 'leads astray with double tongue' attested in the *Rigveda*. Similar phraseology must underlie the use of the adverb ἀβλαβέως 'sincerely, without deceiving' in traditional oath formulae in Thucydides and Attic inscriptions (e.g. *IG* I^{3} 53.13–14).

A well-known problem with this etymology is the root-final -β- in Ionic-Attic. Interestingly, forms with root-final -π- (in harmony with the root reconstruction **melk*^{w}-) are found in Cretan (for the attestations, see Bile 1988):

– inf. καταβλαπεθαι, rendered as "être lesé" (Gortyn, early 5th c. BCE; mid.-pass. inf. -εθαι is regular from -εσθαι);

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44 ἐβλάφθην is preferred in Epic Greek for metrical reasons, and is less frequent than ἐβλάβην in the classical language. Therefore, ἐβλάβην must be older.

45 Plus a Homeric imitation in *Anacreont.* 31.26.

46 For the derivation of an *s*-stem compound from an intransitive verbal stem in Greek (replacing an original root compound), see Meissner (2006: 186–197).

47 A root noun is attested in Vedic (RV 8.67.9, ins. sg. *mṛcā́*) and YAv. (*mərəxš* 'ruin'). Cf. ἀλκή 'fighting spirit', φυγή 'flight' beside Homeric ἀλκί, φύγαδε, as well as δίκη 'verdict; way of conduct' (a quasi-antonym of βλάβη) corresponding to Vedic *díś-* 'direction'.

48 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". The forms βλάβος (n.) 'harm; curse' (Hdt.+) and βλαβερός 'harmful' (Hes.+) are either deverbal or backformations to ἀβλαβής (cf. Schwyzer 1939: 482).

49 The instances are Hes. *Op.* 193–194, *Op.* 258, *Op.* 282–283, and perhaps also *Th.* 89.

– abstract αβλοπια (Gortyn, Axos); απλοπια (Lyttos), rendered as "conduite qui ne fait tort à personne" (*DELG* s.v. βλάβη);[50]
– ἀβλοπές· ἀβλαβές. Κρῆτες (Hsch.).

For αβλοπια, Chantraine (1933: 79) compared the near-synonym ὠφελία 'service; behavior which benefits'. Since an older form ὠφέλεια (derived from the *s*-stem forms ὄφελος, -ωφελής) is attested beside ὠφελία, he suggested that αβλοπια can be derived from the *s*-stem attested in ἀβλαβής and the gloss ἀβλοπές· ἀβλαβές. Κρῆτες (Hsch.). Since all attestations of αβλοπια are from the 6th or 5th c. BCE and from various different regions of Crete, it is probably a traditional legal term. The form απλοπια at Lyttos may be due to the sound change **Dl- > Tl-* also observed in κλευκος 'new wine' (in the same inscription as απλοπια) and in the Cretan gloss κλάγος 'milk' (Hsch.).

In view of this Cretan evidence, it must be asked whether βλαβ- in Ionic-Attic can be secondary. It would be *ad hoc* to assume a distance assimilation βλαπ- > βλαβ- for Ionic-Attic.[51] An analogical explanation of the -β- is out of reach, as most verbs in -άπτω have a stem ending in -φ- (cf. ἀφή, βαφή, τάφος, etc.). While some remodeling took place in derived verbs with occlusive-final roots (for example, πλήσσω 'to strike' replacing the reflex of **plāgi̯e/o-*, cf. Barber 2013: 262–269), it is usually the *yod*-present stem that adapts its consonantism. Moreover, a labiovelar would have lost its labial feature before *yod* early on (cf. νίζω 'to wash'), so βλάπτω must have been reshaped by analogy at some point anyway. Therefore, βλάβεται and βλάβη probably preserve an old reflex of the root-final stop.

A second issue is the difference in root vocalism between καταβλαπεθαι and αβλοπια. Chantraine explains -λο- as a pre-Doric dialectal reflex of **l̥*, but this seems *ad hoc* (both root shapes are attested in Gortyn). The stem-formation of καταβλαπεθαι must be identical to that of Hom. βλάβεται since word-internal -πτ- (< **-pi̯-*) was originally preserved in Cretan (it was later assimilated to -ττ-).[52] There are, then, two issues: the difference between βλοπ- and βλαπ- in Gortynian Cretan, and the divergence in the root-final stop between Cretan and Ionic-Attic.

Both issues can be resolved in the same way. In Van Beek 2017b, I proposed to compare Hom. βλάβεται to the athematic nasal infix present **ml-n-kʷ-* reflected

50 This translation may have to be modified: if we compare the use of ἀβλαβής 'sincerely, unerring' in Athenian oath formulae, αβλοπια may have originally referred to behavior that was conform to the law (or legal procedure).

51 Schwyzer claims (1939: 257) that the phenomenon of distance assimilation belongs to the "ungepflegte Umgangssprache" and therefore rarely appears in literary testimonies, but this is unfalsifiable.

52 Cf. pf. mid. εγρατται 'has been written', επτα > εττα 'seven'.

TABLE 26 Reflexes of PIE *$m\underline{l}k^w$- in Greek

Proto-Greek	Ionic-Attic	Cretan
*$ml̥nk^w$-*e/o*-	βλάβεται	*βλάβεσθαι >> βλαπεθαι
*$m\underline{l}k^w$- >> *$m\underline{l}k^w$-*ā*-	*βλάπη >> βλάβη	
*$n̥$-$m\underline{l}k^w$- >> *$n̥$-$m\underline{l}k^w$-*es*-	*ἀβλαπής >> ἀβλαβής	ἀβλοπές

by Old Avestan forms like 3pl. mid. *vī-mərəṇcaitē*.[53] The idea is that in PGr. *$ml̥ǵk^we/o$-, the root-final stop was voiced after an accented syllabic nasal (> *$ml̥ǵg^we/o$-), which was later vocalized (> *$mlág^we/o$- > βλάβε/ο-). This sound change *-$n̥ǵT$- > *-$n̥Dh$- is an extension of the rule *-$n̥ǵt$- > *-$n̥d$- proposed by Olsen (1989).[54] The thematic nasal infix present *$ml̥nk^w$-*e/o*- underlying βλάβεται could be compared to λάμπω 'to shine' < *lh_2-*n*-*p*-*e/o*- (for the root *leh_2p-, cf. Lith. *lópė* 'torch').[55]

This voicing rule may help us explain the divergences between Ionic-Attic and Cretan in the following way. If Greek inherited both *$ml̥ǵk^we/o$- (> βλάβεται) and a root noun *$m\underline{l}k^w$- (cf. βλάβη), we may assume that Ionic-Attic preserves the regular outcome of the primary nasal present in Homeric βλάβεται, while the outcome of the root noun *$m\underline{l}k^wā$ was aligned with the verbal stem, yielding βλάβη for expected *βλάπη. The aorist βλαβῆναι may have secondarily taken over the root of the present stem. In Cretan, on the other hand, the root-final consonant of the verb καταβλαπεθαι may have been influenced by the primary noun or other forms without the original nasal infix (cf. αβλοπια, ἀβλοπές); these latter forms may show the regular zero grade reflex. These developments are shown in Table 26.

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53 Cf. also OAv. *mərəṇgəduiiē* (2pl. mid. pres. ind.), *mərəṇgəidiiāi* (pres. inf.), and *mərąšiiāṯ* (3sg. act. pres. opt.).

54 Cf. Cretan δεκάδ- 'decad' and ἐξωβάδια· ἐνώτια. Λάκωνες 'earrings' (Hsch.), adduced by Olsen (1989), which probably continues *eks-*oų̯sń̥t-ia*. In view of these forms, the rule must be dated to Proto-Greek.

55 A nasal present would also account for the zero grade root vocalism of βλάβομαι: usually, thematic middle root presents have an *e*-grade root (δέρκομαι, πείθομαι, etc.). It is assumed here that the nasal, not the liquid, was vocalized in the Greek pre-form. In Indo-Iranian, it was the liquid that vocalized in nasal infix presents to *CRC-roots: cf. Ved. *kr̥ntáti* 'cuts', YAv. *kərəṇtaiti*, or Ved. ptc. *r̥ndhánt-* 'succeeding' (root *ardh*). However, this consonantal realization of the nasal could be ascribed to the occurrence of ablauting athematic forms like Skt. *r̥ṇádh-*. This means that the vocalization *$ml̥nk^w$-*e/o*- presupposed by the Greek form could be regular. Nasalized verbal stems like πλαγχ-, λαγγ-, κλαγγ- are non-probative in this respect because they have no ascertained IE etymology.

This scenario may account for the existence of two root allomorphs βλοπ- and βλαπ- in Gortyn without resorting to unmotivated borrowing from a pre-Doric (Achaean) substrate (as is done by, e.g., Chnatraine in *DELG* s.v. βλάβη). For we may now assume that βλαπ- has the reflex of *$*ṇ$*, while βλοπ- directly reflects *$*mḷk^w$*-, with -λο- as the regular outcome of *$*ḷ$* between two labial consonants. Such a reflex of *$*ḷ$* in Cretan would be paralleled by the reflex -ορ- < *$*ṛ$* in this dialect after labial consonants (section 3.1.2). Moreover, the reflex -λο- with an anaptyctic vowel *after* the liquid would be at variance with the development of *$*ṛ$* in Cretan.[56] Seen in this light, it is indeed likely that καταβλαπεθαι does not contain the reflex of *$*mḷk^w$*- but that of *$*mḷṇk^w$*-, and that the vowel slot of the vocalized zero grade βλοπ- < *$*mḷk^w$*- was influenced by that of βλαπ-.

In sum, for Ionic-Attic no definite conclusions can be based on Hom. βλάβεται (because its -α- may reflect a syllabic nasal), nor on ἀβλαβής, βλάβη or βλαβῆναι (because they may have been influenced by βλάβεται). The only significant conclusion to be drawn is that -λο- or -ολ- (in ἀβλοπές and αβλοπια, possibly with analogical vowel slot) was probably the Cretan outcome of *$*ḷ$* in a labial environment.

10.3.2 *διπλάσιος*

The adjective διπλάσιος 'twofold, double the size, twice as much' is first attested in Solon (fr. 13.73 W), and it is common in Attic prose.[57] 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, where it could be due to Koine influence (Minon 2007, I: 208). The Ionic form διπλήσιος is attested in Herodotus and inscriptions; its -η- may be analogical after a semantically close form like παραπλήσιος 'about the same size, about equal' (from the root *$*pelh_2$*- of πέλας 'near').[58]

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'.[59] The

56 To assume an *o*-grade root in the pre-form of ἀβλοπές would be unmotivated.

57 The word is unattested, however, in the tragedians.

58 Cf. 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).

59 According to Kretschmer (cf. Frisk *GEW* s.v. διπλόος), διπλός was reshaped as διπλόος under influence of the word for 'sea journey', *$*plóm̥o$*- > πλόος > πλοῦς. This is not immediately convincing, but seems possible in view of the lack of alternatives.

root is also present in PGmc. *-*falþa*- '-fold' (Goth. -*falþs*, MoG. -*falt* < *-*pol-to*-). For διπλάσιος, on the other hand, the etymological dictionaries (Boisacq 1916, *GEW*, *DELG* and *EDG*) posit an earlier *δίπλατος, enlarged by a suffix -ιος (like e.g. ἀμβρόσιος beside ἄμβροτος).[60] This *δίπλατος would continue a compound **dui-pḷ-to*- from the same root **pel*- 'fold' as **dui-pl-o*-.

Upon closer scrutiny, however, it appears that διπλάσιος may 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 n. pl. διπλά. For the subsequent derivation of διπλάσιος from διπλάζω, cf. θαυμάζω → θαυμάσιος, ἀσπάζομαι → ἀσπάσιος. Thus, the derivational chain is διπλός 'double' (Hom.+) → διπλάζω 'to be twice as big' (trag.) → διπλάσιος 'double the size, twice as big' (Thgn.+), whence later → διπλασιάζω 'to double' (Pl. *Leg*. 920a). If the only old form in Greek is διπλός, then διπλάσιος must not be compared directly with E. (*two*)-*fold*.

10.4 Promising Evidence for *ḷ > -λα-

10.4.1 *βλαδεῖς and βλαδαρός*

A root βλαδ- reflecting **mḷd*- is attested in the following glosses, all from Hsch.:
– βλαδεῖς· ἀδύνατοι. ἐξ ἀδυνάτων 'weak';
– βλαδαρόν· ἐκλελυμένον, χαῦνον 'flaccid, porous';
– βλαδόν· ἀδύνατον 'weak'.

In addition, the same root might be contained in the following glosses from Hsch., even if connecting them is less obvious from a semantic perspective:
– βλαδαρά· ἄωρα. μωρά. ὠμά 'untimely; dull, stupid; raw';
– βλάδαν· νωθρῶς 'slothful'.

Since the PIE full grade was **meld*- (see section 4.4), βλαδ- must be the regular outcome of zero grade **mḷd*-. The form βλαδεῖς (from an unattested sg. βλαδύς) seems the most archaic, as it would directly reflect the PIE adjective **mḷd-ú*- (Ved. *mṛdú*- 'soft, delicate', Lat. *mollis* 'soft, gentle').

In addition to these forms, ἀμαλδύνω (with secondarily added ἀ-) is likely to be based on another reflex of the *u*-stem adjective, with an alternative vocalization. The problems with the two coexisting vocalizations βλαδύς and *(ἀ)μαλδύς have been discussed in section 4.4. Since πλαδαρός 'damp, weak, flaccid' (cf. πλαδάω 'to make flaccid') looks like the Ionic-Attic vernacular form corresponding to βλαδαρός, I suggested there that πλαδαρός may have arisen from βλαδαρός

60 The form δίπαλτος is wrongly cited by Boisacq 1916 s.v. διπλός; it belongs to πάλλω 'to toss'.

by contamination with a semantically close word, such as πλάσσω 'to knead'. If one were to assume that βλαδαρός and βλαδύς stem from a non-Ionic-Attic dialect, *(ἀ)μαλδύς would continue the *u*-stem adjective, with levelling of the full grade slot; but even in this case, Attic πλαδαρός would indirectly continue the outcome of **mḷd-*.

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, Lamberterie (1990: 358–361) 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 out that PIE **meld-* 'soft, weak' also served as the basis for a word for soft or tender shoots in Slavic (*mold*ъ* 'young, tender' > OCS *mlad*ъ, Ru. *molodój*, etc.). The derivation of a thematic aorist βλαστεῖν from βλαστός yields some difficulties. Lamberterie proposes to compare βλαστός with Hom. θαλλός 'id.', which seems to be derived from the present stem of θάλλω 'to flourish'. On this basis, a verb *βλάστω, impf. ἔβλαστον, aor. ἐβλάστησα would have been back-formed, after which the imperfect ἔβλαστον was reinterpreted as a thematic aorist. The assumed switch of aspect is not without problems, but the idea to derive βλαστός from **mḷd-tó-* is intuitively attractive. If the etymology is correct, it furnishes another example for a regular outcome -λα- < **ḷ*.

10.4.3 *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.[61] There are two basic proposals. First, γλαφυρός has been derived as an adjective in **-ulό-* 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 the line εὐνὰς δ' ἐν ψαμάθοισι διαγλάψασ' ἁλίῃσιν "having scooped out lairs in the sand of the beach" (*Od.* 4.438, the subject is Eidothea). 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.

A second proposal is made by Chantraine (*DELG* s.v. γλαφυρός). He argues that γλάφω can hardly be separated from γλύφω 'to carve, sculpture', a root

61 See Lamberterie (1990: 315 ff.) for an extensive treatment.

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 Lamberterie, who assumes a dissimilation *γλυφύ- > γλαφύ- and a semantic development from 'stripped off' to 'hollow' in the adjective. Subsequently, the verbal root, too, would have split into γλαφ- and γλυφ-.[62] Lamberterie further suggests that the reconstructed *u*-stem *γλυφύ- could be deverbal, and that another reflex of this *u*-stem is perhaps found in the Slavic adjective **glǫbokъ* (Ru. *glubókij*) 'deep'.

The second scenario does not seem plausible to me. First, the assumed dissimilation *γλυφύ- > γλαφύ- is not self-evident (as Lamberterie 1990: 316 himself admits); I have not found a convincing parallel in Greek. Moreover, it is unclear how the split into γλύφω and γλάφω should be envisaged: for a factitive verb based on the new adjective *γλαφύς, one expects *γλαφύνω. Thirdly, the only proposed cognate is found in Slavic, where the three root variants **glǫb-*, **glyb-* and **glъb-* could point to non-IE origin.[63] Finally, the semantic connection between 'to peel off, scale' and 'to make hollow' is conceivable, but not evident. 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'. In defense of Chantraine, it is true that the adjective γλαφυρός is applied not only to natural cavities (caves, holes), but also to man-made hollow objects (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 its attestations.

In view of these problems, I wish to propose an alternative etymology: γλαφυρός contains the root of δελφύς 'womb', δελφίς 'dolphin' (i.e. '[aquatic animal] with womb'), and ἀδελφεός 'brother/sister, born of the same mother' < **sm̥-gʷelbʰ-es-ó-* "from the same womb". In Indo-Iranian, the root **gʷelbʰ-* is reflected in Ved. *gárbha-* m. 'womb, embryo', YAv. *garəβa-* m. 'womb', *gərəβuš-* 'newborn lamb'.[64] The verb γλάφω would be the only trace of **gʷelbʰ-* as a ver-

62 "... 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" (Lamberterie 1990: 315).

63 Cf. the doubts expressed by Derksen, *EDSIL* s.v. **glǫbòkъ*, about the possibility to reconstruct this word.

64 In spite of doubts concerning the chronology of the attestations (cf. *EDL* s.v. *vulva*), 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. κόλπος 'bosom, lap; gulf of the sea'. This may have dissimilated from PGr. **kʷolpo-*, from a root **kʷelp-* also found in Germanic **hwelfan-* 'to vault, revolve' and

bal root, but even if the precise origin of the zero grade thematic root presents (of the type Ved. *tudáti*) is unclear,[65] I see no reason to doubt its etymological connection with the nouns mentioned.

As for the phonological developments, there is a number of clear cases where a Common Greek labiovelar onset dissimilates against a labial stop in the following coda or onset: compare καπνός 'smoke' < PGr. **kʷapno-* / **ku̯apno-* (Lith. *kvãpas* 'id.'), ἀρτοκόπος 'baker' (Hdt.) beside Myc. *a-to-po-qo* 'id.' (PIE **pekʷ-* 'to cook, ripen'; the Ionic form has undergone metathesis to **-kʷopo-*), and Hom. κόλπος 'bosom, lap; gulf' < PGr. **kʷólpo-* (cf. PGmc. **hwalfa-* n. in ON *hvalf*, OE *hwealf* 'vault').[66] This dissimilation took place relatively late, as it is not yet found in Mycenaean. Moreover, δελφύς and relatives illustrate that the palatalization of labiovelars before *e* precedes the dissimilation. It is possible that the dissimilation took place irregularly, but it seems to be applied in a remarkably consistent fashion.[67]

The semantic development is relatively straightforward: a meaning 'hollow; cavity' can be posited for the PIE root. Already in the proto-language, nominal formations developed a special meaning 'womb'.[68] It deserves attention, however, that γλαφυρός would be the only adjective derived from this root, which mainly furnishes substantival derivatives. This brings us to the *hapax* γλάφυ (n.) 'cave, shelter' (Hes. *Op.* 533). Lamberterie (1990: 313–314), building on Leumann (1953: 223 n. 2), analyzes this as a substantivized form of an adjective **gʷl̥bʰ-ú-*, and claims that γλαφυρός is an extension in **-ló-* of this adjective.[69]

**hwalfa-* 'vault' (cf. *GEW*, *EDG*, *EDPG*). That root looks very much like the one under discussion, but we can only speculate about their interrelation (some early borrowing, or substrate phenomenon in the proto-language?). Similarly, Hitt. *ḫu̯elpi-* (adj.) 'new, fresh, newborn', (n.) 'newborn animal, whelp' is also semantically close to the other forms just mentioned, but formally irreconcilable.

65 For a recent discussion of the type *tudáti* in Greek, doubting its antiquity, see Willi 2018: 351–355 with references.

66 See Schwyzer (1939: 298–299, 302) for an overview of these cases of dissimilation. The etymology is accepted by Kroonen, *EDPG* s.v. **hwalfa-*.

67 Hom. γέφυραι 'dams; lines of battle', post-Hom. γέφυρα 'bridge' seems not to have undergone dissimilation, as against Boeot. βεφυρα, Cret. δεφυρα pointing to a reconstruction PGr. **gʷepʰuri̯a*. However, since the word cannot be properly reconstructed for PIE, one could also argue (with Beekes, *EDG* s.v. γέφυρα) that it was borrowed in different ways into the different Greek dialects.

68 For the semantic development, cf. Ved. *yóni-* 'sheltered place; bed, nest'; also 'womb': see Van Beek fthc., also on the etymology of Ved. *yóni-*. In Classical Sanskrit, the meanings 'inside, middle, interior' and 'adyton, interior of a sanctuary' are well-attested for *gárbha-* (see *M-W*, q.v.).

69 Leumann is followed also by Frisk (*GEW*), Chantraine (*DELG*), and Beekes (*EDG*). For a discussion of the evidence for adjectives in **-uló-*, see also Lamberterie (1990: 708–714). Clear

However, it cannot be excluded either that γλάφυ is an original noun, with a suffix to be compared with δελφύς. In this case, γλαφυρός can be analyzed as a de-substantival derivation in *-*ró*-.[70]

In either case, since the full grade slot of the root for 'hollow' was *$g^{w}elb^{h}$-, this etymology furnishes new and compelling evidence for a regular development *$l̥$ > -λα- in one of the dialects reflected in Homeric Greek. This etymology also helps to clarify the background of the toponym Δελφοί (Boeot. Βελφοί). Given a root meaning 'hollow', this name may be a substantivized adjective which referred to caves or places of shelter, just as in γλάφυ 'cave'; also note the toponym Γλάφυραι (*Il.* 2.712).

10.4.4 *κλάδος*

The thematic noun ὁ / τὸ κλάδος 'branch' (Ibyc., A., B.+), later also attested as a monosyllabic stem κλαδ- (E., Ar.), has been compared with Germanic and Slavic words: ON and OE *holt* (n.) 'wood; forest' < *$kl̥do$-, and OCS *klada*, Ru. *kolóda* 'wooden log' < *$kóldeh_2$-. The comparison is semantically attractive and phonologically perfect, and I therefore follow the etymological dictionaries in reconstructing a PIE noun *$kl̥do$-.[71] Still, the limited distribution of this word and the lack of a good root etymology are reasons for some doubt.[72]

10.4.5 *λάγνος*

The adjective λάγνος 'lascivious, horny' (Arist.) and its derivatives λαγνεύω, λαγνεία are best derived from the root *$selǵ$- that is also attested in Ved. *sarj* 'to release, let go' and in the Cretan verb λαγαιω (aor. λαγασαι) 'to release' (on which see section 10.6.1). As argued above, a further possible cognate is Lat. *laxus* 'spacious, wide, loose' if this reflects *$sl̥g$-*s*-*o*- with Schrijver's rule **RDC* > *RaDC*. Furthermore, as I have argued in Van Beek 2018: 59–60, ἀσελγής 'wanton' may also be related to λάγνος, reflecting PGr. *ad-*selg*-*es*-. The Greek evi-

instances are δαυλός 'shaggy' < *$dn̥s$-*u*-*ló*- beside δασύς < PIE *$dén̥s$-*u*-, *$dn̥s$-*ém̥*- (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'.

70 Probert (2006: 284–285) remarks that while some adjectives in -υρός derive from *-*u*-*lo*-, in other cases -*u*-*ro*- is old.

71 Cf. *EDPG* s.v. **hulta*-, *GEW* s.v. κλάδος.

72 Greek speakers may have connected κλάδος with the verb κλάω, aor. -κλάσαι 'to break (also of branches and stalks)' by folk etymology, but a direct etymological connection (as assumed in *DELG* s.v. κλάδος) is hard to substantiate because it is difficult to see how the present κλάω could be secondary. Beekes' comparison with κράδη 'branch', κραδάω 'to swing' (*EDG* s.v. κλάδος), assuming an interchange ρ/λ which he explains from a substrate origin, clearly goes too far.

dence suggests the existence of a Proto-Greek verb, with an *e*-grade thematic present **selg-e/o-* (whence ἀσελγής) beside a zero grade thematic aorist **sl̥g-e/o-* (whence Cret. λαγασαι).

The derivation from PIE **selǵ-* implies that λάγνος is unrelated to Germanic **slaka-* 'slack' (compared by Frisk, *GEW* s.v. λαγαίω) because the latter has a different vowel slot. Therefore, λάγνος is a relatively strong piece of evidence for the development of **l̥*.

10.4.6 *πλάξ and δίπλαξ, τρίπλαξ*

πλάξ, gen. πλακός (S., E.+) denotes a 'flat surface', e.g. that of the sea, or the flank or flat summit of a mountain. This noun is traditionally compared to Germanic words meaning 'layer, surface', especially ON *flær* (f. pl.) 'strip of land' < PGmc. **flahiz* and ON *flá* (f. sg.) 'id.' < PGmc. **flahō*. According to Frisk (*GEW* s.v. πλάξ), this comparison points to an inherited root noun PIE **plak-*, with inherited **a*. However, we must note that according to Kroonen (*EDPG* s.v. **flahō-*), the root noun inflection in the plural form *flær* is secondary, and the *ā*-stem form reflected in the singular *flá* is older. Kroonen therefore compares the Germanic words to Latv. *plaka* 'lowland, plain', and reconstructs them as *quasi* PIE **plok-eh$_2$-* (*EDPG* s.v. **flaka-*).[73]

Does this mean that the comparison of the Germanic words with the Greek root noun πλάξ, as a mere root etymology, becomes less plausible? On the contrary, for it appears that a verbal root **plek-* can be reconstructed. In Germanic we find various reflexes of a strong verb **flahan-*, e.g. OE *flēan* 'to strip, flay', ON *flá* 'id.'. This throws an unexpected light on the semantic development to 'plain; flat surface'. Features of the landscape are often named by analogy with the body of animals (e.g. *ridge, headland, neck, mouth of a river*). The identification made in the case of πλάξ is that between hair and vegetation: a plain without trees was described using the image of a skinned animal, stripped of its hairy skin. The same image was at work in the Germanic nouns quoted above.[74]

There are two Greek forms with a 2nd compound member -πλακ- 'layer'. Hom. δίπλαξ (adj.) 'two-layered' is attested in δίπλακι δημῷ '(wrapped) in a double layer of fat' (*Il.* 23.243 and 253), and it occurs in substantivized form in δίπλακα πορφυρέην 'purple mantle' (*Il.* 3.126, 22.441, *Od.* 19.241). The *hapax*

73 Cf. also Icel. *flár*, Nw. *flå* 'flat, wide' < PGmc. **flaha-* < PIE **plók-o-* (*EDPG*, s.v. **flaha-*).

74 In addition, there is also a Baltic verbal root with reflexes in Lith. *plàkti* 'to beat', Latv. *plakt* 'to become flat'; compare also the derivative Lith. (dial.) *plãkanas* 'flat', Latv. *plakans* 'id.'. As for the meaning of Lith. *plàkti* 'to beat', Derksen (*EDBIL* s.v. plakti) remarks that this root and **plaHk-* 'to beat' (in Slavic *plakati* 'to cry, lament') may have influenced each other.

τρίπλαξ describes the 'three-layered' rim (ἄντυξ) of Achilles' shield (*Il.* 18.479–480). What is the etymology of this second member -πλακ-? It has been derived from the root of πλέκω 'to plait, twine' (PIE **pleḱ-*).[75] Given the identical formation of Lat. *duplex* 'twofold' and the existence of the verb *plicāre* 'to fold, wind' in that language, this seems plausible at first sight. In addition, the use of '-fold' in the Germanic languages seems to offer a good parallel; the phrase δίπλακι δημῷ would preserve a trace of the original meaning 'two-fold, wrapped twice'.

In reality, δίπλαξ and τρίπλαξ must be compounds with πλάξ 'surface'; their second member is unrelated to πλέκω 'to twine'.[76] The main argument is that πλάξ, like other nouns derived from the verbal root **plek-* 'to strip, flay' (compare ON *flá* 'layer' < PGmc. **flōhō*, *EDPG* q.v.), must also have had the meaning 'layer'. It is telling that all Homeric uses of δίπλαξ and τρίπλαξ concern layers that may have been obtained in the process of flaying and dissecting an animal: hides (in a shield) and layers of fat.

Thus, πλάξ can be plausibly reconstructed as a root noun PIE **pl(o)k-* 'surface, layer' belonging with a verbal root meaning 'strip, flay'. There is no reason to assume that an ablauting full grade form **plok-* was preserved in the paradigm sufficiently long to influence the vocalization of **pl̥k-*, and the verb has left no traces in Greek. Hence, πλάξ < **pl̥k-* is an important piece of evidence.

10.4.7 πλάτη

Although πλατύς and related 'Caland'-system forms do not offer compelling evidence for the regular reflex of **l̥*, this may be different for the cognate form πλάτη 'shoulder-blade; blade of an oar', which often occurs as a determinative compound ὠμοπλάτη when denoting the body-part. It is often maintained that πλάτη may refer to any flat surface, but meanings other than the two just cited ('sheet of papyrus', 'winnowing fan') are rare and late. This means that πλάτη has very concrete referents. Moreover, it is remarkable that Hitt. *paltana-* c. 'shoulder(blade)', OIr. *leithe* 'id.' and OCS *plešte* 'shoulder' derive from the same root. The Celtic and Slavic forms both appear to continue a pre-form **pleth$_2$-i̯o-*. One might therefore be inclined to view πλάτη as directly reflecting PIE **pl̥th$_2$-eh$_2$-*. According to Chantraine (*DELG* s.v. 1 πλατύς), πλάτη was created beside the neuter abstract πλάτος, on the model of βλάβη beside βλάβος; but this does not seem likely to me because the antiquity of βλάβος is not guaran-

75 Cf. de Vaan, *EDL* s.v. *-plex* (following Ernout-Meillet, *DELL*) and Beekes, *EDG* s.v. δίπλαξ.

76 Thus also Frisk, *GEW* s.v. δίπλαξ and *W-H*, s.v. *duplex*, but without the argumentation given here.

teed, and also since the last-mentioned forms retained a connection with the verb βλάπτω. Thus, although the formation underlying πλάτη is not necessarily of PIE origin, it is an old derivative that is relatively isolated within Greek, and therefore a reasonably strong candidate to display the regular reflex of *$l̥$.

10.5 The Development of *$l̥n$

A couple of Ionic-Attic forms suggest that *$l̥$ developed to -αλ- conditioned by a following nasal plus vowel.[77] Indeed, a special development before nasals would not be unexpected, given that the same happened to the syllabic liquids in the prehistory of Celtic (cf. section 9.4). In order to see whether such a development is conceivable for Greek, let us first discuss several present stems for which an original sequence *$l̥n$ can be reconstructed.[78]

10.5.1 *The Presents βάλλω and θάλλω*

Consider the three following reconstructions:

– 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' < *$pl̥ne/o$- << *$pl̥$-*n*-(*e*)h_1-.

That βάλλω continues an original nasal present *$g^{w}l̥ne/o$- (PIE *$g^{w}l̥$-*n*-h_1-, root *$g^{w}elh_1$-) is widely accepted and seems reasonably certain.[79] Since the root of θάλλω is best reconstructed as *$d^{h}elh_1$-, with Hackstein (2002: 220),[80] an inher-

77 I leave aside the following forms: (1) Ion.-Att. στήλη, Dor. στάλα, Lesb. στάλλα. The pre-form is not necessarily *$stl̥$-*neh*$_2$-, as is often assumed: see section 1.2.5; (2) μαλλός 'flock of wool': the comparison with Arm. *mal* 'ram', proposed by Greppin (1981), is doubtful: cf. the discussion in Clackson (1994: 232); (3) κυλλός 'crooked, club-footed', which Meier-Brügger (1990) derived from *$k^{w}l̥nó$-, with the root *$k^{w}el$- 'turn': see section 1.3.2 for criticism of this etymology; (4) φαλλός 'penis', on which see section 10.1.12; (5) πλανάω 'to drive off track; lead astray' (Hom.+), πλάνη 'long journey; error' (Ion.-Att.) and other related forms, because they have no convincing IE etymology according to the standard etymological dictionaries.

78 In πίλναμαι 'to approach', -λν- was restored due to a proportional analogy with its antonym σκεδάσαι : σκίδναμαι 'to disperse' (cf. aor. πελάσαι). It may have replaced a morphologically opaque form like *πάλλαμαι.

79 Cf. *LIV*^{2} s.v. *$g^{w}elh_1$- with further refs. It has been claimed (*GEW* and *EDG*, both s.v. βάλλω) that a *yod*-present cannot be excluded. However, *yod*-presents were not normally derived from thematic aorists, whereas nasal presents regularly occur beside thematic or root aorists (cf. e.g. Ion. τάμνω < *tm-*n*-eh_1- beside ταμεῖν < *tmh_1-*e/o*-). This pattern is probably inherited from PIE.

80 *Pace* *LIV*^{2} s.v. *$d^{h}alh_1$-.

ited nasal present *$d^h\underset{\circ}{l}ne/o$- << *$d^h\underset{\circ}{l}$-$n$-$(e)h_1$- is also the most likely option. The reconstruction of πάλλω as *$p\underset{\circ}{l}$-n-$(e)h_1$- is less certain, but remains a viable possibility, cf. the next section.

There is good evidence showing that intervocalic *-*ln*- developed to -λ- with compensatory lengthening of the preceding vowel. As argued by Slings (1975), West Greek and Aeolic forms of the verb 'to wish, want' (Dor. δήλομαι, Boeot. βειλομη, Thess. βελλομαι) are best reconstructed as a nasal present PGr. *g^welne/o-. In my view, Ion.-Att. βούλομαι is best analyzed as a contamination of this *g^welne/o- and the old verb βόλομαι (attested in e.g. Homer, Euboean and Arcadian). The noun βουλή < *$g^wolnā$ is best analyzed as a regular deverbal abstract of the type τομή to the outcome of PGr. *g^welne/o-.[81] Slings also draws attention to ὀφείλω 'to owe', which demands a similar pre-form *op^helne/o- beside the thematic aorists ὤφελον, ὦφλον. To these examples, I would also add the case of Hom. εἴλομαι 'to throng together', which is best derived from *$\mu elne/o$- (see below).

If this is true, and if βάλλω and θάλλω indeed continue nasal presents, how can their geminate -λλ- be accounted for? I propose that it reflects *-$\underset{\circ}{l}n$- and that the development of *$\underset{\circ}{l}$ to -αλ- took place after the first stages of the 1st compensatory lengthening had affected original post-vocalic *-*ln*-.[82] However, even if this analysis of βάλλω and θάλλω is correct, the question whether these presents can be used to prove a *regular* vocalization *-$\underset{\circ}{l}n$- > *-*aln*- > -αλλ- (rather than > -λαν-) remains open. In βάλλω the vocalization may have been influenced by the aorist βαλεῖν, and similarly, it would be possible to argue that the outcome of *$d^h\underset{\circ}{l}ne/o$- was influenced by the root allomorph θαλ- in the frequent pf. ptc. τεθαλυῖα < *d^he-$d^h\underset{\circ}{l}h_1$-*us*-$ih_2$, and in derivatives like θαλέθω, θαλύς, θαλερός.

10.5.2 πάλλω

The case of πάλλω is more complex. Considering the verb and its derivatives, we have evidence for a non-ablauting root PGr. **pal*-. The question is from which Indo-European pre-form this root was generalized. The root is mostly reconstructed as *$pelh_1$- on account of the denominative verb πελεμίζω 'to shake, cause to quiver' (probably derived from a lost noun *πέλεμος n.). The *LIV*^{2} (s.v. *$pelh_1$-, following Harðarson 1993: 161) reconstructs an inherited nasal present

81 Slings's proposal (op. cit.) that Ion.-Att. βούλομαι was directly derived from βουλή is not very attractive.

82 In the development of original intervocalic *-*ln*-, there may have been an intermediate stage *-*ll*-, after which the geminate was simplified with CL in most dialects. For a different scenario, see Slings (1975: 4–5).

*$p\underset{\circ}{l}$-n-h_1- that is directly reflected in πάλλω. Frisk (*GEW* s.v. πάλλω), however, derives πάλλω from a *yod*-present *$pal\text{-}\underset{\circ}{i}e/o$- in view of the sigmatic aorist πῆλαι < *pal-s-, which normally does not pair with a nasal present stem. Thus, the reconstruction of the present stem depends on which verbal formation is considered to be primary. The sigmatic aorist πῆλαι must be secondary in any case (cf. *LIV*^{2} l.c. and Beckwith 1996: 125); the root aorist πάλτο, ἔπαλτο is also widely supposed to be an artificial creation (Leumann 1950: 60 ff., followed by Harðarson 1993: 196–197). The only potentially old aorist formation is the reduplicated participle ἀμπεπαλών 'swinging up (over the head)' < *pe-plh_1-e/o-, which is exclusively Homeric.

Etymologically, πάλλω has been connected with Sln. *pláti* 'to wave', Ru. dial. *polót'* 'to winnow': see *LIV*^{2} (s.v. *$pelh_1$-) and Beckwith (1996: 123–129). On the other hand, several etymological dictionaries (*DELL* s.v. *pellō*; *GEW* s.v. πάλλω) compare πάλλω primarily with Lat. *pellō* 'to beat against, strike; push'; in this case the Latin perfect *pepulī* can be compared directly with the reduplicated aorist ἀμπεπαλών. Indeed, *pace* *LIV*^{2}, the comparison with Latin is attractive also from a semantic point of view: Frisk (l.c.) compares παλμός 'pulse' with Lat. *pulsus* 'id.'. Although neither of these formations can be inherited, the meaning 'to beat' (of the heart) may well be old: compare πάλλεται ἦτορ (*Il.* 22.452), παλλομένη κραδίην (*Il.* 22.461). Another meaning shared by πάλλω and Lat. *pellō* is 'to vibrate' (of the strings of an instrument), cf. Pl. *Phd.* 94c.[83] For this reason, the reconstruction of a nasal present *$p\underset{\circ}{l}$-n-h_1- 'to shake, quiver, vibrate' (tr.) underlying both πάλλω and Lat. *pellō* deserves full consideration.

Most modern etymological dictionaries,[84] however, separate πάλλω from the root of Lat. *pellō* and U. *am-pelust* 'will have slain' because they prefer to connect the Italic words with OIr. *ad·ella* 'visits' and fut. *-eblaid* 'will drive'. The root of OIr. *ad·ella* is reconstructed as *$pelh_2$- on the basis of a comparison with πίλναμαι, aor. πελάσαι 'to approach'; the fut. *-eblaid* 'will drive' is also included in the comparison, with a supposed semantic development *'to bring near' > 'to thrust, drive near' > 'to strike'.[85] This scenario has been embraced by various scholars, but in my view the assumed semantic development is questionable; in addition, as just argued, it is implausible to separate πάλλω from Lat. *pellō*.[86]

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83 Cf. also the meanings 'flounder' (ἀναπάλλεται ἰχθύς, of a fish in *Il.* 23.692, also at Hdt. 1.141) and 'quiver' (of the knees of old men, Ar. *Ran.* 345).

84 E.g. *LIV*^{2} s.v. *$pelh_1$-, *EDL* s.v. *pellō*.

85 Strunk (1985: 235).

86 The connection of Lat. *pellō* with Gr. πάλλω is now also defended by Willi (2018: 73) as "semantically more straightforward" than a connection with *$pelh_2$- 'approach'.

The only reason to disconnect these verbs is the assumption that the Irish future *-eblaid* is derived from the same root as *ad·ella*. However, in view of the difference in meaning ('drive' versus 'visit'), it is possible to separate *ad·ella* etymologically from *-eblaid*, and to regroup the words as follows: **pelh*$_1$- 'to strike, vibrate' is reflected in Lat. *pellō*, *pepulī*, Gr. πάλλω, ἀμπεπαλών, and OIr. *-eblaid*, while **pelh*$_2$- 'to draw close' is continued in OIr. *ad·ella* 'visit' and Gr. πίλναμαι, πελάσαι, πλῆτο 'to draw near'.

Nevertheless, it remains uncertain whether πάλλω continues an old nasal present. Given that the middle root aorist πάλτο and the sigmatic aorist ἔπηλα must both be secondary if the root was indeed PIE **pelh*$_1$-, it is certainly possible to assume that the entire verbal system was rebuilt on the basis of an inherited present stem πάλλω < **p$l̥$-n-h$_1$*-. In that case, the development would be comparable to that found in βάλλω and θάλλω. However, it cannot be excluded either that πάλλω reflects a *yod*-present beside the aorist ἔπηλα, and that both formations are denominative, for instance to πάλος m., which is retained only with the meaning 'lot (shaken from a helmet)' but may originally have been a verbal noun denoting the act of tossing.

10.5.3 *κάλλος, καλλι- and Related Forms*

The sequence -αλλ- also appears in the lexical root of κάλλος, περικαλλής, the first compound member καλλι-, and the forms of comparison καλλίων, κάλλιστος. All these forms belong to the positive καλός 'beautiful'. The etymology of these forms is mostly considered unclear.[87] The only existing proposal is a comparison with Ved. *kalyáṇa-* 'beautiful, lovely' (f. *kalyāṇī́*), assuming an IE adjectival root **kal-* that would appear as **kal-i-* in compounds.[88] It is problematic for this comparison that Greek καλλι- has a geminate;[89] moreover, the *a*-vocalism of the reconstructed root is disturbing.[90]

87 See *GEW* (though judging the comparison with Skt. *kalyáṇa-* to be "brauchbar") and *DELG* ("étymologie ignorée").

88 The first proposal to link Skt. *kalyáṇa-* to Greek καλλι- was made by E. Leumann (1893). Wackernagel (1934: 191–197) subsequently analyzed the Sanskrit word as an old compound containing the word for 'elbow' as a second member. This etymology was never fully embraced by the handbooks, but Pinault (2003) again pleads for it, arguing that the second member of Skt. *kalyáṇa-* (or rather its feminine *kalyāṇī́-*) is a non-IE word for 'haunch' borrowed independently by both Indo-Aryan and Tocharian. See Pinault's article for an overview of previous research on *kalyáṇa-*.

89 In the view of Wackernagel (1934), καλλι- replaced an older *καλι-. Since Pinault (2003) does not deal with this issue, he apparently accepts Wackernagel's view.

90 For the problems involved in reconstructing a PIE phoneme **a*, see Lubotsky 1989. I will not further deal with this issue here.

The root shape καλλ- can be accounted for if we start from a pre-form containing *$l̥n$.[91] Since adjectives with 'Caland' morphology could be productively derived from primary verbs in Greek, the forms κάλλος, -καλλής and καλλίων, κάλλιστος can be mechanically derived from a verb *κάλλω, reflecting a thematicized nasal present PGr. *$kl̥ne/o$-.[92] Noting that 'beautiful' may easily develop from 'excelling, outstanding', this reconstructed form PGr. *$kl̥ne/o$- may directly correspond to the nasal present attested in Lat. *-cellō* 'to stand out' (cf. also Lith. *kìlti* 'to rise', 1sg. pres. *kylù*).[93] Thus, the original meaning of Homeric περικαλλής would be 'standing out, excelling'. That a semantic development to 'excel, surpass' could easily take place in derivatives from this root is illustrated not only by Lat. *praecellō* and *excellō*, but also by Lith. *kilnùs* 'upright; excellent, splendid', related to *kìlti* 'to rise'.

This brings us to the formation of the positive, Att. κᾰ̀λός, Hom. κᾱ̀λός, Boeot. καλϝος. A root **kal-* (with old **a*) is excluded because Ionic-Attic -καλλ- cannot be obtained from this. Now, *$kal̥u̯ó$- could theoretically reflect PGr. *$kl̥u̯ó$-, if one supposes a vocalization *$l̥$ > -αλ- before *$u̯$.[94] However, if the etymology proposed here is correct, the root is to be reconstructed as **kelh₁-*.[95] This would imply that *$kal̥u̯ó$- did not derive directly from *$kl̥u̯ó$-, but is a thematicization of PGr. **kalú-* < PIE **klh₁-u-*.[96] Lith. *kilùs* and PGr. **kalú-* may theoretically derive from a common pre-form PIE **klh₁-u-* 'sticking out, rising up', but the Lithuanian form is more likely to be an independent, productive creation of that language.

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91 I further elaborated this idea, which was presented already in Van Beek 2013, in a paper presented during the workshop *Caland in Sicht* (*Österreichische Linguistiktagung*, Graz, 20 November 2016). A published version of this paper is in preparation.

92 In the meaning 'to stand out', the normal Homeric Greek verb was (δια)πρέπω; note also the inherited middle perfect κέκασμαι 'to excel'. For 'Caland' systems secondarily derived from an already constituted stem, see also Nussbaum (1976: 98).

93 Lat. *-cellō* is assumed to have introduced its *e*-vowel from a prehistoric aorist: see *EDL* s.v. *-cellō* 1.

94 See Willi (2017), who derives PGr. *$kal̥u̯ó$- / *$kl̥u̯ó$- from the root PIE **ḱleu-* 'hear'. Note, however, that there is no evidence directly supporting such a rule for the vocalization of *$l̥u̯$: see section 1.2.2.

95 I assume root-final *$-h_1$- because of the present PGr. *$kl̥ne/o$-, on a par with other thematicized nasal presents like βάλλω, τάμνω, θάλλω that derive from roots in *$-h_1$-. Vine (2006) and Seržant (2008) reconstruct this root as **kelh₃-*, but this claim is based on reconstructions and etymologies that I consider to be questionable.

96 Thematicization of *u*-stem adjectives, whatever its cause, occurs more often in Greek: cf. Hom. στεινός 'narrow' beside στενυ- in compounds, ταναός 'thin' and Myc. *ta-na-wa* beside τανυ- in compounds (cf. Ved. *tanú-*), and μανός 'sparse, thin' beside μανύ and Arm. *manr* (*u*-stem) 'small, thin'.

Returning to the vocalization of *ḷ, the root καλλ- can be plausibly derived from *kl̥n-e/o- and thus offers suggestive evidence for a regular development of *l̥n to -αλλ-. However, it cannot be entirely excluded that the outcome -αλ- in κάλλος, καλλίων and related forms arose under influence of the basic adjective *kalu̯ó-.

10.5.4 *Ion. ἁλής, Hom. ἀολλέες*

The Ionic adjective ἁλής (with ᾱ) (Hdt., Hp.) means 'thronged, amassed, in close formation, forming a unity', pl. also 'all together'.[97] This is a potentially important piece of evidence for *l̥n, because it is cognate to Hom. ἀολλέες (*plurale tantum*) 'in a throng, all together' < zero grade *ha-u̯l̥n-es-, and probably also ἀελλής 'thick, dense' (*hapax* at *Il.* 3.13) with a full grade root.[98] The zero grade formation is also reflected in West Greek: Elean αϝλανεōς 'all together', and the gloss ἀλανέως· ὁλοσχερῶς. Ταραντῖνοι 'entirely, completely' (Hsch.).[99] Since Tarentum was a Spartan colony, the adverb can be reconstructed also for Proto-West Greek.

There are several uncertainties in the reconstruction of this adjective. The dialectal origin of Hom. ἀολλέες is unclear. The *hapax* ἀελλής must reflect *ha-u̯elnes- and seems to be of Aeolic origin in view of its geminate reflex of intervocalic *-ln-. The Ionic prose form ἁλής could continue a full grade (like Homeric ἀελλής) or a zero grade root (like ἀολλέες, αϝλανεōς). In the latter case, the development could be reconstructed as *ha-u̯l̥n- > *hau̯aln- > *hau̯all- > *hāll-, with loss of digamma followed by simplification of the geminate after a long vowel.[100] However, since ἁλής may also be the regular contraction product of a pre-form *hau̯ē̯les- < *ha-u̯elnes- with a (secondarily introduced) *e*-grade root, it cannot serve as evidence for the Ionic-Attic development of *l̥n.

For present purposes, the main question is: which pre-form to reconstruct for Proto-Greek? We must reconstruct *sm̥-u̯l̥n-es- with a zero grade root,

97 Attic uses ἁθρόος (of uncertain etymology) with the same meaning.

98 The context is as follows. 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: ὣς ἄρα τῶν ὑπὸ ποσσὶ κονίσαλος ὄρνυτ' ἀελλὴς ἐρχομένων· μάλα δ' ὦκα διέπρησσον πεδίοιο (*Il.* 3.13–14), "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' is difficult to maintain; see Kirk (*Comm. Il.*, ad loc.).

99 The Elean form is an adverb in -ως based on the *s*-stem adjective. It modifies the directly preceding numeral ⟨π⟩εντακατιōν, denoting the council of 500 in its entirety (Minon 2007: 36, 511–513 translates "au complet"). This excellently fits the semantics of Hom. ἀολλέες 'gathered together, in a group'.

100 *Ex hypothesi*, the cluster *-ln-* (with consonantal realization of the liquid) would have emerged too late from *-l̥n- to join the first compensatory lengthening.

because there would be no motivation for introducing a zero grade independently in the West Greek and Homeric forms. It follows that the *e*-grade was introduced secondarily in Homeric ἀελλής 'dense' (and possibly also in Ionic ἀλής: see above). The basis for its introduction must have been the verb 'to throng', which formed a nasal present **u̯elne/o-* reflected in Hom. εἴλομαι 'to be thronged' < **u̯elne/o-*.[101] Indeed, this same full grade is found in the Homeric causative present εἰλέω 'to press together' and most other stems of its paradigm (aor. ἔλσαι, mid.-pass. pf. ἔελμαι).[102] A zero grade reflex **u̯al-* is preserved only in the inagentive aorist ἀλῆναι.

What was the derivational basis of **sm̥-u̯l̥n-es-*? A suffix **-nes-*, as assumed by the etymological dictionaries (*GEW*, *DELG*, *EDG*), is difficult to motivate in this compound. Since *s*-stem adjectives could be directly derived from verbal stems in Greek, I propose that the present stem **u̯elne/o-* (reflected in Hom. εἴλομαι) originally had the shape **u̯l̥n-e/o-*.[103] In a similar way, the precursors of βούλομαι 'to want' (West Greek δείλομαι, etc.) and ὀφείλω 'to owe' must have secondarily introduced their full grade (see above). Moreover, this substitution is paralleled in Latin nasal presents such as *pellō* 'to thrust', *excellō* 'to excel'. In sum, a Proto-Greek present stem **u̯l̥ne/o-* (or perhaps rather compounded **sm̥-u̯l̥ne/o-*) is the most likely derivational basis for an adjective **sm̥-u̯l̥n-es-*.[104]

Let us now consider the possible origins of Hom. ἀολλέες. At first sight, it seems logical to view this form as Aeolic, in view of the geminate reflex -λλ- < **-ln-* in combination with the *o*-colored reflex. However, since **-l̥n-* (as opposed to **-Vln-*) may have yielded -αλλ- also in the Ionic words discussed above, the geminate by itself does not tell us much. As for the *o*-vocalism, one might expect **l̥* > -λο- in Aeolic on the basis of **r̥* > -ρο-, but in reality there is no further evidence to support or exclude the idea that **l̥* yielded -ολ- (rather than -λο-) in

101 In Van Beek 2018: 43–44, I have proposed that **sm̥-u̯l̥n-es-* was derived from a compounded verb **sm̥-u̯l̥ne/o-* 'to flock together', with **sm̥-* 'together' functioning as a preverb comparable to Vedic *sám*.

102 A primary active 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.

103 Comparable derivations of an *s*-stem adjective from a middle present stem are, for instance, -τρεφής from τρέφομαι and -δερκής from δέρκομαι. Cf. Meissner 2006: 192–193; most recently, Blanc (2018) has given an extensive overview of such deverbal formations.

104 Interestingly, the forms attested in West Greek are adverbial and have a petrified lexical meaning 'completely' (denoting a total or sum); this may have helped the preservation of their zero grade root (as opposed to the verb 'to throng', which had a full grade in West Greek, too: cf. Elean αποϝελεω).

Aeolic dialects, whether generally or only in the position before *n*.[105] Therefore, Wathelet (1970: 170) is rightly hesitant when he cites ἀολλής as a possible example for the outcome of **ḷ* in Aeolic.

Another option to be taken into serious consideration is an 'Achaean' origin of ἀολλέες. We do not know the regular outcome of **ḷ* in Mycenaean: there is no convincing evidence for **ḷ* generally, let alone in the position before nasals.[106] Nevertheless, it is possible to assume that the Mycenaean outcome of PGr. **sm̥u̯ḷnēs* was *ha*u̯*olnēs* or *ha*u̯*ollēs*.[107]

To sum up, the Proto-Greek form **ha-u̯ḷn-es-* was directly reflected as **ha*u̯*lane*(*h*)- in at least part of West Greek, given El. αϝλανεῡς 'all together' and the gloss ἀλανέως· ὁλοσχερῶς. Ταραντῖνοι in Hesychius. These forms will play an important role in section 10.6. On the other hand, the value of ἀλής and ἀολλέες as evidence for the regular outcome of **-ḷn-* is, unfortunately, limited.

10.5.5 *Conclusions on *ḷn in Ionic-Attic*

The verbs βάλλω and θάλλω (and perhaps πάλλω) continue old nasal presents. A possible scenario is that these presents directly reflect pre-forms of the type PGr. **Cḷ-n-e/o-*. This development is supported by κάλλος, καλλίων, κάλλιστος, which I propose to derive from an inherited nasal present **kḷ-n-eh₁-* >> **kḷne/o-* > *κάλλω 'to excel'. However, analogical influence on the vowel slot of these forms cannot be entirely excluded.

10.6 Dialectal Evidence

There is only little evidence for the vocalization of **ḷ* in the other dialects, but nevertheless, important conclusions can be drawn for two West Greek dialects: Cretan and the dialect of Elis.

10.6.1 *Cretan*

As we have seen above, the root βλαπ- ~ βλοπ- might offer evidence for a conditioned *o*-colored development of **ḷ* in a labial environment in Cretan. The vowel slot of βλοπ- may be due to leveling if βλαπ- contains the outcome of a syllabic nasal.

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105 If the Aeolic outcome of **ḷ* was -λο-, one could theoretically assume that the vowel slot in ἀολλέες was analogically introduced from the verbal root **u̯eln-*.

106 In Van Beek 2013: 47 n. 131, I suggested that Myc. *wo-ne-we* (PY Cn 40.2 and 643.1) could be the nom. pl. of a *u*-stem adjective **u̯ḷn-u-* meaning 'compact', related to ἀολλέες. I have now changed my mind: see section 2.3.1.

107 Note that in the Mycenaean outcome of original intervocalic **-ln-*, the nasal has been lost or assimilated: cf. *o-pe-ro-te* /op^{h}ellontes/ *vel sim*.

The gloss κλάγος· γάλα. Κρῆτες (Hsch.) displays a development κλ- < γλ- typical for certain parts of Crete.[108] The form κλάγος suggests a development *$l̥$ > λα in Cretan after a non-labial consonant, but the reconstruction of the pre-form remains uncertain (see above): a vocalized nasal cannot be excluded.

The verb λαγαιω 'to release' (of persons in custody) has an aor. λαγασαι that is well-attested in Gortyn, and is also found as a gloss λαγάσσαι· ἀφεῖναι 'to let go' (Hsch.). The vowel -α- in the second syllable of this telic lexeme probably originated in the aorist, from which the present stem was derived. Frisk (*GEW* q.v.) suggests that λαγάσ(σ)αι is a reshaping of an older root or thematic aorist after χαλάσαι (χαλάω 'to loosen; relax; release a prisoner'), which has a similar meaning. This is reasonable since -α- can easily be part of the root in χαλάσαι but not in λαγάσαι. The etymological connection with Ved. *sarj* 'to let go, set free' (cf. *LIV*^{2} s.v. **selǵ-*) is obviously attractive; it shows that Gortynian Cretan underwent a development **hl̥g-* > **hlag-* > λαγ-, or perhaps rather **hl̥g-* > **l̥g-* > λαγ-, depending on the relative chronology.

If λαγαιω and αβλοπια are reliable evidence for the Cretan reflex of *$l̥$, they would mirror the dual reflex of *$r̥$ in this dialect, which yielded -αρ- normally, but -ορ- after labial consonants (-μορτος, πορτι, and probably Αφορδιτα: see section 3.1). It must be noted, however, that the vowel slot of αβλοπια might be analogical. The evidence is so scanty that adding one form to the dossier may completely change the picture.

10.6.2 *Elean αϝλανεōς and Tarentine ἀλανέως*

As we have seen in section 10.5.4, the West Greek cognates of Hom. ἀολλέες are Elean αϝλανεōς 'all together' and the gloss ἀλανέως· ὁλοσχερῶς. Ταραντῖνοι 'entirely, completely' (Hsch.).[109] They provide valuable evidence for the regular development of *$l̥$ in these dialects. The related verb αποϝελεω /apowēleō/ is also attested in Elis (cf. Minon 2007: 511–513), with a reflex of the first compensatory lengthening. The full grade **u̯eln-* presupposed by αποϝελεω ensures that αϝλανεōς displays the regular development of **-u̯l̥n-* in this dialect.[110]

In this context, the post-labial reflex *$l̥$ > λο (possibly for ολ) in Cretan αβλοπια gains new significance. It strongly suggests that the development of *$l̥$ was

108 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. Another Cretan form, κλευqος (gen. κλευκιος) 'new wine' (Bile 1988, No. 28) beside Myc. *de-re-u-ko* /dleukos/, Cret. gen. γλευκιος (Gortyn) and Att. γλεῦκος (Arist.), shows that some regions of Crete underwent a devoicing γλ- > κλ-.

109 Tarentum was a colony of Sparta.

110 The evidence from Elis for the outcome of *$r̥$ is minimal and internally contradictory: see section 3.2.3.

later than Proto-West Greek (assuming that it makes sense to reconstruct such an entity), because in αϝλανεōς we find an *a*-colored reflex even after digamma. In addition, Elean αϝλανεōς proves that the development of an anaptyctic vowel in *-ḷn- was also a matter of the individual dialect groups, or even of the individual dialects: there was no early pan-Greek anaptyxis before the liquid in the sequence *-ḷn-.

10.6.3 *Other Dialects*

The Lesbian evidence is as follows. In Mytilene we find the word for 'shoulder-blade' as ὠμοπλάτα[ν (*IG* XII,2 71.2), and also the abstract πλ̣ά̣τ̣ος 'breadth' (Hodot 1990, MYT 013, 10, 3rd c.). The adjective πλατύς is attested in Lesbian poetry as πλάτυ (Alc. fr. 74). Borrowing from Ionic cannot be easily excluded for any of these instances, and is especially likely in ὠμοπλάτα, given that the expected Aeolic outcome of 'shoulder' would be ὀμμο- < **Homso-* (cf. ἐπομμάδιος, v.l. in Theoc. 29.29). Finally, σπλανχνων (Hodot 1990, MYT 015.04, 3rd c.) could also be an Ionic borrowing.

In literary Lesbian, two other words with -λα- < *ḷ are attested: ἀβλάβη[ν 'unscathed' (Sapph. 5.1) and γλαφύρα['hollow' (Alc. 7.8), but both could be borrowings from Ionic or from epic poetry (γλαφυρός 'hollow' is a traditional epithet of ships and caverns in Homer, and the adjective ἀβλαβής belongs to a high register). The adjective μόλθακος occurs as the Aeolic counterpart of class. μαλθακός. However, as argued above, the etymological connection with OHG *milti* 'merciful' and other Germanic words is uncertain; as a consequence, it remains uncertain whether the difference in vocalism must be ascribed to the vocalizations of a syllabic liquid or to some other cause (cf. καθαρός beside κοθαρός 'pure', section 9.7.2). Finally, the Homeric word ἀολλέες 'thronged, all together' is attested as ἀόλλεες in Alcaeus, but again an epic origin cannot be excluded. In sum, the evidence for *ḷ in Lesbian is inconclusive.

As for Boeotian, Πλατηεύς is the epichoric term meaning 'inhabitant of Plataea'. We are dealing, however, with a toponym and it cannot be excluded that Plataea was originally founded by speakers of a different dialect.

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 dat. sg. ιμπλατιαι denotes a sacrificial offering (cf. Dubois 1988 ad loc.). Further, we find a PN Πλατιας (*IG* V,2 6.57 and 85, Dubois 1988: 45), but it would be unwise to base a conclusion on it because the bearer need not have been an Arcadian. The verb βλάπτω is attested also 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. While

the compound καταβλάπτω is not normal in Ionic-Attic, a West Greek Koine form cannot be excluded because a number of clauses and collocations appear in similar inscriptions elsewhere.[111] That is, the West Greek verb καταβλάπτω may have been Arcadianized by introducing the preverb κατυ- (and ποσ-). Thus, none of the Arcadian forms discussed here informs us about the regular outcome of *$l̥$ in that dialect.

The Cyprian form *po-lo-te-i* (*ICS*^{2} 318 VII, 2) cannot be relied upon. It was interpreted by R. Meister, in his *editio princeps* of this text, as the dat. sg. of a neuter πλότος* which he supposed to be the dialectal equivalent of Ionic-Attic πλάτος 'plane surface'. For the Cyprian form, he posited the meaning 'tablet, writing surface'. With *i te-ka-to-i po-lo-te-i*, the ostracon on which the text has been written would then refer to itself as the 'tenth page' of an archive. However, Masson's edition and especially his 1966 article make it clear that no definite value can be attached to Meister's interpretation.[112] Instead of Meister's *po-lo-te-i*, Masson prefers to read *pe-lo-te-i*. Moreover, the interpretation 'tablet' and the comparison with Attic πλάτος, which is not attested in that meaning, are mere guesses. Therefore, the form can be left out of further consideration.[113]

10.7 Conclusions on *$l̥$

The regular slot of the anaptyctic vowel before occlusives in Ionic-Attic was probably -λα-. Leaving aside the uncertain connection between μαλθακός and the Germanic word for 'mild', reliable evidence for a reflex -αλ- is completely absent. On the other hand, there are several good candidates for the development to -λα-: βλαδεῖς < *$m̥ld$- and other entries in βλαδ- from Hesychius meaning 'weak, porous, flaccid', πλάτη 'shoulder-blade', possibly also βλαστός 'sprout' (if from *$m̥ld$-*tó*-) and κλάδος 'branch' (if < *$k̥ld$-*o*- with G. *Holz*). As new

111 Compare *IG* VII 3073.29–37 and 3074.9–11 (Lebadeia in Boeotia), which also contain regulations for construction.

112 "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., pp. 317–318). 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"; toute l'argumentation concernant ce dernier terme est peu plausible; d'autant plus que nous ne croyons guère au *po* initial." (1966: 263–264).

113 It is not even mentioned by *DELG* or *GEW* s.v. πλατύς.

pieces of evidence, I have adduced γλαφυρός 'hollow', from a pre-form *$g^{w}l̥b^{h}$-*u-ló-* 'hollow', and πλάξ 'plane surface, plain' (including δίπλαξ and τρίπλαξ, which preserve an older meaning 'layer').

This conclusion that *$l̥$ > -λα- is remarkable given the evidence for *$r̥$ > -αρ-, with a different vowel slot. One could object that, as far as we know, the developments of PIE *$l̥$ and *$r̥$ were identical in all other Indo-European daughter languages. However, the evidence that we have must be taken seriously. In addition, if the treatment of *$l̥$ and *$r̥$ was indeed different, this may suggest that their developments took place at different chronological stages, i.e. that *$l̥$ was vocalized earlier, at least in Ionic-Attic.

We have seen that the reflex of *$l̥n$ in Ionic-Attic resulted in a geminate -λλ- that did not take part in the 1st compensatory lengthening, as opposed to older instances of intervocalic *ln which did undergo the 1st compensatory lengthening. The evidence in favor of *$l̥n$ > -αλλ- consists of the verbs βάλλω and θάλλω (which reflect pre-forms of the type PGr. *$Cl̥$-*n-e/o-*, from inherited athematic nasal presents), as well as κάλλος, καλλίων, κάλλιστος, for which I have proposed a new etymological derivation from a lost verb *$kl̥n$-*e/o-* > *κάλλομαι 'to stand out'. It is not excluded that -αλ- in these forms was the regular development of *$l̥$ before *n*. This would be analogous to the conditioned reflexes of *$l̥$ and *$r̥$ in Celtic, which developed to *al* and *ar* before *n*, but to *li* and *ri* before stops and *m*.

On the other hand, it cannot be excluded either that *$l̥n$ > *$əln$ is analogical, and that we happen to have no good examples of *$l̥n$ > *$lən$ in Ionic-Attic. We do know that the last-mentioned reflex was regular in (part of) West Greek, witness Elean αϝλανεῡς 'all together'. Further evidence for the dialectal reflexes of *$l̥$ is extremely scanty. A potentially important form is Cret. αβλοπια 'condition of having done no harm', which could display an *o*-colored reflex of *$l̥$. If this interpretation is correct, it suggests that the vocalization of *$l̥$, like that of *$r̥$, took place in the individual West Greek dialects.

CHAPTER 11

Relative Chronology

Introduction

In this brief chapter I will reconsider the consequences of my findings in preceding chapters for questions of relative chronology. I will also investigate which role the vocalization of *$\mathring{r}$ may play in questions of Greek dialectal subgrouping.

11.1 The Vocalization of *$\mathring{r}$ as a Late and Dialectally Different Development

As we have seen in section 1.1.1, there is a fairly broad scholarly consensus that remaining instances of Proto-Greek *$\mathring{r}$ were eliminated in the mid-2nd millennium (around the 16th c. BCE) from all Greek dialects existing at that time. In chapter 3, this assumption received a first major blow when it was shown that word-internal *$\mathring{r}$ was preserved until the disintegration of Proto-West Greek. Furthermore, in chapter 2 and section 7.4 new arguments have been provided for the view of Heubeck (1972) that *$\mathring{r}$ may have been preserved in Mycenaean.

A third important conclusion is that the regular place of the anaptyctic vowel differed per dialect: the regular reflex is ορ in Arcadian, but ρο in the Aeolic dialects (cf. again chapter 3). This means that different processes of *ə*-epenthesis took place, which affected the rhythmical structure of the syllables in question in different ways. As a consequence, the date of this epenthesis may well have differed per dialect. For instance, it is possible that the vocalization *$\mathring{r}$ > *-ro-* in Proto-Aeolic was a typical and old characteristic of these dialects, which took place considerably earlier than the vocalization *$\mathring{r}$ in other dialect groups such as Proto-Ionic.

Thus, the mainstream view of an early across-the-board vocalization of *$\mathring{r}$ must be rejected, but the following questions still remain:

(1) When did *$\mathring{r}$ vocalize in the Ionic-Attic dialects?

(2) When was Epic *$\mathring{r}$ eliminated?

The main instrument we can use in answering these questions is relative chronology. In this chapter I will reconsider several words and epic formulae where the outcome of *$\mathring{r}$ feeds other sound changes. Such cases might furnish a *terminus ante quem* for the vocalization. We will also look for evidence where

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the vocalization of *$\mathring{r}$ is itself fed by other sound changes, providing indications for a *terminus post quem*.

11.2 Dating the Vocalization of *$\mathring{r}$ in Ionic-Attic

As far as we can tell, all varieties of Ionic-Attic agree almost entirely in their reflexes of *$\mathring{r}$. Not only is -αρ- found in the same derivationally isolated or lexicalized forms (e.g. τέταρτος, ἥμαρτον, κάρτα), but the same analogical developments have yielded -ρα- everywhere (e.g. aor. ἔδραμον after pf. δέδρομε). Moreover, the analogical leveling of root vocalism in 'Caland system' derivatives has taken place in an identical way in all varieties of Ionic-Attic. Thus, *a*-vocalism was introduced in κράτος 'power', κράτιστος 'best, superior', θάρσος 'courage' (replacing *κρέτος, *κρέτιστος, *θέρσος), but the original root shape was retained in Eastern Ion. κρέσσων, Att. κρείττων (with a secondary lengthening of the root vowel). It is possible to identify a few later changes, such as the productivity of the root allomorph θρασ- in Attic (which has more innovative forms with this root than Ionic), or the loss of the lexeme καταδαρθεῖν 'to go to sleep' in Ionic (retained in Attic), but these details do not change the general picture: the vocalization of *$\mathring{r}$ took place when Proto-Ionic was still a unity, prior to or during the Ionic migrations to Asia Minor. This takes us back to at least the 11th or possibly 12th c. BCE.

The generalizations and instances of leveling that occurred in spoken Ionic-Attic in κρατύς and related forms also presuppose the lapse of some time.[1] In chronological order, the most important changes are (IA = Ion.-Att. vernacular; E = Epic Greek):

- (IA 1) regular vocalization in καρτερός < PIon. *$k\mathring{r}ter\acute{o}$- and κάρτα < *$k\mathring{r}ta$, but analogically restored vowel slot in κρατύς < PIon. *$k\mathring{r}t\acute{u}$- and κρατέω < PIon. *$k\mathring{r}t$-$\bar{e}$-.
- (IA 2) spread of the allomorph κρατ- from κρατύς to forms with an original full grade *$kret$-, yielding κράτιστος, κράτος, -κρατής.
- (E 1) creation of κρατερός (replacing *$k\mathring{r}ter\acute{o}$-) beside καρτερός and κρατύς.[2]
- (IA 3, E 2) loss of κρατύς as a current form.
- (E 3) analogical spread of καρτ- from καρτερός (~ κρατερός) to κάρτος (~ κράτος) and κάρτιστος (~ vernacular κράτιστος).
- (E 4) creation of καρτύνω on the basis of κάρτος.

1 See chapters 4 and 5.

2 Note that the analogy giving rise to γλυκερός beside γλυκύς presupposes the phonetic reality of [ra] in κρατερός and the simultaneous existence of κρατύς.

However, on this basis it is difficult to give a more precise estimate of the date of the vernacular vocalization. The introduction of κρατ- in various derivatives may have been carried out in several steps, and is likely to have taken some time. If we assume a late 8th c. date for the *Iliad* and allow some time for these analogies to take place, the data indeed seem to be compatible with an 11th or 12th century date for the vernacular vocalization.

On the other hand, there are no compelling arguments for dating the Proto-Ionic change **r̥* > -αρ- further back, into the Mycenaean period. Previously, the argument for such a "high" chronology was based on the occurrence of *d*-epenthesis in Mycenaean, but in section 7.3.1 we have seen that this argument is invalid. As just mentioned, a retention of **r̥* in Mycenaean cannot be excluded. A new argument for a relatively early vocalization could be the idea that κυρτός 'humped' directly reflects PIE **kʷr̥-tó-* 'mutilated' (cf. section 1.3.2): this could be taken to imply that the fixation of the anaptyctic vowel before the liquid as [ər] took place prior to the elimination of labiovelars. However, it cannot be excluded that **kʷrtó-* was re-vocalized as **kurtó-* without an intermediate stage **kʷərtó-*, at a time when **r̥* was retained in other environments.

In my view, it would be attractive to view the Ionic-Attic vocalization to -αρ- and the unconditioned *a*-vocalization in most varieties of West Greek as part of the same development: the merger of [ə] with /a/.[3] The fixation of the vowel slot and the subsequent merger of [ə] with /a/ post-dated the splitting up of Proto-West Greek: sub-dialects of the West Greek group appear to waver between -ρα- and -αρ- as the regular reflex, and Cretan even has a conditioned *o*-reflex after labials. This suggests that the vocalization took place as the West Greek tribes were settling the habitats where they are attested historically, i.e. in the late 12th or (more probably) 11th c. Seen from this perspective, it is attractive to view the change **ə* > *a* as a late isogloss shared by Proto-Ionic and the mainland West Greek dialects. Indeed, West Greek and Proto-Ionic share other isoglosses that are plausibly dated to this period, such as the palatalization of labiovelars conditioned by following front vowels, or the 1st compensatory lengthening. The Aeolic dialects did not take part in these developments: they have **r̥* > -ρο- and do not show labiovelar palatalization except in τε and τις. This is remarkable in view of the probable geographic contiguity of the areas where West Greek and Aeolic dialects were spoken from

3 Note that in this statement, [ə] refers only to the epenthetic vowel emerging beside syllabic liquids that remained in existence after Proto-Greek. I am not speaking here about syllabic liquids in the environments **CL̥HC*, **CL̥HV* and **CL̥i̯* discussed in section 1.2, which were subject to an earlier epenthesis, nor about the reflexes of syllabic nasals.

the 11th c. onward. This divergence can be accounted for if the relevant developments had already taken place in Proto-Aeolic before that time, i.e. in the 12th c. or earlier.[4]

Thus, I arrive at the following estimates for absolute dates of the vocalization of *$\mathring{r}$:

– West Greek: *$\mathring{r}$ retained at least until the early 12th c. (*post quem*);
– Aeolic: *$\mathring{r}$ eliminated before the second half of the 12th c. (*ante quem*);
– Ionic: *$\mathring{r}$ eliminated before the 11th c. (*ante quem*);
– 'Achaean': *$\mathring{r}$ perhaps retained in Mycenaean.

11.3 Dating the Elimination of Epic *$\mathring{r}$

As argued in chapter 8, some forms with Epic *$\mathring{r}$ were replaced at an early date by an analogical form with -ρα-. Thus, κρατερός came into being when the root vocalism of κρατύς was introduced into the older form *$k\mathring{r}ter\acute{o}$-: in this way we may account for the prosodic behavior of κρατερός, as opposed to that of κραδίη. Other forms in which -ρα- may have been introduced at an early date are the thematic aorists ἔδραθον, ἔδρακον, and ἔπραθον.

Due to such developments, Epic *$\mathring{r}$ became a relatively marginal sound. For how long was it retained? The peculiar metrical behavior of κραδίη, of which the onset κρ- is not used to make position (cf. chapter 6), suggests that the elimination of Epic *$\mathring{r}$ was fairly recent. However, it is not possible to assume that Homer still retained $\mathring{r}$. First of all, the split between -ρα- and -ρο-, which was conditioned by the preceding consonant (chapter 7), speaks against such an idea. It must also be taken into account that Ἀφροδίτη, the pre-form of which had Epic *$\mathring{r}$, is attested with ⟨ρο⟩ already on the famous Nestor's Cup inscription from Pithecusa (dated to the last quarter of the 8th c.). Moreover, the following evidence proves that the composer(s) of the *Iliad* did not pronounce *$\mathring{r}$ anymore:

– In certain words whose pre-form started with consonant plus *$\mathring{r}$, the onset cluster *Cr-* is used to make length by position, even if this does not happen very often. For instance, Homer uses the onset of βροτός to generate length by position in 4 out of 41 instances (counting only those case forms of the simplex where such lengthening was an option): see section 7.2. Similarly, in

4 Cf. García Ramón (1975: 62–63), who arrives at a 12th c. date (before 1125) for PAeol. *$\mathring{r}$ > *ro*. However, I see no compelling reason for his view that all characteristic Proto-Aeolic developments necessarily took place *after* the Mycenaean period.

the *hapax* noun phrase δρατὰ σώματα, δρ- makes position; this is relevant if that phrase directly reflects an earlier **dr̥ta sōmata* (cf. section 6.9.1).
– *McL* is applied in forms of βροτός and two other frequent words of the same metrical structure (θρόνος, Κρόνος). However, this happens mainly in case forms that were otherwise excluded from hexameter verse, such as βροτῶν, βροτοῖσιν. In the simplex βροτός, *McL* is generally avoided in all case forms where it could be avoided, except in one instance in the *Odyssey*. The same distribution is found in compounds: ἄμβροτος, τερψίμβροτος, φαεσίμβροτος have -μβρ- with position length, while *McL* scansion is found only in the archaic forms ἀμφιβρότην, ἀμφιβρότης (formulaic ἀσπίδος ἀμφιβρότης 3× *Il.*) and the phrase νὺξ ἀβρότη.

These facts show that the phonological form of 'mortal' was no longer */mr̥tós/ when the *Iliad* was composed, but already /mrotós/ or (less likely) /brotós/. It is likely that the increased acceptability of *McL* in forms without etymological **r̥* (which is manifest already in the *Iliad*, cf. the formulaic phrases μεγάλοιο Κρόνοιο and Κρόνου πάϊς ἀγκυλομήτεω) was promoted by the vocalization of Epic **r̥*, and that it was due to this vocalization that *McL* was established as a license in the first place. I will return to this point below.

In the *Odyssey*, there are additional indications suggesting that Epic **r̥* had already been vocalized:
– The adjective θρασύς (cf. section 6.8.8) is preceded by the definite article ὁ at *Od.* 10.436, with the onset causing position length; the *Iliad* uses only the acc. sg. θρασύν, but never after a metrically guaranteed short vowel,[5] as well as the gen. pl. θρασειάων in a verse-final formula.
– Plural forms of θρόνος (a word which did not have Epic **r̥*) are widely used with *McL* scansion of the onset.

Another type of indication may come from examples where Epic **r̥* and **u̯* occur in the same context. The formal and thematic similarities between Hom. ῥοδόεντι and Myc. *wo-do-we* (cf. section 7.2.9) are best explained by positing a common pre-form **u̯r̥do-u̯ent-*, with Epic **r̥*. The *o*-colored reflex ῥο- in ῥοδόεντι (and in ῥόδον) presupposes that word-initial digamma was still in place when Epic **r̥* was vocalized. Likewise, if the formula ὑπόδρα ἰδών indeed reflects **upodr̥ u̯idōn* with Epic **r̥* (see section 9.5.2), it points in the same direction, as one would not expect **upodr̥ idōn* to develop into a form with hiatus. These observations may yield an important *terminus ante quem*. However, we must realize that Homer may still have pronounced digamma in words like ἰδών (**u̯idōn*) when these occurred in traditional epic material, notwithstanding the

5 In *Il.* 8.126, it is possible to assume the original presence of ephelcystic -ν in μέθεπε θρασύν.

fact that *μ- was clearly absent from words that had been introduced from the Ionic vernacular (cf. the scenario in section 6.7). In this case the forms ὑπόδρα ἰδών and ῥοδόεντι would lose much of their probative value for questions of relative chronology.

However this may be, we may safely conclude that Epic *$\wr r$ had been vocalized before the composition of the *Iliad*. On the other hand, it is not easy to give a more precise *terminus ante quem*. The metrical behavior of κραδίη (and the contrast with the metrical behavior of forms like κρατερός) is more easily accounted for if Epic *$\wr r$ was preserved relatively long. In view of this, I tentatively posit a continued presence of *$\wr r$ in Epic Greek until a few generations of poets before the composition of the *Iliad*.[6] It is conceivable in my view that the elimination of Epic *$\wr r$ was part of the Ionicization of Epic Greek, but to argue for this would require a deeper study into the distribution of Ionic innovations in Homer, which cannot be undertaken here.

Another indication suggestive of a similar date may come from the distribution of *McL* scansions in Homer. How could *McL* become acceptable as a license, and how much time do we need for the license to acquire the (still limited) productivity it has in Homer?

Traditionally, *PL*-clusters were realized as heterosyllabic in Epic Greek, at least within a phonological phrase. When the *Iliad* was composed, however, *PL*-clusters at the beginning of a prosodic word in contemporary spoken Ionic were probably realized as tautosyllabic under certain conditions, judging by the fact that such scansions occur every now and then in Homeric verse, also in words without etymological *$\wr r$ and in words with plosive plus *l* (cf. section 6.5). Tow diverging tendencies are observable. On the one hand, the comparative rarity of the new type of scansion, as well as the existence of avoidance strategies, show that the *Iliad* poet is still uncomfortable using it: compare the distributions of the noun βροτός just discussed. On the other hand, formulae like Κρόνου πάϊς ἀγκυλομήτεω could apparently proliferate within a short time span, perhaps due to the efforts of one poet (in this case, the chief composer of the *Iliad*). It is desirable to have an account of how and why the license spread.

As already surmised by Wathelet (1966: 172–173), analogical transfer of the new type of scansion from one word to another may have played an important role in its spread.[7] However, Wathelet's chronological scenario, in which the

6 In Van Beek 2013, I spoke of "one or two generations of poets", which is similarly vague. The point is that we are more probably dealing with a period of approximately one century, than with several centuries.

7 Wathelet also thought that tautosyllabic *PL* was originally admissible at the medial (third foot) caesura, and that only later it became admissible also at other places, when different

license came into being in or before the Mycenaean era (i.e. six to eight centuries before Homer) and spread only marginally to other words, is no longer tenable. In the light of the results obtained in chapter 6, the distribution of *McL* scansions in Homer may make more sense also from a chronological perspective. In particular, the license may have spread further on the basis of cases where the product of the vocalization of Epic **r̥* could be identified with a form current in the vernacular. There are several pairs of this type in Homer:

– the middle aorist τραπέσθαι, which directly reflects the old form **tr̥pesthai* in Homer but has an analogically levelled vowel slot in spoken Ionic;
– the preposition and preverb πρός, προσ- (highly frequent: ἔπεα πτερόεντα προσηύδα), which directly reflects **pr̥s-* < **pr̥ti̯-* in Epic Greek but arose by contamination with πρό, προ- in Proto-Ionic (cf. section 7.2.5);
– the same scenario applies to πρόσω 'forward' < **pr̥ti̯ō*;
– προκείμενα, which arose from the vocalization of Epic **r̥* in the pre-form **pr̥-keimena*, but was then identified as prefixed with προ- < PGr. **pro-*;
– Κρονίων < **Kr̥nu̯on-*: as suggested in section 7.3.6, this may be an old name or epithet of Zeus which was identified as a patronymic of Κρόνος (cf. Κρονίων < **Kroniōn-*) after the vocalization of Epic **r̥*;
– τράπεζα < **tr̥pedi̯a*, which according to the assumption made in chapter 6 had been borrowed into the Ionic and Attic vernaculars.

On the basis of such cases, it is easy to imagine innovations such as the following:

– the use of προκείμενα and πρόσω after $|_T$ enhanced the acceptability of προ- in compounds (e.g. ἦσι $|_T$ προθυμίῃσι πεποιθώς *Il.* 2.588, ἐρετμὰ $|_T$ προήκεα χερσὶν ἔπειγον *Od.* 12.205) and πρό in prepositional phrases (e.g. $|_T$ πρὸ ἄστεος ἡμετέροιο *Il.* 15.351) in the same metrical position;[8]
– the frequent occurrence of verse-final phrases like θῆκε Κρονίων may have licensed the creation of the verse in which Hera is named θυγάτηρ μεγάλοιο Κρόνοιο (4× *Il.*) (cf. section 7.3.5);

types of caesura became more prominent. Thus, as a second possible cause for the spread of *McL* he mentions "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 hémistiches des éléments formulaires qui, situés primitivement après la coupe médiane suscitaient un abrègement autorisé par la présence de la césure elle-même." In my view, this remark is based on a misguided conception of caesura, and it is more promising to admit that the tautosyllabic scansion of *PL*-onsets gradually conquered the prosodic hierarchy. I hope to make this argument more precise in a future publication (Van Beek in prep.).

8 For the occurrence of πρόσω after the trochaic caesura, cf. πρόσω τετραμμένος αἰεί (*Il.* 17.598), πρόσω ἄγε δῖα θεάων (*Il.* 18.388). Cf. also the use of forms of προσαυδάω in this position.

– the formula Μοῖρα κραταιή may have made the phrases τανύφλοιόν τε κράνειαν (*Il.* 16.767) and καρπόν τε κρανείης (*Od.* 10.242), with a rhyming onset, more acceptable;
– the formulaic phrase |$_{T}$ Κρόνου πάϊς (ἀγκυλομήτεω) has replaced Κρονίων (< **Kr̥nīu̯on-*) and its gen. Κρονίονος, which both occur in the same metrical position (cf. section 7.3.6).

As this brief recapitulation illustrates, it is not difficult to imagine how the new type of scansion spread relatively quickly from a small set of core instances, in which it originated from the vocalization of Epic **r̥*. This is another important argument for a relatively late, but clearly pre-Homeric vocalization of Epic **r̥*. Again, it is difficult to be more precise about the relative date with respect to the composition of the *Iliad*. On the other hand, it must be kept in mind that the innovative scansion was taken over by other lexemes only incidentally, and that the set of cases where it is structurally applied remains more or less stable in the *Odyssey*, Hesiod, and the four largest Homeric hymns. The spread of new formulaic phrases necessitating the use of *McL* scansion, such as Κρόνου πάϊς and μεγάλοιο Κρόνοιο, was clearly not commonplace.

11.4 Relative Chronology: Other Sound Changes

It is difficult to date the vocalization of word-internal **r̥* in the vernacular with respect to other sound changes. We have encountered the following potential clues, but unfortunately most of them do not yield very specific information:

– ὑπόδρα cannot be used as an argument for dating the vernacular vocalization of **r̥* to before the loss of word-final stops.[9] On the contrary, ὑπόδρα may prove that word-final **-r̥* > -αρ preceded the loss of word-final stops, and that the vocalization of word-internal **r̥* took place later.
– If τραυλός derives from **tr̥h-u-ló-* (most probably from **tres-* 'tremble' as in τρέω, cf. Batisti 2017b), as seems highly plausible, it follows that the anaptyctic vowel was in place before the loss of intervocalic **h*, which can be dated to the early Dark Ages (appr. 12th c. BCE).
– The noun τρήρων 'pigeon' derives from an adjective **trārós* 'timid' that could reflect **tr̥h-ró-*. Again, the root is the zero-grade of **tres-* 'tremble', and again, the vowel slot of the vocalized form **trəhró-* may have been influenced by that of the base verb. This case may show that the vocalization of **r̥* (including the coloring of the anaptyctic vowel) took place before the loss of coda

9 Pace Meier-Brügger (1992b) and Barnes (2011); see section 9.5.

/h/ before sonorants, which resulted in the first compensatory lengthening in most dialects. However, as argued in section 9.1.6, a pre-form **trəh-aró-* cannot be excluded. In both cases, we arrive at the 12th century as an approximate *terminus ante quem* for the epenthesis.

– It is not easy either to relate the vocalization of **r̥* to accentual developments. At first sight Wheeler's Law[10] seems to have operated in the dat. pl. ἀνδράσι, but there is no trace of it in ἀνδρακάς 'man by man'. However, ἀνδράσι may have generalized the "pen-initial" position of the accent (directly following ἀνδρ-) of the other genitive and dative forms in the paradigm, just like the stem-form ἀνδρ- itself may be analogical. As for ἀνδρακάς, it must be taken into account that all Greek adverbs in -άς are oxytone, so that the accent may have been generalized. In the case of καρτερός < **kr̥teró-*, it cannot be excluded that other adjectives in -ρός influenced the accentuation.

Fortunately, two of the formulaic phrases discussed in chapters 6 and 7 contain a definite indication which allows us to date the vocalization of **r̥* in relation to another sound changes. They provide a valuable *terminus post quem* and are discussed in the following subsections.

11.4.1 *The Formulaic Phrase φιλότητι τραπείομεν εὐνηθέντε*

The phrase φιλότητι τραπείομεν εὐνηθέντε "let us go to bed and satisfy ourselves" can be used as evidence once we have clarified the etymology of εὐνή 'bed; lair, den', which formed the basis for the denominative verb εὐνάω. In Van Beek 2013, I already proposed that εὐνή can be compared etymologically with the Indo-Iranian word for 'abode, safe place; womb', Ved. *yóni-* m. and YAv. *yaona-*. In a forthcoming paper, I argue for this etymology in more detail.[11] In what follows I therefore assume that the Proto-Greek pre-form of εὐνή was **i̯eunā*.

As we have seen in chapter 6, the odd root shape τραπ- in the 1pl. aor. subj. τραπείομεν is due to the vocalization of Epic **r̥* to -ρα-. Let me briefly review the arguments for regarding the verse end φιλότητι τραπείομεν εὐνηθέντε as old. First of all, everything else being equal, it would be unclear why a second hemistich starting with the outlandish form |$_{\text{T}}$ τραπείομεν was preferred over one starting with |$_{\text{P}}$ ταρπείομεν, with the regular aorist subjunctive. This strongly suggests that the entire phrase, including φιλότητι, existed before the elimination of Epic **r̥*. This is confirmed by the syntactic analysis of the formula by Latacz (1966: 185), according to which the locative (ἐν) φιλότητι is a complement to

10 Retraction of an oxytone accent to the penultimate syllable in words of dactylic rhythmical structure.

11 Van Beek fthc.

εὐνηθέντε. The presence of (ἐν) φιλότητι in the original shape of the formulaic phrase explains why **tr̥pēomen* was artificially preserved, and why the regular form **tarpēomen* was never introduced before εὐνηθέντε.

The original formula must therefore be reconstructed as **pʰilotāti tr̥pēomen (i̯)eunātʰente*. It now becomes clear that the formula cannot have been coined before the loss of initial *yod*: in a form with **i̯eunātʰente* it would not scan, neither in the dactylic hexameter nor in any of its proposed predecessors.[12] In this way, I arrive at the following chronology:

1. Lenition of initial *yod*: **i̯eunātʰente* > **(ʰ)eunātʰente*
2. Creation of the formula **pʰilotāti tr̥pēomen (ʰ)eunātʰente*
3. Epic **r̥* > -ρα-, raising of **ā* to **ǣ*, quantitative metathesis **ēo* > εω, and adaptation of epic **ēo* to -ειο- eventually yielded the attested φιλότητι τραπείομεν εὐνηθέντε.

If we wish to utilize the formula as evidence for a relative chronology, we have to ascertain ourselves that the form **tr̥pēomen* (with Epic **r̥*) could not be used productively in its metrical slot following |$_{\text{T}}$, for in that case **pʰilotāti tr̥pēomen eunātʰente* may have been formed at any later time before Epic **r̥* was eliminated.[13] Fortunately, such a scenario indeed seems rather unlikely. A retention of the relic phoneme **r̥* in this specific form **tr̥pēomen* would have been undesirable because of the potential homonymy with the aorist of τρέπω 'to turn'. Indeed, middle forms of the thematic aorist **tr̥p-e/o-* with Epic **r̥* are reflected as τραπέσθαι (there are 7 instances of this stem with *McL* in Homer, cf. section 6.8.9). Moreover, the metrical structure of the vernacular stem form ταρπη- was unproblematic. This means that an incentive to preserve the stem **tr̥p-ē-* (and for preferring it over regular ταρπη-) existed, and this incentive was precisely the occurrence of **tr̥pēomen* in a formula that bridged the third foot caesura. It is therefore highly probable that the phrase **pʰilotāti tr̥pēomen eunātʰente* was created before (or not very long after) the vocalization of **r̥* in *some* Greek vernacular of the late second millennium.

We may now try to establish, with all due caution, a more precise date for the vocalization of **r̥* in Proto-Ionic. As is well-known, etymological word-initial *yod* is sometimes written on the Mycenaean tablets, but not always. An important word in this connection is the correlative temporal conjunction *o-te* 'when'

12 In theory, one could try to avoid this conclusion by assuming that the subjunctive originally had secondary endings, and that the secondary first plural (or dual) ending was still optionally **-me* (cf. Ved. *-ma*) when the formula was coined. This assumption would, however, be completely gratuitous and without further support from attested Greek.

13 The only other Homeric subjunctive 1st pl. forms in -είομεν are κιχείομεν *Il.* 21.128, καταθείομεν *Od.* 21.264, θείομεν (several times), and the unclear ἐρείομεν *Il.* 1.62.

(class. ὅτε), which is attested four times in Linear B. Moreover, variant spellings of the same form occur, such as the forms of the relative pronoun *jo-* beside *o-* (on which see Probert 2008), and in the agent noun *a_2-ke-te-re* (KN) beside *ja-ke-te-re* (PY), perhaps representing */jakestēres/ 'menders'.[14] It follows that initial *yod* had disappeared before our first attestations of Linear B, but not long before that.[15] Similarly, that word-internal *yod* had already been lenited in Mycenaean is shown by the spelling of adjectives of material, where forms ending in *-Ce-jo* alternate with *-Ce-o*.

There are no unambiguous metrical traces of initial **i̯-* in Homeric Greek. The hiatus in the old verse-final formula πότνια Ἥρη cannot count as compelling evidence, as the etymological connection of Ἥρη with the word for 'year' (García Ramón 2016b), though not implausible *per se*, is not ascertained.[16] This virtual absence of traces of **i̯-* in Homer is compatible with the idea that this sound was lenited relatively early in most Greek dialects, around the same time as in Mycenaean.

The above argument concerning the formulaic phrase φιλότητι τραπείομεν εὐνηθέντε shows that at least in one Greek dialect of the Late Bronze Age, the vocalization of **r̥* took place after the loss of word-initial *yod*. It is hazardous to go any further than this, as we do not know for certain which dialect was spoken by the singers who composed the formula.[17] If we were to assume that the verse under discussion was formed by a singer whose mother tongue was Mycenaean (or a closely related dialect), it may have been formed either during the period in which the tablets were written, or else not long before that.[18]

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14 The form *a-ke-te-re* (PY Jn 832.1) may belong to a different lexeme in view of the absence of the sign *a_2-* writing initial aspiration; it is perhaps related to the feminine forms *a-ke-ti-ri-ja* (KN), *a-ke-ti-ra$_2$* (PY), *a-ze-ti-ri-ja* (KN), which seem to represent /askētriai/, a derivative of ἀσκέω.

15 It is less likely that initial *yod* was only in the process of disappearing as the tablets were written (Ruijgh 1967: 64). Willi (2009: 253) tries to push back in time the *terminus post quem* for the lenition of *yod*, arguing that all we can say is that it must have occurred after the adoption of Linear B as a means to write Greek.

16 The verse-end πότνια Ἥβη (only *Il.* 4.2) may obviously have been created on the basis of πότνια Ἥρη. On the other hand, it cannot be excluded that πότνια Ἥρη (which is clearly a very old formula, cf. the extended form βοῶπις πότνια Ἥρη with a violation of Wernicke's Law) is the only trace left of hiatus deriving from the loss of initial *yod*.

17 Note that the vocalism of the form τραπείομεν does not help us to determine this dialect, as -ρα- is simply the regular reflex of Epic **r̥*.

18 Given the general paucity of discernable phonological differences between Mycenaean and reconstructed Proto-Ionic, we may assume a similar date for the lenition of *yod* in the latter subgroup. Therefore, the same chronological conclusion would be plausible if we assumed that the formula was coined by singers working in a hypothetical Old Ionic tra-

Nevertheless, we may draw at least one significant conclusion: it is implausible that Homeric formulae with a metrical trace of *$\mathring{r}$ date back to the mid-second millennium. Whenever there is reason to assume that formulae with a trace of *$\mathring{r}$ are old, they may have been formed as late as the 13th or 12th c. BCE, or perhaps even slightly after that.

11.4.2 *The Formulaic Phrase ἀνδροτῆτα καὶ ἥβην*

Without a doubt, the second hemistich λιποῦσ' ἀνδροτῆτα καὶ ἥβην "leaving behind manly strength and the vigor of youth" is archaic: the pair of hexameters in which it occurs is used on two key moments in the story of Achilles and his wrath, the deaths of Patroclus and Hector, and it is likely to have occurred in epic poems describing the death of Achilles.[19] An examination of typical death scenes in the *Iliad* shows that there were plenty of other ways of versifying the death of a hero, and it would be extremely unlikely that poets celebrated the most heroic deaths of all with a metrically flawed verse. Therefore, the aberrant scansion of ἀνδροτῆτα in its Homeric contexts is acceptable only if we assume that the phrases in which this form occurred were *traditionally* correct and appropriate.

In section 7.3.1, I have proposed a scenario accounting for the origin of the phrase ἀνδροτῆτα καὶ ἥβην, and argued that it indeed contains the reflex of *$anr̥tāta$*. Let us now consider *when* the pre-form of this formulaic phrase may have come into being. The form *$anr̥tāta$* must have been part of the epic tradition already before forms displaying the Proto-Ionic sound change *$\mathring{r}$ > -αρ- became available, that is, either before this sound change took place in the Ionic vernaculars, or before the language of epic was Ionicized. In either case, we may assume that the formula containing *$anr̥tāta$* was at first retained with Epic *$\mathring{r}$. Later, when Epic *$\mathring{r}$ was eliminated, *$anr̥tāta$* developed into *$anratētā$*, and this form was eventually replaced by ἀνδροτῆτα (by contamination with forms containing a first member ἀνδρο-). As we have seen in chapter 7, it is possible that the "monumental composer" of the *Iliad* still sung a form with *$-nr-$. This would align the present case with instances of word-internal *muta cum liquida* scansion that arose due to the vocalization of Epic *$\mathring{r}$ following a nasal, such as ἀβροτάξομεν (reflecting *$amr̥t-$).

The next question to ask is: what was the shape of this formulaic phrase when it was first coined? In his earlier work, Ruijgh took great trouble argu-

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dition. Concerning the Aeolic dialects and a putative Aeolic tradition, matters might be different, as the vocalization of *$\mathring{r}$ may have been a relatively early development in that group.

19 Cf. Barnes (2011: 2–5).

ing that ἀνδροτῆτα καὶ ἥβην is ultimately of "Achaean" origin. In his framework, however, this would require that the Homeric formula is a transformation of a different, older Mycenaean prototype. One of his latest attempts to resolve the problems involved deserves to be quoted in full (Ruijgh 1997: 43–44):

> L'expression ἀνδροτῆτα καὶ ἥβην ne peut pas remonter à la phase mycénienne: myc. *ἀ(ν)δροτᾶτα κασὶ *h*ήγ^{w}ᾱν (ou *y*ήγ^{w}ᾱν) 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 *ἀνϝτᾶτ' ἰδὲ γήγ^{w}ᾱν 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 à postuler une formule proto-mycénienne *ἀνϝτᾶτα 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.

In other words, there are reasons to doubt that the coordinated noun phrase ἀνδροτῆτα καὶ ἥβην has a Mycenaean origin.

First of all, the conjunction used to connect noun phrases in the Linear B tablets is *-qe*, rather than καί or a putative ^{x}*kas*. A second potential problem, not mentioned explicitly by Ruijgh, is that the expected reflex of **anr̥tāta* would be Mycenaean ^{x}*a-no-ta-ta*, for Mycenaean did not have /ro/ as the regular reflex of **r̥*. Ruijgh's answer to this problem of chronology is to assume that the phrase containing **anr̥tāta* was coined well before our attestations of Mycenaean, in what he calls the "proto-Mycenaean" period (i.e. the 16th or 15th c. BCE).

This, however, leads to metrical problems: at that time, and in a shape with καί, the formula would have been unmetrical as a second hemistich because the pre-form of ἥβη then still had its initial *yod*. Indeed, this noun is generally considered to be etymologically related to Lith. *jėgà* 'vigor, strength', Latv. *jēga* 'strength; sense' and the verb Lith. *jẽgti*, *jẽgia* 'to be able, be strong'. A comparison of the forms attested in various Greek dialects and literary authors yields a

Proto-Greek noun **i̯ēgʷā* 'vigor',[20] and the Baltic forms can be derived from PIE **(H)i̯eh₁gʷ-eh₂* or **(H)i̯ĕgʷ-eh₂*, depending on one's views on the accentuation of Balto-Slavic long vowels.[21]

These problems lead Ruijgh to his new reconstruction **anr̥tāta menos kʷe*. This suggestion fails for a simple reason: if this was indeed the oldest shape of the formula, there would have been no obvious reason to replace the outcome μένος τε with καὶ ἥβην, as coordinated noun phrases of the type [A] [B τε] were still current in Homeric Greek (cf. μάχη πόλεμός τε, the phrase quoted by Ruijgh). Ruijgh therefore speculated that epic singers introduced the lexeme ἥβη in order to underline the idea of a premature death. This seems highly unlikely to me because Homer also uses the phrase ἀνδροτῆτά τε καὶ μένος ἠύ (*Il.* 24.6) as an equivalent of ἀνδροτῆτα καὶ ἥβην, again in a context dealing with the premature death of Patroclus.

I see no sufficient reason to analyze ἀνδροτῆτα καὶ ἥβην as the transformation of a formula that had become unmetrical, or to assume that the formula dates from before our attestations of Mycenaean. Fortunately, as we have seen in section 7.3.1, a simple solution is available. The chronological problems cease to exist if we accept the possibility that **r̥* was still preserved in the late Mycenaean period and even into the second half of the 12th c. BCE, when καί proliferated as a conjunction in certain dialects, including Proto-Ionic. It is in such a late Mycenaean or sub-Mycenaean context, when initial *yod* was no longer a prosodically relevant factor, when **r̥* may still have been preserved, and with καί available as a conjunction, that the pre-form of ἀνδροτῆτα καὶ ἥβην may have been coined. As we have seen in section 7.3.1, this is also the conclusion reached by Heubeck (1972). Within the present scenario, the form **anr̥tāt-* underwent the regular phonological development of Epic **r̥* to -ρα-, and was subsequently contaminated with compounds in ἀνδρο- to yield the attested ἀνδροτῆτα.

For the purpose of relative chronology, the formula ἀνδροτῆτα καὶ ἥβην confirms the conclusions reached in the preceding section: in certain prehistoric varieties of Greek, **r̥* remained intact until after the lenition of word-initial *yod*, which took place in or slightly before the 14th c. BCE.[22]

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20 Pindar has ἥβα, and West Greek and Aeolic inscriptions have this form too (Lex Gortyn ηβιω, Locr. ηβατας *IG* IX,1² 9(1) 334, Thess. ειβατας). The form ἄβα in Alcaeus (fr. 101) and Callimachus (*Id.* 1.44 and 30.20) is probably a hyper-Aeolism.

21 It must be noted, however, that Lith. *jẽgti, jẽgia* and *jėgà* (accent paradigm 4) have a circumflex root. This could be a case of *métatonie douce* in a deverbal Lithuanian *ā*-stem, on which see Derksen (1996: 141–143).

22 It seems likely to me that **anr̥tāt-* 'force' was already a poetic relic word in the second millennium. Therefore, it cannot be entirely excluded that **anr̥tāt-* remained in more general

11.5 Conclusions

I arrive at the following relative chronology for the developments that took place between Proto-Greek and Proto-Ionic:

1.	word-final *$\mathring{r}$ > *-*ər* (PGr.)	Before 2. (ὑπόδρα)
2.	loss of word-final stops (PGr.)	Before 6. (ὑπόδρα)
3.	*$k^{w}et\mathring{u}\mathring{r}$- > *$k^{w}et\mathring{r}$- (PGr.)	Before 6. (τέταρτος)
4.	*d*-epenthesis in intervocalic *-nr-*	Pre-Linear B
5.	lenition of word-initial *$\mathring{i}$- (PIon.)	Before 6. (τραπείομεν εὐνηθέντε)
6.	word-internal *$\mathring{r}$ > -αρ- (PIon.)	
7.	loss of intervocalic *-h-* (PIon.)	After 6. (τραυλός)
8.	loss of coda *-h-* before sonorant with 1st CL (PIon.)	After 6. (τρήρων)

Then, Epic Greek underwent the following additional changes. The term "Epic *$\mathring{u}$" refers to instances of digamma that may have been preserved in traditional contexts after the sound had been lost from contemporary Ionic.

9.	vocalization of Epic *$\mathring{r}$ > ρα, ρο	Before plm. 725 BCE (Ἀφροδίτη)
10.	loss of Epic *$\mathring{u}$	After 9. (ὑπόδρα ἰδών, ῥοδόεντι)
11.	*C*-epenthesis in **anratāta*, **amrotos*	After 9.

It is uncertain whether changes 10. and 11. took place before or after the composition of the *Iliad*; in my view the second option is more likely.

Note that this relative chronology relies partly on the assumption that Proto-Ionic and Mycenaean underwent similar phonological developments in the later Mycenaean period, from the 15th c. BCE onwards. Word-initial *yod* had been lenited not too long before attested Mycenaean; intervocalic *h* still functioned as a normal consonant in Mycenaean and was lost only in the 12th c. BCE or soon after.

The assumed sub-Mycenaean date for the vocalization of *$\mathring{r}$ in Proto-Ionic and in the 'Achaean' dialects has the following advantages:

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use in the epic tradition (not only in the formula under discussion) after the vernacular vocalization of *$\mathring{r}$. At least in theory, it is possible to assume the following chronology of changes: (1) *$\mathring{r}$ was vocalized in the vernaculars, but **anṛtāta* was preserved with Epic *$\mathring{r}$; (2) lenition of word-initial *yod*; (3) creation of the phrase **anṛtāta kai ʰēbān*. This somewhat diminishes the evidential value of the formula **anṛtāta kai ʰēbān* as a means to date the vocalization of *$\mathring{r}$ in the Greek *vernaculars*.

1. It yields a more realistic time frame for the preservation of *$\mathring{r}$ in Epic Greek.
2. It offers the possibility to derive epic words like ῥοδόεντι and τράπεζα directly from a Mycenaean source form with *$\mathring{r}$.
3. It allows us to explain how the formulae φιλότητι $|_{\mathrm{T}}$ τραπείομεν εὐνηθέντε and $|_{\mathrm{H}}$ ἀνδροτῆτα καὶ ἥβην came into being, assuming that they were created when *$\mathring{r}$ was still present in the (Mycenaean or Proto-Ionic) vernacular after the loss of initial *yod*, but before the loss of word-internal *-h-*.

CHAPTER 12

Conclusion

Introduction

In this concluding chapter, the answers to the research questions posed in chapter 1 are presented. The main results are summarized and evaluated in a wider context.

In section 1.2, three environments were distinguished in which an anaptyxis took place beside *$\mathring{r}$ and *$\mathring{l}$ as early as Proto-Greek:

– PIE *$C\mathring{r}HC$ / *$C\mathring{l}HC$ > *$CrəHC$ / *$CləHC$ > *$Cr\bar{V}C$ / *$Cl\bar{V}C$ (*$g^{w}\mathring{l}h_1tó$- > βλητός 'hit'; *$k\mathring{r}h_2tér$- > κρᾱτήρ 'crater'; *$ǵ^{h}\mathring{l}h_3ró$- > χλωρός 'pale');[1]
– PIE *$C\mathring{r}HV$ / *$C\mathring{l}HV$ > *$CərHV$ / *$CəlHV$ > *$CarV$ / *$CalV$ (e.g. βαρύς 'heavy' < *$g^{w}\mathring{r}Hús$);[2]
– PIE *$C\mathring{r}\underset{\frown}{i}V$ / *$C\mathring{l}\underset{\frown}{i}V$ > *$Cər\underset{\frown}{i}V$ / *$Cəl\underset{\frown}{i}V$ > *$Car\underset{\frown}{i}V$ / *$Cal\underset{\frown}{i}V$ (e.g. χαίρω 'to feel good' < *$ǵ^{h}\mathring{r}$-$\underset{\frown}{i}e/o$-).

Leaving aside these environments and focusing on cases of *$\mathring{r}$ and *$\mathring{l}$ that were retained until after Proto-Greek, my aim in this book was to answer the following three questions:

– What was the regular development of *$\mathring{r}$ and *$\mathring{l}$ in the major Greek dialect groups?
– Which developments did forms with etymological *$\mathring{r}$ undergo in Epic Greek?
– What can be inferred, from the vocalization of *$\mathring{r}$ as an isogloss, about the genesis and prehistory of the four main dialect groups? And about that of Epic Greek?

12.1 Philological Results and New Etymologies

Many of the conclusions reached in this book were obtained as the result of a fresh examination of philological data. Since I consider these results to be

1 A disyllabic reflex *$CVrVC$ / *$CVlVC$ is also found, e.g. in ταράσσω 'to agitate', παλάσσω 'to soil', but the conditions (and partly the exact outcomes) are still debated: see section 1.2.1.

2 Aeol. τόμοντες and χόλαισι, attested in the manuscript tradition of Alcaeus, do not warrant the reconstruction of a Proto-Greek *shwa*, which would have merged with either /a/ or /o/ depending on the dialect. See section 1.2.1.

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no less important than the answers to the more general questions posed in chapter 1, I will summarize some of the main results here, partly in order to illustrate how I view the role of philology and etymology in linguistic arguments. In the end, historical language reconstruction depends heavily on etymology, and having a clean data set is of vital importance. Conversely, paying close attention to the actual use of words in their contexts usually leads to more sound etymological judgements as well as to more interesting readings of ancient texts. Perhaps, in this way we may contribute to re-establishing the long-lost connections between historical linguistics and classical philology.

New interpretations have been proposed for, among others:

– Myc. *ka-po*: it has been argued (section 2.2) that the interpretation 'fruit' (corresponding to καρπός) is highly uncertain, and that 'plantation' (corresponding to Class. κῆπος) is at least as likely. This helped us eliminate a key example for the idea that Mycenaean has secondary 'morphologically conditioned' reflexes of **r̥*.
– Myc. *to-ro-no-wo-ko*, which is usually interpreted as 'chair-makers' without further ado. It has been argued (section 2.5.2) that the connection with the Homeric *hapax* θρόνα is in fact much more attractive than that with Myc. *to-no* 'chair'. I have shown that θρόνα probably referred to dyed fabrics, and that the same sense is presupposed by many compounds in -θρονος. As a consequence, it is quite plausible that the *to-ro-no-wo-ko* mentioned at Knossos were workers in the dye or textile industry.
– While considering the Homeric evidence, special attention has been devoted to an analysis of the metrical and prosodic behavior of words, and to the possibility to determine the antiquity of formulae. For instance, in evaluating the prosodic behavior of the onset of Κρόνος and Κρονίων, it was shown with new arguments that the formulaic phrase Κρόνου πάϊς (with or without ἀγκυλομήτεω) must be a replacement of Κρονίων before the bucolic dieresis (sections 7.3.5-6). Also, it has been shown that the prosodic behavior of Κρονίων is suggestive of a dual etymological origin. This conclusion, in turn, has been used to exclude Κρόνος from the compelling evidence for **r̥* in Epic Greek.
– As for Ἀφροδίτη, it has been pointed out before that the *muta cum liquida* scansion of -φρ- is completely aberrant with respect to the normal syllabification rules of word-internal plosive plus liquid groups in Homeric Greek. Previously, this has been interpreted as implying that Aphrodite was a relatively recent introduction into the epic tradition (and into Greek generally) from an unidentified Near Eastern donor language. To this account, I have objected (section 7.2.8) that Aphrodite's system of name-epithet formulae is deeply entrenched in the epic tradition. Modifying a proposal by Witczak

(1993), I have tentatively proposed that the name of the goddess reflects the feminine form of a compound *$ap^hr̥$-*dī-to-* 'who appears forthwith' (cf. ἄφαρ 'suddenly' < PIE *h_2eb^hr, and PIE *dih_2- 'shine; appear').

– ἀτραπός ~ ἀταρπός: starting from the actual use of this noun in Homer and classical authors, I have argued (section 9.6.3) that it does not refer to a well-trodden path, but rather to trails and shortcuts, i.e. to untrodden paths. As a result, it can be reconstructed as the substantivization of an adjective *$n̥$-*tr̥p-o-* related to τραπέω 'to tread (grapes)'.
– προκείμενα 'lying ready, served out' (of comestibles) does not contain the preverb προ- 'in front'. Since the meaning of προκείμενα suggests a connection with παρατίθημι 'to serve out food', the form has been reinterpreted in section 7.2.7 as the reflex of *$pr̥$-*keimena*, with a relic preverb *$pr̥$- that also underlies παρ-, παρα-.
– στρατός 'army; army camp': it has been recognized before that this noun was not derived from the root of στόρνυμι, στρωτός (which ended in *h_3), but from a different root *ster- meaning 'to lay low'. However, the formation of στρατός and the semantic development to 'army' were not well understood. I have argued (section 6.8.7) that στρατός is a regular verbal adjective in *-to-* meaning 'brought into submission', and that it originally referred to the body of subjects of a ruler.

New reconstructions or derivations have been proposed for, among others:

– ἄρχω 'to be first; rule', which in my view is related to Hitt. *šarku-* 'pre-eminent, powerful' and Toch. B *ṣärk-* 'to surpass' (section 9.6.2). It may reflect either a zero grade thematic present *$sr̥ǵ^h$-*e/o-* (PGr. *$hr̥k^he/o$-) or an inchoative present *$sr̥K$-*ske/o-* (PGr. *$hr̥sKe/o$-).
– The root of γλαφυρός 'hollow' and the verb γλάφω 'to scoop, dig out' has been reconstructed as the zero grade of PIE *g^wleb^h- 'hollow; womb', with a well-paralleled dissimilation of the initial labiovelar against the labial stop in the following syllable. In this way, the words obtain a semantically satisfactory etymology.
– For γράω 'to eat' and γαστήρ 'stomach' a root reconstruction *$gr̥n̥s$- has been advocated; in this way the dialectal *a*-reflexes can be accounted for.
– Concerning the aorist ptc. δρακείς attested in Pindar, I have argued that the widely accepted reconstruction as an inherited root aorist form cannot be maintained (section 8.5). Instead, the form is secondary for Homeric ἔδρακον. As a consequence, there is no reason to reconstruct an *e*-grade allomorph of the participle suffix -(*o*)*nt*- for PIE.
– In section 10.5.3 I have proposed that κάλλος 'beauty' and related 'Caland' forms derive from a lost present stem *κάλλω 'to stand out, excel', itself reflecting an inherited nasal present *kl-*n*-h_1- related to Lat. *ex-cellere*.

– πέρθω 'to raze, pillage': noting that the verb is also used in the meaning 'to cut off hair', I have proposed in section 8.3.2 to derive it from a PIE root *b^her(s)d^h- 'to cut off, shear' as also reflected in the word for 'beard', *b^hor(s)d^h-eh_2- (Lith. *barzdà*, Ru. *borodá*, OHG *bart*).
– προτί, πρόσω, πρόσωπον: the pre-form of προτί is normally posited as PIE **proti* in view of the *o*-vocalism of πρός in Ionic-Attic. Against this, I have argued (section 7.2.5) that the prosodic behavior of προτί, πρόσωπον and πρόσω in Homer as well as the Cretan form πορτι speak in favor of a reconstruction **pr̥ti*.
– τράπεζα: it has been argued in section 2.3.1 that τράπεζα 'table' (Myc. *to-pe-za*) contains as its first member a relic form not of the numeral 'four', but of 'three'. Thus, its pre-form was *$t_{\breve{r}}$-ped-ih_2, not *$k^wtu_{\breve{r}}$-ped-ih_2. This reconstruction corresponds well to the *realia* as attested in the archeological record, and at the same at helps us understand the reflex of the onset (*$k^wtu_{\breve{r}}$- would not yield *$t_{\breve{r}}$-).
– Paying close attention to its semantics, I have reconstructed φράσσω 'to fortify, fence in' as a denominative verb to the PIE root noun *$b^her\acute{g}^h$-, *$b^hr̥\acute{g}^h$- 'elevation, stronghold' (section 9.2.3).

12.2 Regular Reflexes of PGr. *$r̥$ in Dialects Other Than Ionic and Attic

Table 27 (next page) presents my findings concerning the outcome of *$r̥$ per dialect group.

For the Aeolic dialects, the widely accepted claim that *o*-vocalism was regular (independent of the surrounding consonants) has been vindicated.[3] In addition to this, a more specific conclusion has been reached: the only regular Aeolic reflex of *$r̥$ is -ρο-; whenever word-internal -ορ- < *$r̥$ occurs in Aeolic dialects, it can be analogical. In this respect, the Aeolic dialects differ from the other Greek dialect groups for which sufficient data are available, and also from most other Indo-European languages (with the exception of Proto-Celtic, where *$r̥$ yielded *ri* before stops and *m*).[4] The development *$r̥$ > -ρο- is ascertained for Lesbian and Boeotian and also highly probable for Thessalian, and therefore must be a common Aeolic innovation. Thus, it becomes an even more important argument in favor of reconstructing Proto-Aeolic.

3 *Pace* Parker (2008).
4 Cf. OIr. *cride* < *$k̑r̥d$-$i̯o$-, MIr. *brí* 'hill' < PIE *$b^hr̥\acute{g}^h$-.

TABLE 27 The reflexes of Proto-Greek word-internal *$\mathring{r}$

Dialect group	Sub-dialect	Regular reflex of word-internal *$\mathring{r}$
'Achaean'	Mycenaean	⟨*-Co-*⟩, representing *-$\mathring{r}$-* or *-or-* Possibly also ⟨*-Ca-*⟩, for *-$\mathring{r}$-* or *-ar-*
	Arcadian	-ορ-
	Cyprian	Uncertain whether *-ro-* or *-or-*
Aeolic	All varieties	-ρο-
Ionic-Attic	All varieties	-αρ-
West Greek	Cretan	-αρ-, but -ορ- after $C_{[+lab]}$
	Other varieties	Some evidence for both -αρ- and -ρα-
Epic Greek	Homer	-ρα-, but -ρο- after $C_{[+lab]}$

Another dialect group for which I have been able to draw novel conclusions is West Greek, and in particular Cretan. It is usually assumed that Cretan underwent a liquid metathesis of -ρα- and -ρο-. However, in section 3.1 I have argued that liquid metathesis does not account for the Cretan evidence, and proposed that the regular reflex of *$\mathring{r}$ was -αρ- as a default, but -ορ- after labial consonants. Possible evidence for the same development is found on Thera (and in Cyrene, which was founded by Theran colonists), but the evidence in these two dialects consists mainly of personal names. The evidence from most other West Greek dialects shows that the reflex was *a*-colored, but the regular vowel slot seems to differ per dialect. For instance, in Elean and Syracusan there is lexicographical evidence for a regular reflex -ρα-, but in Argolic there is some epigraphic evidence for a regular reflex -αρ-. In general, the evidence in these dialects is not sufficiently numerous to draw clear conclusions.

In Mycenaean there is hardly any evidence in which the reflex of *-$\mathring{r}$- is written with signs of the shape ⟨*Ca-*⟩. A possible exception is the form *tu-ka-ṭą-ṣį* 'daughters' attested for Mycenae. Furthermore, the spelling of the Mycenaean evidence clearly excludes that *-$\mathring{r}$- developed to *-ro-* (except in cases where the reflex was analogically influenced): the regular reflex is spelled ⟨*Co-*⟩, never ⟨*Co-ro-*⟩. There are two possibilities to interpret this spelling ⟨*Co-*⟩ (and ⟨*Ca-*⟩):

(1) spellings like *to-pe-za* represent /torpeddʲa/, with *$\mathring{r}$ > *or*. Possibly, this reflex was conditioned by a preceding or following labial consonant, cf. *tu-ka-ṭą-ṣį*.

(2) *$\mathring{r}$ was preserved in Mycenaean, but the syllabary had no separate series to distinguish this type of nucleus from *-o-* (or *-a-*). Therefore, /trpeddʲa/ was rendered as *to-pe-za*.

In Arcadian the evidence is just sufficient to conclude that the unconditioned regular reflex of *$\mathring{r}$ was -ορ-, as established before by Haug (2002). In Cypriot, it is likely that the reflex of *$\mathring{r}$ was also *o*-colored (*ka-te-wo-ro-ko-ne*, *to-ro-su-ta-mo-se*), but no definite conclusions can be drawn concerning the regular vowel slot. The evidence for an *a*-outcome in Cypriot is weak. Finally, in Pamphylian there is some evidence for a reflex -ορ-, but it is so marginal that drawing conclusions is not feasible. Interestingly, syllabic liquids in words borrowed by Pamphylian from Lycian and related Anatolian languages are reflected as -ρε-, -λε- (cf. Pamph. PN Τρεμιλας beside Ion. Τερμίλαι (Hdt.) from Lyc. *trm̃mili-*; Pamph. Στλεγιυς corresponding to the toponym Ion. Σέλγη), suggesting that inherited syllabic liquids were vocalized before such words were borrowed.

In most dialects there is no reason to assume variation between the reflexes of *$\mathring{r}$ and *$\mathring{l}$: for instance, Aeolic has *$\mathring{r}$ > ρο, Arcadian has *$\mathring{r}$ > ορ, and the Cypriot evidence does not allow for a conclusion. The problem of the double reflex (αρ versus ρα) is an issue only for Ionic-Attic.

12.3 Special Reflexes of Proto-Greek *$\mathring{r}$

12.3.1 *Quality of the Anaptyctic Vowel*

An unconditioned *o*-reflex of syllabic liquids is characteristic of two dialect groups, Aeolic and Arcado-Cypriot. Since Morpurgo Davies (1968), it has been repeatedly claimed that the *o*-reflex in Aeolic, Arcadian and Cypriot was conditioned by a neighboring *u̯*. However, as argued in chapter 3, forms like Aeol. στρότος 'army', Arc. τετορτος 'fourth' and the Cypriot name *to-ro-su-ta-mo* show that the *o*-reflex in these dialects was regular also in a non-labial environment.

Evidence for a *conditioned o*-reflex is found in the following varieties of Greek:

– Cretan: ορ after labials, αρ elsewhere (section 3.1).
– Homer: artificially retained Epic *$\mathring{r}$ > ρο after labials, ρα elsewhere (chapters 6 and 7).

Further possible evidence for a conditioned reflex could be seen in:

– Mycenaean: I have left open the possibility that the regular *o*-series spellings (as in *wo-ze* or *to-pe-za*) are notations of retained *$\mathring{r}$ in a labial environment (i.e. followed or preceded by a labial consonant), while *tu-ka-ṭạ-ṣị* would show the spelling in a non-labial environment (section 2.4). Clearly, more evidence is needed to decide this issue.
– Attic (i.e. Ionic-Attic): there is one possible instance of an *o*-reflex of *$\mathring{r}$, the adverb πόρρω (πόρσω) 'further, forward' < *$p\mathring{r}t\acute{i}\bar{o}$. The Ionic form πρόσω may

have been influenced by πρό. If this is correct, this development *$\underset{\wr}{r}$ > ορ was conditioned by a preceding labial stop, an assumption to which there is no absolutely compelling counterevidence (section 9.3). However, unless more examples of this treatment are discovered, this proposal remains hypothetical.

There is no clear relation in any dialect between *o*-reflexes of *$\underset{\wr}{r}$ and the occurrence of *o*-reflexes of syllabic nasals.

Clear evidence for an *u*-reflex appeared to be hard to find (section 1.3.2), but there are two promising examples. First, I have suggested that the reflex -υρ- < *$\underset{\wr}{r}$ is regular after a labiovelar in κυρτός 'bulging; humped, hunchbacked', for which I have proposed a new reconstruction *$k^{w}\underset{\wr}{r}to$- (PIE *$k^{w}er$- 'to cut off; amputate, mutilate'). Secondly, I have proposed that λύκος 'wolf' reflects PIE *$\underset{\cup}{u}\underset{\wr}{l}k^{w}o$- via *$\underset{\cup}{u}l_{\partial}k^{w}o$-, with a rounded reflex of the anaptyctic *shwa* between *$\underset{\cup}{u}l$ and a labiovelar. The different development seen in βραδύς 'slow' < *$g^{w}\underset{\wr}{r}dú$- must be ascribed to the fact that in this word, the anaptyctic vowel arose after the liquid (analogically). Other evidence previously adduced for the reflex -υρ- < PGr. *$\underset{\wr}{r}$, such as the proper name Τυρταῖος, Att. σύρω 'to draw', and dialectal σύρξ 'meat' for σάρξ, is less reliable.

12.3.2 *Slot of the Anaptyctic Vowel*

Some previous scholars dealing with the reflexes of *$\underset{\wr}{r}$ have made the (tacit or explicit) assumption that in each word, an anaptyctic vowel [ə] was first fixed *in the same position* in all dialect groups (cf. Klingenschmitt 1974; Ruijgh 1976). Only later, this vowel would have been 'colored', i.e. merged with one of the vowels /a/ and /o/. The main evidence adduced for this view are preforms like *$k^{w}etu\underset{\wr}{r}tos$ and (alleged) *$tu\underset{\wr}{r}pedi\underset{\frown}{a}$, in which it is thought that an intermediate stage *$k^{w}etu\underset{\wr}{r}_{\partial}tos$, *$tu\underset{\wr}{r}_{\partial}pedi\underset{\frown}{a}$ is needed to account for the Common Greek simplification of *tu. Only later, the anaptyctic *ə* in *$k^{w}etərtos$ would have merged with /a/ or /o/, depending on the dialect group (whence Hom. τέτρατος, Thess. πετροτος). Certain dialects would have analogically reshaped the form as *$k^{w}etərtos$ before merging *ə* with /a/ or /o/, again depending on the dialect group (cf. Ion.-Att. τέταρτος, Arc. τετορτος).

In the present work, it has been shown that this view lacks foundation. First of all, it has been shown that a regular anaptyxis after the liquid cannot be assumed for dialects such as Mycenaean and Arcadian. Secondly, it was argued in chapter 2 that the reconstruction *$\underset{\wr}{t}rpedi\underset{\frown}{a}$ 'three-legged' works better than *$k^{w}tu\underset{\wr}{r}pedi\underset{\frown}{a}$ 'four-legged', both from a linguistic and from an archaeological perspective. Finally, the assumed analogical reshaping of *$k^{w}etrətos$ to *$k^{w}etərtos$ cannot be motivated, whereas a secondary origin of forms like τέτρατος, τετρα- is quite conceivable. This means that τέταρτος and Arc. τετορτος are the reg-

ular outcome of **kʷetr̥tos*. I have proposed that the simplification **kʷetu̯r̥tos* > **kʷetr̥tos* took place in this word in a highly specific phonetic environment (**tu̯r̥*), by dissimilation against the labiovelar onset of the preceding syllable.

Three environments for which a special Common Greek vocalization has been envisaged are word-initial **r̥-*, word-final **-r̥* and word-internal **r̥n*.

It has been observed that PGr. word-initial **r̥-* occurred only as the result of secondary developments that took place between PIE and attested Greek. A plausible instance is the word for 'male', PGr. **r̥sen-* (reflected as Thess. ορσεν, Arc. ορ⟨ρ⟩εν and Hom. ἄρσην, Att. ἄρρην), probably from PIE **u̯r̥sen-* from which initial **u̯-* was lost. The dialect forms just cited imply that the treatment of word-initial **r̥-* was identical to that of word-internal **r̥* in terms of vowel quality. They might also show that in Thessalian, the place in which the anaptyctic vowel developed was different in both contexts, ορ- versus -ρο-. Unfortunately, it is difficult to utilize this word as reliable evidence in view of the existence of an *e*-grade form ἐρσήν, ἔρσην in other dialects.

Secondly, there is no evidence for Haug's idea of an early (Proto-Greek) conditioned reflex **r̥* > -αρ- before *n* (section 9.4). What is more, the present stem forms πορνάμεν· πωλεῖν 'to sell' and μορνάμενος· μαχόμενος 'fighting' (both Hsch.) speak against it: they prove that **r̥* had an *o*-colored reflex in certain dialects. Even an early, Pan-Greek *shwa*-anaptyxis **r̥n* > **-ərn-* is difficult to prove: since πορνάμεν and μορνάμενος have no indication of dialect, they could stem from Cretan or Arcadian, where ορ would be expected in any case. There is no clear evidence that **r̥n* yielded -ορν- in Aeolic (the only dialect group which certainly had **r̥* > -ρο-). Thus, the evidence is compatible with the claim that **r̥n* behaved just like other cases of word-internal **r̥*. This means that an isolated form like μάρναμαι 'to fight' displays the regular word-internal development to -αρ- in Ionic-Attic. As regards **l̥n* (section 10.5) a Pan-Greek development to **-əln-* can be excluded on account of the adverb αϝλανεōς 'all together' (Elis), ἀλανέως· ὁλοσχερῶς, Ταραντῖνοι (Hsch.), reflecting **ha-u̯l̥neh-* 'all together'. In the Ionic-Attic forms βάλλω, θάλλω and κάλλος, all reflecting **-əln-*, the slot of the anaptyctic vowel may be due to analogy.

Establishing the development of word-final **-r̥* (section 9.5) is complicated by the scarcity of direct evidence. Concerning the quality of the vowel in the nom.-acc. sg. in -αρ of heteroclitic neuters, analogical influence of the weak cases in -ατ- is difficult to exclude. The reconstruction of most adverbs in -αρ is uncertain. Nevertheless, there is some evidence suggestive of an early, Pan-Greek development to word-final **-ər* that preceded the vocalization of word-internal **r̥*:

– Cyprian *a-u-ta-ra* /autar/ (cf. Hom. αὐτάρ) < **-tr̥* (contrast *to-ro-su-ta-mo-se* < **tʰr̥su-*).

– Homeric ἦτορ 'heart' militates against a Common Greek change *-r̥ > -αρ. The form is a vestige of some dialect with *-r̥ > -ορ, probably some Aeolic dialect (Peters 1980: 237). Given that the regular word-internal reflex of *r̥ in Aeolic is -ρο-, ἦτορ also suggests that the anaptyctic vowel was phonologized earlier before word-final *-r̥ than in word-internal position.

This conclusion is further corroborated by two Homeric forms.

– The disyllabic stem of ἔαρ (gen. ἔαρος) 'spring' was apparently generalized early on in the derivative ἠρινός 'spring-' (epic εἰαρινός with metrical lengthening). This suggests that PGr. *u̯esr̥ became *u̯esər early on.
– The Homeric phrase ὑπόδρα ἰδών 'looking askance' in which the adverb reflects PGr. *upodr̥k. At first sight, this is an instance of word-final *-r̥ > -ρα, but since ὑπόδρα had word-internal *r̥ before the loss of word-final occlusives, it is better to interpret it as evidence for the word-internal reflex. I have argued that ὑπόδρα ἰδών is an instance of Epic *r̥ being preserved in a formulaic phrase, and eventually developing to -ρα-. It follows that the word-final vocalization to *-ər predates the loss of word-final stops.

Note that there is no evidence for the claim that PGr. *s was not lenited between *r̥ and a full vowel. Forms like θρασύς may have restored σ from related forms, and the adjective ταυλός shows that lenition to *h* normally took place in this environment, too. Contrary to what I proposed in Van Beek 2013: 259–260, there is no compelling evidence for a special development *r̥ > -ρα- conditioned by a following *h*: ταυλός may have an analogical reflex, given the recent proposal by Batisti (2017b) that its root is **tres-* 'to be scared, tremble'.

There is no evidence for the place of the accent as a factor conditioning the placement of an anaptyctic vowel before or after the liquid. Counterexamples to the idea that αρ < *r̥ is regular only when it (secondarily) carried a rising pitch include (Homeric) ταρφέες, ἀταρπός, δράκων and (Homeric and class.) καρτερός, καρπός, τέταρτος. An accentual conditioning does not help to explain the Mycenaean evidence either (cf. section 2.5.3).

There is no convincing evidence either for the idea that a preceding or following consonant cluster could influence the place of anaptyxis. Counterexamples again include καρτερός, ταρφέες (αρ after a single onset consonant), but also στρατός and (for *l̥) σπλάγχνα (ρα or λα after an onset *sT-*).

Finally, there is no reason to explain cases of αρ as a secondary morphologically conditioned zero grade to roots of the structure **CeRC-*, as assumed by Kuryłowicz and García Ramón.

12.4 The Reflexes of Proto-Greek *$\mathring{l}$

Concerning the reflex of *$\mathring{l}$ (chapter 10), it appeared to be rather difficult to find secure evidence for its reflexes in the different dialects. The regular Proto-Ionic outcome was -λα-, probably independent of the environment: compare βλαδεῖς 'weak, porous' < *$m\mathring{l}d$-*ú*-, πλάτη 'shoulder-blade; oar', βλαστός 'sprout' (if from *$m\mathring{l}d$-*tó*-), κλάδος 'branch' < *$k\mathring{l}d$-*o*-, and πλάξ 'flat surface' < PIE *$plok$-, *$p\mathring{l}k$-. A new piece of evidence adduced here is γλαφυρός 'hollow' (cf. γλάφω 'to scoop out') reflecting *$g^{w}\mathring{l}b^{h}$-*u*-*ló*- with delabialization of the labiovelar.

That the developments of *$\mathring{r}$ (-αρ-) and *$\mathring{l}$ (-λα-) should diverge in terms of their vowel slot is unexpected at first sight. However, for *$\mathring{l}$ this conclusion cannot be avoided: reliable evidence for a reflex -αλ- is absent, except before *n* (see below). The vowel slot of ἀμαλδύνω 'to corrode', which probably derives from an adjective reflecting *$m\mathring{l}d$-*ú*- 'soft, weak', can be analogical after the verb μέλδομαι 'to melt'. If *$\mathring{l}$ and *$\mathring{r}$ indeed had a different treatment, their vocalizations may have taken place at different chronological stages, i.e. the vocalization of *$\mathring{l}$ may have been earlier, at least in Ionic-Attic.

The development *$\mathring{l}n$ > -αλλ- seems regular in the verbs βάλλω 'to throw, hit', θάλλω 'to flourish', perhaps also πάλλω 'to toss', as well as in κάλλος 'beauty' and related forms. For the last word, I have proposed a new etymology, positing a lost verb *κάλλω 'to stand out' reflecting Proto-Greek *$k\mathring{l}n$-*e*/*o*-, ultimately from a nasal present to the root PIE *$kelh_1$- 'to stick out, tower'. It might be supposed that the vocalization *$\mathring{l}n$ > *$əln$ in these nasal presents was influenced by the existence of related forms with the reflex of a full grade or prevocalic zero grade root (cf. below on Elean αϝλανεōς), but this is not certain. Moreover, we have found that *$\mathring{l}n$ yields a geminate -λλ- in the forms just mentioned, in contrast with the loss of the nasal with compensatory lengthening in words where *ln was intervocalic at an earlier date (ὀφείλω 'to owe' < *$op^{h}elne$/*o*-, εἴλομαι, εἰλέω 'to throng' < *$\mu elne$/*o*-).

For the other dialects, there is very little evidence to go by. Interesting forms are Elean αϝλανεōς and Cret. αβλοπια, which could show diverging treatments of *$\mathring{l}$ (both are post-labial). If this is correct, they suggest that the vocalization of *$\mathring{l}$ (like that of *$\mathring{r}$) took place relatively late in the individual West Greek dialects. Furthermore, Elean αϝλανεōς is important because its reflex of *$\mathring{l}n$ contrasts with that of its cognates in other dialects (Hom. ἀολλέες, Ion. ἀλής).

12.5 The Double Reflex αρ versus ρα in Ionic-Attic

Chapters 4 to 9 have dealt with the complicated question whether the regular outcome of **r̥* in Ionic-Attic was -αρ- or -ρα-, or whether both reflexes were regular but subjected to some conditioning factor.[5]

There are instances of both -αρ- and -ρα- that cannot be explained as analogical vocalizations, either because the root has a different full grade slot (e.g. ἔδρακον) or because the form is isolated (e.g. στρατός). The evidence for ρα is well-known and comprises the following items (accompanied by their Proto-Greek reconstruction and, if applicable, related full grade forms):

– δράκων 'snake' < **dr̥k-ont-* (*Il.*+), cf. δέρκομαι 'to look';
– δρατός 'flayed, skinned' < **dr̥tó-* (*Il.*), cf. δέρω;
– ἔδρακον 'saw, looked' < **e-dr̥k-e/o-* (Hom.+, poet.), aor. of δέρκομαι;
– ἔπραθον 'pillaged, sacked' < **e-pr̥tʰ-e/o-* (Hom.+, poet.), aor. of πέρθω;
– θρασύς 'bold' < **tʰr̥sú-* (Hom.+, Cl. Att.-Ion.), cf. Aeol. θέρσος;
– κραδίη 'heart' < **kr̥d-iā* (Hom.);
– στρατός 'army' (Hom.+) < **str̥tó-*, a verbal adjective to PIE **ster-* 'to make subject';
– τέτρατος 'fourth' < **kʷétr̥to-* (Hom.+, poetic);
– τράπεζα 'table' (Hom.+) < PGr. **tr̥-ped-i̯a* 'three-legged';
– τραπείομεν 'let's get satisfaction' (Hom.) < **tr̥p-ē-omen*, cf. τέρπομαι 'to enjoy';
– τρασιά 'drying rack' (Att.) < **tr̥s-iā́*, cf. τέρσομαι (section 9.1.5).

At first sight, these cases seem to prove that -ρα- was the regular, undisturbed reflex of **r̥*. However, there are also various clear instances of -αρ- in Ionic-Attic reflecting **r̥* that are either etymologically isolated or occur beside a full grade root of the structure **CreC-*. The following is an exhaustive list of the evidence:

– Ion.-Att. ἁμαρτεῖν 'to miss' < **amr̥te/o-* (section 8.2.2);
– Ion.-Att. ἄρπη 'sickle' < **sr̥pā-*, PIE **sr̥p-* (section 9.6.1);
– Ion.-Att. ἄρχω 'to be first; rule' < PGr. **hr̥kʰe/o-* (or **hr̥sk⁽ʰ⁾e/o-*) < PIE **sr̥ǵʰ-e/o-* (or **sr̥K-ske/o-*) 'to be eminent' (section 9.6.2);
– Hom. ἀταρπός 'path, trail' < **n̥-tr̥p-o-* 'untrodden' (section 9.6.3);
– Att. καταδαρθεῖν 'to fall asleep' < **-dr̥tʰe/o-* (sections 8.2.1 and 8.4.2);
– Att. καρδία, Ion. καρδίη 'heart' < **kr̥d-iā* (section 6.1);
– Ion.-Att. καρπός 'fruit, yield' < **kr̥p-ó-*, PIE **kerp-* 'pluck' (section 9.6.5);
– Ion.-Att. κάρτα 'very' < **kŕ̥ta*, cf. Aeol. κρέτος 'force' (chapter 5);
– Ion.-Att. καρτερός 'steadfast, firm' < **kr̥teró-* (chapter 5);

5 The evidence for an *o*-colored reflex in Ionic-Attic is marginal: perhaps, πόρρω 'further' is an instance, if this directly reflects **pr̥tḭ̯ō* (section 9.3).

– Ion.-Att. κάρφω 'to dry up; wrinkle' < *$k^hr̥p^h$-*e/o*-, with the zero grade of PIE *(*s*)g^hreb^h- 'to dry up' as reflected in Baltic and Germanic (section 9.6.6);
– Hom. / poet. μάρναμαι 'to battle' < *$mr̥$-*n*-h_2-, an inherited nasal-infix present cognate with Ved. *mrnáti* 'to rob' (section 9.4);
– Hom. ταρβέω, aor. τάρβησα 'to fear, be frightened' < *$tr̥g^w$-*ē*- (section 4.2.1);
– Ion.-Att. ταρσός 'sole of the foot; blade of an oar' < *$tr̥s$-*ó*- (section 9.1.5);
– Hom. ταρφέες 'dense, frequent' (*plurale tantum*) < *$t^hr̥p^héu̯$-*es* to the root of τρέφομαι 'to become fat, coagulate' (section 4.3.1);
– Ion.-Att. τέταρτος 'fourth' < *$k^wétr̥to$- (section 2.6);
– Hom. χάρμη 'fighting spirit, battle rage' < *$k^hr̥mā$-, a deverbal abstract PIE *$g^hr̥m$-*eh*$_2$- to the root *g^hrem- 'to rage' (section 9.6.7).

In what follows I will first list other forms that have been excluded from the evidence, indicating the reason for exclusion (analogy, unreliable etymology or reconstruction, dialectal provenance unknown, etc.). After that, I will summarize the arguments for considering the forms with -αρ- regular, and then discuss the benefits of the scenario accounting for -ρα- as the reflex of Epic *$r̥$. This scenario itself (for which see section 1.5 and 6.7) will not be repeated here.

12.5.1 *Evidence Excluded from Consideration*

In the following words, ρα may continue the sequence *$rn̥$:
– δράσσομαι 'to grasp with the hand' < *$drn̥g^h$-*i̯e/o*- (section 9.2.1);
– γράω 'to devour' < *$grn̥s$-*e/o*-.

The following words may have an analogical vowel slot (for more forms and further discussion, see especially chapters 4 and 5):
– dative plural forms of stems in *-r-*, such as ἀνδράσι and ἀστράσι (section 7.3.3);
– Hom. ἀρνειός 'ram', Att. ἀρνεώς < *$u̯r̥sn$-*ēu̯*-*ó*- (sections 9.1.6 and 9.1.7) may have been influenced by ἄρσην 'male animal';
– Class. ἀτραπός 'path, trail' < *$n̥$-*tr̥p*-*ó*- 'untrodden' (cf. τραπέω 'to tread', and ultimately PIE **trep*- 'tread', section 9.6.3);
– Hom. βάρδιστος 'slowest' is an artificial epic form replacing *βράδιστος on the model of κάρτιστος 'strongest' for κράτιστος;
– βραδύς 'slow' < PIE *$g^wr̥d$-*ú*- (Lith. *gurdùs* 'weak, slow'), full grade uncertain;
– βραχύς 'short' < *$mr̥ǵ^h$-*ú*- and superl. βράχιστος << *$mréǵ^h$-*isto*- (for PIE *$mreǵ^h$-, cf. Lat. *brevis* 'short');
– γράφω 'to write' beside dialectal *o*-grade γροφεύς, γροφίς, etc. (section 9.2.2);
– δραχμή 'drachm' (cf. δράσσομαι 'to grasp', section 9.2.1);
– ἐπικάρ 'cross-hill' (Hom.) and the derived adjective ἐπικάρσιος 'crosswise' (Hom., Hdt.+), Att. ἐγκάρσιος 'id.' (Th.+), with the zero grade of **kers*- 'cut off' (section 9.6.4);

– θαρσέω 'to hold on, keep the courage' (Hom.+) may well have a direct reflex of an old stative verb *$t^hr̥s$-ē-, but influence of full grade forms (θέρσος >> θάρσος) cannot be excluded;
– κάρτος, κάρτιστος, καρτύνω (Hom.+) are analogical, artificial epic forms beside κράτος, κράτιστος, κρατύνω: see chapter 5;
– κρατύς 'strong' < *$kr̥tu$- and κρατέω < *$kr̥t$-ē- (PGr. *$kret$-, cf. comp. Ion. κρέσσων, Aeol. κρέτος, cf. chapter 5);
– σάρξ 'meat' < *$tu̯rk$-, where influence of *$tu̯ork$- (cf. dialectal σύρξ) cannot be excluded;
– τραυλός 'stammering' (Hdt.+) < *$tr̥s$-u-$ló$- (cf. PIE *$tres$- 'tremble', τρέω 'flee', cf. section 9.1.6);
– τραφερός 'solid' < *$t^hr̥p^h$-$eró$- (Hom.+, poetic), cf. τρέφω, ἐτράφην (section 4.3.2);
– τράχηλος 'neck, throat' (Hdt.+) beside τρέχω 'to run; turn', perhaps to a lost verb *τραχάω or *τραχέω (section 9.7.2);
– τρήρων 'timorous' (Hom.+) based on a reflex of *$tr̥s$-$ró$- (PIE *$tres$- 'tremble');

Forms attested in lexicographers without an identification of dialect cannot be used, for instance:
– πρακνόν· μέλανα 'black' (Hsch.) beside περκνός 'dark';
– δάρκες· δέσμαι 'bundles; handfuls' (Hsch.) beside δράξ f. 'handful' (*Batr.*+).

For the following words, the reconstruction is unreliable or the etymology is uncertain:
– βραχίων m. '(upper) arm' (Hom.+), section 6.9.5;
– καρπός 'wrist' (Hom.+) and καρπάλιμος 'agile, swift' (Hom.+, epic) might reflect zero grades of a PIE root *k^werp- 'turn', but this is not certain;
– κραδαίνω 'to brandish' (Hom.+) and κραδάω 'id.' (Hom.), section 6.9.2;
– κράνεια 'cornel tree' (Hom.+) and κράνον 'id.' (Thphr.), section 6.9.4;
– κράνος n. 'helmet' (Att.), section 9.4;
– πραπίδες f. pl. 'mind' (Hom.+, poet.), section 9.7.1;
– πράσον n. 'leek' (Ion.-Att.), section 9.1.8;
– φάρσος n. 'part (of a city)' (Hdt.+), section 9.1.8;
– φράσσω, φράγνυμι / φάργνυμι, φράξαι / φάρξαι 'to fence in', probably a denominative to PIE *$b^hr̥ǵ^h$- 'stronghold' (section 9.2.3); the original distribution between ρα and αρ is not clear.

12.5.2 *Arguments for Considering -αρ- Regular, -ρα- Analogical*

In most previous attempts to tackle the problem of the twofold reflex in Ionic-Attic, it was assumed that -ρα- was the default reflex and that -αρ- was due to some special conditioning, such as accentuation, the avoidance of heavy consonant clusters, or morphological conditioning. I have criticized these attempts

in section 1.4; see also section 2.5 for a more detailed treatment of the Mycenaean evidence from this perspective. In addition, we have seen that viewing -ρα- as the regular reflex has led to the assumption of unlikely or unmotivated analogical developments for cases of -αρ- (cf. section 2.6 on τέταρτος, section 6.1 on καρδία, section 8.2.1 on κατέδαρθον).

Some scholars have resigned to the view that the original distribution between -ρα- and -αρ- cannot be fully recovered. In this book, the problematic 'double reflex' in Ionic-Attic has been attacked from a completely different angle. In my view, the key to the solution is to pay attention to the way doublet forms are distributed. Generally speaking, there are two main reasons to think that -αρ- < *$\mathring{r}$ was the regular vocalization in Proto-Ionic: genre distributions and metrical peculiarities.

Concerning genre distributions, in most forms which appear in true doublets, the distribution is such that only the form with -αρ- occurs in prose texts, whereas the variant with -ρα- is limited to poetry. This holds for:

– Ion.-Att. δαρτός beside Hom. δρατὰ σώματα, both < *$d\mathring{r}tó$- 'flayed';
– Att. καρδία, Ion. καρδίη beside Hom. κραδίη, all < *$k\mathring{r}diā$- 'heart';
– Att.-Ion. καρτερός beside Hom./poet. κρατερός, both < *$k\mathring{r}teró$- 'steadfast, firm';
– Att. κατέδαρθον beside Hom. κατέδραθον, both < *-$d\mathring{r}t^{h}$-e/o- 'sleep';
– Att.-Ion. τέταρτος beside Hom./poet. τέτρατος, both < *$k^{w}étr̥to$- 'fourth';
– Att.-Ion. ἐτάρπην beside Hom. τραπείομεν, both < *$t\mathring{r}p$-$ē$- 'get satisfaction'.

Interestingly, it is precisely for the vocalism of καρδία, τέταρτος and κατέδαρθον that implausible analogies have been proposed by previous scholars. In reality, for these lexemes the conclusion cannot be avoided that both doublet forms have a regular reflex. My proposal is that -αρ- < *$\mathring{r}$ is the regular Proto-Ionic vernacular reflex, and that -ρα- is the regular reflex of Epic *$\mathring{r}$, i.e. of *$\mathring{r}$ that was retained longer in the epic tradition.

It is true that we also find forms with -αρ- < *$\mathring{r}$ that are limited to (epic) poetry, such as ἀταρπός 'path, trail', ταρφέες 'densely packed, frequent', χάρμη 'battle fury'. In the first word, classical prose even has the form ἀτραπός. However, in such instances we may assume that the epic tradition preserves an older Dark Age Ionic form that had disappeared from the vernacular in the 8th c. BCE (or which had been analogically reshaped, e.g. ἀτραπός after τραπέω). Considering other Ionic-Attic words with only -ρα- or -αρ-, we again find a number of words attested only with -ρα- that are virtually limited to Epic Greek, e.g. ἔδρακον, δράκων, ἔπραθον, κραταιός.

The second reason for thinking that -ρα- is a specifically epic reflex (and hence that -αρ- is the vernacular reflex) is that a fair number of typical epic words with -ρα- < *$\mathring{r}$ display metrical peculiarities. The most widespread pecu-

liarity is that re-syllabification of a plosive plus liquid (*PL*) onset, which is still the default sandhi treatment in Homeric verse, is not applied. That is, the words undergo epic correption, a phenomenon also known by the name *muta cum liquida* (*McL*). The same phenomenon is found in words with -ρο- < *ϱ, a reflex that is normally viewed as Aeolic.

The phenomenon of *McL* in Homeric Greek has been subjected to a detailed analysis in chapters 6 and 7. I have concluded that *McL* strongly correlates with the presence of *ϱ, and therefore that Wathelet (1966) was right in ascribing the rise of *McL* in Homer to a prehistoric vocalization of *ϱ. This goes against a clear trend in recent scholarship to view *McL* scansion merely as the result of a shift in the syllabification of *PL*-clusters.

In Early Greek Epic, *McL* scansion is tolerated in a closed and small set of lexemes, most of which once contained *ϱ (e.g. τράπεζα, κραταιός). That this syllabification was normally avoided is strongly suggested by the existence of artificial forms such as κάρτιστος, ἐβλάφθην, ἐκλίνθην (for expected κράτιστος, ἐβλάβην, ἐκλίθην). Therefore, the elimination of *ϱ from Epic Greek must have played a key role in the spread of *McL*. However, we also found that the synchronic use of *McL* in Homer cannot be ascribed solely to the vocalization of *ϱ: the productivity of the license suggests that the syllabification of word-initial *PL* was already shifting in the vernacular of the *Iliad* poet. Moreover, we saw that the concrete scenario proposed by Wathelet is subject to chronological problems.

I have proposed that the epic tradition retained *ϱ in certain words during the time when the regular development *ϱ > -αρ- took place in Proto-Ionic, and that this retained *ϱ (called Epic *ϱ) developed to -ρα- only much later, probably a century or less before Homer. In other words, in doublets such as καρδίη beside κραδίη, the variant with -ρα- arose *within* the language of epic poetry. This explains why many words with -ρα- are limited to Epic Greek, and at the same time why it is especially these words (and words with -ρο- < *ϱ) that show a peculiar metrical behavior. It also proved possible to view -ρο- as a conditioned outcome of Epic *ϱ: leaving aside forms that may have undergone analogical reshaping, -ρο- is found after labials, -ρα- in other contexts.

Another metrical peculiarity of epic forms with -ρα- and -ρο- < *ϱ is that in certain cases, a *PL* onset is not used to make position length. Hoenigswald (1991) had already adduced κραδίη as an instance of this phenomenon. Similar distributions are found for case forms of βροτός 'human being' in Homer that need not undergo *McL* scansion.

At least two Homeric words with a reflex of Epic *ϱ are of such a shape that they are unlikely to have ever existed in a 'normal' (vernacular) linguistic context:

– τραπείομεν 'let's get satisfaction' belongs to τέρπομαι 'to enjoy', but the normal aorist of this verb is ἐτάρπην, and the root shape τραπ- is otherwise associated with τρέπω 'to turn' (aor. ἔτραπον);
– προκείμενα 'lying ready, having been served out' was shown to belong to παρατίθημι 'to serve food'. The form προ- of the preverb arose from **pr̥-* in a formulaic verse by vocalization of Epic **r̥*, and would have been replaced by παρ-, παρα- in a normal linguistic context.

Finally, a clear advantage of the new scenario is that it allows us to account in a natural way for the irregular scansion of the famous verse ends ἀνδροτῆτα καὶ ἥβην and Ἐνυαλίῳ ἀνδρεϊφόντῃ. These phrases are clearly old, but they were not retained in a metrically irregular shape for seven or eight centuries, as is often assumed. On the contrary, if they were preserved in a form with Epic **r̥*, they were metrically regular until not too long before the composition of the *Iliad*. What is more, I have argued that the *Iliad* poet may still have pronounced the words in question as **anratētа* and **anrapʰontēi*. It must be noted that these forms could not have been created by Homer, as word-internal *PL* remained heterosyllabic in the *Iliad* and *Odyssey*, with very few exceptions. For this reason, I have also argued that Ἀφροδίτη reflects a pre-form with Epic **r̥*.

12.5.3 *Weighing the Pros and Cons*

The new scenario proposed here allows us to give a full account of the distribution of doublet forms with -ρα- ~ -αρ- and of their origin. Attic prose forms like καρδία, καρτερός and κατέδαρθον can now be explained as containing the unrestored reflex, while the counterparts κραδίη, κρατερός and ἔδραθον arose in Epic Greek. At the same time, the scenario illuminates why *McL* in Epic Greek is disproportionally frequent in words with **r̥*, and why it even occurs in words with word-internal *PL*, like Ἀφροδίτη. Thirdly, it explains the completely irregular scansion of ἀνδροτῆτα καὶ ἥβην and Ἐνυαλίῳ ἀνδρεϊφόντῃ, and, for the first time, offers a realistic time frame for the genesis of such irregularities. Finally, a prolonged preservation of Epic **r̥* may account for the rarity of position length before words like κραδίη and βροτός.

The cost of this scenario is that a couple of words with the reflex -ρα- are normal in Attic prose: θρασύς 'bold', στρατός 'army', τράπεζα 'table' and their derivatives. In chapter 6, I have argued that these forms should be viewed as early borrowings from the epic tradition (or, in the case of στρατός, possibly from West Greek). Naturally, given the fragmentary nature of our evidence these assumptions cannot be fully substantiated, but given the arguments provided in chapter 6 they cannot be excluded either. In my view, the benefits of the new scenario clearly outweigh this drawback.

This impression is strengthened by the fact that an alternative explanation could be found for most forms with ρα:
- analogy (e.g. τέτρατος; ἀνδράσι and other dative plural forms; βραχύς, βραδύς and similar 'Caland' adjectives; the Homeric thematic aorists ἔδρακον, ἔδραθον and ἔπραθον);
- the etymology is unknown (e.g. πράσον, κράνεια, βραχίων, πραπίδες);
- the dialect appurtenance is unknown (πρακνόν· μέλανα Hsch., δράξ, δάρκες· δέσμαι Hsch.), so that the words could stem from a non-Ionic-Attic (West Greek) dialect.

12.6 The Prehistory of the Epic Tradition

It is impossible to draw firm conclusions regarding this intricate topic (on which many different opinions exist) only on the basis of the reflexes of *r̥. Nevertheless, our findings concerning Epic *r̥ allow us to draw a general picture and to discuss some interesting possibilities.

The linguistic evidence for *r̥ does not force us to posit the existence of an epic tradition in hexameters in the mid-second millennium. It is not impossible that certain features of material culture referred to in the *Iliad* are reminiscences of such a remote period, but there is no compelling *linguistic* evidence for this. The fact that Mycenaean has examples of the epenthesis of a homorganic stop (e.g. *a-di-ri-ja-te* 'with a man's figure', class. ἀνδρίας 'statue of a man') is irrelevant, as none of the Mycenaean examples concerns *r̥; also, the epenthesis may have taken place a second time after *r̥ had been vocalized.

The evidence does strongly suggest the existence of a tradition of heroic epic, composed in a verse form much like the hexameter, at a time when *r̥ still existed in one or more Greek dialects. Generally speaking, this implies a date in or before the late Mycenaean period (13th–12th c. BCE). Objections against the antiquity of the hexameter as a verse form are formalistic and counterproductive (see section 1.5.3).

In chapter 7, I have suggested that certain Homeric words may well have a Mycenaean origin, provided that this dialect preserved *r̥ when the Linear B tablets were recorded. Possible instances are *u̯r̥dou̯ent- 'rose-scented' (Myc. *wo-do-we*, Hom. ῥοδόεντι), *tr̥pedi̯a 'table' (Myc. *to-pe-za*, Hom. τράπεζα) and *$\text{anr̥k}^{\text{wh}}\text{ontā-}$ 'man-slayer' (Myc. *a-no-qo-ta*, Hom. ἀνδρεϊφόντῃ for *ἀνδροφόντῃ). Regarding the last form, Mühlestein already noted that Myc. *a-no-qo-ta* seems incompatible with the vocalization presupposed by Hom. ἀνδρεϊφόντῃ, but he assumed that the Mycenaean reflex was *-or-*. Turning around this argument, I consider it likely that Mycenaean preserved *r̥ (as assumed by Heubeck 1972,

but with partly different arguments) and that the pre-form of Ἐνυαλίῳ ἀνδρειϊφόντῃ entered the tradition in a form with *ṛ in the last part of the Mycenaean period.[6]

At that time, the tradition need not have been an exclusively Mycenaean affair. Indeed, scholars like Hoekstra (1981) have convincingly argued for the existence of a poetic Koine at an this early date, comprising South Greek and Aeolic forms. It is possible that a number of typical epic forms in which the vocalization -ρα- causes position length (notably the thematic aorists ἔδρακον 'looked', ἔπραθον 'razed' and ἔδραθον 'fell asleep') entered the tradition from an Aeolic dialect at this early date in a form with -ρο-. In this case, we must assume that -ρο- in these forms was later reshaped into -ρα- when the Ionic forms ἔτραπον 'turned' and ἔδραμον 'ran' were introduced, replacing earlier Aeolic counterparts. This presupposes that the Aeolic dialects underwent (or had already undergone) a vocalization *ṛ > ρο in the late Mycenaean period.[7]

Apart from words preserving a metrical trace of *ṛ (e.g. δράκων 'snake') and words with an early anaptyxis after the liquid (e.g. ἔδρακον 'looked'), we find old epic words with -αρ- < *ṛ, which in all likelihood represents the Ionic reflex. Examples are ἀταρπός 'path', χάρμη 'fighting spirit', and καρτερός 'strong'. It is plausible that formulaic phrases containing these words were coined relatively early, by Ionic poets who had adopted the mixed Mycenaean-Aeolic poetic tradition in the early Dark Ages. These poets were also responsible for Ionicizing traditional forms such as ἔδρακον and for analogically extending the use of the root shape κρατ-.

If Epic *ṛ was replaced in certain words, we must also ask why it was retained in other cases if the vernaculars no longer knew this type of syllabic nucleus. In part of the instances, Epic *ṛ was retained in lexemes which also existed in the vernacular, but where introducing the vocalized vernacular form (with -αρ-, -ρα- or -ρο-) altered the traditional metrical structure of the epic word or formula. In such relic forms, Epic *ṛ developed into -ρα- or -ρο- only later. This happened, for instance, in the precursors of κραδίη, τραπέσθαι, θρασειάων, πρός, πρόσω, πρόσωπον, and τραπείομεν (some of these exclusively in formulaic phrases).

Another set of epic lexemes was retained in a shape with *ṛ because they were no longer current in the Proto-Ionic vernacular after the vocalization *ṛ > -αρ- had taken place there: the precursors of ἀνδροτῆτα, Ἀφροδίτη, βροτός (and

6 Whether one is prepared to accept this argument or not, the Mycenaean evidence for *ṛ is fully compatible with the retention of this sound.

7 On the other hand, I agree with Heubeck (1972) that the vocalization of *ṛ is best pushed forward in time as far as possible towards our first attestations.

derivatives), δράκων, κραταιός and κραται-, ῥοδόεντι, τράπεζα, στρατός were part of the epic tradition early on. These lexemes may be of Mycenaean or (less likely, in most cases) of Proto-Aeolic origin. In this way we may explain why no by-forms with the Ionic reflex -αρ- exist for these words.

Finally, several typical epic words with the reflex -ρα- < *r̥ behave as if they had acquired a full *a*-vowel at an early date. I have proposed that some such words may have undergone analogical influence of related forms: for instance, κρατερός (where κρ- makes position very often) may have been influenced by κρατύς, just like κράτος (which replaced the older form κρέτος). The thematic aorists ἔδρακον, ἔδραθον, ἔπραθον may be early instances of this replacement, or they may recover Aeolic forms (as explained above).

The eventual vocalization of Epic *r̥ may have been part of the more general Ionicization of Epic Greek, when forms with the outcome of typical Ionic sound changes like the fronting of *$\bar{a}$ or Quantitative Metathesis were introduced on a large scale. As part of the same process, artificial mixed forms like ὁρόωντες (*diectasis*, for **horaontes*) or θείομεν (for *$t^h\bar{e}omen$) may have come into being. It must be stressed that there is no absolute criterion for dating the vocalization of Epic *r̥, but a chronology in which (Eastern) Ionic started to exert stronger influence on the tradition only in the last few generations of poets before Homer would work well. In view of the presence of forms like χάρμη and καρτερός in formulaic language, we must keep open the possibility that Ionic poets were prominently involved in the tradition already at an earlier period. However, at this early stage the full-scale Ionicization of Epic Greek had not yet started.

12.7 Relative Chronology and Subgrouping

The place of the anaptyctic vowel in the reflexes of PGr. *r̥ appears to be a significant dialectal trait. There were not two, but at least four different possible ways of vocalizing the syllabic liquids. Consequently, formulations such as "PGr. *r̥ > Ion.-Att. αρ/ρα, Myc. *or*/*ro*" must be given up.

As a result, the status of the vocalization of *r̥ as an isogloss must be reconsidered. If Proto-Aeolic (ρο) and Arcadian (ορ) have different outcomes of PGr. *r̥, this also implies that the vocalization may have occurred at different times in different dialects. For most dialects there are reasons to assume a relatively late vocalization of *r̥. The most important general objection against an early vocalization is the existence of traces of *r̥ in the epic tradition. It would be unwarranted and unnecessary to push the date of vocalization back too much, into the Mycenaean period. On the contrary, if Mycenaean still preserved *r̥,

this could explain the appearance of typical Mycenaean-looking lexemes with Epic *$\mathring{r}$, as in the pre-forms *$\mu\mathring{r}do\underset{\cup}{\mu}ent$-, *$t\mathring{r}ped\dot{i}a$, *$an\mathring{r}k^{wh}ont\bar{a}$-.[8] We might assume that the *o*-colored outcomes of Arcadian and Cypriot are innovations of the late or sub-Mycenaean period.

Furthermore, in chapter 11 we have seen that the vocalization of *$\mathring{r}$ postdates the lenition of word-initial *yod* in certain dialects contributing to the epic tradition. On the other hand, the vocalization in Proto-Ionic pre-dated the loss of intervocalic *h (cf. τραυλός). The evidence of Linear B, where intervocalic *-h-* is preserved but initial *yod* has been lenited, suggests that the Proto-Ionic vocalization took place in the late Mycenaean or sub-Mycenaean period.

The Cretan development established in section 3.1 has two important consequences for the prehistory of the Greek dialects. First of all, *$\mathring{r}$ > -αρ- is not a general isogloss between West-Greek and Proto-Ionic. Secondly, the difference between the Cretan treatment and that of the dialects of Elis and Syracuse is best explained if the vocalization of the syllabic liquids took place after the Dorian tribes had settled in the Peloponnese and on Crete, i.e. probably in the early Dark Ages (11th c. BCE). Moreover, as argued in chapter 11, it would be attractive to align the *a*-colored reflexes found in Ionic-Attic and mainland West Greek, both geographically and chronologically.

In sum, the evidence suggests that the vocalization of *$\mathring{r}$ took place as late as the sub-Mycenaean period (early Dark Ages) in most dialect groups. A possible exception must be made for Proto-Aeolic, for which a relatively early vocalization (in the 13th c. or even earlier) deserves consideration. However, no conclusions can be drawn from the fact that Proto-Aeolic and Arcado-Cyprian both seem to have unconditioned *o*-reflexes: we are clearly dealing with two different developments. The unconditioned *a*-reflex that is common to Proto-Ionic and large parts of West Greek may be seen as a relatively late isogloss of these dialects in the early Dark Ages; it cannot be used either to connect these groups genetically.

8 As Heubeck suggested, a South Greek epic tradition may well have gained additional momentum after the collapse of the Mycenaean civilization.

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CEG Blanc, Alain, Charles de Lamberterie, Jean-Louis Perpillou et al. 1996–. *Chronique d'étymologie grecque*. In: *RPh*. 70, 1996 (*CEG* 1)-–*RPh*. 93, 2019 (*CEG* 17).

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DELG Chantraine, Pierre. 2009. *Dictionnaire étymologique de la langue grecque: histoire des mots. Nouvelle édition avec Supplément*. Paris: Klincksieck.

DELL Ernout, Alfred and Antoine Meillet. 1985. *Dictionnaire étymologique de la langue latine: histoire des mots. 4^e^ ed., augmentée d'additions et de corrections nouvelles par Jacques André*. Paris: Klincksieck.

DMic. Francisco Aura Jorro. 1985–1993. *Diccionario micénico* (2 vols.). Madrid.

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Docs.[2] Ventris, Michael and John Chadwick. 1973. *Documents in Mycenaean Greek* (2nd edition). Cambridge: CUP.

DTB Adams, Douglas Q. 2013. *A Dictionary of Tocharian B. Second edition, revised and greatly enlarged* (2 vols.). Leiden–Boston: Brill.

EDBIL Derksen, Rick. 2015. *Etymological Dictionary of the Baltic Inherited Lexicon*. Leiden–Boston: Brill.

EDG Beekes, Robert S.P. 2010. *Etymological Dictionary of Greek* (2 vols.). Leiden–Boston: Brill.

EDHIL Kloekhorst, Alwin. 2008. *Etymological Dictionary of the Hittite Inherited Lexicon*. Leiden–Boston: Brill.

EDL de Vaan, Michiel. 2008. *Etymological Dictionary of Latin and the other Italic Languages*. Leiden–Boston: Brill.

EDPC Matasović, Ranko. 2009. *Etymological Dictionary of Proto-Celtic*. Leiden–Boston: Brill.

EDPG Kroonen, Guus. 2013. *Etymological Dictionary of Proto-Germanic*. Leiden–Boston: Brill.

EDSIL Derksen, Rick. 2008. *Etymological Dictionary of the Slavic Inherited Lexicon*. Leiden–Boston: Brill.

EWAia Mayrhofer, Manfred. 1986–2002. *Etymologisches Wörterbuch des Altindoarischen* (3 vols.). Heidelberg: Winter.

GEW Frisk, Hjalmar. 1960–1972. *Griechisches etymologisches Wörterbuch* (3 vols.). Heidelberg: Winter.

HED Puhvel, Jaan. 1984–. *Hittite Etymological Dictionary*. Berlin–New York: De Gruyter.

KEWA Mayrhofer, Manfred. 1956–1980. *Kurzgefasstes etymologisches Wörterbuch des Altindischen*. Heidelberg: Winter.

LEW Fraenkel, Ernest. 1955–1965. *Litauisches etymologisches Wörterbuch* (2 vols.). Heidelberg: Winter.

LfgrE Snell, Bruno, Hans Joachim Mette et al. (eds.). 1955–2010. *Lexikon des frühgriechischen Epos*. Göttingen: Vandenhoeck und Ruprecht.

LIV^2 Rix, Helmut et al. (eds.). 2001. *Lexikon der indogermanischen Verben: die Wurzeln und ihre Primärstammbildungen. Zweite, erweiterte und verbesserte Auflage bearbeitet von Martin Kümmel und Helmut Rix.* Wiesbaden: Reichert.

LSJ Liddell, Henry G. and Robert Scott. 1996. *A Greek-English Lexicon. Revised and augmented throughout by Sir Henry Stuart Jones, with the assistance of Roderick McKenzie. 9th edition with a revised Supplement.* Oxford: Clarendon Press.

M-W Monier-Williams, Monier. 1899. *A Sanskrit-English dictionary: Etymologically and philologically arranged with special reference to cognate Indo-european languages*. Oxford: Clarendon Press.

NIL Wodtko, Dagmar, Britta Irslinger and Carolin Schneider. 2008. *Nomina im indogermanischen Lexikon*. Heidelberg: Winter.

DKP Ziegler, Konrat, Walther Sontheimer et al. (eds.). 1964–1975. *Der kleine Pauly. Lexikon der Antike, auf der Grundlage von Pauly's Realencyclopädie der classischen Altertumswissenschaft*. Stuttgart: Druckenmüller.

W-H Walde, Alois and Johann B. Hofmann. 1938–1956. *Lateinisches etymologisches Wörterbuch. Dritte, neubearbeitete Auflage von Johann B. Hofmann* (3 vols.). Heidelberg: Winter.

Abbrevations of Epigraphic Corpora and Editions

CID *Corpus des Inscriptions de Delphes*. Paris: Boccard, 1977–.

Del.[3] Eduard Schwyzer, *Dialectorum graecarum exempla epigraphica potiora*. Hildesheim: Olms, 1960.

IC *Inscriptiones Creticae*. Ed. Margherita Guarducci et Friedrich Halbherr. Roma: la Libreria dello Stato, 1935–1950.

ICS[2] Masson, Olivier. *Les inscriptions chypriotes syllabiques: recueil critique et commenté* (2nd edition). Paris: Boccard, 1983.

IG *Inscriptiones Graecae*. Berlin (various publishers), 1873–.

IvO *Die Inschriften von Olympia*. Bearbeitet von Wilhelm Dittenberger und Karl Purgold. Berlin: Asher, 1896.

SEG *Supplementum Epigraphicum Graecum*. Amsterdam: Gieben (1923–2008); Leiden: Brill, 2008–.

SGDI Collitz, Hermann (ed.). *Sammlung der griechischen Dialekt-Inschriften*. Göttingen: Vandenhoeck und Ruprecht, 1884–1915.

TAM Kalinka, Ernst (ed.). *Tituli Asiae Minoris. II: Tituli Lyciae linguis Graeca et Latina conscripti*. Wien: Hoelder, 1920–1944.

TOP Aravantinos, Vassilis, Louis Godart and Anna Sacconi, *Thèbes: fouilles de la Cadmée. I: Les tablettes en linéaire B de la Odos Pelopidou: édition et commentaire*. Pisa: Istituti editoriali e poligrafici internazionali, 2001.

Textual Editions

I have generally followed the editions used in the online Thesaurus Linguae Graecae (*TLG*), together with the abbreviations that are in general use (such as DK = Diels, Hermann and Walther Kranz. 1951. *Fragmente der Vorsokratiker*. 6th edition. Berlin: Weidmann). When mentioned below, these editions are marked with an asterisk. When other editions have been used, this is indicated separately in the text. The following sources are concerned:

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