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Archaisms and Innovations in the Songs of Homer

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by

Jesse Lundquist

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ABSTRACT OF THE DISSERTATION

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This dissertation comprises three case studies on the history and prehistory of Homeric language, focusing on the ways in which archaic forms are preserved, and innovated forms created. In the first study I examine Homeric accentuation, together with related issues of morphology and morphophonology, in the *u*-stem adjectives. Beginning from the archaic oxytones θαμειαί 'close-set' and ταρφειαί 'thick', I outline the historical developments leading to the paradigmatic feminines in -εῖα, which are based on the masculine/neuter stems, and to the recessively accented adjectives θάλεια 'abundant', λάχεια 'wooded', λίγεια 'sweetly sonorous'. I propose that the recessive accent results from the morphological isolation of these words (i.e. they lack a masculine/neuter base), coupled with a subsequent re-accentuation to the default, recessive accent of the language. Turning to Vedic, I will examine its cognate class

of adjectives, whose accent is unequivocally oxytone; for instance *svād-áv-* 'sweet' is the masculine/neuter stem to *svād-v-ī́,* the feminine. But the morphophonology of the **u**-stem adjectives requires further study, I argue, and must be set in the broader context of Vedic accentuation. Returning to Greek, I look into a few nouns arguably going back to substantivized adjectives, arguably reflecting zero-grade ablaut of the suffix. Such nouns would correspond precisely with Vedic, where zero-grade ablaut of the suffix is the rule (Ved. **–**v**ī́**): ὄργυια 'fathom, span of the arms', ἄγυια 'street', and possibly a few others. Taken together, these accentual classes chronicle the history of *u*-stem morphophonology in Greek.

In the next case study I treat how innovations and archaisms developed within one morphological category, the compound *s*-stem adjectives. In particular, I investigate anew questions of accents and of ablaut grades: which are archaisms, which innovations? To do so, I offer a revised philological account concerning the various accentual classes of **s**-stem adjectives, then argue that the recessively **s**-stem adjectives agree most closely with the largely overlooked Indo-Iranian evidence. Re-examining the evidence for Greek accentuation offers in turn an opportunity to look again at the evidence for archaisms and innovations in Greek ablaut. Greek evidence from

zero-grade ablaut in the root of second compound members, such as αἰνοπαθής 'terribly suffering', sometimes understood to reflect ancient PIE derivational processes, reflects rather a highly significant innovation in Greek morphology: the class of *s*-stem adjectives transforms from a denominal to a deverbal class. I will demonstrate that the zero-grade ablaut in the second member reflects the verbal bases from which the adjective derives (in this case the aorist παθεῖν 'to experience; suffer'). Why the aorist, opposed to the present or perfect stem, so often serves as the verbal basis in deverbal derivation will be a question I can pose, but cannot fully answer. Finally, I will work through the Indo-Iranian– effectively just Vedic– evidence for accent and ablaut in the cognate class of *s*-stem adjectives. I will establish first a philologically sound position for the varying accentual classes in Vedic, then will ask in what ways the Indo-Iranian evidence corresponds to the Greek. This re-examination of the combined evidence of Greek and of Vedic leads to a substantially revised picture of the derivational morphology of **s**-stem adjectives in the protolanguage.

The last study casts a wider net, turning to issues in the transmission of Homeric poetry across Greek dialects and across generic boundaries. I focus the case study on one form found in one formula, φρασί 'in mind' in the hemistich φρασὶν ἄλλα

μενοινῶν, incontestably the older form of the dative plural of φρήν (for Cl.Gk. φρεσί), but only contestably "Homeric". The hemistich with φρασί is inscribed on a funerary monument in Attica, but paradoxically may not be evidence for the Attic dialect at all: φρασί with *a*-vocalism closes a Homeric verse-end formula (Hom. φρεσὶν ἄλλα μενοινῶν), but in Homer only φρεσί is ever found; and φρασί is unknown to all other Attic documents, while found abundantly– and more abundantly than the lexica and handbooks let on– in texts of the Doric West (Pindar, Stesichorus, and the Orphic leaves). In our study, complications of language and genre come to the fore: Why use a Doric form in an Attic epigram? Why use a Homeric formula in an elegiac couplet inscribed upon a funerary monument?

The dissertation of Jesse Lundquist is approved.

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University of California, Los Angeles
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To Calvert Watkins, in memoriam

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ACKNOWLEDGMENTS

Gratiarum actio: My scholarly debts are many. It is my pleasant duty to thank first friends, colleagues, and teachers at my home institution, UCLA. Calvert Watkins opened his early opus– the legendary "Blue Book" – by claiming in his turn that "no student was ever so fortunate in his teachers." I must do the same. Brent Vine served as committee chair for my dissertation, as well as mentor during my years in the Program. He has been nothing but generous with his time and his scholarly expertise; I owe to his critical acumen many of the finer points of my dissertation. Although the present work takes on a topic in Ancient Greek, I am greatly indebted to my Sanskrit teacher, Stephanie Jamison, for years of thoughtful, patient, dedicated teaching. But my debt extends far beyond scholarship and her instruction in Sanskrit: leaving UCLA, I will sorely miss her wit, wisdom, friendship, and just sound common sense. I am very grateful to Michael Haslam for graciously stepping out of his retirement to sit on my committee; our weekly readings of West's apparatus criticus immeasurably improved my knowledge of Homer. My other teachers did not assist in my committee, but have helped me establish a philological foundation for my future work, and, with undogmatic guidance and aid, have helped me press my thoughts into *terra incognita*. I wish to express my sincerest thanks to Craig Melchert, Joseph Nagy, Chris Stevens, and now the latest addition to the Program's faculty, David Goldstein.

Agastya, a poet of the Rigveda, signs his hymns with the signature pāda "may we know refreshment and a community having lively waters" (*vidyā́meṣáṃ vr̥jánaṃ jīrádānum*). I have been fortunate in my years in the Program to have shared much refreshment with good friends, and to have known a community having lively waters. Pride of place goes to the only student left standing in my cohort, Tony Yates, who has stood beside me at every step of our scholarly progress. I would not have worked so hard, would not have biked so many miles, and would have done neither so happily, had it not been for his constant and unwavering friendship. I wish to thank past students of the Program, especially Chiara Bozzone and Ryan Sandell, as well as present students, who have made the Program generally, and the graduate seminar in particular, a rewarding place to share the fruits of our labors. Many scholars have made the pilgrimage to UCLA's annual Indo-European conference, offering a steady stream of new ways to think about Indo-European languages and cultures. Of visitors to the Program I am particularly grateful to Ben Fortson, Joshua Katz, Sasha Nikolaev, and Michael Weiss for so freely offering up their expertise in all matters of Indo-European

studies.

During the academic year 2014-15 I entered as a Visiting Fellow the Department of the Classics, Harvard University. The year proved a trying one, personally, but a fruitful one, academically. I probably would not have gone to Harvard at all, had it not been for Greg Mellen: οὐ μέν τι κασιγνήτοιο χερείων / γίγνεται, ὅς κεν ἑταῖρος ἐὼν πεπνυμένα εἰδῇ. I am grateful to my συμμαθηταί Alex Schultz and Anne Remillard in Classics, Marek Mayer in Linguistics. I would like to thank as well Jay Jasanoff, and my thanks, too, to Jeremy Rau.

Graduate work may culminate in a Ph.D. dissertation, but it does not begin there. My dissertation builds on the education I received in England: as an undergraduate I wrote, under the wonderful tutelage of David Langslow, a thesis on Homeric language entitled "Aspects of Inherited Poetics in the Songs of Homer"; my Ph.D. dissertation continues that earlier effort. It has been a great pleasure to stay in touch with friends in Manchester and in Oxford, at the latter institution especially Elizabeth Tucker and John Lowe. I am particularly indebted to Philomen Probert who, year after year, with patience, good humor, and warm friendship answered my many queries on Greek accent.

Finally, I owe a very special debt of gratitude to Calvert Watkins. Without his learned, inspiring, magisterial tome How to Kill a Dragon, I simply never would have entered the field in the first place. In my first year I had the remarkable fortune of working on a project with Calvert ("Cal," as I learned later he preferred). The results of that project I ultimately published as Lundquist (2016), and the work done that summer forms the basis of this dissertation's final chapter. But the significance of the summer project pales in comparison to the privilege I had of knowing Cal as a friend. He was a true visionary in the study of language, and I deeply regret that I cannot present this dissertation to him as a very modest ἀντίδωρον; I dedicate the work to him *in memoriam*.

No one can say for sure what path his life will take, or where the work will lead. On entering the Program I wouldn't have predicted I'd spend so many hours assailing the ears of friends, colleagues, and teachers with all things accentual. Some of the problems addressed in this dissertation have interested me since my days as an undergraduate; some of the problems I had intended to engage with have since fallen

by the wayside. In coming years I hope to pursue further the problems explored in the following pages. I have found that in many ways this dissertation, though closing out my years as a doctoral candidate, constitutes more a beginning than an end. Years to come will bring novel views to express, new material to arrange: et ignotas animum dimittit in artes.

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PUBLICATIONS AND PRESENTATIONS

PUBLICATIONS

& Anthony Yates. Forthcoming. Proto-Indo-European Morphology. In Jared Klein and Brian Joseph (eds.), *Handbook of Comparative and Historical Indo-European Linguistics*. De Gruyter: Berlin / New York.

2016. On the Accentuation of Compound s-Stem Adjectives in Greek and Vedic. In David M. Goldstein, Stephanie W. Jamison, and Brent Vine (eds.), *Proceedings of the 27th* Annual UCLA Indo-European Conference, 97–114. Bremen: Hempen.

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Jan 2016. *Archaisms and Innovations in Homeric Accentuation*. Society for Classical Studies, Annual Meeting, San Francisco, CA.

Oct 2015. *On the Accentuation of Compound S-Stem Adjectives in Greek and Vedic*. 27th Annual UCLA Indo-European Conference.

July 2015. *Reconstructing Accentual Change: A Case Study from Indo-European*. 22nd International Conference on Historical Linguistics, Naples, Italy.

March 2014. *Rigvedic uṣar, uṣarbúdh- and the Indo-Iranian Locatival *-ar*. 2014 Meeting of the American Oriental Society, Panel in Memoriam of Calvert Watkins. Phoenix, AZ.

CHAPTER 1

Introduction

1.1 Praefatio: Purpose; Plan of the Dissertation

Homer has been read, studied, and admired for thousands of years; why contribute another brick to the edifice of interpretation? I will show in the following pages that Homeric Greek remains imperfectly understood, that we can go further in writing the history and prehistory of the Greek language. By a combination of well-established and novel methods, we can illuminate linguistic problems, cast light on the dark corners of the text, and press further into *terra incognita* as we attempt to recover otherwise lost history. Of course, we overstate the case if we claim that scholars since antiquity have not already devoted, with great zeal and with great success, learned tomes to understanding Homeric language. Moreover, since antiquity scholars and careful readers (the two are not exclusive) have worked apace resolving many textual cruces, detailing many aspects of Homeric language in fine-grained commentaries, lighting the way to renewed readings of the text. Completely revising our understanding of Homeric language exceeds the bounds of the present work; for this dissertation I will set a much more modest aim. I will offer a set of case studies whose combined goal is to shed light on the forms and pressures unique to this variety of Ancient Greek. We will focus our attention especially on the ways in which the Homeric tradition on the one hand inherits archaisms, at times reaching back to the Proto-Indo-European past, and on the other hand the ways in which singers within the tradition innovate new, uniquely Homeric forms. I will try to show the ways in which the particular morphological means under discussion have been shaped within the Homeric tradition.

I will focus my studies on one domain of Homeric grammar: word-formation. To understand Homeric morphology, I will in the first instance analyze the *Iliad* and the *Odyssey*;[1] other epic texts (Hesiod and the Hymns) will be named separately in discussions. To understand the developments of the Greek language, of which Homer provides the fullest portrait of the early first millennium BCE, we must first understand the language within its poetic tradition, since literary genre thoroughly conditions this form of the Greek language. In the case of Homer, poetic grammar means the context of oral performance in which the tradition originates and thrives. Through-

[1] Throughout this dissertation I will refer to "Homer" as a shorthand for "the Homeric tradition." By this usage I do not pretend to be naive concerning recent debates on Homeric authorship, nor should my usage of a singular "Homer" be taken as my acceptance of a single author (as is assumed, for instance, by West (2011) *passim*). "Homer" is merely a convenient shorthand, no more.

out the present work we will seek to situate Homeric Greek within its broader historical context, looking back to its Proto-Greek and Proto-Indo-European (PIE) ancestors, and forward to its continuity in the regional traditions of Homeric poetry.

In this dissertation we will focus on the place where the Ancient Greek language intersects with the living oral tradition of Homeric poetry. Here at the outset I provide basic points of orientation for my views of Homeric grammar; I provide far more detailed bibliography on specific points in the case studies. Throughout this dissertation Homer's *Iliad* will be cited from the magnificent edition by West (1998-2000). My ringing affirmation of this edition should not imply that I agree with West's every decision, but I have consulted it on every word analyzed, on every line discussed. Furthermore, on matters of philological interpretation I have consulted West's accompanying volume, West (2001b), though again, without perfect agreement. For the *Odyssey* I have not had the good fortune of working with a comparable edition to West's *Iliad*– his *Odyssey*, to be published posthumously, is not currently available– so I have used instead Allen (1917) as a base text. As concerns Homeric language, nowhere in this dissertation do I aim at a comprehensive overview, for which Hackstein (2010, 2011a,b) may be profitably consulted.[2] Since I focus primarily on one aspect of Homeric grammar, word-formation, two works devoted to this topic have proven vital to all my discussions: the foundational handbooks by Chantraine (1958) and by Risch (1974). As will become clear in the pages to follow, I have made extensive use of certain recently completed projects. On lexical matters I have often relied on the *Lexikon der frühgriechischen Epos (LfgrE)*, ed. Snell et al. 1955-2010, as well as the helpful entries in Chantraine (1999), and the spottier entries in Beekes (2010). While I was writing my dissertation, the volumes of the *Homer Encyclopedia* were published (Finkelberg 2011), whose articles often proved helpful. Finally, for matters of literary interpretation, I have been greatly aided by the works of Leaf (1900-1902) and the volumes in the Cambridge Press series on the *Iliad*, especially the volume edited by Janko (1992). While I have been writing my work, fascicles of the Basle Commentary have trickled out piecemeal; the series is by no means completely published (and the commencement of parallel English-language editions will further delay progress), but the volumes produced to date contribute valuably to Homeric scholarship, and I have consulted them on a regular basis.[3]

I hope my studies will impact above all our understanding of Homeric Greek, while also resonating out further in two directions. First, by studying how language changed within this tradition, we may throw light more broadly on how languages change within other poetic traditions (e.g. the Rig-Veda). Second direction, by examining

[2]Other recent surveys exist, but Hackstein best lays bare the mechanisms by which Homeric forms come into existence; his hefty monograph on the topic (Hackstein 2002) may be consulted for fuller discussions (note too the insightful review of Hackstein 2002 by Vine 2006).

[3]Note in particular the chapter in Latacz (2001) devoted to Homeric grammar, Wachter (2001a). For ongoing publication history of this series, it is best to visit the website of the publisher, *de Gruyter*, at https://www.degruyter.com/view/serial/36261.

closely the Homeric evidence, we may refine our reconstructions for the PIE proto-language, insofar as the evidence for that reconstruction relies crucially on Homer's testimony. Certain case studies presented here will take as their point of departure, as well as their ultimate goal of arrival, Proto-Indo-European morphology. I hope that my studies will contribute to the lively and informed debates of the field, and in particular to those relating to Greek and Proto-Indo-European accentuation.

Lastly, it remains to be said at the outset that many other topics might have been included. Within a "studies in X" format, ill-formed or just unfinished chapters can be excised, like so many bruises on a blemished fruit. This is a strength of the format, but also a weakness: with each chapter cut, the coherence, and of course the comprehensiveness, of the complete work slightly diminishes. I had prepared additional chapters for inclusion but, when the final moment came, they had to go. I hope to publish these forlorn chapters as separate studies in the years to come. In particular I was sad to see certain chapters, whose earlier versions had been presented, fail to come to fruition. To catalogue just a few items: I prepared fairly extensive notes on the ἀνδροτῆτα problem and the prehistory of the hexameter, early versions of which I presented at the UCLA Graduate Seminar (I have incorporated some notes in §2.1.1); I presented a paper on Homeric nouns in -σις at a meeting of the Society for Classical Studies (Lundquist 2015a); and I presented another paper at the same conference the following year, this time on the perfect participle active in Homer (Lundquist 2017). These studies will have to await publication.

1.2 Plan of the Dissertation

In this section I lay out the plan of the dissertation, giving chapter by chapter summaries. The following chapters will take up three case studies of archaisms and inheritance in the language of Homer. The first case study will examine Homeric accentuation, and related issues of morphology and morphophonology, in one class of adjectives (2). Working from the well known to the poorly understood, we will build up a picture of accent and ablaut in the class of *u*-stem adjectives. It has long been known that Homer preserves certain archaic accents, which two *u*-stem adjectives, inflected in the feminine, exemplify: θαμειαί 'close-set' and ταρφειαί 'thick'. These two adjectives stand against the paradigmatic feminines in -εῖα. The oxytones cannot be generated by productive morphophonology of Greek, so must descend from an earlier state of the language. The argument that these forms are archaisms rests in part on their correspondence with Vedic, in whose cognate adjectives the accent is unequivocally oxytone; for instance *svād-áv-* 'sweet' is the masculine/neuter stem to *svād-v-ī́*, the feminine. A surface correspondence, but the nature of the Vedic accent remains only murkily comprehended at present; the accentuation of this class of adjectives will provide an opportunity to discuss anew the bases of Vedic accentuation (§2.2.1, §2.2.2; see also §1.3 below). Returning to Greek, we will examine a few nouns arguably going back to substantivized adjectives, arguably reflecting zero-grade ablaut of the

suffix. Such nouns would correspond precisely with Vedic, where zero-grade ablaut of the suffix is the rule (Ved. *-nī́*): ὄργυια 'fathom, span of the arms', ἄγυια 'street', and possibly a few others (§2.3). Finally, a further accentual class within the feminine inflection to *u*-stem adjectives must be addressed, though it is more often ignored: the recessives in unaccented -εια (θάλεια 'abundant', λάχεια 'wooded', λίγεια 'sweetly sonorous'). I will propose that the recessive accent results from the morphological isolation of these words (i.e. they lack a masculine/neuter base), coupled with a subsequent re-accentuation in the default, recessive accent of the language (§2.4). Taken together, these accentual classes chronicle the history of *u*-stem morphophonology in Greek.

The next case study treats how innovations and archaisms developed within one morphological category, the compound *s*-stem adjectives (3). In particular, we will examine anew questions of accents and of ablaut grades: which are archaisms, which innovations? To do so, we turn to the complex philological evidence concerning the various accentual classes of *s*-stem adjectives (§3.2). I will argue that the recessively *s*-stem adjectives agree most closely with the largely overlooked Indo-Iranian evidence. Re-examining the evidence for Greek accentuation supplies an opportunity to look again at the evidence for archaisms and innovations in Greek ablaut (§3.3). Greek evidence from zero-grade ablaut in the root of second compound members, such as αἰνοπαθής 'terribly suffering', sometimes understood to reflect ancient PIE derivational processes, reflects rather a highly significant innovation in Greek morphology: the class of *s*-stem adjectives transforms from a denominal to a deverbal class. I will demonstrate that the zero-grade ablaut in the second member reflects the verbal bases from which the adjective derives (in this case the aorist παθεῖν 'to experience; suffer'). Why the aorist, opposed to the present or perfect stem, so often serves as the verbal basis in deverbal derivation will be a question we can pose, but cannot fully answer (§3.3.4). Finally, we will work through the Indo-Iranian– effectively just Vedic– evidence for accent and ablaut in the cognate class of *s*-stem adjectives (§3.4). This body of evidence has been on the whole left out of reconstructions; I will establish first a philologically sound position for the varying accentual classes in Vedic, then will ask in what ways the Indo-Iranian evidence corresponds to the Greek. This re-examination of the combined evidence of Greek and of Vedic leads to a substantially revised picture of the derivational morphology of *s*-stem adjectives in the protolanguage.

The last study (4) casts a wider net, turning to issues in the transmission of Homeric poetry outside the core paradosis. We will look at the ways in which one Homeric formula transforms as it migrates across the dialects, crossing lines of generic affiliation. I focus the case study on the form φρασί 'in mind', incontestably the older form of the dative plural of φρήν (for Cl.Gk. φρεσί). The form φρασί is inscribed on an Attic funerary monument dating to the Archaic period, but paradoxically may not be inscribed in Attic at all: φρασί with *a*-vocalism closes a Homeric verse-end formula (Hom. φρεσὶν ἄλλα μενοινῶν), but in Homer only φρεσί is ever found; and φρασί is unknown to all other Attic documents, while found abundantly— and more abundantly

than the lexica and handbooks let on— in texts of the Doric West (Pindar, Stesichorus, and the Orphic leaves). In our study, complications of language and genre will come to the fore, for instance, Why use a Doric form in a Homeric formula on an epigram inscribed in Attica? Why use a Homeric formula for an elegiac couplet?

Finally a conclusion (5) will take stock of our case studies. The focus will be on the ways in which Homer's language inherits archaisms and generates innovations. We will evaluate the impact of our study on neighboring fields, such as PIE morphology and Greek epigraphy.

1.3 Morphophonology of PIE

Given the great importance of PIE morphophonology to my case studies, I will set out, and at some length, my working assumptions on PIE morphology, and in particular morphophonology– accent and ablaut – in the proto-language. I will refer to this section often.[4]

At the heart of PIE morphophonology is the relationship between "ablaut" — i.e. morpheme-internal alternations in vowel quantity (**V: : *V : *ø*) and quality (**o : *e*) — and "accent," a term traditionally used to refer to the single word-level accentual peak, whose primary phonetic correlate in PIE was probably high pitch as in Vedic Sanskrit and Ancient Greek. The collective evidence of the oldest daughter languages shows a correlation between these variables, in particular between **e : ø* vowel alternations and the presence or absence of accent. In none of these languages, however, can these qualitative or quantitative vowel alternations be explained by a purely phonological process conditioned by the position of the accent. The extent to which the vowel **a* and the lengthened grades **ē, *ō (*ā)* participate in PIE ablaut is not fully understood; these vowels will mostly be left out of consideration in what follows.

The attempt to understand the opaque relationship between accent and ablaut in the IE languages, and in turn, what should be reconstructed for the proto-language, has exercised scholars since the beginning of IE studies. In this section I begin by situating the PIE accentual system in a typological perspective, then discussing the morphophonological principles by which word accent in PIE was determined. I outline the core features of this accentual system in §1.3.1, then in §1.3.2 I address issues that arise in complex derivation, where more open questions persist. Finally, in §1.3.2.1 I take up the still more difficult problem of the relationship of accent and ablaut.

Readers should be aware that the analysis of PIE word accent I lay out in §§1.3.1–1.3.2 diverges considerably from the traditional "paradigmatic" approaches to this problem as presented in most standard handbooks of the field (Fortson 2010: 119-23, Weiss 2011: 257-62, Meier-Brügger 2010: 336-53, *i.a.*). Because I do not take ablaut

[4]These sections on morphophonology are pulled (with alterations) from my forthcoming overview, together with Tony Yates, on PIE morphology, Lundquist and Yates (fthcm). As our jointly authored chapter has not yet seen the light of day, I reproduce much of the material here.

patterns as direct evidence for word accent at the PIE stage, as reached by the comparative method, my view differs considerably from those within the "paradigmatic" model. At the stage I am reconstructing in this document– PIE as reached by the comparative method– accent and ablaut were already what Calvert Watkins (1998: 62) called "independent variables". I focus instead on the position of word accent and the principles by which it is determined in the ancient languages and as it can be reconstructed for their immediate ancestor. The issues of ablaut and of accent-and-ablaut classes I discuss more extensively in §1.3.2.1 below.

1.3.1 PIE lexical accent: The Basic system

The principal languages generally held to contribute more or less directly to the reconstruction of PIE accent — Ancient Greek, Lithuanian, Russian, Hittite, and above all, Vedic Sanskrit — all have prototypical *lexical accent* systems (on this term see van der Hulst 2014, and in more detail, Revithiadou 1999 and Alderete 2001a). Definitional to word-prosodic systems of this kind, purely phonological factors, such as syllable weight or metrical structure, do not determine surface accent, but rather surface accent depends on what accentual properties the morphemes in a given word contain, how those morphemes are combined, and what phonological principle computes over their combined input. Such systems have been previously identified and studied in languages as diverse as Thompson Salish (Salishan; Revithiadou 1999: 250–77), Tokyo Japanese (Japonic; e.g. Poser 1984, Kubozono 2011), Chamorro (Austronesian; Chung 1983), and Cupeño (Uto-Aztecan; Alderete 2001b; Yates 2017). In these systems, certain lexically specified morphemes may "attract" the accent, either to itself or to an adjacent syllable, while others may be "neutral," exerting no effect on the position of the accent. Three such typologically well-established accentual features are securely reconstructible for PIE: inherently *accented* morphemes, which prefer to host the word's single surface accentual peak (per above, high tone in PIE); *preaccenting* morphemes, which prefer that the accentual peak fall on the immediately preceding syllable; and inherently *unaccented* morphemes, which neither lure in nor repel the peak. For the sake of consistency with previous scholarship, I employ the term "underlying accent" or "inherent accent" for this abstract lexical feature, and maintain the traditional use of unmarked *accent* to refer to the single surface accentual peak (more common in the theoretical literature is "accent" for the lexical feature and "stress" for its surface realization; cf. van der Hulst 2014: 4–6).

The PIE adjectival suffix **-nó-* affords an example of an inherently *accented* morpheme, whose reflexes regularly bear suffixal accent in Vedic and in Greek, e.g. Gk. ἁγ-νό-ς 'holy', Ved. *yaj-ñá-s* 'sacrifice' (< PIE **$h_1$yaĝ-nó-s*). Bopp (1854: 163–8 on –ró-) in the 19th century already suggested that the accentuation of thematic adjectival suffixes (e.g. *-ró-*, *-tó-*) should be attributed to some accentual property inherent to the suffixes; generative frameworks formalize this insight by treating the accentual property as a lexical feature on the suffix, marking it out as accent-preferring, i.e. underlying /–nó–, –ró–, –tó–/ (in this vein cf. Probert 2006b: 197-208). Such PIE

adjectives were therefore derived as in (1):

(1) PIE */$h_2$erĝ - ró - (o)s/ → *h_2r̥ĝ-ró-s 'shining' (M.NOM.SG)
PIE */ĉlew - tó - (o)s/ → *ĉlu-tó-s 'heard (of); famous' (M.NOM.SG)

The PIE forms in (1) develop into attested Ved. *ṛj-rás*, Gk. ἀργός (likely with dissimilation of **r*, but cf. Vine 2011 for more nuanced discussion), and Ved. *śrutás*, Gk. κλυτός (on **e/∅* ablaut, see §1.3.2.1 below).

As in (1), inherently accented morphemes generally assume the surface accent; however, since morphologically complex words may contain multiple inherently accented morphemes, or alternatively, no inherently accented morphemes, lexical accent systems need language-specific (morpho)phonological principles to determine which underlying accent will receive surface accent, or else assign a "default" accent in the absence of underlying accents. Such principles are employed in analyses of lexical accent systems to model synchronic accentual variation within morphological categories and across lexemes.

In the IE languages an important locus of such variation is the class of root nouns, some of which are accented on their inflectional endings in their oblique case forms (e.g. Ved. *pad-á́* 'with the foot'), while others show persistent root accent (cf. Ved. *gáv-ā* 'with the cow').[5] While the surface accent of the former is straightforwardly analyzed as resulting from attraction to the inherently accented instrumental case ending (Ved. /–á́/ < PIE /–éh$_1$/), the latter can be treated as containing an inherently accented nominal root /gáv/ (an idea foreshadowed by de Saussure 1879: 199,[6] further developed by Kiparsky 2010: 141–144); a phonological principle of "accentual resolution" then decides the competition between the lexical accents of the root /gáv/ and the weak case inflectional suffixes. Similar principles of accent resolution are standardly assumed to operate in Tokyo Japanese and Cupeño, where the resolution explains the contrast between (e.g.) Jap. *yon-dára* 'if (he) calls' vs. *yón-dara* 'if (he) reads' and between (e.g.) Cu. *max-qáʔ* '(he) gives' and *ʔáyu-qa* '(he) wants' (see Alderete 2001a: 49–51, 99).

However, not all surface accents correspond to underlyingly accented morphemes. For instance, a root like Ved. /pad/ 'foot' has no underlying accent, as judged from the way the inherent accent of the inflectional ending attracts the surface accent. Nevertheless, roots like /pad/ receive the surface accent in other paradigmatically related

[5] Note that the form *gávā* instr.sg. is no longer a form of Rig-Vedic vintage (pace all standard handbooks, e.g. Lubotsky 1997), since Stephanie Jamison has shown that in its sole occurrence (5.30.7) the word is better interpreted as genitive plural. In this passage, the RV saṁhitā text gives *áhan gávā maghavan saṃcakānáḥ*, but Jamison proposes to read *gávām* 'of the cows'; see her commentary *ad locum* for full details, http://rigvedacommentary.alc.ucla.edu/. The instr.sg. is attested in the Vedas (VS, and BYV).

[6] De Saussure 1879: 199 writes: "Aux cas faibles, le ton s'est fixé sur l'*a* de *ga-v-*. Cet *a* n'y avait évidemment aucun droit, mais en sanskrit l'attraction qu'exercent sur l'accent les *a* radicaux de toute provenance paraît avoir été presque irrésistible." Saussure does not speak of an inherently accented root, though he clearly takes the root-vowel as a magnetic force for the accent, which amounts to a very similar claim.

forms, e.g. Ved. nom.pl. *pā́d-as** 'feet' (cf. attested acc.sg. Ved. *pā́d-am*, and Gk. πόδες). The accentuation of such forms arguably results from a phonological principle of "default" accentuation, a grammatical process that operates when a word contains no inherently accented morphemes. In such circumstance, a speaker assigns an accent to a phonologically unmarked position, thus fulfilling the typologically common requirement that all words bear an accent (the "obligatoriness" parameter; see, e.g., Hyman 2006). In Vedic, default accent surfaces on the word's leftmost syllable as in (2a); so too in Ancient Greek, though the leftmost syllable is constrained to fall within the trisyllabic window at the word's right edge (known as the "Law of Limitation"). Arguably, the combined evidence of Vedic and Greek points to a leftmost default within PIE itself (cf. Kiparsky 2010: 144, and for a similar– but not genetically related– pattern in Cupeño, see Yates 2017), while (2b) shows that this default accentual pattern does not arise in words containing the same suffixes if an accented morpheme is already present:

(2) a. Ved. /pad – as/ → *pā́d-as** 'feet' (foot-NOM.PL.)

b. Ved. /marút – as/ → *marút-as* 'Maruts' (Marut-NOM.PL.)

From these examples a clear distinction emerges between "mobile" root nouns like *pā́d-* 'foot', which show accent on the root in the strong cases, in the weak cases on the inflectional suffixes, and immobile or "fixed" root nouns like *gā́v-* 'cow', which persistently accent the root. Mobile roots nouns predominate, to be sure (e.g. *nāv-* 'boat', *pur-* 'stronghold', *yudh-* 'fight'), while only a handful of other lexical items in addition to *gā́v-*– including *nar-* 'man' (dat.sg. *nár-e*) and *raṇ-* 'pleasure' (dat.sg. *ráṇ-e*)– instantiate the rarer fixed root nouns. By applying the same tools used to model similar accentual alternations in Tokyo Japanese and Cupeño, we arrive at an explanatory account of the different accentuation of these classes, an account which falls out directly from a minimal contrast in the underlying accentedness of the relevant roots (/gáv/ 'cow' vs. /pad/ 'foot') and affixes (instr.sg. /–ā́/ vs. nom.pl. /–as/). If Vedic here preserves the PIE situation (with its own extensions of the system),[7] the PIE derivation of mobile vs. immobile nouns can be represented as in (3):

(3)

	ROOT NOUNS in PIE								
	FIXED				MOBILE				
NOM.PL.	*/g^{w}ów – es/	→	*g^{w}ów-es*	'cows'	*/pod – es/	→	**pód-es*	'feet'
INSTR.SG.	*/g^{w}éw – éh$_1$/	→	*g^{w}éw-eh$_1$*		*/ped – éh$_1$/	→	**ped-éh$_1$*	

[7] That is, Vedic preserves the distinction, or at least the potential distinction, between inherently accented and unaccented roots, just as it preserves the same distinction in inflectional suffixes. By "extension of the system," I mean that some roots have become inherently accented within the prehistory of Vedic. Ved. *nár-e* (dat.sg.) exemplifies the latter pattern; the root probably owes its newfound accentedness to an illicit syllabification of onset ^{X}*nr-é* (cp. its PIE forebear **h$_2$n̥.réy*, indirectly Gk. ἀνδρί). However, this suggestion remains to be worked out in detail, since e.g. *navé* dat.sg. is not an accented root, and its illicit onset in the zero grade, ^{X}*nv-é*, does not block the accented inflectional ending from winning out.

Under this analysis, accentedness is a property of the Vedic root /gáv/ (< PIE */g^{w}ów/), unaccentedness a property of /pad/ (< PIE */pod/). In neither case is accentedness a property of a basic (i.e. root noun) inflectional paradigm. In contrast to the paradigmatic approaches discussed in §1.3.2.1, which reify the status of intraparadigmatic accentual mobility or immobility, my analysis takes the respective fixed and mobile accentual patterns of these nouns as emergent patterns from the underlying lexical properties of the roots and suffixes. My account thus predicts that the underlying accentual contrast between these roots recurs in derivation, resulting in differences in the surface accentuation of certain morphologically related forms. And derived words bear this prediction out. Witness what happens when /gáv/ and /pad/ are further suffixed by Ved. *-mant-* or *-vant-* (< PIE **-ment-/*-went-*). These two possessive adjectival suffixes show similar accentual behavior.[8] The resulting complex derivatives exhibit a minimal contrast in surface accent: root-accented *gómant-* vs. suffix-accented *padvánt-*. The minimal pair owes not to properties of the adjectival suffix (nor to the root noun paradigm *per se*) but to the accentual properties of each root, percolating into the derivative. Similarly, the accent of /marút-/ is retained in its derivative *marút-vant-* 'accompanied by the Maruts'. I present a potential analysis of these derivatives in (4) below:[9]

(4) /gáv – mánt – am/ → *gómantam* 'possessing cattle (acc.sg.)'
/pad – vánt – am/ → *padvántam* 'possessing feet (acc.sg.)'
/marút – vánt – am/ → *marútvantam* 'accompanied by the Maruts (acc.sg.)'

Ved. *gáv-ā*, *gómantam*, and *marútvantam* show a consistent pattern of accent resolution. When multiple inherently accented morphemes compete for the single surface accent in Vedic, accent falls on the inherently accented morpheme closest to the word's left edge. Combining this generalization about accentual resolution with the pattern of leftmost "default" accentuation observed in (2a), Kiparsky and Halle (1977) proposed that Vedic accentuation is governed by the Basic Accentuation Principle (BAP; cf. now Kiparsky 2010), which can be stated (modifying slightly Kiparksy's original wording) as in (48):

(5) Basic Accentuation Principle (BAP):
If a word has more than one accented syllable, the leftmost of these receives word stress. If a word has no accented syllable, the leftmost syllable receives word stress.

Kiparsky and Halle (1977) present evidence from the accentual systems of Balto-Slavic and Ancient Greek in support of the BAP and, on the basis of their convergence, the authors argue that the BAP should be reconstructed for core-PIE. Less clear cut is the evidence outside Vedic, since various accentual innovations have stricken the branches. For instance, the development of the "Law of Limitation" in Greek restricts the position of the accent to the trisyllabic window at the right-edge of the word, whence a word whose accent would be assigned purely by the morphology (as in the case of Vedic) may now be obscured by the phonologically

[8] Likely because the two suffixes come from a single morpheme, Wackernagel and Debrunner (cf. 1954: 781–2).

[9] Sandell (2015: 184–9) presents an alternative way to handle this material.

controlled accent.[10] Hence my reliance on Vedic for much of this discussion. Slavic presents another case of language-specific innovation, since clitics in Slavic have become incorporated into the accentable domain (see, e.g., Olander 2009: 156–7 with references). However, it is very likely that Greek's "recessive accentuation" — demonstrably the default pattern in the language (Probert 2006b: 128–144) — continues the PIE leftmost default in modified form, i.e. leftmost within the accentable domain. Similarly, the Slavic rule whereby initial proclitics are accented in words containing no inherently accented morphemes ("Šaxmatov's Law") may reflect the BAP applying over a larger phonological domain (perhaps the clitic group; so Kiparsky (fthcm.)).

Evidence from Anatolian for a leftmost default accent pushes back the date of the BAP to PIE proper. Yates (2016) contends that the BAP is synchronically operative, accounting (e.g.) for the Hittite contrast in the *mi*-conjugation between primary verbs that are accentually mobile (i.e. show accent on the root in the singular and on inflectional endings in the plural) and those with fixed root accent. Mobile accent makes up the majority pattern in this category, instantiated by common verbal roots like *šeš-* 'sleep', while only a few roots — such as *wek-* 'demand' — exhibit fixed root accent. Just as in the root nouns (3), the accentual contrast between these verbs can be derived by positing: (i) the singular verb endings are inherently unaccented (e.g. Hitt. 3sg. non-past /–zi/); (ii) the plural endings are inherently accented (3pl. /–ánzi/); (iii) the roots differ underlyingly in accentedness (/wék/ vs. /šeš/); and (iv) the operation of the BAP. This derivation is represented in (6) with the verbs *wēkzi* 'demands' and *šēšzi* 'sleeps':

(6) PRIMARY VERBS in Hittite

	FIXED	MOBILE
3SG.NPST.ACT	/wék – zi/ → *wēk-zi* [wé:k͡tsi]	/šeš – zi/ → *šēš-zi* [sé:s͡tsi]
3PL.NPST.ACT	/wék – ánzi/ → *wek-anzi* [wé(:)kan͡tsi]	/šeš – ánzi/ → *šaš-anzi* [sasán͡tsi]

Vedic contrasts in an identical manner primary verbs with mobile accents vs. those with fixed accent. Most Vedic root presents surface with mobile accent, including Ved. 3sg.act *sás-ti* / 3pl. *sas-ánti* 'sleep(s)', a verb directly cognate with the Hittite *šeš-* cited in (6). This perfect equation suggests that their PIE congenitors were derived in exactly the same way as in Hittite — in other words, that the corresponding PIE morphemes had the same accentual properties (*/ses/ 'sleep'; 3sg.prs. */–ti/; 3pl. */–énti/) and underwent the same interaction with the BAP (for the accentuation of Ved. *sas-ánti**, cf. 3pl.prs.imp.act. *sas-ántu*).

The fixed accent type in (6) also has a parallel in Vedic, where it similarly constitutes a minority pattern. An example is the Vedic root *takṣ-* 'fashion' with fixed accent, as in the 3pl. *tákṣ-ati* (the accent of the 3sg.act. *tāṣ-ṭi* is unattested, but would be **tā́ṣ-ṭi*). The fixed root accent can be derived by positing that the root itself is inherently accented (i.e. /tákṣ/), like Hitt. /wék/ 'demand'. The existence of inherently accented (verbal) roots in Vedic and Hittite suggests that they should be reconstructed for PIE. The special phonological behavior of these roots may be due either to a special property of the root itself i.e. they are "Narten roots"

[10] For one important study of the origin of the Law of Limitation see Probert 2012, though she restricts her claims to the rule's origin within finite verbs; as we will discuss later on (§3.2.1) this rule impacts compounds considerably. Its origins (and indeed its synchronic analysis) remains largely undiscovered.

(Schindler 1994, Jasanoff 2012, *i.a.*) or else the fixed accent in "Narten presents" was due to the presence of an additional zero derivational morpheme (cf. Kümmel 1998 and Melchert 2014). In addition to accented and unaccented morphemes, PIE also had *preaccenting* morphemes, which place a lexical accent on the final syllable of the preceding morpheme. Strong candidates for PIE preaccenting morphemes include the suffix to create neuter event nouns *-*o/es*- (cf. *s*-stem nouns in Gk., γένος, μένος, (ϝ)ἔπος, cognate to Ved. *jánas-, mánas-, vácas-* etc.) and, in the verbal system, the *-*e/o*- suffix, creating simple thematic presents (Ved. *bhárati*). Nouns and verbs derived with these suffixes show fixed root accent and (generally) full-grade root, for instance (using the genitive singular) Ved. *mán-as-as*, Gk. μέν-ε-ος 'thought'; Ved. *vác-as-as*, Gk. (ϝ)έπ-ε-ος 'speech' . Under the preaccenting analysis, the accent on the root in these items is the surface realization of a lexical accent sponsored by the immediately following suffixes, PIE */–'o/es–/ and */–'e/o–/. Like the lexical accent of an accented morpheme, the lexical accent sponsored by a pre-accenting morpheme may or may not receive the surface accent. Thus the lexical pre-accent "wins" over the lexical accent of the athematic genitive ending */–é/ós/ and of the 1pl.act. ending */–mé(-)/ due to the BAP, which assigns surface accent to the lexical accent that it is closer to the left edge of the word; however, there is a clear synchronic contrast in Vedic between forms where the pre-accent is realized on the surface, and forms where the principles of accentual resolution prefer a different accented morpheme.

(7) Ved. /śrav – 'as – ás/ → *śráv-as-as* 'of fame'

(8) Ved. /prá – [śrav – 'as] – ás/ → *prá-śrav-as-as* 'whose fame is advancing'

The accentuation of *bahuvrīhi* compounds like Ved. *práśravasas* is consistent with the BAP. The inherent accent of the first member — in this case, the preverb Ved. /prá/ — is assigned surface accent because the compound has no semantic head (i.e. it is exocentric), so accent is not determined by the morphological constituents in a direct mapping of semantic heads to prosodic prominence. In the absence of a head, the phonological principle of the BAP takes over: *prá* wins out because its lexical accent is closer to the word's left edge than that of second member /śrávas–/, whose initial accent is due to the preaccenting neuter event noun suffix /–'as–/. First member accent is the inherited rule in Greek's exocentric compounds as well, as we will see in greater detail in the case studies (3). In its cognate class of *s*-stem adjectives, Greek has a number of relic formations that do reflect first member accent, thus making it plausible to reconstruct PIE compounds like **pró-k̂lewes*- (> Ved. *prá-śravas*-) with first member surface accent due to the BAP (cf. with details and references Lundquist 2016a). Productively formed Greek *s*-stem compounds have suffixal accent (nom.sg.m./f. –ής), which reflects a historical change from denominal to deverbal derivation in this class of adjectives (cf. Meissner 2006: 161–215).

More generally, we can extend an analysis along these lines to other types of *bahuvrīhi* compounds, which require a principle of accent resolution to determine which accent of the underlying words will surface. In Vedic — and in all likelihood, by extension, in PIE — the first member bears the surface accent, provided that the first member contains an inherently accented morpheme (discussed more fully in Ch. 3). The BAP predicts first member accent: with two underlying accents in competition, the phonology resolves to the leftmost accent. I give simplified derivations for Vedic *bahuvrīhi* compounds of several structural types below in

(49):[11]

(9) a. Noun + Noun:

/bāhú + ójas/	→	*bāhú-ojas-*	'having strength in one's arms'
/kaví + krátu/	→	*kaví-kratu-*	'having the will of a poet'
/sóma + kā́ma/	→	*sóma-kāma-*	'desirous of soma'

b. Adjective + Noun:

/ugrá + bāhú/	→	*ugrá-bāhu-*	'mighty-armed'
/dabhrá + cétas/	→	*dabhrá-cetas-*	'small-witted'
/sahásra + dákṣina/	→	*sahásra-dakṣina-*	'having a priestly gift'

c. Preverb + Noun:

/ádhi + rukmá/	→	*ádhi-rukma-*	'having bright ornaments upon oneself'
/abhí + krátu/	→	*abhí-kratu-*	'whose will is set against'

The Vedic evidence in (49) is again corroborated by recessively accented Greek *bahuvrīhi* compounds of the type κλυτό-τοξος 'famed for the bow'. The accentual equation between Greek and Vedic suggests that this analysis of compounds reveals the accentuation of *bahuvrīhi* compounds in core-PIE, if not in PIE proper. Thus I reconstruct *bahuvrīhis* for the core-PIE stage with first member accent like *$*h_2ugró\text{-}b^heh_2ĝ^hu$*— (> Ved. *ugrá-bāhu-*). The more complicated case of *bahuvrīhis* with second member accent is discussed immediately below (§1.3.2; further Vedic details ad 3.4.1.1, 3.4.1.2 and 3.4.1.3).

1.3.2 PIE lexical accent: Expanding the analysis

I proposed in §1.3.1 that morphemes in PIE were lexically specified for one of three accentual features: accented, unaccented, or pre-accenting. In addition, PIE accentuation was governed by the BAP, which assigns the surface accent to the leftmost of several inherently accented morphemes, or, in their absence, assigns a default initial accent. All three accentual features I posit, as well as the BAP, have strong typological parallels in Japanese and other languages with lexical accent; however, it is all but certain that the PIE accentual system was of a more complex type than (e.g.) Cupeño, where the interaction between these same three accentual features and a BAP-like phonological principle is sufficient to account for (effectively) all of the accentual contrasts in the language (cf. Yates 2017). To account for the accentual patterns attested in the oldest IE daughter languages, we must augment the PIE system with additional properties, although exactly how we do so is open to debate. In the remainder of this section I lay out some of the data that complicates the analysis, and discuss a few recent proposals that may offer a way forward.

The "intermediate" behavior of several athematic suffixes, which appear to attract the surface accent in simplex forms, but yield the accent in further derivation, does not easily submit to the tools developed in §1.3.1 is. Two suffixes with "intermediate" behavior — both

[11] Stem-stem compounding is assumed here, but see Kiparsky (2010: 170–6, fthcm.) for more detailed analysis with extension to other compound types.

traditionally analyzed as "proterokinetic" under paradigmatic approaches to IE accent and ablaut (cf. §1.3.2.1) — are the suffix *-*ti/tey*-, forming deverbal action/process nouns (in Greek terms action nouns in –σις, e.g. βάσις 'step') and the qualitative adjective suffix *-*u/ew*- (e.g. Greek adjectives in –υ/ε(ϝ)-, ἡδύς 'sweet'). In earliest Vedic **ti*-stem nouns like *jū-tí*- 'speed' (to the root *jū*- 'hasten') or *vr̥ṣṭí*- 'rain' (to *vr̥ṣ*- 'rain') regularly attract the surface accent to the derivational suffix (cf. Lundquist 2015b), thus resulting in non-default accent in strong case-forms (e.g. acc.sg. *jū-tí-m*, *vr̥ṣ-ṭí-m*); the suffix also retains the surface accent in weak case forms (e.g. dat.sg. *jū-táy-e*; instr.pl. *vr̥ṣ-ṭí-bhis*) in preference to the inherently accented inflectional endings to its right (dat.sg. /–é/; instr.pl. /–bhís/; cf. *paḍ-bhís* 'with the feet' to /pad/). At first blush this accentual pattern recommends analyzing the suffix as inherently accented (i.e. /–tí/téy–/), in parallel to the thematic adjective suffixes (/–nó–/, /–ró–/); we would then predict fixed suffixal accent, with the suffix the only accented morpheme in strong-case forms, preferred by the BAP in weak (i.e. "leftmost wins").

But the analysis of *-*ti*- and *-*u*- as inherently accented is untenable, because it forces incorrect predictions about the accents of derivationally related forms. Problems arise, for instance, in adjectives derived from Vedic *ti*-stems by addition of the suffix -*mant*- (/–mánt–/), which consistently tugs the accent away from these stems, as in (e.g.) *jūti-mánt*- 'swift' (AV 12.1.58), *vr̥ṣṭimánt*- 'rainy'. This accent attraction contradicts our assumptions that the noun-forming suffix Ved. -*ti/tay*- was inherently accented: had the suffix been inherently accented, then the nominal stem would have retained the accent against -*mant*-, as we saw in cases like Ved. *gó-mant*- 'possessing cattle' in (4) above, and similarly (e.g.) Ved. *mánas-vant*- 'thoughtful' (to the neuter *as*-stem *mánas*-). In the latter cases, a stem containing an inherently accented morpheme receives the surface accent in preference to an accented suffix to its right as a direct consequence of the BAP.

The accentual behavior just displayed is not unique to **ti*-stems nor specific to the suffix(es) *-*ment-/*-went*-; **u*-stem qualitative adjectives behave similarly. This adjectival class shows fixed accent on the ablauting suffix *-*u/ew*- throughout its inflectional paradigm in both Vedic and Greek, e.g. Ved. *svād-ú-, svād-áv*- = Gk. ἡδύ/-έ(ϝ)- 'sweet' (< PIE **sweh*$_2$*d-ú-, *sweh*$_2$*d-éw*-); Ved. *pr̥thú-, pr̥th-áv*- = Gk. πλατύ/-έ(ϝ)- 'broad' (< PIE **płth*$_2$*-ú-, *płth*$_2$*-éw*-); Ved. *āśú-, āś-áv*- = Gk. ὠκύ/-έ(ϝ)- 'swift' (< PIE **h*$_1$*ōk̂-ú-/*h*$_1$*ōk̂-éw*-. But once more, though the suffix is superficially amenable to treatment as an inherently accented morpheme (i.e. */–ú/éw–/), the way the suffix behaves in further derivation troubles our analysis — for instance, in combination with the feminine forming "*devī́*"-suffix P(N)IE */–íh$_2$/yéh$_2$–/ (> Ved. /–ī́/yā́–/), the accent of the *u*-stem adjective loses out, just as *-*ti*- loses out to *-*ment-/*-went*-. In both cases we are forced to abandon our analysis of an inherently accented suffix, replacing it with a more nuanced accentual feature that allows the accent to surface on the suffix in the simplex, but cede in the derivative.

To illustrate the last point, which will be elaborated further in Ch. 2, the *devī́*-suffix does not draw away the surface accent of the simplex, provided the simplex bears an inherently accented morpheme. For example, see what happens when you add the suffix to the inherently accented suffix *-*wos/us*- (*/–wós/ús–/), forming a perfect participle in core-PIE, whose avatars in Greek and Vedic bear suffixal accent, e.g. Ved. *vid-vā́ṁ-s* 'known' (nom.sg.m.), *vid-úṣ-as* (gen.sg.); Gk. εἰδ-(ϝ)ώς, εἰδ-(ϝ)ότ-ος (< PIE **w(e)id-wṓs, *w(e)id-ús*-). Significantly, the corresponding feminine forms exhibit persistent accent on the perfect participle suffix: Ved. *vid-úṣ-ī* (nom.sg.f.), Gk. εἰδ-υῖ-α (< PGk. **-ús-ya*), as expected under the BAP: PIE */–ús-íh$_2$/ →

*–*ús-ih*$_2$. However, when the same suffix is used to form feminine **u*-stem adjectives, it unexpectedly attracts the surface accent, thus Ved. *svād-v-ī́* 'sweet' (nom.sg.f.), *pṛth-v-ī́* 'broad' (nom.sg.f.). For the record, forms like ^{X}*svād-úv-ī* vel sim. would have been phonologically possible. I will argue in much greater detail (in Ch. 2) that the Vedic accent finds its match in archaisms of Greek — in particular, feminine plural forms in –ειαί, –αιαί with synchronically irregular oxytone accent. This class includes the Greek toponym Πλαταιαί 'Plataea' (in Boeotia) from < PGk. **pl̥th*$_2$*-(e)w-yéh*$_2$–, whose accent matches its cognate Ved. *pṛthi-v-ī́* 'broad'. The toponym resisted the analogical leveling of suffixal accent that produced the synchronic feminine adjective Gk. πλατεῖα 'broad', which shows the regular accent of its morphological class (with de Lamberterie 1990: 644–5, 2002, contra Sihler 1995: 349–50 et al.).

We find the exceptional "intermediate" accentual behavior of **u*-stem adjectives recurring in other derivationally related forms. First, we find cases where these **u*-stems are further suffixed by adjectival **–ment-* (*/–mént–/) and — as in the **ti*-stems — this suffix draws the surface accent, e.g. Ved. *āśu-mánt-* 'speedy, swiftly' (AV 6.105, a hymn 'to get rid of a cough'). Second, we find that in Vedic *bahuvrīhi* compounds formed with first member **u*-stem adjectives the accent surfaces not, as expected, on the first member, but on the accented syllable of their second member (see further §3.4.1.1). We see this surprising accent in e.g. *svādu-kṣádman-* '(lit.) having a sweet carving knife (*kṣádman-*); serving sweet food'; *āśu-héṣas-* 'having swift missiles (*héṣas-*)'; *pṛthu-pā́jas-* 'whose form (*pā́jas-*) is broad'. While such compounds admittedly show some accentual variation — e.g. both *pṛthu-budhná-* and *pṛthú-budhna-* 'having a broad foundation (*budhná-*)' are attested in the Rig-Veda — second member accent predominates. In each case, the BAP predicts that the **u*-stem adjective receive the surface accent– if, and only if, the suffix **–u-* is inherently accented. That the BAP's predictions fail here is no fault of the BAP; rather, the failure of the *u*-stem adjective to surface with accent demonstrates that the accent of the simplex cannot come from an inherently accented morpheme. The systematic failure of adjectives in **–u-* and nouns **–ti-* to attract surface accent in secondary derivatives suggests that these suffixes are in fact underlyingly unaccented (i.e. PIE */–u-/ ~ /–ew-/, */–ti-/ ~ /–tey–/), and that their secondary derivatives can be analyzed as in (10), using transponated forms:

(10)
*/ĝeuH – t(e)y – mént – s/ → **ĝuH-ti-mént-s* > Ved. *jū-ti-mā́n* 'swift'
*/pleth$_2$ – (e)w – íh$_2$ – ∅/ → **pl̥th$_2$-u-íh$_2$* > Ved. *pṛth-u-ī́* 'broad'
*/pleth$_2$ – (e)w – peh$_2$ĝ – 'es – s/ → **pl̥th$_2$-u-páh$_2$ĝ-ēs* > Ved. *pṛthu-pā́jās* 'broadbased'

Since the suffixes are not inherently accented, fixed suffixal accent observed in primary **ti*-stem nouns and **u*-stem adjectives must arise from some other grammatical process that fails to recur in further derivation. According to Kiparsky (2010: 144), the accent of these forms arises through the "Oxytone Rule," which places a lexical accent on the rightmost syllable of a polysyllabic word's inflectional stem. Because it applies only to a fully formed inflectional stem, the Oxytone Rule assigns a lexical accent to **–ti/tey–* and **–u/ew–* when immediately followed by inflectional endings, but does not target these suffixes when other morphological material intervenes, since the suffixes do not stand at the right edge of the stem (e.g. *jūti-mánt-*). A suffix accented via the Oxytone Rule would then attract surface accent (in preference to accented weak case endings) due to the BAP.

An alternative hypothesis is advanced by Sandell (2015: 176–214), who proposes that PIE affixes may be assigned lexical accent by virtue of being a word's morphological *head*. By

"head" Sandell means, in effect, the part of the word that determines its morphosyntactic properties (i.e. whether it is a noun or adjective). Thus a derivational suffix like *-*ti/tey*-, which selects a verbal root (e.g. **men*- 'think') and forms an abstract noun (nom.sg. **mn̥-tí-s* 'thought'), constitutes the word's head and, as head, receives a lexical accent. In the derived adjective **mn̥ti-mént*-, the adjectival suffix *-*ment*- constitutes the head, so forbidding the assignment of lexical accent to the *-*ti/tey*- suffix. Sandell's analysis aligns PIE with a range of other languages in which morphological structure plays a direct role in determining word accent; included among these languages are two of PIE's living descendants, Modern Greek and Russian (Revithiadou 1999), arguably conservative in this respect. However, adjudicating between the two accounts, Sandell's and Kiparsky's, requires further systemic analysis of Vedic word accent to see whose account best predicts the remaining data. To establish the accentual properties of the "intermediate" suffixes at the PIE level we need a more comprehensive analysis of the accentual systems of the daughter languages, coupled with a viable diachronic pathway from proto-language to daughter and back again.

We are further propelled to augment the basic analysis laid out in §1.3.1 by the accentual behavior of certain suffixes that "override" the accentual features of the stem to which they attach. The existence of morphemes with this accentual property — termed *dominance* by Kiparsky and Halle (1977) — was established in Balto-Slavic linguistics already in the 1970s.[12] Such morphemes are also found in non-IE languages with lexical accent systems like Tokyo Japanese (see Kawahara 2015 with references). Dominant morphemes flout the language's phonological resolution (in PIE, the BAP), imposing instead their accentual properties on the stem to which they attach. Within the IE languages, we observe this effect mostly clearly when a dominant accented morpheme is suffixed to a stem that itself contains an inherently accented morpheme.

An example of a dominant morpheme in Vedic is the adjective-deriving suffix *-in*- (/–ín–/; cf. Kiparsky 2010: 170). When it combines with nouns that have fixed surface accent (due to their underlying accented stems), the resulting derived forms systematically exhibit fixed surface accent on the *-in*-suffix; this pattern is shown in (11) below, where the same accented (thematic) noun stems that retain their accent in combination with non-dominant accented suffixes like Ved. *-vant*- (/–vánt–/) or as the first member in *bahuvrīhi* compounds always cede the surface to the dominant suffix *-in*-:

(11)

Ved.	*áśva*- 'horse'	⇒	*aśvín*- 'horseman; Aśvin'
	rátha- 'chariot'	⇒	*rathín*- 'charioteer'
	dyumná- 'brilliance'	⇒	*dyumn-ín*- 'brilliant'
	putrá- 'son'	⇒	*putrín*- 'having a son'

Dominance effects can also be found in the verbal system. In Vedic, verbal adjectives may be formed by suffixing *-ta*- /–tá–/ (< PIE *-*to*-) directly to the verbal root. Whether the root is unaccented (the majority type, e.g. /(g)han–/ 'smash; kill') or accented (/tákṣ–/ 'fashion'), the suffix *-ta*- consistently attracts surface accent (*ha-tá*- 'smashed; killed', *taṣ-ṭá*- 'fashioned'). Dominant accented /–tá–/ thereby contrasts with the non-dominant accented present participle suffix /–(a)nt–/, which receives surface accent when added to unaccented roots (e.g. *ghn-ánt*- 'smashing') but not to accented roots (*tákṣant*- 'fashioning'). Ancient Greek also knows

[12] See in particular the history of accent in Slavic linguistics by Garde (1976, 2011); Petit (2016: 11–4) offers a conceptual overview of "dominance" with special application to Ancient Greek.

dominant *-*tó*- in the form –τό-, which (Probert 2006b: ch.7, and p.290) analyzes as an inherently accented morpheme.

Ongoing research helps clarify the nature of accentual dominance in PIE. Kiparsky (2010) treats dominance as an arbitrary lexical property of morphemes (i.e. [+/– dominant]), but observes that there is a strong tendency for (prototypical) derivational suffixes to be dominant. Note that this does not mean "accented", since dominant-unaccented makes up a type. A dominant-unaccented suffix overrides the accent of the derivational base, but without imposing a suffixal accent in its stead. The Greek reflex of the *devḗ*-suffix is a case in point: compare βασιλεύς 'king' with recessive βασίλεια 'queen', where the Greek *devḗ*-suffix overrides the base accent of βασιλεύς but does not impose a new suffix in its place (not ^{X}βασιλειά). Arguably the *devḗ*-suffix deletes the base accent, whereupon the unaccented stem receives accent via default/recessive accentuation. Now, in Greek, it may be the case that all derivational suffixes are dominant (so Steriade 1988; cf. Probert 2006b: 146, Gunkel 2014). I give several examples of inherently accented derivational suffixes(12), where dominance can be observed:

(12)

/–ikó-/	ἑλλάδ-ος 'Greece' (gen.sg.)	⇒	ἑλλαδ-ικό-ς 'Greek'
	ἀδελφ-ός 'brother'	⇒	ἀδελφ-ικό-ς 'brotherly'
/–ísko–/	ἀσπίδ-ος 'shield' (gen.sg.)	⇒	ἀσπιδ-ικό-ς 'small shield'
	κρατήρ 'mixing bowl'	⇒	κρατηρ-ίσκο-ς 'small bowl'
/–éu–/	ἵππ-ος 'horse'	⇒	ἱππ-εύ-ς 'horseman, knight'
	χαλκ-ός 'copper'	⇒	χαλκ-εύ-ς 'coppersmith'

Given that we find in Vedic both dominant and non-dominant derivational suffixes, the Greek situation may, and likely does, reflect an innovation with respect to PIE. In the protolanguage, the morphosyntactic affiliation of an affix (broadly, derivational vs. inflectional) likely correlated with an affix's prosodic properties, dominant or non-dominant. In short, though it is hard to be certain, accentual dominance in an affix probably depended in some way on morphological structure. Perhaps speakers privileged the accent of the (last) derivational suffix because that suffix also forms the morphological head (cf. Sandell 2015: 182–92 for such an analysis); the **ti*-stems discussed above work this way. In an overlooked chapter (though in fact a footnote) in the history of linguistics, de Saussure (1879: 235) already was not only cognizant of a kind of a "basic accentuation principle"– what he termed "la loi générale de l'accent indo-européen"– but was also aware of its several shortcomings. In the conclusion to his work, de Saussure recognizes that no single principle– such as "accent the suffix" or "accent the root'– governs PIE accentuation, asking, then answering, his question hypophorically (de Saussure 1879: 235): "Qu'est-ce qui détermine la place de l'accent? Voilà le point qui nous échappe complétement." He finds that the surface accent refuses to be reduced to any single factor; one must determine surface by calculating the various inputs of each element: "Le ton opte pour le suffix ou pour la racine, nous devons nous borner à constater pour chaque formation le choix qu'il a fait." Had it not been for this irreducibility, had all derivational suffixes been accentually dominant, for instance, then, states de Saussure (writing of the "loi" as of a well-known fact), "le *principe du dernier déterminant* de M. Benfey et de M. Benloew pourrait presque passer pour la loi générale de l'accent indo-européen."[13] *Mirabile dictu*, not only have

[13] I have not yet been able to track down where messrs. Benfey and Benloew spelled out their claims.

we overlooked de Saussure to our own detriment, but we have not really advanced beyond his work, though modern formalism gives the look of a sleeker apparatus.[14]

In conclusion to this section, the PIE lexical accent system is of a complex type similar to that of Thompson Salish, Tokyo Japanese and Chamorro (cf. §1.3.1 above). In PIE, speakers computed surface accent over the inherent accentual properties of morphemes, i.e. by the phonology of the BAP; furthermore, an additional "layer" of prosodic input influenced the computation, a layer associated primarily with derivational suffixes, and for which we have introduced the properties of dominance and non-dominance. Further research on the accentual systems of the ancient IE daughter languages — in particular, Vedic, Greek, Balto-Slavic, and the Anatolian languages — will shed more light on the synchronic principles governing the distribution of surface accent in PIE, on the reconstructible accentual properties of individual morphemes, and in turn, on what forms constitute real archaisms already at this stage of the proto-language. A still broader issue is the extent to which accent and ablaut relate to each other at the PIE stage, an issue I turn to immediately below (§1.3.2.1).

1.3.2.1 Reconstructing PIE ablaut

The relationship between accent and ablaut in PIE has been a major topic of research since the dawn of IE studies. Accent and ablaut correspond only partially in the daughter languages and so too at the stage of PIE that the comparative method can access. In PIE, every kind of vowel may surface with or without surface accent: **b^{h}ér-e-ti* 'carries' and **mn̥-téy-es* 'thought' (nom.pl.) surface with two full-grades each (nom.pl. **-es-* never has a reduced allomorph); **septḿ* '7' (> Ved. *saptá*, Gk. ἑπτά) bears an accented zero grade and an unaccented *e* grade; **b^{h}ór-o-s* 'burden', **pód-s* 'foot' and **k̂éy-(t)or* 'lies' have accented and unaccented **o*-grades. These examples are easily multiplied. However, strong indices do suggest a relatively tight connection between surface accent and full-grade; consider only (e.g.) verbal paradigms such as **h$_1$éy-ti* 'goes', 3pl. **h$_1$y-énti* or **h$_1$és-ti* 'is', 3pl. **h$_1$s-énti*. Many scholars infer from these indices that quantitive ablaut alternations (i.e. **e* : **∅*) once were conditioned purely by the phonology — in its strongest formulation, that an **e* vowel would surface only if it bore the surface accent, and all other morphemes would thus delete their vowels, appearing in their zero-grade forms (see Szemerényi 1996: 111–112, who traces this view back to the 1860s).[15] Viewed in generative terms, these alternations reflect an accent-conditioned syncope process deleting all unaccented */e/ vowels at the relevant stage of the proto-language. Quantitative

[14] It might seem absurd to champion Saussure as a great forgotten master, except that his work on PIE accent has been magnificently ignored; for instance, even a bibliographist so qualified as Szemerényi– and few are better– can write (Szemerényi 1996: 161): "Accentuation in noun inflexion received no special attention before the twentieth century"(!). I hope to return in another context to challenge this ignorance, and to rehabilitate de Saussure's work on PIE accent.

[15] Weiss (2011: 47) gives a recent, skeptical formulation: "It is commonly believed that the alternation between full-grade and ø-grade, which is normally tied to the position of the accent, is the result of some pre-Proto-Indo-European syncope rule whereby unaccented vowels were lost. But in Proto-Indo-European as it is accessible by the comparative method, zero-grades may bear the accent..." As will become clear, I am not certain how to reconcile the uncertainty in phonology here ("some pre-Proto-Indo-European syncope rule") with confidence in reconstructing pre-PIE paradigms based directly on this pre-PIE syncope rule.

ablaut especially has often been treated as a shortcut to accent — i.e. if a word contains an **e*-grade morpheme, it should once have been accented, and a zero-grade morpheme should have been unaccented — but at the PIE level such a shortcut is clearly untenable.

Similarly, a link has long been suspected (e.g. Hirt 1900: esp. 156) uniting surface accent, underlying **e*-grade, and surface **o*-grade, i.e. *qualitative* ablaut. For this view, however, one finds even less consensus than in the case of **e : *∅* ablaut, since no scholar has successfully demonstrated just what that uniting link would be, though probably every permutation of accent and **o*-grade has been tried. Once again we look to de Saussure for illumination. Writing that the evidence fails to link **e : *o* ablaut to accent, and so neither ablaut grade can be held a degradation of the other, de Saussure states a view that remains eminently sensible (de Saussure 1879: 134, et passim): "Si on pense, et c'est notre cas, que l'échange des deux phonèmes [viz. **e : *o*, Saussure's a_1 and a_2, JL] est indépendant de l'accent, il vaut mieux s'abstenir d'attribuer à l'un d'eux une supériorité qui ne se justifie guère."[16]

Scholars engaged in a major program of research, developed principally in the 1960s and 1970s (but with older roots, especially in the works of Pedersen 1926 and Kuiper 1942), have focused on reconstructing the formal patterns of athematic nominal formations at a chronological stage when the relationship between accent and ablaut would have been more transparent. Such a time-depth is reached by internal reconstruction on the proto-language, so pre-PIE. For instance, in a foundational paper Schindler (1975b: 261) proposed that neuter **–es*-stem nouns of the type PIE nom./acc. **wék^w-os*, gen.sg. **wék^w-es-os* (> Ved. *vácas*, *vácasas*, Gk. ἔπος, ἔπεος etc.; cf. §1.3.1 above), looked substantially different at a pre-PIE ("vorindogermanisch") stage. He argued that, although no attested language exhibits synchronic accent shifts or ablaut alternations of the root in this nominal class, it is nevertheless possible to reconstruct pre-PIE accentual mobility between root and derivational suffix. In support of this hypothesis, Schindler cites lexicalized compounds with first member reflecting **mén-s-* 'thought' (e.g. OAv. *mazdā–*) where the apparent zero-grade suffix reflects the predicted nominative/accusative singular form (***men-s + d^{h}eh$_1$–*). At this pre-PIE stage, all unaccented morphemes would surface in their zero-grade forms, since accent and full-grade would be directly dependent on one another ("...die Ablautstufen im Wort akzentabhängig waren", *op.cit.* 261). Provided that this assumption holds for pre-PIE, the PIE paradigm **wék^w-os*, **wék^w-es-os* would continue pre-PIE ***wék^w-s, **uk^w-és-s*, whose accent was assigned morphologically and whose ablaut resulted predictably from the pre-PIE syncope rule.

Under this approach, the hypothesized formal patterns are reified as a set of "paradigmatic" classes; all PIE athematic nominals of the structure R(oot) + S(uffix) + (E)nding would belong (historically) to one of these classes. Thus pre-PIE ***wék^w-s, **uk^w-és-s* would instantiate the "proterokinetic" class, structurally R(é)-S(ø)-E(ø) in the strong cases (e.g. ***wék^w-s*, nom./acc.sg.n.) and R(ø)-S(é)-E(ø) in the weak (***uk^w-és-s* gen.sg.). In the most widely accepted model, developed in particular by Schindler (1972, 1975b,a) and the "Erlangen School" (e.g. also Rix 1992: 122-124), four or five "kinetic" (/"dynamic") and "static" classes are posited. The "Leiden School" slims the model to three such classes (see Beekes 1985, Beekes and de Vaan 2011: 190-191 *et passim*, Kloekhorst 2013), while other scholars posit additional accent-and-

[16]Penney (1978) provides an exhaustive treatment of the *o*-grade in PIE, though he cannot solve the problem(s) of the *o*-grade's origin(s). More recently, Weiss (2011: 47) gives a concise (and suitably skeptical) overview of the question. Kümmel (2012: 307–20) attempts a (speculative) origin of the **o*-grades in PIE.

ablaut paradigms — for instance, Tichy (2004: 75-81) and Neri (2003: 37–39) allow a "mesokinetic" paradigmatic class. This results of this research have clarified especially which forms could be relics already in PIE (such as the isolated **men-s-* mentioned above) and offers a possible starting point for many PIE athematic nominal formations. Overviews of the paradigmatic classes can be found in all recent IE handbooks.[17]

Despite its widespread acceptance, numerous scholars of late have expressed dissatisfaction with the conceptual and empirical limits of this theory, leading to a rapidly growing body of scholarship (cf. in general Kiparsky 2010, fthcm., Keydana 2013; Kümmel 2014 with reference to Indo-Iranian; and Yates 2016 on Anatolian). I outline some of these criticisms. One criticism concerns the extent of the changes separating reconstructible PIE forms from the pre-PIE paradigmatic classes. Early research within the paradigmatic framework recognized that this approach, relying extensively as it does on internal reconstruction, yields up paradigms whose patterns of accentual mobility and ablaut grades veer far from the data observed in the daughter languages (cf. Pedersen 1933: 21 for a clear statement to this effect). To obtain PIE morphophonology, one must make further diachronic assumptions: the pre-PIE paradigmatic classes would be transformed by a series of analogical levelings of accent, ablaut, or both, whose combined operations eliminate intraparadigmatic allomorphy (sometimes all these processes are placed under the rather vague descriptive rubric "columnarization"). The morphological upheavals here envisaged must have occurred in the internal history of the proto-language, i.e. prior to PIE as accessible by the comparative method, since no daughter language organizes its morphology into productive paradigmatic classes.[18] Because the hypothesized changes are situated deep in prehistory, their plausibility is difficult to evaluate, either within individual classes or collectively, at the systemic level.

Beyond these uncertainties, a difference in approach leads to a difference in explanatory power: since the theory was not designed to handle material at the chronological levels of PIE and the daughter languages, much of the morphophonology of PIE and its daughter languages is left unexplained. For instance, numerous bedrock formations of PIE have no clear position in the paradigmatic classes; the classes refer only to athematic nominal formations of the structure R(oot) + S(uffix) + E(nding), thus excluding thematic nouns and adjectives, athematic nominal formations with multiple derivational suffixes (i.e. of the structure R + S + S (+ S...) + E), and even root nouns. The fact that the paradigmatic approach does not address these PIE formations is not a criticism per se, since this is not strictly the goal of the theory; however, it does mean that this theory, with its pre-PIE focus, sheds little light on the distribution of the accent (discussed in §§1.3.1–1.3.2 above) or its synchronic relationship to ablaut at the "shallow" chronological stage of PIE, which we are reconstructing here, and which was inherited directly into the daughter languages.

A further criticism relates to the evidential basis for the paradigmatic reconstructions, which in a number of cases has been called into question. For instance, in a widely followed hypothesis Kuiper (1942: 221) proposed that the different accentuation of Vedic *matí-* 'thought'

[17] See Watkins (1998: 61-62, skeptical), Clackson (2007: 79-89), and the standard presentations in Fortson (2010: 119-23), Weiss (2011: 257-62); Meier-Brügger (2010: 336-53) offers the fullest history of research.

[18] Cf. the methodological discussion by Hale 2010; Stüber 2002: esp. 211–216 lays out the steps needed to get from pre-PIE to PIE in the paradigmatic framework with reference to **es-*stems.

beside *máti-* 'id.', coupled with indirect evidence elsewhere, showed a trace of erstwhile intraparadigmatic alternations in an accent-and-ablaut paradigm, i.e. ***mén-ti-*, ***mn̥-téy-*, so reflecting a proterokinetic paradigm (he is followed by e.g. Rix 1992: 146, Schaffner 2001: 436-40). In this case, the zero-grade ablaut of the root in the weak cases would have been leveled throughout the paradigm in Vedic, but with a bifurcating accentual leveling: leveled accent of the strong cases would be preserved in some Vedic traditions (i.e. **mń̥-ti-* > *máti-*), the leveled accent of the weak cases would be preserved in others (i.e. leveled **mn̥-tí-* > *matí-*). It has proven difficult to explain why the directions of leveling have taken the apparently arbitrary courses they have; in this case, however, the quest to do so is in fact a red herring. The two accentual patterns stand in a clear chronological relationship: suffix-accented *tí*-stems occur in and are confined to the oldest textual layers; the younger levels of Vedas give consistently only suffix-unaccented *ti*-stems, the rule by Pāṇini's day (I give full details in Lundquist 2015b). Thus early Ved. *matí-* and later Ved. *máti-* do not provide evidence for independently leveled bits of a prehistoric paradigm, but instead reflect a Vedic-internal diachronic accentual change.[19] More generally, Kümmel (2014) claims that he (following Kiparsky) better explains the accent-and-ablaut of "proterokinetic" nominals in Indo-Iranian with reference to accentual features, such as we have used in this document, and without reference to paradigmatic class, thereby undercutting an important source of evidence for the paradigmatic approach.

In assessing accentual change, it has become common practice to treat two attested accentual patterns associated with one suffix as reflecting independent analogical levelings of an alternating paradigm (as in the case of Ved. *matí-* vs. *máti-*). However, it has now become clear that (pre-)PIE intraparadigmatic accentual mobility is not a necessary condition for this situation to arise. Probert (2006a,b) demonstrated this point conclusively in an investigation into the diachronic development of certain morphological categories in Ancient Greek. In particular, Probert analyzes two morphological categories that scholars in any approach reconstruct with fixed word-final surface accent, viz. thematic adjectives (formed with the suffixes **-ro-*, **-no-*, **-to-*, and **-lo-*) and feminine event/result nouns (formed with **-eh$_2$*). Although most attested reflexes of these categories show the historically expected pattern, some instead show "recessive" accentuation; Probert argues that the recessive items result from an accentual change. The accentual change in turn results from a process she terms "demorphologization", which we may define as follows: when morphologically complex words lose their compositionality, due to semantic or formal opacity, they come to be treated as monomorphemic, i.e. they are "demorphologized". As a further consequence, words affected by this morphological change strongly tend to adopt the language's default accentual pattern,[20] which in Greek means recessive accentuation. The differing surface accents of (e.g.) Gk. ἐχθρός 'enemy' and Gk. γῦρος 'circle' thus do not reflect a fundamental difference in the historical formation of each item; rather, the connection between reconstructible **gū-rós* 'circle' (substantivized from the adjective γυρός 'round') and other **-ro-* adjectives became opaque and, as a result, the word was eventually subject to default accentuation, whence **gūr-ós* > γῦρος (on this example see Probert 2006b: 232–3). Probert's results will form the basis for many of my explanations of accentual change in the following case studies.

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[19] For possible reasons why the change took place, cf. Lundquist 2015b; on the Greek counterpart, nouns in –σις, cf. Lundquist 2015a, which I intend to publish in the near future.

[20] Whether or not this takes place depends on the word's frequency; cf. Sandell 2015: 192–214 for discussion of the role frequency effects play on the language learner.

These examples show definitively that two accentual patterns can emerge diachronically without an earlier stage in which the accent alternated, was "mobile", within a paradigm.[21] Within the ancient IE languages, the Greek evidence for this type of change finds further support in Vedic, where a similar analysis can account for the development of Vedic *-*ti*-stems (like Ved. *matí-* > *máti-*), and in the Anatolian languages, where it can explain a variety of forms (such as PIE nasal-infix presents), all unexpectedly exhibiting initial surface accent (i.e. leftmost, in accordance with the PIE default pattern; see Yates 2015). A broader implication of this finding is that the existence of more than one accentual pattern associated with a single suffix is not a sufficient condition to reconstruct an alternating accentual paradigm at any historical stage. To the extent that individual paradigmatic reconstructions are founded on this premise (as in "proterokinetic" *-*ti*-stems), their (pre-)PIE existence must be viewed as doubtful.

[21] Kiparsky (2015a: 82–3) claims that such cases provide evidence for a type of prosodically optimizing, non-proportional analogical change, whose effects one can observe within the historical record of English as well.

Part I

Case Studies

CHAPTER 2

Archaisms and Innovations in Homeric Accentuation

2.1 The Problem: -υιαί, -αιαί; -εια, -εῖα, and -ειαί

In this chapter I will offer a case study of archaisms and innovations in Homeric accentuation. Following earlier scholars, I will show that the scholia to the *Iliad* preserve a number of archaic accents. I will try to show that in the *u*-stem feminine adjectives the three accents respond to three chronological stages: (1) the oxytone forms (-ειαί, -υιαί, -αιαί) preserve a rare archaism; (2) the standard properispomenon -εῖα reflects a relatively late assimilation to the masculine/neuter stem -é(ϝ)-; (3) recessive adjectives (-εια) are youngest in terms of relative chronology, since they depend on the existence of a pre-established -εῖα class. The feminine inflection of *u*-stem adjectives thus provides a neat window onto the stages of changes undergone by *u*-stem adjectives generally in Greek. Furthermore, these adjectives will offer a case study on how the Homeric tradition sustains archaisms, and where the tradition permits innovations. Having established a relative chronology of change within Greek, we will turn next to the comparative evidence, assessing Vedic Sanskrit for the extent to which Vedic agrees and disagrees with Greek. The present chapter will also re-evaluate how the various accentual classes developed within Greek, according to the testimony of later grammarians.

Under the scenario I will elaborate, innovations lead to recessive -εια and paradigmatic -εῖα (§2.2). I will bring to bear new philological evidence concerning oxytone -ειαί and recessive -εια, the latter wrongly ignored in many accounts. I will propose new arguments concerning how the recessive class originated (§2.4). In my account, Ved. *-v-ī́* < *PIE *-w-íh₂* represents a prime archaism, matched directly in Greek (in terms of accent and of ablaut grade of the suffix) only by ὀργυιαί 'lengths of outstretched hands' and possibly Πλαταιαί 'Plataea'. ὀργυιαί at least was arguably retained because no paradigmatic counterpart "normalizes" it to *ὀργεῖα; i.e. the corresponding masculine ˣὀργύς (PIE **h₃rĝ-ú-*) was long since extinct. Analyzing ὀργυιαί furnishes further the chance to review the philological evidence for "mobile" accent in Greek. Some points in the paradigm are synchronically "mobile" (nom.sg. ὄργυια, nom.pl. ὀργυιαί), but I doubt that this mobility need be ancient: I will propose that mobility arose from later, Greek-internal innovations (§2.3.2.1). Finally we will evaluate anew the PIE reconstruction for this class of adjectives in light of our findings (§2.5). The goals of the present chapter include: to assess what archaic accentuation in Homer looked like; to form a new understanding of how accent (and ablaut) was preserved in this class of adjectives; to show how both archaic and innovative accents come down to us via the grammatical traditions of Ancient Greece.

Before plunging into discussion of particulars, I give at the outset such forms as occur in Homer and in epic so that the range of phenomena may be held in mind throughout the discussion. Only minimal commentary accompanies the forms at this point; I provide full

details and references below.

(13) Oxytones with full-grade of the suffix in Homer: -ειαί

a. θαμειαί 'crowded, close-set, in close lines'

b. ταρφειαί 'thickly, crowded'

(14) Oxytones with zero-grade of the suffix in Homer unless otherwise marked: -αιαί, -υιαί

a. Πλαταιαί, toponym in Boeotia (class., Hdt.+), beside sg. Πλάταια

b. ὀργυιαί 'fathom; length of outstretched hands', beside sg. ὄργυια

c. ?ἀγυιαί 'paths, ways', beside sg. ἄγυια (and others in -υια?)

(15) Paradigmatic properispomena in Homer and in Cl. Greek: -εῖα

a. -εῖα (πλατεῖα 'wide', ἡδεῖα 'sweet', etc.)

(16) Recessives in Homer: -εια

a. λάχεια 'wooded'

b. θάλεια 'abundant'

c. λίγεια 'sonorous, clear-sounding, shrill'

2.1.1 Archaic Accentuation in the Homeric Tradition

What do we mean by very old Homeric accents? The Alexandrian grammarians spoke at home Hellenistic *koiné*, and most of their accentual analyses apply directly to this form of Greek. Additionally, the grammarians were intimately familiar with Attic Greek, offering detailed points of discrepancies between Attic and the *koiné*.[1] Their knowledge of epichoric dialects was shakier, since the dialects had largely vanished by this point; in all probability their judgments derive not from native speakers, but from traditions of recitation, as well as a more extensive manuscript corpus than we may ever dream of recovering.[2] For our purposes, the work of the grammarians on Homeric accent matters most. In a number of cases, the grammarians insist on– or at least supply information for– Homeric accents, accents such as could not be extrapolated from the dialects of their day. These surprising accents raise the question: where did they come from? The usual response (not unproblematic) was perspicuously articulated by West (1981: 114):

> The Alexandrian scholars and the grammatical tradition that derived from them attached importance to the study of Homeric accentuation, and record a number of particular accentuations that cannot have been established either from the living Greek language or from theory and analogy, but must have been preserved by a continuous tradition of oral performance from early times...

[1] Probert (2004, 2011) examines cases of Atticisms in the ancient grammarians.

[2] Probert (2003: 158-68) surveys, with further references, accentuation in the dialects outside Attic and the *koiné*.

In broad outline West's position holds sway amongst experts.[3] An example may clarify how archaic accents were retained. Following the discussion of Lehrs (1837: 257-8), let us examine the suffix -τητ-, which creates abstract feminine nouns. The suffix occurs seldom in the earliest period with only 9 types in Homer (Risch 1974: 149-50)), but it becomes productive from the 5th century on. The scientific and philosophical schools of the 5th-century adored the suffix's strength in the formation of nominal abstracts, and it is to these schools we owe the great uptick in productivity.[4] In the Classical period the suffix was primarily attached to thematic stems, thereby resulting in a new suffix -ότης. Words in -ότης in Attic and in the *koiné* were paroxytone, excepting the eccentric κουφοτής 'lightness', which, we are told, represents specifically Athenian accentuation (cf. Ps-Arcadius 30.4 Schmidt 1860). Against this trend in accent and word-formation in Classical Greek, of the nine -τητ- nouns in Homer over half (5) are transmitted with oxytone accent, all of which are formed from, or are suspected of reflecting, athematic bases: ἀνδροτής 'manhood', βραδυτής 'slowness', δηϊοτής 'battle-strife', ποτής 'drink', ταχυτής 'swiftness'.

For the archaic word δηϊοτής a Homeric scholiast, *Sch.Il.*A^{int} ad Γ.20 (Erbse), attributed to Herodian, informs us that Aristarchus himself was responsible for the oxytone accent:

(17) δηϊοτῆτι : οὕτως ὁ Ἀρίσταρχος προπερισπᾷ δηϊοτῆτι, ὡς ἀπὸ ὀξυτόνου εὐθείας. τὸ δὲ κεφάλαιον ἐκτέταται ἐν τῇ Ἰλιακῇ προσῳδίᾳ.
"Aristarchus assigns a circumflex (a properispomenon) accent as δηιοτῆτι, as coming from the oxytone nominative [viz. δηϊοτής]. The main argument is laid out in the Ἰλιακὴ προσῳδία." (tr. JL)

To spell out the entry more fully, in Herodian's lost work on the prosody of the *Iliad* (Ἰλιακὴ προσῳδία), the authority for the accentuation of δηιοτής is attributed to Aristarchus. Unfortunately, Herodian's work, and Aristarchus's, have been lost, so for us the main argument (τὸ κεφάλαιον) is a forlorn chapter in the annals of Greek philology. Despite this loss, at least the forms specified for oxytone accent, such as δηιοτής, seem genuinely oxytone; put more accurately, the 5 oxytone nouns in -τητ- are persistently accented on the suffix, the case forms that end in a short vowel being properispomenon, merely subject to the σωτῆρα–rule.[5] Now, since Herodian named Aristarchus as the man responsible for the oxytone accent of this archaic word, we infer that Aristarchus's authority lies also behind the other oxytones, e.g. ἀνδροτής (in Homer only as acc.sg. ἀνδροτῆτα). Since the oxytone accents are anomalous in Classical Greek, they must descend from an earlier stage of the language when speakers productively accented -τητ- nouns on the suffix.

Accepting that the suffix-accented nouns in -τητ- reflect archaisms, we may still wonder: how precisely were the accents retained? Most scholars would accept, I believe, some version of Lehrs's (and West's) conclusions on this point. However, the details concerning just how

[3] Cf. Probert (2003: 166-8), and in more detail Probert (2006b: 33-45), whose discussion I follow in my presentation. Wackernagel (1914b) is an influential study of Homeric accent in general.

[4] For full details and historical background of the suffix in Greek see Pike (2011: ch.IV).

[5] Probert (2003: 33-4) defines the rule as follows: "If the final syllable contains a short vowel and the penultimate syllable contains a long accented vowel, the accent on the vowel *must* be a circumflex (σωτῆρα is possible but *σωτήρα is not)". The rule is also known as the "final trochee rule," a term that should be abandoned on the grounds of its ineptitude.

the accents survived into the textual tradition still puzzle us at present. In broad outline, Lehrs successfully demonstrates that the accents of the words were passed down within a continuous recitational tradition long enough to have reached the Alexandrians (Lehrs 1837: 258):

> Mihi in his rebus versanti iterum iterumque occurrit, etiam in obsoletioribus vocabulis aliquam de accentu traditionem fuisse. Etenim etiamsi ponamus in versibus recitandis accentum voce non notatum esse, quam saepe extra versum etiam Homericorum vocabulorum proferendi occasio erat, partim coram discipulis in ludo, partim in rhapsodorum et philosophorum confabulationibus: ut facile cogitari possit multorum vocabulorum accentus quasi per manus traditos usque ad Alexandrinos pervenisse.
>
> "As I occupy myself with these matters it strikes me again and again that even in the case of the more obsolete words there was some tradition regarding the accent. For even supposing that the accents were not marked by the voice in the recital of verses, how often was there the opportunity of pronouncing Homeric words even outside the context of the verse: in front of pupils at school, in the conversations of rhapsodes and philosophers. It can easily be imagined, therefore, that the accents of many words were passed down as it were from hand to hand, and so reached the Alexandrians." (tr. Probert 2003: 168)[6]

While this scenario seems correct in broad outline, a number of unanswered questions remain. Does this tradition imply that Aristarchus himself heard the archaic pronunciation? That is, did recitations including the pronunciation of archaic accents persist to his day? Or had he perhaps access to a Homeric text whose editor had recorded these accents for posterity? Competing views have been advanced, especially by Nagy and West. Nagy (1996: 125-32)[7] argues that rhapsodes perpetuated the pronunciation of ancient accents in their performances. For Nagy, what Aristarchus and his successors knew of accentual anomalies stemmed from indirect, rather than direct, experience of rhapsodic performance; Aristarchus *et al.* will have received data on accentuation from earlier scholars, who date to the "era of Aristotle"; the gap between Aristotle and Aristarchus gets bridged by the precarious span of Demetrius of Phaleron. Nagy (1996: 130-32) then builds on his thesis: the rhapsodes themselves maintained the archaic "accent patterns" thanks to the "inherited melodic contours of the Homeric hexameter." This latter hypothesis strikes me as extraneous, though further examination would take us too far afield; for Nagy, the rhapsodes do maintain archaic accents, which scholars in the age of Aristotle recorded, and these accents then were transmitted to the Alexandrians. By contrast, West (2001b: 55) avers that Zenodotus furnished the written text (n.b.) from which Aristarchus derived his archaic accents. West concludes that Aristarchus had Zenodotus's text before him as he worked, a text read aloud by Posidonius, who arbitrated alternative articulations. Aristarchus then deemed it worth noting the choices of Zenodotus/ Posidonius, and duly credited them. West's conclusions on this point do not seem to have been broadly ac-

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[6] Probert (2006b: 33-45) provides a complete *historia quaestionis*.

[7] Nagy (2008: "prolegomena") takes up further how the Homeric text was read aloud, with special reference to accentuation (but without discussion of the accentual problems dealt with in my chapter).

cepted, but remain one possibility.[8] Like Lehrs before me, I must leave these questions unanswered; for present purposes it suffices to observe that archaic accents were passed down to the Alexandrians, who recorded them in their editions of the text.

2.1.1.1 Excursus: A Further Note on the Accentuation of ἀνδροτῆτα

I would like to dilate briefly on the word ἀνδροτής, because scholars of Homeric language have dedicated tremendous effort to explaining it. The basic problem has been known since antiquity: in all three of its occurrences (*Il.*16.857 = 22.363, 24.6) ἀνδροτῆτα requires an anomalous scansion to fit in the hexameter, since, in its transmitted shape ἀνδροτῆτα, the initial three syllables constitute an illegal cretic. How to resolve this anomaly forms the nub of the controversy. I will deal primarily with accent here, accompanied by a few notes on word-formation and metrics.

In two interrelated papers Mühlestein[9] gives the key to understanding the anomaly: the metrical problem vanishes when we refer unruly ἀνδροτῆτα to its earlier form **anr̥tāta*. In this older guise the first two syllables are light, scanning as shorts, making a permissible shape in a dactylic line. In accordance with this argument, the word entered epic at an earlier stage as **anr̥tāta*; thanks to its vitality as the right word (the *mot juste*) for the twin deaths of Patroclus and Hector, and surely once of Achilles, singers kept it alive, despite its transformation to ἀνδροτῆτα. This, the *communis opinio*, is, I believe, correct.[10]

Recent attempts to explain this word away fail to convince. For instance, Barnes 2011 posits that ἀνδροτῆτα replaced an unattested **amr̥tā́ta* 'immortality', taking over the structure of the latter word, though substituting ἀνδρο- for **amr̥-*. But even if correct, ἀνδροτῆτα still remains the *explanandum*; recourse to prehistoric replacements sheds little light on why or how this word got into the texts. In a different vein, Bozzone (2014: 94-113) argues that the word ἀνδροτῆτα is not in fact the correct reading here: we should favor instead the variant ἀδροτῆτα 'strength, vigor'. Bozzone demonstrates convincingly that the line is composed of formulaic pieces, so the likelihood that singers passed down from the Bronze Age the line *in toto* seriously diminishes. Since the line in its entirety unlikely looks back to a Bronze Age precursor, Bozzone finds the retention of an ancient word here, ἀνδροτῆτα < **anr̥tātm̥*, correspondingly unlikely. If Bozzone were right, the metrical problem at least falls away, neatly solved, since ἀδροτῆτα scans unproblematically, with *muta cum liquida*, syllabified as ἀ.δρο.τῆ.τα. But far

[8] During an oral delivery of an earlier version of this chapter (at the Society for Classical Studies annual meeting in San Francisco, CA, 2016) Prof. Nagy and Prof. Janko were present, and both expressed dissatisfaction with West's scenario. Although I have not yet seen a refutation of West's position in print, it seems fair to say that among specialists– *credite experto*!– it has not become the received doctrine.

[9] Mühlestein (1958: 224n.20) and Mühlestein (36: 365), an idea foreshadowed by Wackernagel (1909: 58 n.1).

[10] As Watkins (1995: 499) put it: "It has been recognized for some time [ref.om] that this description of the soul leaving the body is linguistically very old; ἀνδροτῆτα must be scanned ˘˘– ˘, with a syllabic liquid unchanged; i.e. **anr̥tāta...*" More recent overviews concerned with the interpretation of this archaic form in relation to earlier stages of the hexameter include Hajnal (2003: 66), Haug and Welo (2001), and Hackstein (2010: 413-4). A recent conference in Munich, "Sprache und Metrik" (2-4 Sept. 2013; proceedings not yet published), had no less than three papers on the topic. Clearly, the matter resists resolution.

from a virtue, facile scansion is a vice. Bozzone is forced to accept that singers ruined a perfectly good line with a perfectly bad one, corrupting a known, metrically serviceable word, ἀδροτής, into a newly coined, metrically intractable ἀνδροτής. Since later authors use the word ἀδροτής, and since it amends so easily the scansion, ἀδροτής undoubtedly represents the *lectio facilior* (Bozzone does not dispute this point). Add to these hardships that ἀνδροτῆτα is found in all the major manuscripts– West *ad* X.363 relegates ἀδροτῆτα to the anonymous rabble of "rr." [recentiores]– and any sound evidence that ἀδροτῆτα represents the authentic ancient reading, with ἀνδροτῆτα an anomalous intrusion, disappears: *lectio difficilior potior*. In all probability ἀδροτής represents no more than an ancient solution to the problems of the archaic word ἀνδροτῆτα. However, although I disagree with Bozzone's account, she advances an important insight against previous scholars: the line *in its entirety* need not be ancient. West (1988: 156-8), for instance, infers that since ἀνδροτῆτα is ancient, the line in its entirety must descend from Bronze Age antiquity. But this inference is unwarranted: singers retained a very old word, onto which various formulaic pieces– ably elucidated by Bozzone– glommed. In short, the word cannot be explained away, neither in the mists of prehistory nor in a *facilior* reading: the tradition proffers a deep archaism here, preserved as the perfect word to depict the force of the soul as it leaves the body.

Let us start, then, from the premise that the word ἀνδροτής exists, and that its accent exemplifies an archaism in Greek. How old an accent is it? Many scholars accept the judgment of Wackernagel (1909: 58-62) that the oxytone accent reaches back to the PIE past. Wackernagel (1909) enumerates a number of cases where the accent of words in Vedic falls on an unaccented suffix, apparently in preference to falling on a preceding *u, i, ṛ* or *-a(n)-* (< **ṇ*). Wackernagel (1909: 58-62) next leverages this observation to suggest that Ancient Greek inherited a similar rule, whose effects he sees in the transmitted accentuation of Hom. βραδυτής 'slowness', ταχυτής 'swiftness', and ἀνδροτής 'manliness' (< **anṛtā́s*); we could perhaps supplement with δηιοτής, if derived from *δηιτής.[11] The rule would apply with far more restriction in Ancient Greek; the case at hand is the only secure example. Although scholars generally accept Wackernagel's argument[12] strong objections can be raised to his explanation. First, although the Vedic evidence he adduces has gone virtually unchallenged, his proposal that *u, i, ṛ, -a(n)-* are unaccentable (or less accentable) in Vedic is untenable. Counterexamples are legion: accented *u*-stem adjectives like *svādú-* 'sweet' or abstract nouns in *-tí-* like *matíḥ* nom.sg.f. 'thought' undermine his claim. I will argue in a later chapter that the apparent non-accentedness of these vowels is owed in fact to the morphology, not the phonology (cf. chapter 3, ad §3.4.1.1). Secondly, even if it held to some degree in Vedic, his phonological rule is stymied by precisely the category of nouns in *-tāt-* where it is needed most. Wackernagel himself acknowledges the point (Wackernagel 1909: 60): "also das Gesetz der Akzentverlegung auf das Suffix gar keine Gelegenheit hatte in Kraft zu treten". In Vedic, nominal abstracts are regularly accented on the syllable preceding the suffix *-tāt(i)-* (Wackernagel and Debrunner 1954: 621 §464d); in the

[11] Since the other words are athematic, or suspected of having once been so, we may suspect that δηιοτής was also once athematic. Pike (2011: 184), and in an unpublished paper Pike (2012), proposes that the word has been secondarily thematized from an earlier athematic *i*-stem *δηι-τητ-.

[12] E.g. cautiously Probert (2006b: 43-5), with asseveration Nagy (1996: 129) states "And yet, the accent of δηιοτής can be verified as an archaism in terms of Indo-European linguistics, on the basis of cognate formations, especially in Vedic Sanskrit." As we will see, it is precisely the cognate formations in Vedic Sanskrit that fail to verify the archaism.

analysis of Kiparsky (2010), Ved. *-tāt-* is a preaccenting suffix. Consider that *vasútāt-* 'goodness', the single instance of a *-tāt-* formation to a *u*-stem base in the Rig-Veda, is not oxytone, an embarrassing fact, to which Barnes (2011: 7) rightly draws attention: "in any case it [sc. *vasútāt-*] does not inspire confidence that the phenomenon applied to this category".[13]

In conclusion, while the -τητ- formations in Greek have long been considered a stronghold of accentual archaisms within Greek, a position I agree with and support, the external comparison to Vedic does not withstand scrutiny. Though an archaism within Greek, its status in the proto-language is uncertain; more work must be done on the accentual features of both languages before any reconstruction can be offered. The PIE suffix **-tāt-* (or **-teh$_2$t-*) may be inherently accented, in which case the preaccenting feature of Vedic chronicles an innovation; or, on the contrary, the Greek nouns in oxytone -τής may be ultimately the innovation. I leave this accentual problem for the future.

2.2 Oxytone Archaisms in Homeric Greek: θαμειαί, ταρφειαί, etc.

In Homeric Greek a small core of oxytone adjectives in -ειαί (nom.pl.f.) stands against the standard accentuation in -εῖα. These adjectives– all nominative plural feminines to *u*-stem bases– represent archaic accents. I adduce the following points in support. First, since the standard inflection goes -ύς, -ύ, -εῖα, oxytone -ειαί must have become frozen at an earlier stage of the language. Second, these adjectives are confined to Homeric Greek, a well-known repository of archaisms. Third, comparative evidence corroborates the antiquity of oxytonesis: with the accent of -ειαί agrees Vedic in its cognate class (viz. *-vī́, -vyā́s* < **-w-íh$_2$*), a point we return to at the end of this section.

I list the oxytone forms of the *u*-stem adjectives in Homer:

(18) -ειαί Oxytones in Homer[14]

a. θαμειαί 'crowded, close-set, in close lines' < PGk. **tham-ew-yái*
(m. -έες, -έσι, -έας; f. -ειαί, -ειάς. *Il.*1.52, 10.264, 11.552, 12.44, 12.278, 12.287, 12.296, 14.422, 17.661, 18.68, 19.383 (=22.316); *Od.*5.252, 12.92, 14.12); de Lamberterie (1990: 664-80).

b. ταρφειαί 'thickly, crowded' < PGk. **th$_{\text{ŗ}}$rph-ew-yái* (m. -έες, -έας; f. -ειαί, -ειάς; -έα. Hom.*Il.*11.69, 11.387, 12.47, 13.718, 15.472, 22.142; *Od.* 8.379, 22.246; Hes.*Th.*693)

That these forms are archaisms has been known for some time. For instance, West (1998b: Praefatio XXI) expresses his judgment thus: "accentum vetustum θαμειαί A 52 al., ταρφειαί

[13]The accent of Ved. *vasútāt-* cannot, however, "simply be a copy of the accent of the derivational base" (pace Barnes 2011: 7) because the base is *vásu-*. Rather, what Kiparsky (2010) analyzes as the "preaccenting" feature of the suffix overrides the derivational base.

[14]A related form that falls outside the strict definition of an archaic -ειαί oxytone is μάχης καυστειρῆς 'of burning battle' in a repeated line (Hom. *Il.*4.342 =12.316, biceps of the second foot to the bucolic diaeresis). καυστειρῆς surprisingly illustrates a feminine agent noun with oxytone accent (for expected *καύστειρα, *καυστείρης) from earlier **-ter-íh$_2$*. I hope to return to a discussion of this item elsewhere.

M 158 al., conservabant rhapsodi, spopondit Aristarchus, praeeunte nimirum Aristophane; -εῖαι analogicum flagitaverunt iuniores... Eiusdem indolis est καυστειρῆς Δ 342, M 316."[15] In the same vein Cassio (2002) evaluates the forms as archaisms, with an eye to demonstrating the paramount importance of recitation, as opposed to strictly written transmission, in the archaic period. Alexandrian scholars knew, says Cassio, that in the text of Homer certain obsolete nouns and adjectives were traditionally accented differently from what would be expected of their morphological class. He then draws the following conclusion (Cassio 2002: 113-4): "since archaic copies certainly bore no accents, this is a strong indication that the recitations were never discontinued; on the sole basis of a written text a rhapsode would certainly have pronounced ΚΑΥΣΤΕΙΡΗΣ and ΘΑΜΕΙΑΙ as καυστείρης and θαμεῖαι." His argument is an elegant one and serves his purpose well: there must have existed continuous recitation of Homeric epic long enough for these archaic accents to have been recorded. Cassio (2002: 114) concludes by cautioning against the theory of an oral dictated text: "their theory is acceptable provided that it is not meant to imply a 'rebirth' of the epics on the sole basis of the written text."

But Cassio moves quickly over an issue I wish to take up (an issue most move over in silence), namely that Wackernagel *proved* that the anomalous accents were those of the inherited *devī́*-inflection (PIE *-ih_2). Although the oxytone accent -ειαί is undoubtedly archaic within Greek, and although I will agree that the Vedic forms (adjectives in *-vī́*) correspond, from this equation numerous problems arise. The matter is quite complex: Greek grammarians transmit confusing (or confused) reports for the accents of certain items, which reports need to be evaluated anew in the light of new editions and of an improved understanding of the grammatical tradition as a whole (discussed §2.2, §2.3.2.1 and §2.4); the correspondence of Greek and Vedic is stated in descriptive terms, whereas an adequate explanation of the morphophonology escapes us at present (§2.2.1, 2.2.2); and the extent to which certain items (such as those in -υιαί) pertain requires further evaluation in light of recent work on PIE morphology (§2.3.1.1). Given the importance of establishing that these forms in -ειαί are oxytone and are archaisms within Greek– the rest of my chapter hangs crucially on this point– I would like to go through the items on a case-by-case basis to see what our ancient evidence is for the accent, and what prehistoric sources may be posited for their origins.

2.2.0.1 θαμειαί 'in close sets; thick'

θαμειαί derives from an adjective *θαμύς, *θαμεῖα, trivially reconstructable but in fact unattested in the singular. The adjective occurs basically only in the plural, m. θαμέες and f. θαμειαί. Further derivatives, like the adverb θαμά 'thickly, rapidly' (Hom.+) and the derived verb θαμίζω 'I frequent, haunt' (Hom.+), are consistent with an original *u*-stem adjective, as seen also in the relationship of ταχύς beside τάχα 'quickly', etc.[16] The word belongs to the poetic register. De Lamberterie 1990: 664-82 discusses the material at length and argues persuasively for the meaning 'closely connected' ("serré"), especially of individual pieces of material

[15] "The rhapsodes preserved the ancient accent θαμειαί, ταρφειαί, as Aristarchus assured, no doubt preceded by Aristophanes; later scholars pleaded for the analogical -εῖαι... Of the same character is καυστειρῆς" (tr. JL).

[16] De Lamberterie 1990: 672-5 gives a clear overview of all forms related to *θαμύς.

in contact the one with the other, at times even interwoven. For example, in the Doloneia, *ad* 10.264, the tusks of a wild boar ornament the boar-tusk helmet and are attached 'in close contact' (θαμέες ἔχον). Similarly, at 18.68-9 the ships are drawn up 'in close lines' (θαμειαί | ... νέες), following the translation by Leaf (1900-1902: ad loc.). Only secondarily did the adjective come to be synonymous with ταρφύς, 'thickly'. After Homer attestations of θαμέες grow meager, found mostly in phrases influenced by early epic.

From Herodian, *Sch.Il.*bT ad A.52 (Erbse), we extract our testimony for the oxytone accentuation of both θαμειαί and ταρφειαί. Herodian in turn defers to Aristarchus (recall West's nicely phrased "spopondit Aristarchus"); I discuss the latter word below (§2.2.0.2), though it will be helpful to cite the two conjunctively:

(19) θαμειαί: Πάμφιλος "θαμεῖαι" λέγει ὡς "ὀξεῖαι" (Λ 268. τ 517), Ἀρίσταρχος δὲ ὡς "πυκιναί" (Δ 281 al.)· ὁμοίως δὲ καὶ τὸ ταρφειαί.
"Pamphilos says θαμεῖαι (is accented) like ὀξεῖαι, but Aristarchus (says it is rather) like πυκιναί; and the same goes for ταρφειαί." (tr. JL)

Two further notes in the scholia support Aristarchus against Pamphilos. The simpler one is *Sch.Il.*bT ad E.502b (Erbse), where ἀχυρμιαί chaff-heap' is assigned oxytone accent, since it is Ionic (Ἰωνικώτερον) like ἀγυιαί, θαμειαί, and ταρφειαί. More complicated, and more interesting, is *Sch.Il.*A ad M.158 (Erbse):

(20) ταρφειάς: Ἀρίσταρχος ὀξύνει ὡς πυκνάς. ὁ δὲ Θρᾷξ Διονύσιος (fr. 16 Schm.) ὁμοίως προεφέρετο τῷ ταχείας, παρὰ τὸ ταρφύς ἀρσενικόν, οὗ πολλαὶ ἦσαν χρήσεις παρὰ τοῖς παλαιοῖς καὶ παρ' Ὁμήρῳ (cf. Λ 69. 387 al.). καὶ δῆλον ὅτι ἀναλόγως μὲν ἀναγινώσκει ὁ Θρᾷξ, ἐπεκράτησε δὲ ἡ Ἀριστάρχου.
"Aristarchus treats it as an oxytone, like πυκνάς. Dionysius Thrax, however, on this point cited ταχείας [from ταχύς], [so gets ταρφεῖαι] from the masculine ταρφύς, of which there are many examples in older authors and in Homer. Yet it is clear that Dionysius is reading analogically [i.e. assimilating -ειάς to the dominant type -είας], and that the edition of Aristarchus was superior." (tr. JL)

Pamphilos's (and Dionysius's) accent -εῖαι conforms to productive morphophonological rules in Greek, a cut-and-dried *lectio facilior*; recall the the judgment on this point by West (1998b: Praefatio XXI): "-εῖαι analogicum flagitaverunt iuniores". Aristarchus accents θαμειαί as oxytone, an accent bearing all the hallmarks of an archaism: θαμειαί is a poetic word, found primarily in epic, whose singular has vanished by the age of our earliest texts; the oxytone accent agrees with nothing in the productive morphophonology of Greek; the oxytone accent agrees with the comparative material, i.e. it agrees with the cognate class in Vedic, oxytones in *-ví*. Aristarchus could not have known the Vedic material; his knowledge of an archaic oxytone θαμειαί must reflect a highly conservative recitational tradition. Accordingly we regard these as legitimate archaisms.

This example establishes a foundation for the rest of the argument: the *u*-stem adjectives in the feminine were oxytone in an earlier period of Greek; oxytone -ειαί derives from PGk. **-ew-yaí*, and thus implies a singular **-ew-íh$_2$* (evidence for which will be cited below, §2.2.1). Admittedly, the ablaut discrepancy of Ved. *-v-í́* vs. Gk. **-ew-íh$_2$* disturbs our comparison. I will argue that speakers of proto-Greek innovated the full grade in the suffix, and that Vedic *-v-í́*

does in fact compare perfectly to one form, or one set of forms, those in -υιαί < *-*w*-*íh*$_2$ (§2.3). But before turning to further comparison, let us examine first the other adjective in -ειαί.

2.2.0.2 ταρφειαί 'thick'

ταρφύς is also limited to epic and poetic registers, and confined more or less to the plural. In the *Iliad* ταρφύς means 'thick', modifying nouns like 'arrows' (ταρφέας ἰοὺς *Il.* 15.472) and 'snowflakes' (ταρφειαὶ νιφάδες *Il.*19.357). For Homer the adjective seems to be *plurale tantum*; in the Classical period, Aeschylus (in *Sept.*535) wages a nom.sg. ταρφύς, used adverbially 'thickly', and maybe again at *Pers.*926, where Garvie (2009) takes ταρφύς τις as "a certain correction of γὰρ φύστις."[17]

ταρφειαί all but certainly derives from the verb τρέφω 'nurture, rear; curdle, congeal'. For the meaning of the adjective compare especially the verb's intransitive middle τρέφεται (and corresponding active perfect τέτροφε), 'form a layer, thicken, coagulate.' Frisk (1960-1972: s.v. τάρφεα, p.858) advocates deriving ταρφεαί from τρέφω, an etymology defended at length by de Lamberterie (1990: 676-80) and further accepted by *LfgrE* (s.v. τρέφω, entry by V. Langholf). Although the analysis of the accent does not depend crucially on the word's etymology, it is worth stating one's position explicitly, since certain scholars doubt the derivation of a *u*-stem adjective from τρέφω. Beekes (2010: s.v. τάρφεα, p.1454) in particular rejects the etymology, and his reasons for doing so are instructive of his heuristic technique. Beekes glosses the verb τρέφω as 'feed', then criticizes the connection to ταρφειαί: "the semantics are not compelling". However, his gloss hardly suffices for the complex semantic range of the verb.[18] His other criticism is phonological: "the development to ταρφ- from a zero grade is irregular". This may be so, but it is a development that occurs. Significantly, his *Mitarbeiter* Beek (2013: 100-1) arrives at just the opposite conclusion in his dissertation, which treats how PIE *r̥ vocalized in Greek: "*r̥ > αρ is regular in ταρφέες." Beekes' objections may be safely ignored.

As far as its accentuation goes, ταρφειαί shares a history with the preceding θαμειαί; the evidence for its oxytonesis is contained in the same scholion ("ὁμοίως δὲ καὶ τὸ ταρφειαί"). The same arguments used for θαμειαί apply equally well to ταρφειαί: the form reflects a legitimate archaism.

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[17] Whether Mycenaean forms should be discussed in this connection is uncertain; the word *ta-pa-e-o-te* (hapax at KN B 823) could possibly be consonantalized /tarpha-ehontes/ (nom.pl.m.) 'are thickly crowding (around the sanctuary)', see Auro Jorro (1993: s.v., II.313), ?ταρφα ἐόντες 'crowded round' (with reff.), though the interpretation of this passage remains doubtful, and the question mark preceding the entry retains its validity. The neuter *s*-stem τάρφος is a ghost: as Meissner (2006: 110-1) demonstrates, the singular represents a construct of the grammarians, while the plural is found in Homer only as τάρφεσιν, which probably represents a *u*-stem (with substantival accent), not an *s*-stem at all.

[18] Cf. further Clarke (2010: 125-9), who analyzes the semantic scope of τρεφ- in the framework of prototype semantics.

2.2.1 Prehistory of Greek Accentuation in Feminine Inflection to U-Stem Adjectives

The preceding oxytones represent exceptions within Greek, reflecting **-ew-yá-* against the paradigmatic feminines -εῖα. Archaic oxytonesis agrees perfectly with Vedic *-v-ī́*. This agreement constitutes our primary comparandum. Further corroboration comes from the related word καυστειρῆς in the phrase μάχης καυστειρῆς 'of burning battle' (Hom. *Il.*4.342 =12.316), which preserves another instance of archaic oxytone accent in a *devī́*-feminine. Feminine agent nouns in -τειρα (< **-ter-ya* < **-ter-iH*) standardly show recessive accent; the oxytone of Greek is peculiar to Homer, and once again finds its corresponding number in Vedic–*trī́*. The phrase μάχης καυστειρῆς alone preserves the oxytone accent of feminine inflection in agent nouns. Taken together, these examples from Homer demonstrate that inherited *devī́*-inflection knew oxytone accent late enough in the prehistory of Greek to be preserved in these examples, despite the overwhelming turn to recessive accent in this class everywhere else in the language.

Although most scholars would follow Wackernagel (1893: 33) in comparing the unique Homeric accents with their Vedic counterparts, and although they would be right to do so, it is only with more difficulty than has been previously recognized that we can superimpose the accent of Vedic onto Greek. Before proceeding to other Greek adjectives in properispomenon -εῖα and recessive -εια, we have to detour first into Greek and Vedic historical grammar in order to justify our claim that -ειαί reflects an archaism inherited into the grammatical tradition.

As concerns the derivational basis of feminine adjectives -εια, we may state uncontroversially that Greek and Vedic build qualitative adjectives with a suffix reflecting PIE **-u- / -ew-*. Rau (2009: 170ff.) describes the *u*-stem adjectives in PIE as "non-resultative deverbative adjectives".[19] As an important accentual regularity in Greek, simplex adjectives in -ύ- are persistently accented on the suffix, so ἡδ-ύς, ἡδ-έ(ϝ)-ος, etc. This accentuation agrees closely with what we find in Vedic, where primary *ú*-adjectives are persistently accented on the suffix as well, so *svād-ús, svād-áv-e* (dat.sg.) etc. (Wackernagel and Debrunner 1954: 467 §286.f.α). To form their feminines both languages add reflexes of what is historically the so-called "*devī́*-suffix," PIE **–ih₂*. Both Greek and Vedic inherited the suffix in the formation of feminines to athematic adjectives. Representative examples with an inflected paradigm follow:[20]

(21) u-stem adjectives, masc. and fem., in Greek and Vedic
   a. πλατύς 'broad', f. πλατεῖα : Ved. *pṛth-ú* 'id.', f. *pṛthi-u-ī́*
   b. εὐρύς 'wide', εὐρεῖα : Ved. *ur-ú*, f. *ur-u-ī́*
   c. ἡδύς 'sweet', ἡδεῖα : Ved. *svād-ú*, f. *svād-u-ī́*
   d. Inflection: sg. ἡδεῖα, ἡδείας, ἡδείαι, ἡδεῖαν; du. ἡδεία, ἡδείαιν; pl. ἡδεῖαι, ἡδειῶν, ἡδείαις, ἡδείας

[19] On the Greek *u*-stem adjectives in general see in the first instance the massive treatment in two volumes by de Lamberterie (1990); an older analysis (with fuller lists of forms) may be found in Gunnerson (1905). Further helpful handbook accounts include Chantraine (1933: 119-21) and Risch (1974: 73-4).

[20] For the inflectional forms and variants in Vedic I have compiled my list based on Macdonell (1910: p.273-4, §377 3a), and to a lesser extent by consulting Lanman (1880: 381-400) and Gotō (2013: 21-3, and 51-3).

e. Inflection of *devī́*: sg. *devī́, devī́m, devyā́, devyái, devyā́s, devyā́m*; dual *devī́, devī́bhyām, devyós*; plural *devī́s, devī́s, devī́bhis, devī́bhyas, devī́nām, devī́ṣu*

f. Inflection of *v-ī́* stems:
Sg.: nom. *pṛthivī́* 'earth', acc. *urvī́m* 'wide', instr. *pṛthivyā́*, dat. *pṛthivyái*, abl-gen. *pṛthivyā́s*, loc. *pṛthivyā́m*, voc. *pṛthivi*
Dual: nom.acc. *pṛthivī́, urvī́*, instr. (unattested, but cf. *mā́dhvībhyām*, VS), dat.-ab. *dyā́vāpṛthivī́bhyām* (VS), gen. *dívas-pṛthivyós*
Plural: nom. *pūrvī́s* 'many', *bahvī́s* 'many', acc. *pūrvī́s*, instr. *pūrvī́bhis*, dat. (unattested), abl. (unattested), gen. *bahvīnā́m* (accent sic), loc. *pūrvī́ṣu*

Vedic accent, unlike that of Greek, is essentially uniform: primary *u*-stem adjectives derive oxytone feminines *-v-ī́*. While it is straightforward enough to describe the surface accents of the *devī́*-stems in Vedic, especially in a uniform class like the feminines to *u*-stem adjectives, the accentual properties of the *devī́*-suffix are less easily discerned in less uniform classes.[21] At first blush the primary *u*-stem adjectives seem inherently accented, and the accent of the feminine would be computed over the accent of the base adjective plus the properties of the *devī́*-suffix. However, neither the properties of the *u*-stem adjective nor the *devī́*-suffix are sufficiently understood to permit this computation. So, although in Vedic the adjectives surface with accented suffix (*svādú- ~ -áv-*), and this surface accent agrees in turn with Greek (ἡδύ- ~ -έ(ϝ)-), seeming to imply an inherently accented morpheme (PIE "*/–ú-/ ~ /–éw–/"), such an analysis cracks under further weight. The *devī*-suffix P(N)IE */–íh$_2$ ~ –yéh$_2$–/ (> Ved. /–ī́/ ~ /–yā́–/) cannot attract the surface accent when an inherently accented morpheme sits to its left, as demonstrated (e.g.) by how it interacts with the accented PIE perfect participle suffix *–*wos-* ~ *-us-* (*/–wós/ ~ /–ús–/). The reflexes of the masculine suffix in Greek and in Vedic bear suffixal accent, for instance Ved. *vid-vā́ṁ-s* nom.sg.m., *vid-úṣ-as* gen.sg., and Gk. εἰδ-(ϝ)ώς, -ότ-ος 'knowing' (< PIE **w(e)id-wṓs, *w(e)id-ús-*). Now, if the *devī́*-suffix were inherently (dominantly) accented, we would predict that it wins out in the perfect participle, which would in turn align the perfect participle and the *u*-stem adjective. Thus we would find ^{X}*viduṣī́* in Vedic; but this is not what we find.

The feminine forms of the perfect participle exhibit persistent accent on the perfect participle suffix, e.g. Ved. *vid-úṣ-ī* nom.sg.f., Gk. εἰδυῖα (< PGk. **-ús-ya*). Thus an underlying PIE */–ús-íh$_2$/ surfaces as *–*ús-ih$_2$* as expected under the leftmost wins resolution (i.e. the Basic Accentual Principle). However, when the same suffix is used in Vedic to form feminine *u*-stem adjectives, it attracts the surface accent, as in the Ved. *svād-v-ī́* nom.sg.f. 'sweet', *pṛthi-v-ī́* 'broad', etc. These two items, the perfect participle and the *u*-stem adjectives, therefore crucially divide in their surface accentuation, allowing us to discriminate their underlying accentual properties more clearly. I posit the following underlying forms for these two items:

(22) PIE */–ús-íh$_2$/ → *–*ús-ih$_2$* (Ved. *vidúṣī*)

(23) PIE */–w-íh$_2$/ → *–*w-íh$_2$* (> Ved. *svādvī́*)

If correct thus far, then we need to enrich our typology of accentual features. We need to explain why the *u*-stem adjectives surface with accent on the suffix, as well as why the *devī́-*

[21] Basic orientation is provided by Renou (1952: 184-5, §234); Wackernagel and Debrunner (1954: 369, §243a and following) provide a more thorough account, but without clear conclusions on this point.

suffix wins out in one instance, but not in the other. Different stems to which the *devī́*-suffix has been added further illustrate the suffix's essential non-dominant accentuation, especially formations where the suffix loses to a base accent to its left. For instance, *gó-mat-ī* 'cow-rich, provided with cows' is formed to *gó-mant-*, and does not surface as ^{X}*gomatī́*; *nā́rī* 'woman' is formed to *nár-*, and does not come out as ^{X}*nārī́*. The accentual properties of the *devī́*-suffix win out against *u*-stem adjectives, but lose out against these other base accents. Perhaps most complicated are the active participles. In the masculine and neuter, stems with an accent at the right edge allow mobility in declension: *s-án* 'being' (nom.sg.m.), *s-at-ás* (gen.sg.m./n.). Just these stems will also accent the *devī́*-suffix in the feminine: *sat-ī́* 'being' (nom.sg.f.). However, ablaut in a stem is not a sufficient cause for that stem to cede an accent to *devī́*, as seen by (secondarily) ablauting thematics like *bhávant-ī* 'being, becoming' (to masc. *bhávant-am* acc.sg., *bhávat-as* gen.sg.).

Splicing "dominant" and "non-dominant" (or "recessive") accentual features into the basic accentual distinction "accented" and "unaccented" enriches our system in a way that proves fruitful.[22] An accentually dominant morpheme deletes the base accent of the stem, then imposes an accent of its own; a non-dominant morpheme may win out in accent, but does not necessarily do so. Applying these distinctions to the data at hand, I posit that the *devī́*-suffix is accented, hence its accent wins out, as illustrated by the *u*-stem adjectives and by the participles, but the suffix is not dominant, so will lose out to an inherently accented stem. Crucially, if a base accent to its left is dominant, the accent of *devī́* will not impose itself; the perfect participle suffix and *gómatī* are cases in point.

In the absence of a comprehensive, fine-grained study of Vedic accentuation, a definitive conclusion on the accentual properties of any one Vedic suffix eludes us. Detailed philological studies exist, though it overstates the case to claim they abound. Wackernagel (1905), for instance, does deal with many pertinent problems, and, from a quite different angle, so too does Lubotsky (1988). Detailed theoretical analyses are scarcer still: Kiparsky (1984) makes important advances, and more recently Sandell (2015, 2016) and the present author (Lundquist 2015b, 2016a) have contributed papers. A major task for the future will be uniting these two strands of research, the philological and the theoretical. The note of caution I am sounding on Vedic accentuation rings even more forcefully for studies of prehistory, i.e. for the accentual properties of suffixes in reconstructed Proto-Vedic, Proto-Indo-Iranian, etc. Without a sound understanding of Vedic accentuation, attributing accentual features to the proto-language becomes a risky endeavor. Absent such an analysis, I limit my claim at present to a surface-oriented generalization for just one category, with due recognition that I may have to modify my conclusions in response to more refined analyses of the whole accentual system. In the case of the *u*-stem adjectives, feminine inflection surfaces with accent on the *devī́*-suffix, and this accent concurs with the archaisms in Greek, those in -ειαί. I am not aware of any available accentual data from elsewhere in Old Indic or in Indo-Iranian to gainsay the reconstruction of a Proto-Indo-Iranian surface form **swaHd-w-íH* as the feminine to **swaHd-ú- ~ -áw-*. We have seen that in Greek the oxytones must be considered archaisms (θαμειαί, ταρφειαί). Assembling these two pieces, we reconstruct surface forms with accented **-w-íh$_2$* in Proto-Indo-European, e.g. **sweh$_2$d-w-íh$_2$* 'sweet'.

Accounts based entirely or primarily on ablaut indices, i.e. those in the "paradigmatic"

[22] I introduce the accentual features "dominant" and "non-dominant" more fully at §1.3.2.

school of PIE accent and ablaut (see §1.3), operate at a time-depth far removed from the data, and have rarely (if indeed at all) dealt with the accentual problems I have laid out in the preceding paragraphs. Typical is a statement such as that by Gotō (2013: 22): "The *devī́-* ('go[d]dess') type... goes back, in principle, to a proterodyn[amic] inflexion, but shows always a strong form (with or without accentuation) in the first (root) part." However minimally adequate this statement may be in observational terms – what does it mean to go back to an inflection "in principle"? – it is evident that for accentuation, "with or without accentuation" helps little indeed. Since we cannot rely on the shortcut "full grade = accent" at any point in Vedic, Proto-Indo-Iranian, or PIE, the assumptions built into Gotō's account (and he is not alone in these assumptions) bear scant fruit in terms of explanation.[23]

2.2.2 Prehistory of Greek Ablaut in Feminine Inflection to U-Stem Adjectives

More complex is the lack of equation between the ablaut grades of the suffixes. In Greek one finds a full grade of the suffix (-εῖα < *-*éw-ya*), in Vedic zero-grade (-*v-ī́* < *-*w-íH*). Vedic attests no trace of a full grade ^{X}-*av-ī* (< *-*ew-ih*$_2$), though the reverse does not hold: Greek -υιαί, and possibly -αιαί in Πλαταιαί, come from zero grades, consonant, at least, with what we find in Vedic (cf. further §2.3). How to understand this discrepancy? Two solutions solve, in their own ways, the data, and both have been tried before. First, one language preserves the archaism, the other language innovates. De Lamberterie 1990; 2002 defended this view clearly and at length. For him, Vedic inherits the ancient forms, in terms both of accent and of ablaut; the innovations fall on the side of Ancient Greek. He places great emphasis on the way the accents correspond between Greek and Vedic: in Greek the oxytone accent arises only in one evidently relict class, which, agreeing with Vedic, shows itself as the inheritance. The other accentual classes in Greek must therefore represent innovations. Since the archaic accentual class in Vedic forms a zero grade of the suffix (-*v-ī́*), he recognizes zero-grade ablaut as the archaism, and so the full-grade ablaut of the suffix in Greek (-εια < PGk. *-*ew-ya*), missing from Vedic, he recognizes as an innovation. He attributes the new full-grade ablaut of the suffix to the masculine and neuter forms, stems in -*é*(ϝ)-, influencing the feminine (cf. further below §2.2.3). In this view, then, the evidence points to an archaism in Vedic, innovations in Greek. De Lamberterie can adduce a further point in his favor: his reconstructed point of departure, *-*w-íh*$_2$, actually comes down to Greek in at least one word, ὀργυιαί, directly comparable to Ved. *r̥j-v-ī́* (forms I take up at length below ad §2.3). I think that de Lamberterie is basically correct, and I will defend and refine his account.

The second approach to the data I will call the "paradigmatic" approach. Standard handbooks of Greek historical grammar, such as Sihler (1995: 349-50), favor it. According to this line of thinking, neither Greek nor Vedic preserves intact a paradigm of the proto-language. Rather, each branch levels, in opposite directions, a once-unified paradigm. In that ancestral paradigm, unlike what we find in the daughter languages, accent moved between suffix and endings– in some accounts, also between root and endings– with corresponding ablaut. This

[23] Furthermore, I confess that I can't understand the usefulness of a statement along the following lines by Gotō (2013: 46): "One can well observe in the paradigm of the participles that the ablaut-scheme is a question of the word formation as a whole, and not only of a stem or a suffix. It depends on the place where the accented strong syllable was left at the time when the PIE inflected language came into being from an earlier agglutinative phase." Reduction to (pre)history cannot replace explanation.

reconstruction departs far from the direct evidence of the daughter languages; how do we get there? Sihler (1995: 349-50) argues the position clearly. For him, ablaut of the *devḗ*-suffix implies complementary ablaut elsewhere in the form: "Presented with ablaut discrepancies between G[reek] and In[do]Ir[anian] in these formations, the most elegant explanation (nevertheless speculative) would be the reconstruction of an original [i.e. pre-PIE, JL] paradigm ***-éw-ih₂* nom.sg., ***-éw-ih₂m* acc.sg., ***-u-iéh₂-(e)h₁* instr.sg., dat.sg. ***-u-yéh₂i* dat., and the rest, from which both the G[reek] and InIr. uniform stems were leveled." This account needs fewer analogical innovations to transpire in Proto-Greek, since it shares out the innovations more communally between Greek and Vedic. It does, however, run into a number of obstacles, many of which Sihler himself lays out.

Sihler (1995: 349-50) observes that "some authorities" point out that the full-grade allomorph of the suffix **-ew-* spreads in Greek at the expense of the zero-grade within *u*-stem inflection. This spread provides a neat parallel for the spread of full-grade ablaut from the masculine/neuter stem to the feminine. For instance, de Lamberterie (1990: 644-5)– perhaps one of the unnamed authorities?– traces just this pattern in Greek inflection: the dative-locative -ύσι (cf. Ved. *-ú-ṣu*) gets replaced by –έσι; the accusative plural –ύνς (acc.pl.m., cf. Ved. *-ū́n(s)*) still retained indirectly in Hom. πολλύς[24] and directly in Cret. –υνς, gets replaced by –έ-ας.[25] Sihler then cites further cases where the full-grade allomorph of the suffix ousts the old zero-grade, which also lend support to de Lamberterie's scenario: the feminine adjectives in -εσσα, e.g. χαρίεσσα 'graceful', manifest what Sihler (p.350) calls "a sort of counterfeit full grade, which necessarily was manufactured within the history of G[reek]." Adjectives in -(ϝ)εσσα derive without doubt from earlier **-went-ya*, whose full grade supplants a still earlier zero grade in **-wn̥t-ih₂* under influence of the masculine –(ϝ)εντ- < **–went-*. This case parallels the type of change "some authorities" envisage: feminine **-w-íh₂* in the prehistory of Greek is replaced by the full-grade allomorph of the masculine/neuter stem, **-éw-ya*, yielding -εῖα.

The presupposition that a full-grade (a surfacing *e*-vowel) must have the surface accent and, conversely, that every unaccented full-grade vowel will be deleted, undergirds Sihler's approach (as I discuss at length in §1.3.2.1). The heuristic value of this presupposition for Proto-Greek and/or Proto-Vedic, and *ex hypothesi* their common ancestor PIE, seems slight, since the mismatch of accent and ablaut falsifies their correlation at each chronological stage (whether it existed in pre-PIE I cannot say). For the purposes of evaluating evidence, a full-grade like PGk. **-ew-ya may*, but *need not*, imply a surface accent. De Lamberterie (2002: 105), evaluating the same material, makes a similar point: "lorsque l'on restitue, pour des raisons théoriques, des paradigmes alternants dont certaines pièces ont disparu sans laisser la moindre trace dans aucune langue, on se prive de toute possibilité de contrôle dans l'évaluation de la démarche." We cannot assume that a full-grade must have been accented. Sihler couches his discussion in somewhat imprecise chronologies ("an original paradigm"), thus avoiding the implications of this chronological complexity. Presumably his use of doubled asterisks locates his forms in pre-PIE as reached by internal reconstruction.

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[24] Printed as such by West, the argumentation for which printing he supplies in the Praefatio to his edition (West 1998b: XXXIV).

[25] An inner-epic case of this replacement may be the famous Homeric accusative singular εὐρέα κόλπον / πόντον etc. for εὐρύν (Meister 1921: 17-8). The inflectional allomorph εὐρέα is permitted as a variant thanks to the stem allomorphs in εὐρέ(ϝ)-.

Furthermore, Sihler asserts that his is "the most elegant explanation (nevertheless speculative)". He declines, however, to provide his metric of elegance, nor would a vague appeal to Occam's Razor do. His account requires numerous, at times bidirectional analogical levelings, for which he cannot provide controls. He must assume analogical levelings of mobile to fixed accent, of accent of the strong cases for Greek, yet (arbitrarily) of the weak cases for Vedic, of leveled ablaut to the strong cases for Greek, but to the weak in Vedic. He requires these upheavals to transpire between pre-PIE and PIE, i.e. at a chronological stage incapable of verification. His account does not fail because it operates with so many changes at a great time-depth; but it does become costlier, perhaps less elegant. Finally, Sihler does not address a related problem: a pre-PIE time-depth for *-*w*-*ih*$_2$ runs afoul of linguistic chronology. Feminines to *u*-stem adjectives were not formed with the *devī́*-suffix in PIE, at least at the stage including Anatolian: in PIE so-called "epicene" adjectives are the rule. As examples of epicene use of *u*-stem adjectives persists into the daughter branches, the *devī́*-inflection to *u*-stem adjectives probably arose relatively late in the proto-language's history.[26] For instance, the following examples taken from de Lamberterie (1990: 886-8, with n.4) appear to be relics predating the introduction of the *devī́* derived feminines: Old Lith. *platus žeme* 'broad earth', Gothic, *handus ... þaursus* 'his right hand (was) withered' (Luke 6.6; the Greek clearly is feminine, ἡ χεὶρ... ξηρά). Homer, too, attests some epicene *u*-stem adjectives, e.g. πουλὺν ἐφ' ὑγρήν *Il.*5.776 (Chantraine 1958: 245).[27] Thus, Sihler's doubled asterisk does refer to internal reconstruction, but presumably to the period between Anatolian's departure and the genesis of core-PIE. In view of the problems inherent in his account, Sihler's proclaimed theoretical elegance may not convince all researchers.

2.2.3 Conclusions on the Oxytones in -ειαί

It is fair to conclude that researchers share no consensus at present on the PIE background of this formation. Meier-Brügger (2010: 354) sums up the state of the field thus: "Der genaue Aufbau dieser Fem. ist nicht ganz klar, vgl. sich widersprechend gr. ἡδεῖα vs. ved. *svādvī́*." For reasons laid out above I reconstruct the PIE forebear as *-*w*-*íh*$_2$, most faithfully found in Ved. -*v*-*ī́*. This reconstructed form leaves its trace as an archaism in Greek, namely in the Homeric accentuation of -ειαί. Arguably the few forms with a zero-grade -υιαί also reflect this stage; I treat them below (§2.3). At the very least, I hope that my chapter will contribute to the debate on PIE morphology, and offer new evidence to support the thesis that the right reconstruction is PIE *-*w*-*íh*$_2$.

In any account, the oxytones in -ειαί represent accentual archaisms, at least internally to Greek. Let us attempt a more nuanced diachronic scenario to explain how they might have developed from their reconstructed PIE forebear *-*w*-*íh*$_2$. An interesting feature, whose value has not been fully appreciated, unites θαμειαί and ταρφειαί: these exceptional oxytones are frozen in inflectional forms *outside* the nominative singular. This fact reveals linguistic chronology in the following way. Since the feminine was accented as oxytone in PIE and in Proto-Greek., viz.

[26] Lundquist and Yates (fthcm) discuss the PIE evidence for the *devī́*-inflection.

[27] The Homeric examples, however, are more complicated: while some are likely to be archaisms (such as πουλὺν ἐφ' ὑγρήν, just cited), others are likelier innovations (e.g. ἡδὺς ἀυτμή, θερμὸς ἀυτμή); see Witte (1972: 31-2)), recently reaffirmed by Hackstein (2011a: 33-4).

PGk. **-ew-yaí* (> -ειαί), these oxytone forms are archaisms. Where these forms lose their masculine/neuter paradigmatic base, they may retain -ειαί as a deep archaism, because they no longer have a masculine/neuter base to anchor the accent. By contrast, where there existed a paradigmatic masculine/neuter, the accent follows that of the base, viz. PGk. **hwād-ew-yaí* (would be Hom. *ἡδειαί) or pre-PGk. **pl̥th₂-ew-yaí*[28] (would be Hom. *πλατειαί) instead become ἡδεῖαι, πλατεῖαι. The new accent and ablaut grade of the suffix in the feminine matches precisely the masculine/neuter stem. Those few forms that occur only as plurals retain the archaic accent. The diachronic stages I am assuming so far are given below:

- PIE: **sweh₂d-w-íh₂, *sweh₂d-w-yéh₂-s* (Ved. *svādvī́*, relics in Gk. -υιαί, accent in-ειαί)
- PGk.: **swād-éw-ya, *swād-éw-yai*

In this chart, two developments account for the attested forms: (1) the change of zero-grade **-w-íh₂* to full-grade **-ew-yá* (with syllabification of **-íh₂* > **-ya*); and (2) the change of the accent from **-ew-yá* to **-éw-ya*, by which we obtain the paradigmatic feminine -εῖα. In my account, the feminine accent and ablaut follow their masculine/neuter stem. So I derive the full-grade in -εῖα from the masc./neut. -é(ϝ)-. Such an analysis for Greek adjectives is hardly novel; Herodian long ago recognized the point:

(24) Αἱ εἰς ΑΙ εὐθεῖαι παρεσχηματισμέναι ἀρσενικοῖς ὁμοτονοῦσι ταῖς εὐθείαις τῶν ἰδίων ἀρσενικῶν· τύπτοντες τύπτουσαι, χαρίεντες χαρίεσσαι, ταχέες τα- χεῖαι, εἰ καὶ μὴ τὸν αὐτὸν τόνον·
"The nominatives in -αι derived from masculines are accented the same as the nominatives of the masculines to which they belong: τύπτοντες τύπτουσαι, χαρίεντες χαρίεσσαι, ταχέες ταχεῖαι, even if (the latter) do not (have) the same accent." (tr. JL)
(ps.-Arcad. 152.21-153.4 Schmidt)[29]

Among more recent scholarship, my position accords best with that of de Lamberterie (1990: 644-5). In his account, the comparison of a feminine adjective like ἡδεῖα, -είας with Skt. *svādvī́, -vyā́ḥ* shows two points of discrepancy, first between the ablaut grade of the suffix, secondly on the syllable bearing the accent: "sur ces deux points, c'est le grec qui a innové." For him, the replacement of the expected feminine -υια with -εῖα was akin to the spread of full-grade allomorphs at the expense of the zero-grade, as discussed above, e.g. dative-locative -ύσι » –έσι, -ύνς (acc.pl.masc.) » –έ-ας, etc. Regarding the accent, de Lamberterie writes: "L'accentuation sur le suffixe -ú- / -éϝ- s'est étendue à l'ensemble du paradigme, et donc fondé sur le masculin; de la même manière, on accentue δίκαια, -αίων d'après le masculin δίκαιοι, -αίων, alors que l'on attendrait *δικαῖαι, -αιῶν comme ἐλαῖαι, -ῶν." I agree with his position here and have little to add to this point. It may seem that I have had to posit a number of

[28] I give the form in its "pre-PGk." guise to make clear the morphological structure of the word (i.e. before laryngeal coloring, in this case **h₂e* > α).

[29] Cf. also our other principle source to Herodian, Io.Al. *Praec. Ton.* §76 Xenis, though in this passage Iohannes Alexandrinus discusses mostly cases of difference throughout the paradigm (e.g. ταχεῖαι but gen.pl. ταχειῶν). Probert (2004: 282) discusses the present passage in the context of the accentuation of first declension nominative plurals in Homer, *koiné*, and later "later Attic/Athenian".

changes in the prehistory of *-w-*ih*$_2$ inflection. In defense of my proposal, each stage is motivated by an outcome in Greek, and within the dialects we witness the paradigm transforming before our eyes.

2.3 Oxytones in Zero-Grade -αιαί, -υιαί

Beginning from the reconstruction argued for above, we expect Proto-Greek at a suitably early point to have inherited forms matching Ved. *-v-ī́* (< *-w-*íh*$_2$). The oxytone accent of –ειαί manifests such an inheritance, but indirectly, since the zero-grade of the suffix got replaced by the full-grade. I now argue for direct inheritance in at least a few forms in Ancient Greek, namely, those with zero-grade ablaut of the suffix and oxytone accent. Archaisms based directly on the zero-grade of the *u*-stem, i.e. reflecting directly *-w-*íh*$_2$ *before* its reformation to *-*ew-ya*, corroborate our position, since they correspond perfectly to the Vedic evidence. I will examine anew a number of potential archaisms in light of our findings from the foregoing sections: Πλαταιαί and ὀργυιαί, maybe ἀγυιαί (and maybe a few others). I will argue that in all cases where we find inherited zero grade of the *u*-stem suffix and oxytone accent, the words crucially lacked a masculine/ neuter base. Thus in parallel to the argument that θαμειαί and ταρφειαί kept their oxytonesis because they lacked a masculine/neuter *θαμύς, *ταρφύς to reset their accent, I propose that Πλαταιαί and ὀργυιαί (and possibly ἀγυιαί) were inherited into Proto-Greek as plurals, retaining their ancient accent and their ablaut grade because they were early shorn from their paradigms. Absent a paradigm *ὀργύς, *ἀγύς, the words could not be remade to expected *ὀργεῖα, *ἀγεῖα. In this set, Πλαταιαί stands out as of particular interest, in part because it competes with a singular of the toponym, Πλάταια, but more because it also attests a regularized paradigm, πλατεῖα (πλατύς).

In beginning from the reconstruction *-w-*íh*$_2$, two insufficiently addressed problems in Greek historical phonology arise. First, what happens to the sequence /*-w-íh$_2$/ when the -*íh*$_2$ syllabifies to *–*ya*? The change of *-*ih*$_2$ > -*ya* is not controversial, but precisely what syllable hosts the accent is not entirely clear: *–*ú(w)-ya* or *–*u(w)-yá* or *–*w-yá*?[30] I propose that when the vowel [i] became the glide [j], its accent yielded to the adjacent tone-bearing unit to its right: *–*íh*$_2$ > *-*yá*. In the case at hand this change yields an underlying representation */-u-yá/. The second problem follows from the first: how would the sequence /-w-ya/ syllabify? Here *.*u.yá*, *.*wya* and *.*w.yá* are all conceivable, as are various "adjustments" such as *.*wi.ya*. We will begin with the former problem.

To elucidate the change of *–*íh*$_2$ > *-*yá*, at least two good parallels within the history of Greek may be considered. First, abstract nominal formations in Anc.Gk. -ίᾱ are consistently paroxytone. On its way to Modern Greek, the high front vowel in this sequence regularly glides to [j]. When the vowel desyllabified, the accent shifted to the right, i.e. Anc.Gk. -ίᾱ systematically turns into Mod.Gk. [já]. As analyzed by Horrocks (2010: 276, and cf. 169): "such synizesis was inevitably associated with a shift in the position of the accent when /i/ had originally been the accented vowel: e.g. [-ía:] > [-já] etc." As a second parallel, when prevocalic *i* in Ionic became consonantal [j], the accent on –*í*- shifted onto the final syllable. ἐλευθερίη 'freedom',

[30] On the Greek development, see Beekes (1969: 155-60), Peters (1980: 127ff.), Rix (1992: 75, §85ba). Barber (2013: 84-90), in a recent overview, helpfully discusses this sound-change.

syllabified [e.leu.t^{h}e.rí.ɛ:], provides a clear example: it becomes ἐλευθεριή [e.leu.t^{h}e.rjɛ́:].[31] These two parallels from historical Greek shed light on the prehistory of PIE *-*w-íh*$_2$. Based on these change, we reconstruct the following prehistoric sequence: when PIE *–*íh*$_2$ syllabified to PGk. *-*w-ya*, the accent shifted rightward to viz. *-*w-yá*. In a sense, the oxytone archaisms of Greek truly echo the oxytones of PIE, but with a difference, since the old PIE *–*í*- ceased to be accent-bearing. To obtain the accent of the nominative plurals, at least two pathways may be tried: (1) the accent of the nominative plural could be based on the singular, such that PGk. *-*w-yá* furnishes the paradigm's accent, whence PGk. *–*wyái* in the nominative plural; (2) PGk. *-*w-íh*$_2$*-ai*, or *-*w-yéh*$_2$*-ai*[32] gives straightforwardly *-*w-yaí*. This oxytone accent will then be imported into the word following the ablaut replacement of *-*w-yaí* » *-*ew-yaí*.

A second problem in Greek historical phonology should be addressed at this point, too, although a precise answer evades us. Beginning from the sequence */-w-ya/, how do we end up with -υια? Though we know the starting point *-*w-yá* and the endpoint -υιαί (indirectly *–υιά), we do not know the intermediate step. Light comes from a parallel for retained yod, in the sequence *-*VwyV*-, as found in (e.g.) pre-alphabetic Gk. **basilέw-yō* > βασιλείω. This parallel suggests that -υιαί (and *-υιά) developed from an intermediate *-*uwyá*. The perfect participle active affords another datum: PIE *-*ús-ih*$_2$ becomes PGk. *-*úh-ya*, resulting in -υῖα. Thus, if the sequence /*-w-ya/ went through *–*uw.ya*, it would presumably terminate in attested -υια. Notice that according to both parallels we need to assume an intermediary *–*uw-ya*.[33]

Sievers's Law may aid us in getting to the intermediate step *–*uw-ya*. As defined by Byrd (2015: 180-207), this Sievers's Law describes the process of high-vowel epenthesis (with concomitant resyllabification) in order to repair sequences containing a derived, superheavy syllable. An example is PIE */mert-yo-/, which would surface faithfully as **mer.tyo*-, but in fact surfaces as the infidel **mer.ti.yo*-; cf. Ved. *mártiya*- 'mortal' (with its metrical reading in the Rig-Veda). De Lamberterie 1990: 644-5 invokes the Law– "le jeu de la loi de Sievers"– to explain the standard forms such as ἡδεῖα: PGk. **hwād-w-ya* surfaces as **hwād-uw-ya*, delivering *ἡδυιά, the accent of which gets replaced by ἡδεῖα.[34]

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[31] Syllabification to [e.leu.t^{h}er.jέ:] is also (trivially) possible. Scheller (1951) confronts this sound-change in a book-length treatment, the conclusions to which, including interpreting written < ιη > as [jɛ:], I have followed. Kiparsky (1973) and Steriade (1988: 277n.11) set this sound-change in generative frameworks, seeking to align the change with other properties of prosodic foot-building.

[32] I am assuming the stage in Proto-Greek when the nominative plural has taken over pronominal inflection to *-*ai*, replacing earlier *-*u-yéh*$_2$*-es*.

[33] An admittedly more complex further parallel might come from the development of the genitive singular of thematic stems, *-*osyo* > -οιο, which also results in an intervocalic yod. However, Willi (2008) rejects the derivation of the genitive singular from *-*osyo*, arguing (in the footsteps of Kiparsky) that *-*osyo* developed to *-*ōho*, reflected in Myc. *o-jo*. Others, e.g. recently Miller (2014: 257), maintain the traditional derivation.

[34] Admittedly, we do not fully understand how *-*uwya* comes out across the Greek dialects. In his full-scale treatment of the problem, Barber (2013: 98, in extenso 118-22) flags the obstacle to inquiry thus: "The treatment of*–*wy*- and *–*wiy*- sequences in the various Greek dialects, and their subsequent developments, are not currently well understood. Elucidation of this area of Greek phonology is certainly a desideratum." Barber does not touch on the issue of the feminine to *u*-stem adjectives, or the problem of ὄργυια etc., which I treat at §2.3.1.

2.3.0.1 Πλαταιαί

Πλαταιαί, toponym 'Plataia' (classical, Hdt.9.25+).[35] This adjective is evidently related to the paradigmatic πλατεῖα (πλατύς), but differs in two respects: the vocalism of its suffix (-αι- for -ει-); its accent on the ending -αί, not the suffix -εῖ-αι. The toponym Πλαταιαί presupposes a feminine head noun with which it agrees; a feminine word for 'earth, land', so 'broad(lands)', will do, such as γαῖα, γῆ, χθών, or χώρα (i.a.).[36] Just such a collocation is found in Vedic, too, with a cognate word for 'wide': *kṣā́m... pr̥thvī́m* 'wide earth' (RV 10.31.9a), as has been previously observed (cf. de Lamberterie 1990: 243-6, with reff. to earlier works).

How to compare the toponym against the paradigmatic feminine πλατεῖα? With respect to the accent, oxytone Πλαταιαί is archaic. Nothing in the morphophonology of Greek will generate the form; it must descend from an earlier stage of the language. The agreement of oxytone Πλαταιαί with Ved. *pr̥thvī́* confirms the point beautifully. Formally ambiguous is the ablaut grade of the suffix in Πλαταιαί. Either a zero grade or a full grade will work, and both options have been proposed; one's view on the morphology will guide one's preference. The suffix could reflect directly the same full-grade ablaut as found in the paradigmatic forms: **pl̥th₂-ew-yái* with **-h₂-* coloring **-e-* > *a*. Isolated, the word retains its archaic *a*-coloration, while the many stems in -εῖα exert formative influence on paradigmatic πλατεῖα. Peters (1980: 193 n.149) argues for this sequence. On the other hand, -αιαί could reflect the archaic zero-grade suffix, viz. **pl̥th₂-w-yái* with **h₂* vocalized as *a*. The suffix's ablaut grade then aligns with Vedic *-v-ī́*, rendering Gk. Πλαταιαί and Ved. *pr̥thivī́ḥ* a direct equation.[37] De Lamberterie 1990: 245-5 argues for this sequence. He reaffirms his position in de Lamberterie (2002: 113) thus:

> dans la discordance entre véd. *svādvī́-* et gr. ἡδεῖα, il est peu probable que l'archaïsme soit du côté du grec, à preuve l'équation Πλάταια (pl. Πλαταιαί) = véd. *pr̥thivī́-* 'terre'. Quelle qu'en soit l'explication exacte, la finale -εῖα du grec semble bien être une forme récente qui a succédé à un plus ancien *-ϝyá: entre un toponyme

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[35] Rosén (1997: ad 9.25, cf. 9.16.5, 9.30.1, al.) prints Πλαταίας, apparently following the reading of ms. A, of which he writes (Rosén 1987: xxv): "cuncti nostrae aetatis consentiunt editores codicem illum omnium praecipuum librorum manu scriptorum esse habendum". Though all editors agree on its quality, the best manuscript does not perforce transmit the correct accents. The accentuation of Πλαταίας is easily an assimilation to the adjective πλατεῖα, acc.pl. πλατείας, perfectly parallel to what we noted for the manuscript readings of Homeric -ειαί vs. -εῖαι: *analogicum flagitaverunt iuniores*. On the grounds that -αιαί is the *lectio difficilior*, a reading numerous manuscripts offer, the oxytone accent should be preferred (the latest editor of Herodotus, Wilson (2015), prints an oxytone here).

[36] I may be missing an obvious *locus classicus*, but I have not yet succeeded in tracking down an authoritative account for which head noun should be considered the best candidate. Debrunner and Schwyzer (1950: 43) comment on the use of plural names for cities, but hazard no guess for the best noun to go with Πλαταιαί; Grasberger (1888: 253, 284) offers some parallel toponyms– such as Εὐρυτειαί and Πλαταμῶνες– but I find no discussion of the plural's provenience. Exactly why a morphological plural can be used with a singular referent (as at least became true of the πόλις Plataea) broaches a broader theoretical question; Acquaviva (2008: 15-20) distinguishes between lexical plurals (instantiating number as a lexical property) vs. *pluralia tantum* (lacking a sg.), a distinction that may prove helpful in understanding the city-names.

[37] A direct equation, abstracting away from the inner-Greek replacement of the inherited nominal endings with the pronominal -αι.

> comme le nom de Platées et le féminin πλατεῖα de l'adjectif πλατύς, l'archaïsme est certainement du côté du toponyme.

I will not come down definitively on the one side or the other, though I do incline to de Lamberterie's position. Allowing for the moment that de Lamberterie may be correct in his equation, Πλαταιαί will be an archaic form on three grounds: (1) it has inherited oxytone accent against the paradigmatic forms, so agrees with Ved. *pr̥thivī́-*, not the productive inflection πλατεῖα; (2) it may reflect a zero-grade **pl̥th₂-w-yái*; (3) it is found only in an isolated form in the language, a toponym. However, de Lamberterie (1990: 245-5) does not fully address why the recessive accent arises in the singular. In other approaches (the "paradigmatic" approach), the singular gives evidence for mobility within the paradigm, though Πλάταια, πλατεῖα, Πλαταιαί cannot all give evidence for accent and ablaut mobility. In the approach I pursue here, a more general difference with the paradigmatic approach may be emphasized: two accents associated with a given suffix may, but need not, furnish evidence for erstwhile accentual mobility. I will elaborate briefly on this methodological point before proceeding to a discussion of the Greek evidence for recessive accent in Πλάταια and in other toponyms.

In assessing accentual change, it has become a common practice to treat two attested accentual patterns, associated with a single suffix, as reflecting independent analogical levelings of an alternating paradigm. However, recent scholarship has challenged this position, and (pre-)PIE intraparadigmatic accentual mobility no longer needs to be a necessary condition for two accents to arise. Probert (2006b,a) demonstrates this point conclusively. Probert investigates the diachronic development in Greek of two morphological categories that are, by general agreement, reconstructed with fixed word-final surface accent. The two categories are composed of thematic adjectives (suffixes **-ro-*, **-no-*, **-to-*, **-lo-*) and feminine event/result nouns (o-grade ablaut + **-eh₂*). Although most attested reflexes of these categories show the historically expected pattern, some instead show "recessive" accentuation. Thus we get the descriptive state of two accents associated with one suffix. But the accents need not arise from leveling of a mobile paradigms. Discussing the two accents associated with thematic adjectives, Probert argues for accentual change, attributing the cause thereof to a process termed "demorphologization". We define the term, following Probert, in the following way: when morphologically complex words lose their compositionality, due to semantic or formal opacity, they come to be treated as monomorphemic (i.e. are "demorphologized"). As a further consequence, demorphologized words strongly tend to adopt the language's default accentual pattern; whether or not this occurs depends on word frequency and other factors, as discussed by Sandell (2015: 192–214). In the case of Ancient Greek, the default accent is recessive, which ultimately reflects the Basic Accentual Principle in modified form, i.e. leftmost within the accentable domain defined by the Law of Limitation. To give an example, the differing surface accents of (e.g.) Gk. ἐχθρός 'enemy' and Gk. γῦρος 'circle' do not bespeak a fundamental difference in the historical formation of each item; rather, the connection between reconstructible **gū-rós* 'circle' (substantivized from the adj. γυρός 'round') and other **-ro-* adjectives became opaque and, as a result, the word was eventually subject to default accentuation, whence **gūr-ós* > γῦρος (on this example see Probert 2006b: 232–3).

Cases of this kind show conclusively that two accentual patterns can emerge diachronically without an earlier intraparadigmatic accentual alternation. They provide evidence, arguably, for a type of prosodically optimizing, non-proportional analogical change, whose effects have been discerned also within the historical record of English (cf. Kiparsky 2015a: 82–

3). Within the ancient IE languages, the Greek evidence for this type of change finds further support in Vedic, where a similar analysis accounts for the development of Vedic *-*ti*-stems (like Ved. *matí-* > *máti-*; cf. Lundquist 2015b), as well in the Anatolian languages, where it can explain a variety of forms that unexpectedly exhibit initial surface accent (i.e. leftmost, in accordance with the PIE default pattern; see Yates 2015). To the extent that individual paradigmatic reconstructions are founded on this premise (as in "proterokinetic" *-*ti*-stems), their (pre-)PIE status must be viewed as uncertain. In the accents of Πλάταια, πλατεῖα, Πλαταιαί, each accent need not reflect a piece of a once-unified paradigm: they reflect stages of accentual change.

Let us return to the evidence for oxytone Πλαταιαί and recessive Πλάταια. Chandler (1881: 31-2 §105, and cf. 25 §90) draws attention to an overlooked canon in the grammatical tradition: names of towns in -αια, -εια are recessive in the singular (so Πλάταια, Θέσπεια) but, surprisingly, oxytone in the plural (so Πλαταιαί, Θεσπειαί). I have given reasons to suspect that the accent of the plural Πλαταιαί is old. If Πλαταιαί is old, recessive Πλάταια may be young. I will explore the hypothesis that Πλαταιαί backformed a singular Πλάταια. The oxytone toponyms, detached from their paradigms, have frozen an older accent. In this sense they are directly equatable with θαμειαί and ταρφειαί (§2.2), which also have been cut off from their paradigms. But if used in the singular, the oxytones surrender their oxytonesis, because there does not exist in Greek a class of oxytone short α-stems: all nouns in short *-a* are recessive (Probert 2003: 82, §141). Put differently, when the form was frozen outside the nominative singular (*in casu* nom.pl. -αί) it retained its accent. If a singular came into use (backformation), it could not be oxytone since there no class of oxytone short alpha stems exists. In this scenario, when speakers generated a singular form to Πλαταιαί , they could not generate ^{X}Πλαταιά; the singular unsurprisingly reverted to the majority class of first declension nouns. I will argue below (§2.3) that other oxytones with zero-grade suffixes (ὀργυιαί, ἀγυιαί) were also inherited as plurals, and also owe their recessive accents in the singular to backformation. My account makes a further prediction here. If being frozen in the plural constitutes a necessary condition for retaining oxytonesis, then a form frozen in the singular should have no cause to be oxytone, and may not even remain paroxytone/properispomenon; I predict that unlike θαμειαί, ταρφειαί, Πλαταιαί, ὀργυιαί, such forms will be recessively accented. We will see that θάλεια, λάχεια, and λίγεια are cases in point (§2.4).

To understand how the paradigms like Πλαταιαί beside Πλάταια were understood within the grammatical tradition, we turn to the fullest discussion (of which I am aware), that by Choeroboscus (8/9thc. CE, Byzantine) in his commentary on the Κανόνες of Theodosius of Alexandria (4/5th c. CE). Choeroboscus certainly draws on older sources: Herodian cites a similar rule (cf. *Sch.Il.*A ad Z.422a1, and T ad Z.422.a2, Erbse), deferring authority back to Aristarchus. Unfortunately, the scholion is limited to the one example of ἄγυιαν, while Choeroboscus provides a range of examples. Among modern works, Chandler (1881: 33, §112) mentions the rule, though without much commentary. From Choeroboscus we learn that the Ionians treat words with short -α as barytone; he gives the examples ἄγυια, Πλάταια (and probably ὄργυια, see just below, §2.3.1.1) etc. However, the accent moves to the last syllable when that syllable contains a long vowel. In this sense, these words are accentually "mobile". The passage goes (Hilgard (1889) *GG* 4.1, p.369, 14),

(25) ἐπὶ τῶν εἰς <α> βραχυκαταλήκτων εἰώθασιν οἱ Ἴωνες βαρυτονεῖν τὰς λέξεις ὡς καὶ ἡμεῖς, οἷον ἄγυια ἄρπυια <Θέσπια> Πλάταια· ὅταν δὲ γένηται ἡ τελευταία συλλαβὴ μακρά,

> ᾽Ιωνικῷ ἔθει καταβιβάζεται ὁ τόνος, οἷον ἀγυιᾶς ἁρπυιᾶς Θεσπιᾶς Πλαταιᾶς· ἰδοὺ ταῦτα ἐν τῇ τελευταίᾳ συλλαβῇ ἐπιδέχονται τὸν τόνον.
> "Concerning those ending in short α, the Ionians customarily treat as barytone the words just like we do, e.g. ἄγυια ἅρπυια <Θέσπια> Πλάταια. But when the final syllable becomes long, in the Ionic norm the accent moves to the end, e.g. ἀγυιᾶς ἁρπυιᾶς Θεσπιᾶς Πλαταιᾶς. As you can see, these receive the accent on the final syllable." (tr. JL)

The text printed is that of Hilgard (the standard edition) but notice that the manuscripts here actually read οἷον ἀγυιᾶς ὀργυιᾶς (mss. CT b), which Gaisford (1842: 405.31) in his earlier edition printed. If we follow the manuscripts here, the rule recorded in Choeroboscus encompasses precisely our forms: Πλαταιᾶς as well as ἀγυιᾶς ὀργυιᾶς (discussed below, §2.3.1). Choeroboscus' rule derives in turn from an earlier source, and may be considered a genuine rule of Ionic accentuation in Ancient Greek.[38]

What this rule represents synchronically is clear enough; the singular of these few words was recessively accented, the plural accented on the ending. However, this synchronic rule should not be projected back to ancient accentual mobility, as if Πλάταια and Πλαταιαί existed on the same plane. I have posited a diachronic history for these forms: they were inherited as plurals (Πλαταιαί); the backformed singular was necessarily recessive (Πλάταια). Once we have considered ἄγυια, ὄργυια as well, I will address more conclusively the question of accentual mobility of this kind in Ancient Greek.

2.3.1 -υιαί

We turn next to a difficult class of nouns, the members of which derive or may derive historically from substantivized adjectives: ἀγυιαί 'streets' and ὀργυιαί 'fathoms, lengths of outstretched arms'. I give the forms in the plural for reasons that will become clear. As far as accentuation goes, the class resembles the oxytones like θαμειαί, since we have a plural ἀγυιαί. However, in contrast to θαμειαί and ταρφειαί, neither ὀγρυιαί nor ἀγυιαί can be related to a *u*-stem adjective paradigm (*ὀργύς, *ἀγύς), except in the remotest prehistory. A further contrast: singulars are attested, if not plentifully, such as oblique ἀγυιῆι (dat.sg.) and non-oblique ἄγυια, ἄγυιαν (acc.sg.). In the clearer case, ὀργυιαί probably does derive from a substantivized *u*-stem adjective; the less clear cases are just that, formally opaque and suspected of substrate origins. I will argue that at least ὀργυιαί and, with less certainty, ἀγυιαί are old *devī́*-feminines to *u*-stem adjectives. These items represent, then, the "missing link," the ancient zero-grade suffix *-*w*-*íh*$_2$, comparable to Ved. *-v-ī́*. A further argument to pursue: the words ἀγυιαί, ὀργυιαί were inherited as *pluralia tantum*; when backformed singulars arose, the singular was recessive, expectedly, viz. ἄγυια, ὄργυια. If correct, then ἀγυιαί, ὀργυιαί beside ἄγυια, ὄργυια parallels Πλαταιαί beside Πλάταια: what at first blush looks like accentual mo-

[38] Olander (2009: 71n.48) queries the Ionicity of this rule, writing, "but cf. Vendryes (1904: 206-7)." But Vendryès's suggestion is a non-starter: "On pourrait en fait considérer aussi ἄγυια et ὄργυια comme des éolismes." Presumably Vendryès suggests this dialectal affinity because the forms are recessive (Aeolic generalized recessive accent to all lexical words) and are found in Homeric Greek (in whose prehistory, some believe, an Aeolic phase lurks). I see no reason to accept Vendryès's speculation on this point, nor to doubt the grammatical tradition's ascription of the forms to Ionic.

bility (and may be so in a synchronic sense) reflects two diachronic stages of word-formation.

I first lay out the forms: those with suffix -υια with final syllable accent (ἀγυιαί, ὀργυιαί), which are also the formally more transparent words; then those with a suffix -υια, but without evidence for final syllable accent, which may or may not be related (formally and etymologically murkier).

(26) Suffix -υια with final syllable accent

a. ἄγυια 'street, highway' (*Il.*+), occurs "chiefly in pl." (*LSJ*), "esp. in pl[ural]" (Montanari 2015), "surtout au pluriel" (Chantraine DELG); -ᾶς, -ᾶι pl. -αί

b. ὄργυια 'fathom, two open arms' length'[39]; post-Hom. 'four cubits/ six feet' (so Montanari 2015 s.v. ὄργυα [sic]); oblique cases and pl. oxytone, e.g. ὀργυιαί.

(27) Suffix -υια without final syllable accent

a. αἴθυια, 'shearwater' (diving bird), *Od.*5.337(+)

b. ἅρπυια, ἅρπυιαι 'harpy, snatcher' (Hom.+)

c. Εἰλείθυια (with much dialect variation), goddess of childbirth (Myc.+)

2.3.1.1 ὄργυια, ὀργυιαί

I will take up ὄργυια first because its formal analysis seems better established. Although ὄργυια clearly can form a singular and a plural in Greek, two points signal its earlier history as a *plurale* (or in fact *duale*) *tantum*: (1) the meaning 'two-hands outstretched (in breadth like a cross)' suggests that the noun originates in a substantivized adjective referring to two hands, and hence *ab origine* would be inflected in the dual; (2) the oxytone accent of ὀργυιαί shows an accent preserved only in plurals (θαμειαί, ταρφειαί, Πλαταιαί), though, admittedly, it would be circular to argue for its plural inheritance based solely on the accent.

Traditionally, and problematically, identified as a substantivized perfect participle without reduplication (so e.g. Chantraine *DELG*, maintained by Lindeman (1990)), ὄργυια is now thought to reflect a *u*-stem adjective, as proposed by de Lamberterie (1990: 724-6), reprised with additional Hittite comparanda in de Lamberterie (1991). In this derivation, ὄργυια reflects a *u*-stem adjective, deverbal to the root **h₃reĝ-* 'stretch out' (Gk. ὀρέγω). The reconstructed masculine **orgús* equates perfectly with Ved. *Rjú* 'straight'. The feminine ὄργυια would equate perfectly with Ved. *ṛjvī**, the expected but unattested (so far as I am aware) feminine, allowing a PIE reconstruction **h₃ṛĝ-w-íh₂*. De Lamberterie shows that ὄργυια rests on the syntagm **orguià kheír* in the dual, 'two hands stretched out'; he aptly compares further the Vedic compound *ṛju-hástā* '(mother Rasā) with hands outstretched' (RV 5.41.15d) and the Homeric syntagm χεῖρας ὀρεγνύς 'stretching out the hands' (*Il.*1.351, 22.37). That the form is not synchronically a dual hardly matters: once substantivized as a count-noun meaning 'length (of hands)', the noun could be freely as a singular, dual, or plural as needed. Within the prehistory of Greek, the feminine adjective cum noun was set adrift from its paradigm;

[39] A scholiast contributes a nice gloss here: ὀργυία [sic]: ἡ τῶν δύο χειρῶν σταυροειδῶς εἰς πλάτος ἔκτασις (*Sch.Il.*D ad Ψ 327/Zs van Thiel), "the stretching out of two hands in breadth like a cross" (JL).

without the expected *ὀργύς, *ὀργέϝος,[40] to reset the accent and ablaut, ὄργυια never was reformed to *ὀργεῖα. As an isolated relic, ὄργυια provides a precious window onto an earlier age.[41]

De Lamberterie's etymology has been all but universally accepted: in this (rare) instance, the judgment of Beekes 2010: s.v. ὄργυια may stand for the *communis opinio*: "Most problems have been solved by De Lamberterie." This etymology reveals two important archaisms: (1) the oxytone accent; (2) the zero grade of the suffix. Unlike the adjectives in -ειαί, the ablaut grade of the suffix in -υιαί corresponds perfectly with Ved. *-v-ī́*. ὄργυια thus reflects a stage preceding the analogical introduction of *e*-grade (i.e. it has not become [X]ὀργειαί). The question arises, what happens when a singular is needed? And here we have already seen an answer: from inherited ὀργυιαί, speakers could not create an oxytone *ὀργυιά, since this surface form violates the rules of Greek phonology. These forms in the paradigm were accented recessively, as are all other first declension nominals in short alpha. Synchronically, then, we find accentual mobility: ὄργυια, pl. ὀργυιαί; but diachronically we find two stages, inherited oxytone accent (ὀργυιαί) and innovated recessive accent (ὄργυια).

It is instructive to compare past solutions to this problem. One we have already mentioned: the ungainly, non-reduplicated perfect. Such a solution fails morphologically, and has been widely abandoned. Other major proposals have been along the lines of the "paradigmatic" approach. Rix (1970: 93) sets up the paradigm as a **-us-* stem (not a **–u-* stem) and, taking the genitive singular as a starting point, reconstructs **h₃r̥ĝusyéh₂s* (ὀργυιᾶς). He remarks of the paradigm that it is like ἄρπυια, ἄρπυιαι, thus leading him to infer, based on his reconstruction of ἄρπυια, **h₃érĝusyh₂* (Rix's syllabification). As his concerns are elsewhere in this article (namely in establishing Rix's Law!), Rix does not delve into the finer points of the morphology of paradigm: what does the **-us-*stem represent morphologically? Why did the various patterns of leveling play out as they have? And at what time-depths?[42]

Nussbaum (1986: 147n.17), in an influential discussion, supplies perhaps the fullest argumentation within the paradigmatic approach. He sets up ὄργυια as what he concedes is a "rather complex derivative". He includes the evidence of ὀρόγυια, though he mentions that

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[40] De Lamberterie 1990: 725 shows that the *forme de fondation* *ὀργύς was evicted at an early date by εὐθύς, ἰθύς.

[41] A weakly attested but potentially old variant is ὀρόγυια. A TLG search returns the following results for the variant: Pi.*Pyth.*4.228 Snell and Maehler ὀρόγυιαν (cj. ὀργυιαν, Gottfr. Hermann); Ar.*fr.*942; additionally it occurs 3x (once restored) in one Attic inscription, ΟΡΟΓΥΩΝ (gen.pl.), *IG* II.^{2}.1693 (s.IV?). There are also compounds in -ορογυιος: ἑπτορόγυιοι 'seven-fathomed' Sa.110a.1 L-P; ἑκατονορόγυιον Ar.*Av.*1131; corrected ἑκατοντορ<ό>γυιος 'one-hundred fathoms tall' Pi.*fr.*282.1 Snell and Maehler. It is likely that the verb ὀρέγω helped engender the form of the compound -ορογ-, via vowel assimilation, as well as the noun, which may be based on the compound. The etymological link to the verb remained available to speakers, as the *Etym. Magnum* records ("ὀρόγυια · ὀρέγω, τὸ ἐκτείνω...", p.633, ed. Gaisford). Chantraine (1999) considers vowel epenthesis to be the likelier pathway (Beekes 2010 agrees). The alternative, that these are ancient forms, strains credulity; I agree with de Lamberterie's 1991: 130n.5 assessment: "...mais cette forme a peu de chances d'être ancienne."

[42] Beekes (1969: 37-38) proposes an account along similar lines, if differing in detail, just before Rix, though Beekes's conclusions do not add greatly to the picture (he is strongly against derivation from the perfect participle). An account in a similar spirit is given by Peters (1980: 195-6 n.152), though he does not discuss the present case.

it may result from assimilation (as he says, the accent alone forms enough of a basis to make the point). The two accents reflect a once unified paradigm, so he reconstructs *$h_3$réĝ-u-s-ih_2/*h_3r̥ĝusyéh_2- (each accent impliying a full grade). This surface paradigm he derives as a morphological "imitation" of other reconstructed paradigmatic classes: "[it] may well constitute an 'imitation' of the simpler type *déyw-ih_2 / diw-yeh_2- (Ved. devī́/ Gk. δῖα)." In this vision of PIE morphology, the entire concatenation *h_3r(e)ĝus- would be an unanalyzed stem which "imitates" an accent-and-ablaut paradigm, i.e. a (secondary) proterokinetic. His definition of this process is worth citing in full, since it will illustrate clearly the different assumptions underlying our two approaches. For Nussbaum, the unanalyzed stem has,

> apparently been put on the same level as *d(e)iw-* at least for accentual purposes– if not for apophonic purposes as well– so that the full-grade accented first syllable of *déyw-ih_2* has (directly or indirectly) been transferred to give an accented (and perhaps full-grade) *$h_3$réĝ-us-ih_2* (or at least *h_3r̥ĝ-us-ih_2*), while the structure of oblique *diw-yéh_2* is repeated by *h_3r̥ĝus-yéh_2-* in parallel fashion.

The remainder of his extensive footnote may be consulted for further reflections on how this morphology would (or would not) work. I mention his explanation because it has proven influential in Indo-European studies, and because it shows how the same forms can be analyzed differently given different starting assumptions. Reviewing the proposals, I agree with Vine (2005: 269) who, having mentioned Nussbaum's derivation, notes of ὄργυια: "But a manifestly superior analysis has been proposed by C. de Lamberterie [ref.om.] who argued that ὄργυια is a substantivized feminine dual to an original *u*-stem adjective *ὀργύς..."[43]

De Lamberterie's analysis has been rejected in a recent account of the material by Malzahn (2014: 168-71). For Malzahn (p.169), the word "ὄργυια / ὀρόγυια / ὀργυιῆς looks exactly like a noun in *-*us-ih_2* with old root ablaut" (as per Nussbaum 1986). In her account, a nominal stem PGk. **orgus-* (i.e. *-us-*, not a *u*-stem) underlies ὄργυια. To this stem was attached *-ih_2*, a "mildly productive" possessive suffix (per Widmer 2004: 36-7) with wide semantic berth: ἄγυια would have originally had instrumental(/factitive) possessive semantics, so glossable as "what is/provides a means for leading/driving, providing with the (ability of) leading/driving" (Malzahn 2014: 169). ὄργυια itself goes unglossed, but we may assemble the pieces ourselves: 'what is/provides a means for stretching out, providing with the (ability) of stretching out.' Malzahn (2014: 170-1) concedes that the underlying nominal stem **orgus-* is nowhere found, a point in favor of de Lamberterie's account, where ὄργυια corresponds to the Vedic paradigm of *r̥jú* (fem. *r̥jvī́*). With respect to morphophonology, Malzahn accepts that ὄργυια inherited mobile accent, but doubts the preserved root ablaut others assume. She acknowledges that root ablaut is preserved only rarely in nominal paradigms, and therefore inclines to side with de Lamberterie in finding that "what is descriptively root ablaut in these two words [viz. ὄργυια, Ἄρπυια] may rather reflect analogical reshaping along the lines suggested by de Lamberterie (1990: 724 n.9)."

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[43] More recently, apud Rau (2009: 172 with n.127), Nussbaum (via p.c.) finds that ὄργυια likely derives from a *devī́*-stem substantivization of the adjective that survives in Indo-Iranian, namely *r̥jú*. Thus the Greek outcome ὄργυια would ultimately reflect *u*-stem adjective, a derivation in closer alignment to that by de Lamberterie. I am not sure whether Nussbaum would still see this substantivization as implying an "imitation" of proterokinetic accent-and-ablaut, or not.

Although Malzahn (2014) succeeds (to my mind, at least) in the main purpose of her article, namely reconstructing nominal *-*us*-stems in PIE, she fails to dispel the equation proposed by de Lamberterie. She herself has already raised perhaps the most damning point: she needs to invent a nominal stem **orgus*-, nowhere attested, as the derivational base, Thus Malzahn must multiply entities– though she may dispute that she does so *praeter necessitatem*. De Lamberterie, on the other hand, points to an equation with Ved. *ŗjú*, whose feminine *ŗjvī́** is securely inferred, if admittedly unattested. Derivatives like Ved. *ŗju-hástā*, and syntagms, i.e. Homer's χεῖρας ὀρεγνύς, further corroborate the equation.

Next, Malzahn (2014: 170) objects that "the word is clearly not a dual either diachronically or synchronically, and is therefore best taken for something other than an old perfect participle." But this criticism is not cogent. The meaning 'span of hands' has become substantivized to 'measurement of outstretched hands', which may refer to singular, dual, or plural entities. That it is not synchronically a dual is a non-starter– if a speaker with a living dual referred to two ὄργυια's, he'd surely use the dual. Second, that it is not a dual diachronically cannot be rejected out of hand; based on its meaning 'length of two hands', an origin in the dual seems attractive. Third, I do not understand how the second clause results from the first ("therefore"), since de Lamberterie, and others who follow his account, also reject derivation from an old perfect participle. The word is clearly not a dual synchronically, but probably originates as a dual diachronically, and is best taken as something other than an old perfect participle, namely a substantivized *u*-stem adjective.

Lastly, Malzahn (2014: 170) writes: "To me, Lamberterie's solution seems arbitrary with respect to phonology." She rejects his "arbitrary" solution with a strong assertion: "Greek evidently was not sensitive to what are usually said to be classical Sievers contexts, and otherwise Sievers processes occurred only in front of syllabics." Here Malzahn makes a stronger criticism, though sorting out the details is more difficult than her account lets on. In light of the extensive treatment of the Greek evidence for and against Sievers's Law by Barber (2013), it may not "evidently" be true that Greek was insensitive to "classical Sievers' contexts" or "Sievers' processes." After a careful sifting of the evidence, Barber (2013) finds that, although many examples are indeed non-probative, nevertheless positive evidence for Sievers' Law exists in Greek; Barber looks to the primary comparatives in *-*yos*-/*-*yon*-, and nominals in *-*ye/o*-, *-*ye/o*-, -*tye/o*-. For instance, regarding the operation of Sievers' in primary comparatives, Barber (2013: 378) finds that "The overall pattern is most economically explained if we accept that Sievers' Law operated in this category at some prehistoric stage in Greek." On the case at hand (ὄργυια) Barber does not comment, though he does discuss other forms in -υια, which may result from Sievers' Law (Barber 2013: 118-22). Admittedly, it is difficult to decide whether Sievers' Law applied to this word, or not. De Lamberterie does not address a subtle point of relative chronology: he implicitly assumes that Rix's Law (concerning vocalization of laryngeals before resonants, Rix 1970) must have applied first, since *h_3ŗĝ-w-ih_2 only forms a heavy coda (and so feeds Sievers's Law) upon syllabification to **org*–; for Barber (2013: 124-5), at least, this relative chronology runs afoul of the facts, since he finds that Rix's Law postdates the breakdown of Sievers's Law (though the evidence is more suggestive than conclusive). Moreover, the precise outcome of the underlying sequence */org-w-yá/ (assuming the laryngeals syllabified simultaneously) remains unclear: possible are **org.wyá*, or else "adjusted" **or.guw.yá* or **or.gwi.yá*, each of which could arguably produce ὄργυια. However, another possibility suggests itself: preferring CV syllabification, one would produce **or.gu.yá*, possible though unfaithful to an input */org-w-yá/. If the latter option is best, than we must concede the etymology. While I

acknowledge this problem, I believe that the outcomes **org.wyá*, or else **or.guw.yá* or **or.gwi.yá*, are possible for the input */org-w-yá/. Assuming that phonology for the moment, let us turn briefly and finally to one further problem: how do we interpret the first-millennium outcomes of reconstructed **-Vw(i)yV-*? On this point, too, Barber (2013: 118-22) argues caution. Usually, we find prevocalic *i*-diphthongs, such as γλυκεῖα 'sweet' < PGk. **gluk-ew-ya*; if **orgwiya* or *orguwya* was the surface form, we expect an outcome ὄργυια (Barber 2013: 120 at least detects no difference in outcomes between **-wy-* /**-wiy-*).[44] Finally, a further problem lies in the dearth of positive evidence for Sievers' Law applying to **u/w* in Greek at all, though again, the equal dearth of condemning counterevidence keeps the possibility alive. If we allow that such a development may underlie the formations in –υια (as mentioned also above, §2.3) and ὄργυια in particular, then de Lamberterie's analysis may stand, though clearly further research is required on this point.

2.3.1.2 ἄγυια, ἀγυιαί

ἄγυια is less secure than ὄργυια, since its formal analysis is less clear. This word may reflect **-w-íh$_2$*, in parallel to ὄργυια; but it also could reflect **-us-ya*; or it could be something else entirely (such as a substrate word). Each position has been defended, and to date no proposal commands assent, so on this front we do well to proceed with caution. I will look at the history of this word within Greek, and will then make some tentative suggestions about its prehistory. I will propose a novel solution for its apparent accentual mobility, ἄγυια : ἀγυιαί (at least my solution is new so far as I am aware): the form was inherited as a plural, whence its accent and zero-grade ablaut ἀγυιαί (precisely like ὀργυιαί), and only later did a singular come into use. The singular would again share a history with ὄργυια: in the absence of any class of oxytone short alpha stems, a backformed *ἀγυιά could only result in ἄγυια. In this case, even more than was true of ὄργυια, we may witness the formation of the singular, since the textual chronologies urge us to see an older plural noun gradually garnering a few uses of the singular. The use of a singular owed in large measure to compounding– from one compound, in fact, εὐρυάγυια, the singular ἄγυια arguably was born. We will see that the textual evidence strongly supports this suggestion.[45]

ἀγυιαί are basically "streets" of a city, in Homer used particularly of Troy. In some of its arguably older uses a broader translation such as "paths, pathways" seems warranted; the Odyssean formula σκιόωντό τε πᾶσαι ἀγυιαί 'all the streets/pathways were shadowed' speaks to this meaning, since it does not refer to particular streets; and in one example (κατ' ἀγυιάς, *Il.*6.390-1) the ἀγυιαί are opposed to a ὁδός. According to *LfgrE* (s.v. ἄγυια, entry by Mette), the meaning of "pathway" (Gm. *Triftweg*) is primary, and only then leads to the specific streets of a city such as Ilion, "dann die Straßsen einer Stadt, wie Ilios". The word is basically confined to epic; the Classical language uses instead ἡ ὁδός. The word's early attestations reveal a detail of undoubted relevance to our purposes: the major lexica register ἄγυια occurring "chiefly in pl[ural]" (*LSJ*), "esp. in pl[ural]" (Montanari 2015), and "surtout au pluriel" (Chantraine *DELG*). This predominance of the plural allows us to discover its diachronic core: I propose that it

[44] I am grateful to Peter Barber for his helpful discussion of this point.

[45] Christol (1979) devotes a whole paper to this one word; I have consulted his treatment on all points in this section.

was inherited into early Greek (into Homer) as a plural only. We may be even more precise for the earliest stages of Greek: it occurs basically in one formula in Homer. In Homer the word occurs a total of 11 times, 7 of which occurrences cluster in a single, Odyssean formula:

(28) δύσετό τ' ἠέλιος σκιόωντό τε πᾶσαι ἀγυιαί (*Od.*2.388; 3.487, 497; 11.12; 15.185, 296, 471)
'The sun sank down and all pathways/streets were enshadowed'

Of the remaining 4 instances, twice it is in the plural:

(29) Ἰλίου ἐξαλάπαξε πόλιν, χήρωσε δ ' ἀγυιάς

'...(Herakles) ravaged the city of Ilion and widowed the streets' (*Il.*5.642)

(30) ...ὁ δ ' ἀπέσσυτο δώματος Ἕκτωρ | τὴν αὐτὴν ὁδὸν αὖτις ἐυκτιμένας κατ' ἀγυιάς

'And he, Hector, rushed out of the house, down the same way again, through the well-founded streets' (*Il.*6.390-1)[46]

Finally, there are two instances of ἄγυια in the singular:

(31) νεικέουσ' ἀλλήλησι μέσην ἐς ἄγυιαν ἰοῦσαι

'(Why should we, as if we were women,) quarrel with each other, going into the middle of the street?' (*Il.*.20.254)[47]

(32) ὑμετέρων ἑτάρων, ξυμβλήμενος ἢ ἐν ἀγυιῆι

'(Let none speak to me) of your companions, if he should meet me in the street (or perhaps by a fountain)' (*Od.*15.441)

The post-Homeric employment of the word is inconsequential: it is not found in Attic or Ionic prose except in the context of quoted hexameters. Thucydides uses it once; his example is a telling one. Thucydides (III.104.4) cites a line of the Hymn to Apollo as ...γυναιξί τε σὴν ἐς ἄγυιαν (in Delos, where Ionians assemble) "with their wives on your avenue" (tr. West 2003).[48] The use of ἐς ἄγυιαν here hardly rates as good Attic prose usage. Other Classical prose authors likewise avoid ἄγυια (again, favoring ἡ ὁδός), permitting it only in the contexts of quoted oracles, hymns, etc. We may safely confine our focus to the Homeric forms.

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[46]This example nicely opposes ὁδός and ἀγυιαί, which opposition demonstrates, according to Christol (1979: 56), a division between the "terme concret" (ἄγυια) vs. the more abstract ὁδός ("itinéraire"). This unique description of ἀγυιαί (not otherwise "well-built/founded") looks founded upon another urban term, ἐυκτίμενον πτολίεθρον.

[47]West prints proparoxytone ἄγυιαν, following Aristarchus (apud testimonia) and good manuscripts (including A), coupled with the argumentation by Wackernagel (1955-1979: 1172ff.). The rest of the transmission presents ἀγυιάν (except Z's eccentric μέση ἐν αγυιᾶ, sic). Presumably the oxytone accent intrudes (at the hands of scribes?) from the dominant plural accent of ἀγυιαί.

[48]The line is evidently ancient but actually fell out from the paradosis, to be transmitted solely by Thucydides.

An important component of the derivational profile of ἄγυια has not been sufficiently appreciated: it occurs mostly not as a simplex, but in a single, frozen compound, εὐρυάγυια 'broad-wayed'. This compound occurs 13x in Homer, mostly as an epithet of Troy. Its paradigm is reduced: only εὐρυάγυια and εὐρυάγυιαν are found. A full eleven times it occurs at line end. The two remaining instances reverse the order to Epithet + City. As Witte (1972: 48) explains, based on the core Iliadic formula πόλιν εὐρυάγυιαν, singers apply the epithet anew to εὐρυάγυια Μυκήνη (*Il.*4.52) and, in the *Odyssey*, to εὐρυάγυιαν Ἀθήνην (*Od.*7.80, of course suspected of being an Athenian interpolation). Beyond epic proper, one hymnist broadens its narrow application to cities, trying out χθὼν εὐρυάγυια (*Hy.Dem.*16); Witte (1972: 48) suspects, probably rightly, verse-end χθονὸς εὐρυοδείης lurking behind this phrase.

(33) εὐρυάγυια

a. πασσυδίηι· νῦν γάρ κεν ἕλοι πόλιν εὐρυάγυιαν
'..for now he would take the broad-wayed city (of Troy)' (*Il.*2.12, *fere* 2.29, 66; cf. 2.141, 329)

b. Ἄργός τε Σπάρτη τε καὶ εὐρυάγυια Μυκήνη
'Argos and Sparta and broad-wayed Mycenae' (*Il.*4.52)

c. οὐ γὰρ ἔτι Τροίην αἱρήσομεν εὐρυάγυιαν.
'for no longer now shall we take broad-wayed Troy' (*Il.*.9.28)

d. οὕτω δὴ μέμονας Τρώων πόλιν εὐρυάγυιαν
'Are you really thus eager (to abandon) the broad-wayed city of the Trojans' (*Il.*.14.88)

e. ἀνδρῶν δυσμενέων κατέδυ πόλιν εὐρυάγυιαν
'entered the broad-wayed city of enemy men' (*Od.* 4.246)

f. ἵκετο δ' ἐς Μαραθῶνα καὶ εὐρυάγυιαν Ἀθήνην
'reached Marathon and broad-wayed Athens' (*Od.*7.80)

g. ἠὲ διεπράθετο πτόλις ἀνδρῶν εὐρυάγυια
'whether the broad-wayed city of men was sacked...' (*Od.* 15.384)

h. σῆι δ' ἥλω βουλῆι Πριάμου πόλις εὐρυάγυια
'and the broad-wayed city of Priam was captured by your counsel' (*Od.* 22.230)

i. καλὸν ἄθυρμα λαβεῖν: χάνε δὲ χθὼν εὐρυάγυια
'...but the broad-wayed earth gaped open' (*Hy.Dem.* 2.16)

From this survey of the word in early Greek epic a few points emerge. Two forms of ἀγυιαί are old: the plural ἀγυιαί (9x of 11, in fixed formulas); and the compound εὐρυάγυια, whose formulaic fixity has just been shown. The compound must postdate the simplex; the expression εὐρύχοροι ἀγυιαί might have engendered εὐρυάγυια, as Christol (1979: 58n.4) suggests. The limited paradigm of the compound may betray this relatively late formulaic origin: there was insufficient time to extend the compound's range and declension.

A Greek-internal chronology may now be posited. We begin from an inherited plural of an obsolescent word for pathways, ἀγυιαί. Inherited as a plural because it is found basically confined to the plural in earliest texts; moreover, its oxytone accent is found only with plural formations. As was true of ὀργυιαί, no masculine/neuter paradigm *ἀγύς vel sim. is known. We may reconstruct PGk. **aguyái*; if the term 'pathways', ἀγυιαί, comes from a substantivized adjective, we may suppose that an **agús* at one point existed. From the simplex, a compound

was formed, εὐρυάγυια, possibly founded on εὐρύχοροι ἀγυιαί. In one line of the *Iliad* a singer tries out the singular, μέσην ἐς ἄγυιαν; in one line of the *Odyssey* a singer extends the case range to the dative singular, ἐν ἀγυιῆι (perhaps phrased on εἰν ἀγορῆι?). Twin pressures, then, effected the formation of a recessive singular: (1) from ἀγυιαί, there cannot be *ἀγυιά (only *ἀγυιᾶ / *ἀγυιῆ would do), hence ἄγυια; (2) based on the compound εὐρυάγυια, the formation of a singular ἄγυια is all but inevitable. If this Greek-internal history is correctly reconstructed, the diachronic accentual mobility is illusory: the plural ἀγυιαί belongs to an older layer of morphophonology (reflecting as it does *-*w*-*íh*$_2$); the singular ἄγυια would be a later backformation based on the singular and the compound.

I have been assuming PGk. **aguyá, *aguyái*. It is now time to confront the word's deeper etymology. In short, I am not aware of any account in print that has won assent. We can inflect a feminine to a *u*-stem adjective straightforwardly enough: **ag-u-yá* would be its Proto-Greek shape. The quandary is what verb to draw the adjective from. The most obvious contender would be the verb ἄγω, a derivation taken for granted already by grammarians in late antiquity.[49] In PIE terms this would mean **h$_2$g-w-íh$_2$* to the root **h$_2$eĝ-* 'drive'. Christol (1979: 69-71) objects to the semantics, though he objects mainly to the semantics of ἄγυια if taken from a perfect participle. Malzahn (2014: 168-9), wishing to keep the connection to the root **h$_2$eĝ-*, states that "one should best assume original instrumental/(factitive) possessive semantics", which she glosses as "what is/provides a means for leading/driving, providing with (the ability of) leading/driving". Although she posits this meaning for a **-us-* stem (differently conceived than our *u*-stem), insofar as her reading of the semantics is based on the suffix **-ih$_2$*, her gloss comports with the derivation I have given here. Given the etymological uncertainties surrounding this word, a definitive conclusion unsurprisingly eludes us. Regardless of the starting point, our internal Greek history of the word may stand.

2.3.1.3 Other Words in -υια?

These items are less secure etymologically, so offer feebler foundations on which to build. None of these words present evidence for oxytonesis, so are tangential to our discussion. However, in the context of stems in -υια, and in the interest of completeness, I give them brief notice here.

(34) αἴθυια, ornithonym for the 'shearwater', a diving bird (Hom.+)

(35) ἅρπυια 'harpy, snatcher' (Hom.+)

(36) Εἰλείθυια goddess of childbirth (Myc.+)

αἴθυια seems to refer to a bird of a reddish-brown coloration, which color could be viewed as 'bright' or 'burnt'. So the word may go with αἴθω, αἴθομαι 'kindle; burn, shine'. But as a bird of the Mediterranean fauna, the word may be of substratum origin (as Beekes 2010: s.v. αἴθω asserts).

For ἅρπυια, Malzahn (2014: 169) discusses (inconclusively) attempts to derive it from an IE source (especially Rix 1970, and de Lamberterie 1990: 724n.9). Beekes (2010: s.v. Ἅρπυια)

[49]For sources cf. *LfgrE* s.v. ἄγυια, ad Σχ c; quoted singly with translations by Christol 1979: 61-2.

rejects the ancient and modern connection to ἐρέπτομαι 'feed on', and finds "[i]t must be concluded that the name is a substrate element." Not all scholars would agree that "it must be concluded", but this word, too, may be of substrate origin.

Εἰλείθυια shows forth under various guises across the dialects (beginning from Myc. *e-re-u-ti-ja* thrice in KN Od 714-6, once KN Gg 705). Beekes (2010: s.v. Εἰλείθυια) claims, following earlier scholarship, that the name is Pre-Greek; Hawkins (2012: 146-8) attempts the most sustained effort to derive it from an IE source. Glossing the name "who comes (to help with the birth)" or "who makes the birth come", he considers plausible starting points either the verbal root ἐλευ- 'to come' or the stem *ελεύθειν 'be/make free'.

As far as I can see, these words do not add materially to my discussion: they neither support, nor detract from, my proposal. As they are all uncertain, I exclude them from further consideration.

2.3.2 Conclusions on Words in -αιαί, -υιαί

Greek inherited in a few relic items an oxytone accent, showing up as -ειαί, -αιαί, -υιαί. This accent was preserved in the feminine inflection of *u*-stem adjectives if, and apparently only if, the plural became isolated. Although θαμειαί and ταρφειαί look back to weakly or unattested masculine paradigms *θαμύς and *ταρφύς, by the time of our earliest literature the adjectives are frozen forms. Without a masculine/neuter base to re-anchor the accent to -εῖα, these items retain an archaic oxytonesis. The other oxytone items likewise are isolated from a masculine/neuter base in -έ(ϝ)-, i.e. Πλαταιαί, ὀργυιαί, ἀγυιαί. When, and if, a singular came into use, its accent could never be illegal *-αιά or *-υιά; only recessive Πλάταια, ὄργυια, ἄγυια are known.

The case of Πλαταιαί, Πλάταια, πλατεῖα is most illuminating. Beside the archaism Πλαταιαί and its offshoot Πλάταια, paradigmatic πλατεῖα manifests clearly what happens to reformed stems: the masculine/neuter πλατύς, πλατύ (oblique πλατ-έ(ϝ)-) motivates the remaking of the feminine πλατεῖα. The triplet Πλαταιαί, Πλάταια, πλατεῖα affords a precious window onto the history of *u*-stem inflection in Greek:

- Stage I: deep PGk., accented -**w-íh₂*, **-w-yéh₂s* (Πλαταιαί, Ved. *pr̥thi-v-ī́*, *pr̥thi-v-yā́s*)
- Stage II PGk.: feminine ablaut follows masc./neut. (θαμειαί, ταρφειαί)
- Stage III: Greek feminine accent follows masc./neut. (πλατεῖα)
- Stage IIIa: Backformed singulars are recessive (Πλάταια, ὄργυια, ἄγυια).

2.3.2.1 Excursus: Diachrony Forwards

Olander (2009: 71 with n.51) describes a noteworthy later history of the forms ὄργυια, ἄγυια: "the accentuation was regularised early in the history of Greek so that in late Attic we find desinential accentuation in the nominative singular". Olander cites as his authority for this statement Wheeler (1885: 111). This datum is intriguing: the otherwise exceptionless accentuation of first declension nouns in short alpha regularizes to an aberrant oxytone accent.

But the evidence for this exceptional claim, which Olander accepts without further interrogation, will not easily support the theory. Despite the statement that the desinential accent is found in "late Attic" (translating Wheeler's "im Spätattischen") the main sources for this accent do not appear to indicate unambiguously that the form belongs to "late Attic"; more problematically, no source clearly proves that the nominative singular is in fact oxytone.

In the main grammatical discussion of these forms– that cited by Wheeler, viz. [ps]-Arc.194.6 (p.219 Schmidt)– feminines ending in A are discussed. In the passage we are told that short alpha forms of the first declension are recessive, but in one interesting exception, when the final syllable "lengthens" (as pseudo-Arcadius understands the process), it becomes oxytone. Conversely when the final syllable shortens (again, as he understands the process) it becomes barytone. This is how Schmidt prints the discussion,

(37) Πᾶν θηλυκὸν εἰς Α λῆγον, ὀξυνόμενον μὲν ἢ περισπώμενον, ἐκτείνει αὐτὸ, οἷον· Ἀθηνᾶ πυρκαϊᾶ μνᾶ· διὸ καὶ τὰ ἀργυρᾶ καὶ ἀργυρᾶ ὁτὲ μὲν ἐκτείνεται ὀξυνόμενον παρ' Ἴωσι, ὁτὲ δὲ βαρύνεται καὶ συστέλλει αὐτό.
"All feminines ending in A, oxytone or perispomenon, lengthen it [the final syllable], e.g. Ἀθηνᾶ πυρκαϊᾶ μνᾶ. So too ἀργυρᾶ and ἀργυρᾶ: when it is lengthened, it is oxytone for the Ionians, but when it is contracted, it is barytone." (tr. JL)

The manuscripts give non-sensical ἀργυρᾶ καὶ ἀργυρᾶ which, by a plausible conjecture, represent ὀργυια, ἀγυια (curiously, ἀργυρᾶ is a kind of a mash-up of these two words). A parallel text clarifies that the words intended are indeed ὀργυια and ἀγυια (Choeroboscus,*GG* 4.1 p.369,14 Hilgard, discussed above). Now, Schmidt does print oxytones here, and he is followed by Lentz (*GG* 3.1 530), viz. ἀγυιά, ὀργυιά, lending weight to the "late Attic" oxytones.[50] That is, since ps.-Arcadius (called by Schmidt "pseudo-Herodian") was a late Attic author (2 CE), this may be the basis for the "late Attic" ascription of these forms.

Be that as it may, I am not convinced that this is the correct accent. To make an extraordinary claim demands extraordinary evidence, and only here would we find -υιά as a tolerable accent. The evidence outside these items is uniform: short alpha first declension is recessive. Two points of consideration condemn the oxytone accent as inauthentic; both points speak to the interpretation of these -υιά forms as standard -υια recessives. First, the passage itself seems to be stating not that these forms are oxytone, but that they are recessive. When the final syllable "lengthens," it becomes oxytone; conversely, when the final syllable "shortens," it becomes barytone. The discussion itself entails that the citation form be recessive; so I would offer as an emendation of the passage:

(38) διὸ καὶ τὸ ἄγυια καὶ ὄργυια, ὁτὲ μὲν ἐκτείνεται, ὀξυνόμενον παρ' Ἴωσι, ὁτὲ δὲ βαρύνεται καὶ συστέλλεται.
"So also ἄγυια and ὄργυια: when the final syllable lengthens, it is oxytone for the Ionians [as in ἀγυιαί], but when it is barytone, it is also shortened [as in ἄγυια]." (tr. JL)

[50] Schmidt's edition was presumably the basis for Wheeler's view of the nominal accent, though notice that Wheeler rightly picked up on the awkwardness of oxytone ἀγυιά, ὀργυιά here, querying the accent with "ἀγυιᾶ, ὀργυιᾶ?"

Printing διὸ καὶ τὸ ἀγυιά καὶ ὀργυιά κτλ. seems to make nonsense of the following statement.

Most damagingly, on philological grounds the passage should probably be dismissed entirely from further consideration. The passage is found only in the context of so-called Book 20 of ps-Arcadius, roundly condemned as an unauthorized accretion, representing a desire to fill out the grammarian's magnum opus with a twentieth book. Book 20 in its entirety will be excluded from the new edition by Roussou (forthcoming).[51] Notice further that the passage is transmitted in only one manuscript, Parisiensis Gr. 2102 ("C"), in the hand of Jacob Diassorinus, a manuscript Schmidt (1860: praefatio) justly named "liber vilissimus."

In conclusion, no clear evidence supports a development to oxytone short alpha stems in Ancient Greek. The examples of ἀγυιά and ὀργυιά (or, in Wheeler's more careful surmise, *ἀγυιᾶ, *ὀργυιᾶ) crack under philological scrutiny. We have only oxytone forms in -υιαί, and recessives in -υια.

2.4 Recessives: λάχεια, λίγεια, θάλεια

All previous approaches have struggled to explain the recessively accented adjectives. I will argue that these few adjectives have been detached from their respective paradigms in the nominative singular (not the plural), and have subsequently received default, recessive accentuation.

(39) λάχεια 'wooded, ὑλήεσσα' (esp. Hom.*Od.*9.116; also 10.509, no *λαχύς masc.), Confused with ἐλαχύς 'small,' see de Lamberterie (1990: 732) *contra LSJ, LfgrE*, etc.

(40) θάλεια 'abundant' (exclusively verse-final with δαῖς 'feast', *Il.*7.475; *Od.* 3.420, 8.76, 8.99; Hes. *Op.*742; H.Herm.4.480.) No *θαλύς.

(41) λίγεια 'sonorous, clear-sounding, shrill' (Hom. *Il., Od.*), fem. almost always with φόρμιγξ, beside obsolescent λιγύς.

In all three cases the feminine has arguably been detached from its paradigm. With λάχεια, the base paradigm *λαχύς, *λαχύ has disappeared, though scattered derivatives reveal its quondam existence, such as λάχνη 'wooly hair, rough'.[52] Likewise in the case of θάλεια, we find only the feminine, and this only in verse-final position modifying δαῖς 'feast'.[53] Again, various derivatives to the root are found, notably θαλίη 'richness, abundance' (*Il.*+), but the adjectival paradigm is deficient. λίγεια is admittedly more difficult, since we do find a masculine λιγύς in Homer and in later poetry. However, λιγύς is obsolescent, confined to poetry, in

[51]The preface to Roussou's edition should be consulted for a more nuanced discussion of Book 20, and the editor's grounds for its exclusion. I am grateful to Stephanie Roussou for discussion of her editorial decisions on this passage.

[52]De Lamberterie 1990: 732-42, §242-4 gives a full study of this word, building on his earlier article de Lamberterie (1975).

[53]We find: acc. δαῖτα θάλειαν, *Il.*7.475, *Od.*3.420, HHy.*Herm.*480; dat.sg. δαιτὶ θαλείηι *Od.*8.76, Hes.*Op.*742, and once distracted in hyperbaton, δαιτὶ… θαλείηι (*Od.*8.99).Thus words constitute a formula, but not a fixed one. De Lamberterie 1990: 641-6, §222 gives a full study of this word.

prose ousted by its replacement λιγυρός (*Il.+*). For de Lamberterie (1990: 645), λίγεια owes its accent to its morphological isolation: "λιγύς était en voie d'être évincé par son dérivé λιγυρός; la pression du système n'était donc plus assez forte pour imposer un accent -εῖα."[54] Allowing that λίγεια ceased to belong paradigmatically with λιγύς, all three adjectives have in common their lack of a masculine/neuter base form. This commonality, I propose, this lack of a paradigmatic base form, drives their recessive accent. But before I explain how these adjectives have undergone their accentual change, I will first assess the evidence for the recessive accent.

The evidence is complex, and all three adjectives are best considered together. Lentz prints all three items together in his reconstruction of Herodian's περὶ καθολικῆς προσωιδίας (Lentz 1867a *GG*.1. 249-50; cf. Dickey 2014: no.27), and probably the three do go together. But they are not found so united in any manuscript; Lentz joins the items via prose composition. In his epitome of Herodian, ps.-Arcadius mentions exceptional, recessive accentuation in the *u*-stem adjectives:[55]

(42) πλὴν τοῦ λίγεια καὶ ἐλάχεια ἀπὸ τοῦ λιγύς καὶ ἐλαχύς
'except for λίγεια and (ἐ)λάχεια which derive from λιγύς and (ἐ)λαχύς' (tr. JL)

Ps.-Arcadius does not cite θάλεια in the same breath as λίγεια and λάχεια. Lentz (1867a: *GG*.1.249-50) follows Lehrs (1837: 166ff.), inserting θάλεια into the text. Probably he is right to do so, since θάλεια should be ranged with λάχεια and λίγεια on morphological grounds. Whether these adjectives ever stood as a trinity in the text of Herodian (and if so, how θάλεια fell out of the text) may remain open to question.

2.4.1 Diachrony

Mechanisms on which we have earlier relied (§1.3.2.1) can help explain the recessive accent: loss of morphological transparency has led to default accentuation. That is, the adjective θαλεια lost its segmentability, no longer clearly composed of /thal-é(w)-(y)a/. Once set adrift from the paradigmatic base masc./neut. *θαλύ-/έ(ϝ)-, θαλεια lost its motivation for keeping up an accented suffix as reconstructed in *θαλεῖα (< **-éw-ya*). When the accent of the adjective was no longer determined by the morphology, the stem fell subject to the default accent imposed by the phonology. Loss of morphological transparency is a sufficient, but not a necessary cause for recalculating the accent; an imposed default accent occurs or fails to occur, depending on the frequency with which learners are exposed to a given item.[56] Thus, conjoining discussion of oxytones with the recessives, I posit that ossification in the plural or the singular determines whether the adjective preserves oxytonesis, or succumbs to the default,

[54]For fuller details see de Lamberterie (1990: 503-524, §180-186).

[55]Ps-Arcadius p.109 l.13 Schmidt, same text to be printed in Roussou (forthcoming). The passage printed below incorporates the emendation whereby the barytone λίγυς, ἐλάχυς readings of the manuscripts are emended to oxytone λιγύς, ἐλαχύς. Furthermore, I am treating ἐλάχεια as a confusion with ἐλαχύς, but still reflecting older λάχεια. This passage is missing from our other epitome to Herodian; I believe it ought to occur in the discussion ad Io.Al. *Praec. Ton.* §45 pp.35-6 (ed. Xenis).

[56]As Probert (2006b) demonstrated for Ancient Greek. Sandell 2015 builds on Probert's works, extending the discussion further with data from Vedic.

recessive accent. If feminine adjectives are detached from their paradigm and are frozen in the plural, the oxytone accent may be preserved: θαμειαί, ταρφειαί, Πλαταιαί, ὀργυιαί. But if detached from their paradigms and frozen in the singular, recessive accent takes over: θάλεια, λάχεια, λίγεια.

Other attempts to explain the recessive class prove unsatisfactory. "Paradigmatic" approaches mostly ignore the class entirely, nor is it easy to see how it would fit into the accentual classes: root-accented λίγεια, suffix-accented -εῖα, and ending-accented -ειαί cannot all contribute evidence for a single proto-paradigm, at least not in any standard model. Rix (1992) and Sihler (1995) ignore the class. One attempt to reconcile these accents within the paradigmatic approach – the "Leiden" variety thereof– has been made by van Beek (2013: 84-5). Van Beek assumes that Proto-Greek preserves reflexes of a PIE paradigm of *u*-stem adjectives with "proterodynamic" ablaut, the surface forms of which may be schematized **CéC-u-, CC-éw-* (I discuss this approach in §1.3.2.1). For him, Greek and Indo-Iranian have generalized zero-grade roots in most *u*-stem adjectives, preserving only suffixal ablaut. He reconstructs a paradigm for (e.g.) βραχύς 'short' as PGk. **mrékhu-s* nom.sg., *mr̥khéw-ey* dat.sg., etc. Building on this reconstruction, he interprets θάλεια, λίγεια, λάχεια as further evidence for a proterodynamic paradigm: "The preservation of an anomalous accentuation in Homeric θάλεια 'abundant', λίγεια 'sonorous', and λάχεια 'hairy, wooded', adjectives of which no corresponding masculine forms remain, shows that the fem. singular originally had root accent." Accordingly, he reconstructs for θάλεια a PIE paradigm (in the masculine) **d^{h}élh$_1$-u-, *d^{h}lh$_1$-éu-* which becomes PGk. **thélu, *thaléw-*, which then levels its root ablaut to the weak cases **thálu, *thaléw-*, and finally levels its accent also to the weak cases **thalú-, *thaléw-*. For feminine inflection, van Beek asserts that "its accentual peculiarities can only be explained if the Ns. **thálew-ya* was based on the masculine strong stem **thálu-* (or its earlier form **thélu-*)." The feminine paradigm he reconstructs for Proto-Greek (after leveling of root ablaut) is **thálu-ya, *thalew-yâs*; with a final leveling of suffix ablaut (to the masculine/neuter?), he ends with **thálew-ya, *thalew-yâs.*

It is to van Beek's credit that he confronts the forms at all and that he elaborates explicitly a diachronic pathway. I am not, however, convinced that his scenario is correct. His conclusion relies crucially on a number of unproven assumptions, for instance, that a surface accent implies a full grade and that a full-grade should once have borne the accent (as discussed above, §2.2.2). Furthermore, it surely exaggerates the case to claim that θάλεια "can *only* be explained if the Ns. **thálew-ya* was based on the masculine strong stem **thálu-*." The account I have proposed, above *can* explain the accent without referring to the masculine strong stem; the question to decide is which account explains the forms better. If the two accounts are weighed in the balance, the costs incurred by van Beek's account seem weightier: he requires a kaleidoscopic series of changes to transpire so that the *u*-stem adjectives can deliver his forms, changes that take place conveniently just before the attestation of Greek. Simply listing the analogical levelings gives one pause.[57] In the reconstruction I am proposing, there was an erstwhile *θαλεῖα which, having lost its *θαλύς, fell into the default pattern of accentuation for this class of nominals, and for Ancient Greek in general, viz. default, and by this declension resulted in θάλεια.

[57] Admittedly this criticism, that the analogical levelings are many and uncontrolled, touches on the far larger issue of explanatory power in analogy, a topic debated in theoretical linguistics; cf. e.g. the collection of papers in Blevins and Blevins (2009) for discussion. Still, for the record, this is not a good thing.

Finally, I note that de Lamberterie (1990: 645) attempts a non-paradigmatic approach.[58] He observes that the feminine forms have been cut off from their paradigms and have been subjected to the influence of another kind of accent (up to this point our two accounts agree); but he posits that personal names influence the adjectives ("ont subi l'influence de l'onomastique"). He musters in support that Θάλεια is a muse, Λίγεια a Siren, and *Λάχεια 'Woody' practically a proper name in the *Odyssey*. Be that as it may, to claim that the adjective's accent is analogical to the personal names is to put the cart before the horse. It is much likelier that personal names owe their accents to the adjectives than vice-versa. His proposal is exposed to the criticism of being *ad hoc* (rightly dismissed also by van Beek 2013: 84-5).

In fact, the personal names probably owe their accents to a process affecting Greek morphophonology in general, viz. loss of inherent accent leads to default accent. Personal names are composed of the same morphological stock as other nominals, so may be formed with inherently accented suffixes. If, however, those nominals come to be used as personal names, their accents may cease to be determined by the constituent parts. For example, Probert (2006b: 298-300) discusses the different accents of the adjective φαιδρός 'shining, bright' and PN Φαῖδρος (as well as other cases), and concludes:

> The adjective φαιδρός 'bright' has an inherently adjectival suffix -ρο-; the suffix is identifiable on both formal and functional grounds. The name Φαῖδρος, on the other hand, is not an adjective...Common adjectives or nouns used as personal names are therefore good candidates for 'demorphologization', and for the subsequent potential replacement of a non-recessive by a recessive accent, i.e. by the default accent for the language.

These cases of names in -εια submit to the same reasoning. Sometimes these personal names are discussed under "substantival accent retraction" but all are better viewed as demorphologized– and reaccented– stems, in light of Probert's findings.

2.5 Conclusion: A Revised History of Greek -εια, -εῖα, -ειαί, -υιαί

In this chapter I have offered a revised account for the history and prehistory of feminine inflection in the *u*-stem adjectives. The oxytone adjectives in -ειαί reflect archaic accents: θαμειαί and ταρφειαί retain archaic oxytonesis. In both adjectives the feminine form has been isolated from its masculine/neuter base paradigm and frozen in the plural with their ancient accent. With this first piece of argumentation established, I extended the analysis to other archaisms: Πλαταιαί knows the same history, an ancient oxytonesis preserved because it is a toponym, cut off from its paradigm. With Πλαταιαί I compared directly Ved. *pr̥thivī́*. Πλαταιαί further shows what happens to a form still connected to the paradigm: πλατεῖα evinces the expected regularized accent and ablaut grade in the suffix, based on the masculine/neuter paradigm πλατέ(ϝ)-.

The stems in -υιαί potentially furnish evidence for forms of even greater antiquity. ὀργυιαί reflects directly the zero-grade ablaut of the suffix and accent on the inflectional endings,

[58] And see his earlier paper on this topic, de Lamberterie (1975).

consonant with its expected Vedic counterpart *r̥jví**. The other items in the set were judged possible, but less certain, archaisms: ἀγυιαί may reflect a similar starting point, though its etymology is less secure; items like ἄρπυια may be of Proto-Greek (and PIE) inheritance, but also may emerge from the Pre-Greek substratum. I proposed a new account for the "mobility" of the accent in the cases of ἄγυια / ἀγυιαί, ὄργυια / ὀργυιαί, and Πλάταια / Πλαταιαί: diachronically the three items were inherited as plurals, accented as oxytones in the same way as θαμειαί, ταρφειαί; but when, and if, they came to form singulars, the singular conformed to accentuation of first declension nouns and adjectives in short alpha, viz. recessive accent. They could not be *ἀγυιά, *ὀργυιά, *Πλαταιά because oxytone short alpha stems are not a morphophonological class in Ancient Greek. Finally, I proposed a novel account of the three recessively accented adjectives in -εια in Homer: θάλεια, λάχεια, λίγεια. Like the oxytones, these adjectives have been detached from their masculine/neuter paradigms. These three differ from θαμειαί and ταρφειαί in one critical respect: they have been preserved in the singular, not the plural. Instead of being frozen in their older form (*θαλεῖα etc., even older *θαλειαί etc.), they became subject to default, recessive accent. Earlier accounts either ignore the recessively accented adjectives, or have held that they represent evidence for accentual mobility; I have tried to demonstrate that far from deep archaisms they originate in the shallowest layer of innovation.

Throughout my account I have built primarily on the work of de Lamberterie (1990); I have tried to offer numerous refinements to his account along the way especially in the case of the recessive stems in -εια. My revised history of this adjectival class can be schematized thus:

- Stage I: Ancient oxytonesis with zero-grade suffix: Πλαταιαί, ὀργυιαί = Ved. *pr̥thivī́, -vyā́s*, *r̥jví́*
- Stage II: Ancient oxytonesis, but with full-grade suffix: θαμειαί, ταρφειαί
- Stage III: masc./neut. and fem. align: m./n. πλατέ(ϝ)-, f. πλατεῖα
- Stage IIIa/IV: Demorphologized singulars: θάλεια, λάχεια, λίγεια

CHAPTER 3

On the Accent and Ablaut of Compound *s*-Stem Adjectives in Greek and Vedic

3.1 The Problem: Does Ved. *sumánās* = Gk. εὐμενής?

In Greek and in Vedic compound *s*-stem adjectives are created from neuter *s*-stem nouns, a derivational relationship attributable to the proto-language.[1] Structurally the compounds are identical to right-headed, determinative compounds, but semantically their focus lies outside the members of the compound (i.e. they are exocentric), basically glossable as "whose Y is X."[2] An example of the type is Gk. κλέ(ϝ)ος n. 'fame, report' → εὐ-κλεής, -έος (gen.sg.) 'whose fame is good, famous.' Correspondingly in Vedic *śrávas* n. 'fame' is the basis for the derived adjective *su-śrávas-* 'whose fame is good, famous.' When used as second compound member, the weak stem allomorph of the underlying substantive serves as the derivational base, to which inflection endings are added, so in this example PIE **-k̂lewes-* is the stem.

Morphological equations secure the formation's antiquity[3] but the accentual discrepancy between the languages troubles the equation. In Greek many *s*-stem adjectives assign a persistent accent to the suffix, such as εὐ-κλεής, -έος and this represents the productive type, though there also exists a subclass of recessively accented *s*-stem adjectives, e.g. κάταντες (nom./acc.sg.n.) 'downhill,' as well as a class of persistently paroxytone adjectives, those ending in -ώδης, -ώλης, -ήρης (e.g. δυσῶδες nom./acc.sg.n. 'foul'). On the Vedic side of the equation we find predominantly adjectives with the first member accented on the same syllable where the word has it in isolation; for instance, corresponding to the Greek compounds in -κλεής, the Rig-Vedic adjectives are *prá-śravas-* 'of advancing fame,' *dīrghá-śravas-* 'having long fame,' *dyumná-śravas-* 'of heaven-bright fame,' *vásu-śravas-* 'famed for goods.' Beside this major

[1] The material of this chapter represents a greatly expanded version of what I published as a proceedings article for the UCLA Indo-European Conference, Lundquist (2016a).

[2] Schindler (1986) discusses further the semantics of exocentric compounds in Greek and Indo-Iranian, taking on as well the derivational relationships between possessive structures and relational adjectives (cf. also his later, though unfinished, study, Schindler 1997). As further points of reference, Tribulato (2015: chh. 1-2) gives an up-to-date survey of compounding with special reference to Ancient Greek, while Lindner (2011-) surveys the history of research on compounds in Indo-European. I will assume a traditional classification of compounds into endo- and exocentric types here, though this schema requires qualifications. For instance, Scalise and Bisetto (2009) show that exocentricity is not a unitary concept, and that exocentric compounds may be subdivided by the types of exocentricity they express.

[3] For all practical purposes evidence for the *s*-stem adjectives is limited to Indo-Iranian and Greek, and accentual evidence limited to Vedic and Greek; Meissner (2006: 161-3) discusses possible traces of the formation elsewhere in Indo-European languages.

class we find a minor class with second member accented on the same syllable where the word has it in isolation; examples include *su-śrávas-* 'of good fame' and *pr̥thu-śrávas-* 'having wide fame.' The accentual discrepancy has been variously assessed and will provide the main topic of the present chapter.

In the *communis opinio* for the reconstruction of this class scholars see in the Greek type εὐμενής the most archaic accentual inheritance and argue that the other accentual subclasses should be treated as innovations. The foundational discussion of this class of adjectives as "hysterokinetic" (HK)[4] goes back to a highly influential paper on *s*-stem nouns by Jochem Schindler (1975b). He was brief in his remarks on the *s*-stem adjectives, since his main focus lay elsewhere, namely in the establishment of an internally reconstructed, pre-PIE ("voridg.") paradigm for the *s*-stem nouns. His formulation (Schindler 1975b: 263) runs as follows, "Hysterokinetisch flektieren vor allem... Bahuvrīhis von *s*-Stämmen, die aber – von unsicheren Fällen abgesehen– analogisch R(e) des Simplex eingeführt haben (Typus εὐκλεής von κλέος; uncomponierte Adjektiva sind sekundär)." In Schindler's formulation, "sekundär" refers to the fact that pairs like Gk. ψεῦδος 'lie' beside ψευδής 'lying, liar' do not seem to stand in a derivational relationship, since simplex adjectives like ψευδής all but certainly comes via compounds such as ἀ-ψευδής, φιλο-ψευδής etc. Although the simplex *s*-stem adjectives (and in particular the example ψεῦδος → ψευδής) are commonly invoked in support of internal derivation as a PIE process (see especially Widmer 2004: 65-6 as a proponent), at least the evidence from Greek is brittle. Meissner (2006: 12-3, 206-10) reviews in detail the Greek forms, concluding (p.210): "[w]hat is also clear is that none of the simple *s*-stem adjectives in Greek can be used to make a case for the existence of such formations in the parent language." Similar judgments may be found in e.g. Stüber (2002: 27) and Clackson (2007: 86), the latter author formulating the problem with clarity: "The derivational chain is therefore: *pseûdos* → *apseudḗs* → *pseudḗs* and the apparent derivation of this adjective through accent shift alone is a mirage."[5] We will return below to the simplex *s*-stem adjectives in Vedic.

On the grounds that εὐμενής reflects an old accentual type, and furthermore that at an internally reconstructed period surface accent and full-grades stood in a one-to-one relationship, a hysterokinetic *s*-stem adjective is reconstructed: pre-PIE ***-mn-és* (***-és-s*) nom.sg.m./f., ***-mn̥-s-és* gen.sg. These are the paradigmatic forms, including the doubled asterisks, as given by Stüber (2002: 214-6) in an important work devoted to the *s*-stem nouns and adjectives reconstructable for the proto-language. Within the paradigmatic model, a change of paradigmatic class will derive a new possessive word meaning "possessing the base X," so in this case "possessing the *s*-stem noun". Insofar as the HK *s*-stem adjectives are limited to compounds, the meaning of the possessives would be found in both the derived *s*-stem adjective and in the compound (so Widmer 2013). A long series of analogical actions would then underlie the canonical picture of *s*-stem adjectives in PIE, where full-grade root and suffix are the rule,

[4] For this term and an introduction to the paradigmatic classes see my chapter §1.3 with further references.

[5] This "mirage" was known to earlier scholars as well, see especially de Saussure (1879: 201). As a minor point of criticism regarding Clackson's notation, note that the use of the same arrow to represent two different relationships creates ambiguity. That is, the first relationship, that of *pseûdos* → *apseudḗs* is one created by productive, synchronic morphology, but the second relationship, that of *apseudḗs* → *pseudḗs*, is a diachronic relationship (back-formation), not a productive morphological rule. I thank David Goldstein for his help in clarifying this point.

and where the accent is not mobile, but persistent. Since the Greek oxytones are considered oldest, a further series of innovative changes would precede the Vedic evidence. Neither Vedic nor Greek (nor any other IE language) preserves intact a paradigm like the HK **-*mn-és* nom.sg.m./f., **-*mn̥-s-és* gen.sg. The evidence for this internal reconstruction is based on the Greek accent in the class of εὐμενής; some have seen corroboration in the zero-grade ablaut found in certain roots, such as Gk. αἰνοπαθής 'terribly suffering'. These zero-grades would then reflect the original ablaut reduction of root vocalism, caused by the accent not being on that syllable.[6]

In the present chapter I will dispute the *communis opinio* on the grounds that the evidential basis is insufficient for the reconstruction. My goals for this chapter are: (1) account for all the accentual subclasses of Greek *s*-stem adjectives; (2) account for all the accentual subclasses of Vedic *s*-stem adjectives; (3) posit the likeliest rules of accent assignment reconstructable for the proto-language, and trace their development into the daughter languages. I will argue that the Greek oxytones, being the productive accentual class of *s*-stem adjectives in Greek, represent an innovation, not an archaism. In general, productive categories often reflect innovations and in this case such a conclusion accords well with a significant innovation of *s*-stem adjectives in Greek, namely that the class had become deverbative already in prehistoric Greek (§3.3). The relic class of recessive adjectives agrees most closely with Vedic's first member accent, and I will propose that this equation is old and should be reconstructed for the protolanguage (§3.4). Although this chapter is in many ways removed chronologically from the Homeric evidence, by setting the background from which the Greek evidence derives, we may understand in a clearer light the morphology of Homeric Greek.

3.2 GREEK ACCENTUATION

While it is perfectly true that oxytone accentuation is one pattern for *s*-stem adjectives in Greek, and true moreover that this is the productive class (type εὐμενής), it is not true that this is the exclusive accentuation of *s*-stem adjectives. Beside the oxytone adjectives two further subclasses are found: (1) the recessively accented and (2) the persistently paroxytone.[7] In building on the ancient tradition I have found it necessary to introduce the distinction between recessively accented and persistently paroxytone words, even though this distinction was not drawn in antiquity, and is often ignored in modern scholarship.[8] It is important to introduce this distinction, for while these two classes coincide in accentuation in the nominative singular masculine/feminine, they diverge elsewhere in their paradigms. For instance, αὐθάδης 'self-willed' and δυσώδης 'foul' are both paroxytone, but αὔθαδες (nom./acc.sg.neut.) shows that the paradigm is in fact recessive, versus δυσῶδες, which is persistently paroxytone.

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[6]The phonological constraint that every non-high vowel without surface accent must be deleted would be operative at pre-PIE, as Schindler (1975b: 260-1) makes clear in his formulation: "... in einem früheren Stadium die Ablautstufen im Wort akzentabhängig waren. Der Status der o-Stufe und der Dehnstufen ist dabei oft unklar."

[7]I will use here the traditional terminology for Greek accentuation, for which Probert (2003) provides by far the best introduction; a succinct and up-to-date overview is given by Gunkel (2014).

[8]For discussion of the βαρύτονα and the extent to which it coincides with our "recessive" accent (not completely), see Probert (2015a: 939-41).

The underlying accentual properties of recessives like αὐθάδης differ from those of δυσώδης in ways we will explore below.

The non-oxytone classes have a relictal quality: they are attested from an early date (Hom.+), they are few in number, and they are not productive. It is a general property of exocentric compounds in Ancient Greek to be recessively accented (cf. Debrunner 1917: 77, §151), with which property the recessive class agrees. By way of comparison, it is a general property of exocentric compounds in Vedic to be accented on the first member (cf. section §3.4). The correspondence of recessive accent in a relic class in Greek to first member accent in Vedic speaks for treating this subclass of *s*-stem adjectives as our proper comparandum. Non-oxytone compounds with *s*-stem second members reflect an archaic accentuation, which must be explained with reference to an earlier stage of the language. Conversely, the productive class of oxytones, an exceptional accentuation for exocentric compounds in both Greek and Vedic, shows an innovation internal to Greek.

The most complete listing of all the forms in each subclass is that by Chandler (1881: 197-201). His list of forms is detailed and gives a fair idea of the complexity of the material, but Chandler's is a collection badly in need of revisions. I provide a list below of a number of recessively accented *s*-stem adjectives and hope to produce a comprehensive list myself in a future study. The main philological difficulties in preparing such a list are twofold: first, the grammatical sources transmit conflicting reports on which forms are genuinely recessive; and secondly, we find disagreements between the grammatical tradition and the manuscript transmission of the authors. As a case in point for the latter issue consider the adjectives in -ωρης. Chandler (1881: 199, §702n.4) observes that the grammatical tradition, as represented by Pseudo-Arcadius and Choeroboscus, prescribes barytone accent, but the manuscript tradition everywhere disagrees. Chandler poignantly asks: "it appears that our books in every instance contradict the rules of the grammarians:– who shall decide?"[9] Any list builds first and foremost on the ancient grammatical tradition, which means primarily our fragmentary witnesses to the text of Herodian (c.2 CE), principally the epitomes of ps.-Arcadius and Iohannes Alexandrinus (vel Philoponus) as well as the A Scholia to the *Iliad*. The Greek accents have been crucial to the reconstruction of this class, so it is worthwhile to dilate on the sources for accentuation here, especially given that the accentuation of at least some *s*-stem adjectives was disputed already in antiquity and remains disputed to this day.

The most complete picture of Herodian is presented in the much-referenced but seriously problematic edition by Lentz (1867b: 350, 418 on our adjectives). His edition/reconstruction drafted into service a number of works in an effort to provide a single, complete text of Herodian according to the editor's best divination. Lentz's Herodian must be used with the utmost caution: besides constantly conjoining various texts to forge his unified whole, he composed his own additions to the text, additions which can be discerned only by paying the closest attention to his *apparatus criticus* (unfortunately absent from the *TLG*). From Lentz one may gather what sources he drew on, so his fascinating, if gravely problematic edition, retains its usefulness; however, one gains a clearer picture by consulting Lentz's sources themselves whenever possible (effectively bypassing Lentz). I will follow this practice of bypassing in the

[9] One might hope he would! I have understood Chandler's "our books" to mean manuscripts, but he may in fact mean this only indirectly: he may mean here the critical editions he consulted, which should report faithfully the best manuscript transmission, and/or the text as restored by emendation and conjecture. As will now be clear, this problem needs to be addressed anew in another context.

following discussion, yet the sources are themselves not easy of access, even if critical work on Herodianic doctrine improves apace.[10]

Lentz may be bypassed by consulting directly Herodian's two principle witnesses, the epitomes to his Περὶ καθολικῆς προσωιδίας. The first witness is pseudo-Arcadius. Though transmitted under the name "Arcadius" (sometimes called pseudo-Herodian), this work is no longer thought to be written by Arcadius himself, hence the prefix "pseudo-". References to this epitome I give by the standard edition, that of Schmidt (1860), though an important new critical edition, set to supersede that of Schmidt, is currently in preparation by Roussou (forthcoming). The editor has generously allowed me to see in advance the relevant sections of her new edition and I have marked places of divergence between the editors below. Our second main source is Iohannes Alexandrinus (vel Philoponus), whose work may now be consulted in the edition by Xenis (2015), to whose work I have keyed references (a work helpfully reviewed by Probert 2015b). Further, there is important material from Herodian's lost Περὶ Ἰλιακῆς προσωιδίας preserved in the scholia to the *Iliad*. One coming at these texts from the world of easily accessible Classical authors should note that for almost none of this material do we have translations and commentaries; it is only in the last few years that truly critical editions have even been produced.[11]

Let us note lastly that I will be taking Homer as my starting point for the earliest attested stage of Greek *s*-stem adjectives, and using the results from Homer onwards to reconstruct a Proto-Greek and finally PIE forebear. Homer is not, however, the earliest stage of attested Ancient Greek: that honor belongs to Mycenaean. The problem of Mycenaean, from our standpoint, is that accent is not directly attested, so in reconstructing accentual prehistory, its value is severely circumscribed. Yet it should be noted that Mycenaean does attest many *s*-stem nouns and adjectives (conveniently collected and assessed by Luján 2014), and these items do shed light on greater patterns of denominal and deverbal derivation in the *s*-stem adjectives. I will try to cite a Mycenaean form wherever directly applicable, while registering my own sadness that accents just never got written down.

3.2.1 GREEK ACCENTUATION: Recessively Accented s-Stem Adjectives

The first class to discuss is the recessively accented adjectives. I provide below a list of recessively accented second compound members of *s*-stem adjectives; my list is based on all the items treated as recessive by Chandler (1881: 197-201), necessarily updating the philological estimation of a number of forms. I consider the following list to be tentative: since compiling it, I have realized that Chandler's list needs to be re-examined from the ground up (i.e. by checking the ancient evidence for every item to ensure that it is in fact recessive). I plan to return to this list with an exhaustive philological inquiry in the future. I give below the second compound member and the date when that member is attested, followed by an example of a form showing the recessive accent. Not all lexical items have inflectional forms which demon-

[10] For work on Herodian it remains critical to consult Dyck 1993 and Dickey 2007: 75ff., 80f., and now Dickey 2014.

[11] On the accentuation of the *s*-stem adjectives see further the following helpful handbook treatments, which are the fullest accounts I have been able to find: Göttling (1835: 322-8), Kühner and Blass (1890: 485-6, 544-5), Probert (2003: 61-2; 67, §124; 100, §199-200).

strate they are indeed recessive, i.e. forms with a final short vowel, allowing the scope of the recessive accent to be seen (nom./acc.sg.n. or voc.sg.); I have given such forms with a following asterisk. For instance, in the scholia to the *Iliad* (*Sch.Il.*A (Hdn) ad N.63b Erbse), we read that compounds in -κητης (derived from κῆτος) are among those that are barytone; the scholiast cites μεγακήτης as an example. However, we have only the authority of the grammarian to go on: theoretically a word like μεγακήτης could be persistently accented too, absent corroborating forms to show the scope of the recessive accent. Accordingly, I will give the form as μεγάκητες* 'with mighty maw, capacious'.

I will provide the main ancient source for each item's status as recessive. I will provide the most explicit statement (so far as I am aware), but will not give all the parallel sources from antiquity. Again, I reserve that exhaustive discussion for the future. So if an item is discussed most fully in the scholia to the *Iliad*, then repeated more or less verbatim in an epitome to Herodian, I give only the treatment found in the scholia. I will often refer to Xenis's edition of Iohannes Alexandrinus, since he provides thorough documentation of other sources.[12]

Finally, notice that a further type of recessive *s*-stem adjective is found: basically all personal names based on *s*-stem adjectives are recessive. Examples include Σώκρατες (voc.sg.), Δημόσθενες (voc.sg.), etc. The slight complication in personal names stems from those names terminating in -κλέης, which keep up their contracted form through declension, so nom.sg. Περικλῆς, dat.sg. Περικλεῖ, etc. Thus names in -κλεῆς are not properly recessive, but resemble rather the persistently paroxytone class (§3.2.2). Omitting all personal names, a list of recessively accented forms follows:[13]

I. -ᾱδης (A.+) : αὔθᾱδες 'self-willed, stubborn' but not other compounds in -ᾱδης; probably related ultimately to the verb ἀδεῖν (ἀνδάνω 'I please'), via contraction of αὐτο-αδης (?)71-2]macedo2011compostos.[14] Grammatical source: Io.Al. *Praecepta*, p.50, §56 Xenis.

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[12]Two items placed in the list by Chandler do not belong: (1), -μηδης (Hom.+), usually treated as recessive (cf. e.g. Chandler 1881: 199 n.6), but now Pontani (2008) argues persuasively for oxytone accent, referencing a scholion attributed to Herodian in the *Odyssey*. (2)-δηνης should also be excluded, since some adjectives built with this suffix are in fact oxytone, while the recessively accented items are uncertain. Buck and Petersen list three adjectives: ἀδηνής 'without malice prepense'; δυσδηνής 'with poor counsel'; πολυδήνης 'much-counselling'. ἀδηνής is oxytone in Hesychius (s.v., 1099 Latte (1966)) and is conjectured in Sem.*fr*.7.53 (West); πολυδήνης is given as paroxytone in Hesychius: πολυδήνεα · πολύβουλον (2844 Hansen) ; δυσδηνής seems limited to the grammatical tradition, where it is oxytone (Chandler 1881: 200, §705n.7), cf. Choer.*Can.* p.167 l.29 (Hilgard). Thus -δηνης appears as oxytone only in one of the two relevant entries of Hesychius. Given the notorious lack of fidelity in Hesychius's accents, I exclude -δηνης from the list of recessive *s*-stem adjectives. As a minor addendum, adjectives in -δηνης may be attested already in Mycenaean texts, if *te-de-ne-o* (TH Ft 211.1, 218.2, 200.2) is correctly read as the gen.sg. /thesdēnehos/, composed of θεσ- + -δηνης (cf. Luján 2014: 60-1).

[13]The fullest source for which adjectives are recessive remains Chandler (1881: 197-201), though his account should be read with the caveats expressed above. Much of the ancient evidence for this class is collected by Lentz (1867b: 350, 418), basing his text on Iohannes Alexandrinus, for whom see now the edition by Xenis 2015: 50, §56. Xenis registers sources and parallel discussions in his band of testimonia on p.50 *ad* 12-18.

[14]I do not, however, find Macedo's explanation of the accent convincing. Macedo (2011: 72) suggests that influence of θυμήρης should be considered ("uma possível influência de θυμήρης"). But surely θυμήρης would have influenced θυμηδής if anything! As I will suggest below, influence from other

II. -αληθης (A.+) : φιλάληθες ‘loving the truth’ and μισαλήθης ‘hating truth’, but not all compounds in -αληθης. Grammatical source: Io.Al. *Praecepta*, p.123 Xenis.

III. -αναγκης : only as a neuter ἐπάναγκες (Hdt.+), adv. ‘compulsorily’: Source: apparently manuscript transmission alone, coupled with the rule that adverbs often have recessive accent (see just above, ἄληθες)

IV. -αντης (Class.+): κάταντες ‘downhill’ and other adjectives in -αντης. Sources: Ps-Arc. 135.20 Schmidt; Choer. *Can.* 394.3 Hilgard.

V. -αρκης (Hom.+) : αὔταρκες ‘self-sufficient’ but not other compounds in -αρκης. Source: Io.Al. *Praecepta*, p.50 §56 Xenis.

VI. -αρκης : ποδάρκης ‘defending with the foot’ (Hom.+) to ἀρκέω. Sources: West (1998b: ad A.121) cites Hdn.i.80.15 (Lentz), who in turns refers us to the *Ep.Hom.*, now edited by Dyck (1983).[15]

VII. -ετης (Hom.+): τρίετες ‘three-year old’ and other compounds in -ετης (recessive in Homer and Attic, becomes oxytone in the *koiné*; Probert 2003: 100, §199). Sources: Cf. Io.Al. *Praecepta*, p.123 (register, ad 10) Xenis

VIII. -ηθης (Hes. *Th.*230+): κακόηθες ‘ill-disposed’ and other compounds in -ηθης. Source: *Sch. Il.*A ad N.63b (Hrd.) (Erbse).

IX. -ηκης (Hom.+): τανύηκες ‘sharp-edged’ and other compounds in -ηκης. Source: *Sch. Il.*A ad Π.768 (Hrd.) (Erbse).

X. -κητης (Hom.+) : μεγάκητες* ‘with mighty maw, capacious’ and other compounds in -κητης. *Sch. Il.*A ad N.63b (Hrd.) (Erbse)

XI. -μεγα(/ε)θης (Hdt.+): εὐμέγεθες ‘of goodly size’ and other compounds in -μεγα(/ε)θης. Source: *Sch. Il.*A ad Π.768 (Hrd.) (Erbse).

XII. -μηκης (Hom.+): πρόμηκες ‘prolonged, protruding’ and other compounds in -μηκης. Source: *Sch. Il.*A ad N.63b (Hrd.) (Erbse).[16]

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compounds in αὐτο- provides a more plausible source, for instance αὐτάρκης and αὐτοέτης are both recessive.

[15] And indeed, it is the entry in the *Ep.Hom.* p.157, ad 121[2] (Dyck) that we seek, though curiously the *Epimerismi* at least restricts the recessive accent to the vocative singular: ὤφειλε δὲ εἶναι ποδαρκής ὀξύτονον, ὡς ἐπίθετον, ἀλλὰ σεσημείωται τὰ παρὰ τὸ ἀντῶ καὶ ἀρκῶ καὶ αὐθάδης. γίνεται δὲ ἡ κλητικὴ πόδαρκες, ὡς αὔταρκες, καὶ τὸ οὐδέτερον ποδαρκές ὀξύτονον, τῶν ἄλλων ὁμοφωνούντων τῇι κλητικῇι τοῦ ἀρσενικοῦ. “ποδαρκής ought to be oxytone, as an adjective, but those items derived from ἀντῶ and ἀρκῶ, as well as αὐθάδης, are exceptions. For the vocative becomes πόδαρκες, just like αὔταρκες, and the neuter is oxytone ποδαρκές, while the others of the same form agree with the vocative of the masculine.” (tr. JL)

[16] Notice that at least in the scholia ad Σ.519b, Erbse prints εὐμῆκες, though accompanied by the note “εὔμηκες Bk. [Bekker], fort. bene.” I take εὔμηκες to be correct, being in line with the discussion ad N.63b of περιμήκεος, forms that tend towards barytone accent (βαρύνεσθαι θέλει). The scholion ad Σ.519b is in error, then, to give εὐμῆκες.

XIII. -πηχης (Hdt. 9.83, +): πενταπήχης ‘five cubits long’ and other compounds in -πηχης. Source: Ps-Arc. 29.18 (Schmidt).

XIV. -στελεχης (Theophr. *Hist.Plant.*1.3.1): ἀστελέχης ‘without a main stalk’. Source: Choer. *Can.* 167.19 Hilgard, and the *Ep.Hom.* s.v. εὐτείχεα (p.154.9 Dyck). (gives the example εὐστελέχης)

XV. -τηρης (Aesch.) : δεμνιοτήρης (2x, in Aesch.*Ag.*53,1449) ‘keeping one to one’s bed’ (Chandler also lists νυκτοτήρης which I have not yet been able to find). Source: manuscript transmission for the play

XVI. -φλεγεθης ‘flaming’: πυριφλεγέθης ‘flaming with fire’ (Hipp. et Corpus Hipp., *De mulierum affectibus* 52.3).

XVII. -ωκης : ποδώκης ‘swiftfooted’ (Hom.+). Source: Manuscript transmission.[17]

It is a general property of exocentric compounds in Ancient Greek to be recessively accented (cf. Debrunner 1917: 77, §151). In terms of their morphology, compounds with no morphological head (exocentrics) revert to a phonological accent, the default, recessive accent of the language. Conversely, right-oriented endocentric compounds are accented on the second member, which is the morphological head of the compound (e.g. βου-πλήξ ‘ox-goad’). In terms of their morphology, right-headed compounds accent the head, morphology and phonology working in unison. This observation about the morphophonology of compounds suffices as an explanation at first pass; in the interest of the main argument at hand, I forego a full exposition on how the morphophonology would work in various theoretical frameworks. For the moment, I sketch out my assumptions on the phonology-morphology interface, though I hope to produce a more satisfying theoretical explanation at a later date.

I am assuming a model of accentuation in compounding that includes morphophonological levels, so is set in the manner of Lexical Phonology, though it can easily be recast in other theoretical frameworks. What is crucial for me is that the compound stem must be submitted to the phonology without an accent at some stage in the synchronic derivation. Thus it is possible that the underlying stem had an accent from the morphology, which was subsequently deleted (e.g. /aut- + árkhes-/ → /au.tar.khe.s/ → *aútarkhes*), or that the stem had no underlying accent from the morphology (e.g. /aut + arkhes/ → *aútarkhes*). A further possibility is that both members of the compound had an underlying accent and there is a leftmost resolution (exactly as in Vedic, as we will see below). Unlike Vedic, however, if this accent would surface outside the trisyllabic window imposed by the Law of Limitation, the stem is deaccented. Once deaccented, the stem is submitted to the phonology without accent. Notice that in each case we will end up with a surface recessive paradigm, though the theoretical decisions one

[17] West (2001a: 132-3) claims that ποδώκης represents a particularly late reinvention of the older *u*-stem adjective + acc.sg. (of respect), πόδ᾽ ὠκέ(ϝ)ος ‘swift as to the foot’ (to use the gen.sg. as an example), which comes to be backformed as an *s*-stem compound ποδώκεος. This new nom.sg. ποδώκης then became available for occasional use, interacting with the formulaic system built around ποδάρκης. Presumably ποδώκης would owe its accent to ποδάρκης, though West does not address this point. Meissner (2006: 183-4), however, doubts the plausibility of this scenario: among other points he raises, he asks pertinently why, given the entrenched nom.sg. ὠκύς, should ὠκέος have been reinterpreted as a genitive singular?

makes at this point will have repercussions elsewhere in the system. Adjudicating between these proposals will take us too far afield at the moment, since we need only assert that the stem of the compound at some point is accented recessively.[18]

It is arguably the case, then, that in exocentric compounds, where there is by definition no head accent to win out, the deaccented stem is sent to the phonology, and recessive accent is assigned instead. To make clearer at what levels I assume accentuation to occur, I provide a table with a representative derivation below with syllabification marked, using the recessive stem αὐτάρκης, αὔταρκες as an exemplum.[19]

	UNDERLYING	STEM LEVEL	SURFACE
nom.sg.m./f.	/aut + arkēs /	*au.tár.kē.s* (rec. accent)	*autárkēs* αὐτάρκης
gen.pl.	/aut + arke(s) + ōn/	*au.tár.ke.ō.n* (?)	*autárkōn* αὐτάρκων
nom./acc.sg.neut.	/aut + arkes/	*aú.tar.ke.s*	*aútarkes* αὔταρκες

In assessing the diachrony of exocentric compounds in Greek we need to ask whether the rule or set of rules delivering recessive accent is likelier to be an innovation or reflect old inheritance. If we can make the assumption that the recessive accent corresponds to the Vedic first-member accent in its *bahuvrīhi*s, *mutatis mutandis*, then the recessive class forms the proper comparandum between the two branches. In terms of productivity, the recessive class is confined and non-productive, natural for a linguistic relic, while the productive oxytone *s*-stem adjectives expand within the history of Greek. Finally, the recessive class is attested from an early date and, as we will see below, a few older recessive adjectives actually cross over to the oxytones during the course of historical Greek; adjectives in -ετης 'X year's old' are a case in point. Taken together, these facts suggest that the recessive class predates the oxytone.[20]

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[18]Probert (2010: 14-9) reviews previous approaches to the accentuation of these compounds, primarily the accounts of Noyer (1997) and of Kiparsky 2003, and compares how well the predictions made by each account are borne out against the ancient evidence (none of the previous accounts can capture all of the data). Her paper may be profitably consulted for fuller discussion of the problems and possible solutions. The larger issue has been the impact of evidence from Greek accentuation on the question of whether phonological theory operates best with derivations (in the manner of Lexical Phonology; Kiparsky 1983, 1984), constraints (as in Optimality Theory; Prince and Smolensky 2004), or some interaction of both (as in Stratal Optimality Theory; Kiparsky 2015b). Clearly, such a debate ranges over far more material than the evidence at hand, and its consequences easily exceed the limits of the present work.

[19]The main point of dispute in this table concerns the genitive plural, though it brings a number of related problems in tow. Firstly, the philological evidence is highly complicated on whether all speakers, and/or how many speakers, assigned a recessive accent to the finished word "after contraction" versus how many assigned accent "before contraction". In this case an accent assigned "after contraction" would result in αὐτάρκων, one assigned "before contraction", so to the input syllable structure (*-é(s).ōn*) would result in -ῶν. A third option would be that Greek phonology could license an intermediate level of representation which violates the Law of Limitation, i.e. an intermediate *au.tár.ke.ō.n* → *autárkōn*, αὐτάρκων. See the detailed discussion of these possibilities by Probert (2010) and Probert (2011: 280-2).

[20]Some older authorities saw in the recessive class an archaic agreement with Vedic; for instance, Wackernagel (1914a: 45) wrote: "Diese Barytonese ist eine Altertümlichkeit." He was followed by Kuryłowicz (1958: 145-6) who made the case with characteristic vigor: "Confrontée avec les composés v. in-

We need to address the problem of comparing the first member accent of Vedic and the recessive accent of Greek, a problem I evaded under the Latin term *mutatis mutandis*. The problem in the equation centers on how a morphologically governed accent, as in the case of Vedic, corresponds to a phonologically governed accent, as in the case of Greek. In what sense are the two accents "in correspondence"? For instance, as we will see in greater detail below, a Vedic compound such as *prá-śravas-* 'of advancing fame' arguably owes its accent to a resolution of the underlying accents of the two members: /prá + śrávas-/ → *prá-śravas-*. With disyllabic first members, the principles of Vedic accentuation become even clearer: *bāhú-ojas-* 'strong-armed', from underlying /bāhú + ójas-/, shows that the first member accent depends on the underlying representation of the first member. Had a general principle assigned accent on the leftmost syllable of the stem, we would see ^{X}*bā́hu-ojas-*. By contrast, in Ancient Greek, precisely such a phonological principle determines the surface accent. Due to this difference, the accentual comparison falsely equates the two languages.

Acknowledging that our equation is imperfect, we may still find that the two patterns of accentuation are in correspondence, provided that the Greek accent is understood as corresponding indirectly. In Greek, exocentric compounds are subject to the all-important Law of Limitation, a law Probert (2006b: 86) rightly deemed "the most important innovation of Greek" (as regards accentual innovations). However, the origin and development of the Law of Limitation in compounds remains largely unexplored, as do the ways in which this development problematizes our equation between Greek and Vedic. As far as I am aware, Wheeler (1885: 39-55) elaborates on this point most extensively.[21] Wheeler devoted a chapter to the problem, informatively entitled: "Wenn der historische Accent weiter zurück als die Stelle des Secundäraccentes lag, dann erhielt das Wort den Secundäraccent." He does mention the bahuvrīhis (pp.42-5), but is forced to leave unresolved the problem of the *s*-stem adjectives in particular (see his lengthy fn. ad pp.45-6 n.1).

Clearly, Wheeler's findings are not conclusive; the whole question deserves a comprehensive treatment. I will outline just a few diachronic scenarios, in the hope that I can provide a comprehensive treatment of this topic later. Let us note for now the following possibilities. Exocentric compounds in Ancient Greek may submit to a first stage of the phonology two members each with underlying accents intact. In the case of a recessive *s*-stem adjective, an item like Προκλέης (as a personal name) would be composed of underlying /pró + kléēs /. If we can further assume that the Vedic style accent resolution continues to operate in Greek, such that the first member accent wins out at an intermediate stage of derivation, then we expect

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diens en -as-, la formation grecque, avec son oxytonèse qui est de règle, a, à n'en point douter, subi un déplacement de l'accent, qui a jadis dû frapper le premier membre." Of more recent commentators, Meier-Brügger (1992: 39) states his agreement with Wackernagel. Later in life Wackernagel (in Wackernagel and Debrunner 1930: 280) changed his mind, claiming that the Greek oxytones were old. He had two grounds on which he made this claim: the oxytone rule is more regular than the vacillations he saw in the Vedic accent; both languages show reflexes of steady *e*-grade of the suffix. We will return to (and disagree with) Wackernagel's later position below (§3.4).

[21] On the origin of the Law of Limitation operating on verbs, Probert (2012) offers one recent proposal. She argues that the law took effect since many items fortuitously bore accents within the trisyllabic window. In a sense, such items, obedient to the law *avant la lettre*, afforded learners ample material to infer a phonological restriction. Unfortunately for my purposes, Probert does not treat the Law of Limitation in compounds. Regardless of how precisely the law came into power, it constitutes an innovation of Proto-Greek date, one whose effect on compounds has not been satisfactorily studied.

an intermediate representation /prók.le.ee.s/. The morphology would now submit underlying /prók.le.ēs/ to the phonology, where the stem crucially violates the (nearly) indomitable constraint of the Law of Limitation. The phonology would then impose a surface accent that does not violate this accentual window, i.e. *prok.lé.ēs* (Προκλέης). If true, Ancient Greek will have inherited a rule directly equatable with that of Vedic, but the Law of Limitation masks its effects. In another scenario, that proposed by Kiparsky (2003), we also end up with a recessively accented stem, but we get there by an alternative means. Exocentric compounds begin with underlying accents at the stem level, but in the derivational morphology lose their accents– they are "deaccented"– at an intermediate stage of representation. The phonological accent, i.e. the recessive accent, then applies to the word-level syllable structure. We end at the same point in both accounts, but the means by which we arrive there differ, and the path we take will have consequences elsewhere in our analyses.[22] The problem remains outstanding.

One further point of more general methodological relevance emerges from these considerations. In analyzing accentual correspondences between Greek and Vedic, the effect of the recessive accent entails that two cognate words may show accent on the "same" syllable in both languages, but for completely different reasons. When this occurs, the accentual correspondence is no more than a mirage. For instance, the 3pl.pres.act. φέρουσι 'they bear' does not truly correspond with Ved. *bháranti*, even thought the two words are cognate and the surface accent falls on the same syllable. The difference splitting the two lies beneath the surface: Gk. φέρουσι shows the results of the recessive accent assigned by the phonology, while Ved. *bháranti* shows an accent assigned by the morphology. Consider another example: Gk.φράτηρ 'clansman', Ved. *bhrā́tā* 'brother', Lat. *frāter*, Eng. *brother*. In all four cognate words the accent falls on the first syllable, but the initial accents of Latin (fixed accent falls on the first syllable of basically all disyllabic words) and of English (fixed accent on the first syllable) are irrelevant for comparative purposes. It is the Vedic and Greek evidence that carries weight, since accent is assigned by the morphology (contrastive with e.g. Gk. πατήρ 'father' and Ved. *pitár-*). In any case, it is mistaken to use surface agreements in the position of the accent without considering first each accentual system by itself, with all its innovations. Contrast my position here with that held by Meier-Brügger (2010: 285), who is hardly alone in his view: "Viele gr.-ved. Vergleichspaare zeigen volle Übereinstimmung der Wortakzentstellen... gr. (dor.) φέροντι 'sie tragen' = Ved. *bhráranti*, gr. ἔφερον 'sie trugen' = Ved. *ábharan*." As Calvert Watkins remarked, in a statement that has since become famous as one of the dicta known as "Watkins's Law": "you've got to know what to compare" (Watkins 1976: 249).

Let us return to our assessment of the *s*-stem adjectives. If the key to innovative oxytone accent lies in the innovation of deverbal derivation, as will be argued below (§ refoxytonesstemadjectives), the recessive class becomes understandable as those *s*-stem adjectives that failed to make the leap to oxytonesis. In turn, their failure may be due to their second member being unconnected to a primary verb. Herodian appears to have drawn a very similar distinction when he considered barytone *s*-stem compounds to be derived from nouns (...παρ' ὄνομά εἰσιν οὐ παρὰ ῥῆμα), while the oxytones he derived from verbs (παρὰ ῥήματα), though he restricts his claim to those members having -η in the penultimate syllable.[23].

[22]See Probert (2010) for extensive discussion (though we do not find a conclusion to this question).

[23]The relevant doctrine is reflected in two sources, ps.-Arc.29.1-13 (Schmidt) and *Sch.Il.*A (Erbse) ad

(43) ...τὰ γὰρ εἰς ης σύνθετα, παρ' οὐδέτερα γενόμενα τὰ εἰς ος, τῶι η παραληγόμενα βαρύνεσθαι θέλει, ὥσπερ ἔχει παρὰ τὸ κῆτος τὸ "μεγακήτης" (Θ 222 al.), ἦθος κακοήθης. διὸ τὰ "λαθικηδής" (Χ 83), "οἰνοπληθής" (ο 406) ὀξυνόμενα παρὰ ῥήματά φαμεν συνθεῖσθαι, τὸ κήδω καὶ τὸ πλήθω.
'(περιμήκεος is accented just like Διομήδεος), because the compounds ending in -ης derived from neuter nouns ending in -ος with η in the penult tend to be barytone, as is the case with μεγακήτης from τὸ κῆτος, or from ἦθος, κακοήθης. And this is why we say that the oxytones like λαθικηδής, οἰνοπληθής are compounds derived from verbs, namely κήδω and πλήθω.' (tr. JL).[24]

Items like -αντης, -ετης, -ηθης, -ηκης, -κητης, -μεγαθες, etc. are all strong candidates for second members that cannot be connected to primary verbs. However, certain items are more debatable. For instance, αὐθάδης and αὐτάρκης could be related to verbs, and especially the latter item likely links to the verbal stem ἀρκέω (Tribulato 2015: 318-9).[25]

3.2.1.1 Conclusions on Recessively Accented s-Stem Adjectives

For proponents of the hysterokinetic reconstruction the recessive class must reflect an innovation of Greek, the first member accent of Vedic an innovation there. Stüber (2002: 51) maintains such a position. She finds that the recessive class often contains a long vowel in the root and, because there appears to be a phonological conditioning environment, recessive accent likely represents an innovation. Connecting the long vowel in the stem to the recessive accent has the authority of the antique grammarians behind it. Nevertheless, I am not convinced it is right. It is unclear what phonological principle drives the coordination of a long vowel in the root and the recessive accent, since this is not an environment where we see other rules of accent retraction operate. Indeed, Wackernagel (1914a: 45-6) invokes the same phonological explanation to argue the opposite position, viz. the archaism ("das Alte") is preserved in personal names and in certain adjectives with long vowels, but he too founders on an explanation: "Warum größere Lautfülle des Hintergliedes auf Oxytonese hinwirkte, ist vorläufig unklar." More significantly, a score of counterexamples exists in both directions: first, there are oxytone long-vowel roots (Stüber mentions -γηθής, -θηλής, to name only two), which must be declared later formations after the rule had runs its course, although there is no independent evidence for this assumption. Second, and conversely, there are recessives with a short vowel, such as -αντης, -αρκης, -ετης. Another set of forms, those with a disyl-

N.63b

[24] I am grateful to Michael Haslam for help in interpreting this passage. Stephanie Roussou (editor of the forthcoming edition of Pseudo-Arcadius, Roussou forthcoming) calls my attention to the fact that the rule at 29.3-8 Schmidt does not account for the examples at 29.13, which may be derived from nominals: εὐγενής, ἀγενής, εὐμενής, and εὐτειχής, the last mentioned item she prints against Schmidt's εὐτυχής. Thus, it is not perfectly clear that Herodian had clearly formulated this theory in his own mind. Yet it may be significant that the examples in -γενής etc. could be *felt* to be deverbal (to γενέσθαι, etc.) even if they were originally derived from the *s*-stem nominal seen in γένος (the last example εὐτυχής/εὐτειχής notwithstanding, especially if Roussou correctly prints εὐτειχής).

[25] It may be relevant that both compounds have a first member αὐτός (so too e.g. αὐτοέτες 'in the same year' (Hom.), adj. αὐτοέτης [Thphr.+]) , though I cannot pursue this suggestion any further here.

labic stem, also eludes the long-vowel rule, e.g. compounds in -μεγαθης, -στελεχης, though admittedly, already in antiquity, the disyllabic stems were sometimes enfolded in the same rule as the long-vowel stems (cf. *Sch.Il.*A ad 16.57c Erbse). Problematically for drawing distinctions within the non-oxytone classes, Stüber collapses the categories of the truly recessive (αὔταρκες) and the persistently paroxytone (-ῶδες, -ῶλες, -ῆρες).

Stüber is very likely right that at least some members of this class reflect innovations. In particular, those items found solely or predominantly as adverbs are likely candidates. In these cases the accusative singular neuter could be used adverbially, i.e. it could be used syntactically in a way that coerced an adverbial interpretation without any further morphological marking. In terms of derivational morphology, conversion, the category-changing derivation from adjective to adverb, may produce a deaccented stem, whereupon default, recessive accentuation takes over. We have other instances of the same process inducing the same accentual result: e.g. χάριεν 'gracefully' beside χαρίεν 'graceful' (nom./acc.sg.neut.).[26] But it is unlikely that all cases of recessively accented adjectives should be understood this way, since most of the items in the list are attested solely or overwhelmingly as adjectives.

3.2.1.2 Excursus: -ετης, a Difficult Case

A difficult case is -ετης 'having year(s)'. Both adverbial and adjectival use are attested from an early date,[27] and, though starting from different sources, a number of scholars have taken these compounds in -ετης to be backformed *s*-stem adjectives to older adverbs in **-wetes-*. The adverbial examples occur already in Mycenaean Greek (*za-we-te*, cf. alphabetic σῆτες, τῆτες 'this year'); by the time of our earliest accented texts (Hom.+) many compounds in -ετης are clearly adjectives. Stüber (2002: 51) begins from the well-attested adverbial forms, and adjectives treated as adverbs, such as ἄληθες 'truly' or χάριεν 'gracefully', certainly occur. However, the extension to all compounds in -ετης seems unsupported by the evidence, since many of the items are attested primarily as adjectives.[28]

Meissner (2006: 205-6) also argues for an original adverb, which then becomes a fully inflected adjective. But his starting point differs: for him, **-wetes-* reflects not the nominative/accusative singular, but an endingless locative singular to an *s*-stem adjective **-wetes-*. In his scenario, the locative singular was then interpreted as a nominative/accusative singular, to which a paradigm was backformed. This scenario is possible but seems overly complicated: we need to have an *s*-stem adjective **-wetēs*, which makes an endingless loc.sg. **-wetes*, an en-

[26] Further discussion of the morphophonology may be found in Steriade (1988: 273-5) and Kiparsky (2003: 103-5); on the sources from antiquity see the testimonia to Io.Al. *Praecepta Tonica* Xenis (2015: pp.122-4), the editor offering a very similar explanation for the conversion of adjectives to adverbs: "...accusativi sunt singulares neutrius generis in adverbialem syntaxin translati", 'the accusative singulars of the neuter gender are converted to adverbial syntax' (tr. JL).

[27] citet[730]buckindex lists in three columns the many compounds in -ετης, of which most are compound adjectives, predictably formed by a numeral + -ετης. To Buck's list we may now add in the examples from Mycenean Greek, i.e. those in *-we-te*, of which Vine (2009) provides a full discussion.

[28] As Vine (2009: 209n.13) in no uncertain terms criticized: "the idea that such forms [viz. recessively accented adjectives in -ετης] could have been influenced by the affective accent-retraction of a few adverbs like ἄληθες 'oh, really' (ironical) (vs. ἀληθής 'true'), whence back-formed adjectives τριέτης etc., is wholly unconvincing."

tity not easily squared chronologically with Myc. *we-te-i-we-te-i* /wetehi wetehi/ 'every year'. This locative singular is used adverbially, while presumably the rest of the paradigm falls away. Then, this form is treated as the nominative/accusative singular of a neuter stem– we are back where we began! The motivation for this convoluted history is that Meissner needs to explain the recessive accent and for him, following the aforementioned "long-vowel rule", **-wetes-* would be an exception. Meissner's prehistoric steps seem unnecessary:[29] the recessive class was not divided phonologically, according to vowel length of the stem, but divided morphologically, according to deverbal vs. denominal derivation. The compounds in -ετης are then denominal compounds; lacking a connection to a primary verb, compounds in -ετης retain the inherited recessive accent.

On the origin of these compounds in -ετης, Vine (2009) offers a radically new proposal. He sees in **-wetes-* not a PIE *s*-stem adjective, but the genitive singular of a root noun PIE **wet-* 'year'. Hittite, in fact, directly attests such a root noun as *wett-/witt-* 'year', while Greek indirectly attests the root noun in the compound Gk. πέρυσι 'last year' < **per-ut(i)* (cf. also Ved. *parút* 'last year'). According to Vine's proposal, the rise of *s*-stem adjectives in -ετης may be attributed to backformation from an adverbial **-wetes* 'during the year' (genitive of time within), though he commences from a different point than that of Meissner. Vine's diachronic starting point may ultimately underlie the PIE adjectives in **-wetes-*; for our immediate purposes, I do not see how its origin as either a root noun or an *s*-stem noun will bear directly on the question of Greek accentuation. By the time of Proto-Greek at the latest, the adjectives were clearly considered denominal to (ϝ)έτος, and their non-oxytone accent may be explained with reference to their denominal status: without a primary verb to connect to, the adjectives could not make the leap to the oxytone class.

An interesting datum concerning adjectives in -ετης emerges from the later history of Greek adjectives, and lends further support to my claim that oxytonesis is an innovation. Having argued that the recessive accent is old, the oxytone younger, I predict that in some cases older recessively accented *s*-stem adjectives yield to the growing and productive class of oxytone *s*-stem adjectives. I am aware of one case where this positively occurs: in adjectives ending in -ετης. This change happens before our eyes, since the old recessive accent yields to oxytonesis in the age between Attic and the *koiné*(Probert 2003: 100, §199).[30] This change is exactly what we expect of a relic class surrendering to its productive counterpart. However, I concede that possibly a more circuitous diachronic route should be envisaged: the *koiné*, being composed not only of Attic but also Ionic influence, may reflect an older, Ionic change to the productive class, not a lineal descent from Attic. That is, Proto-Ionic Greek (as the likeliest source) had recessive accent for adjectives in -ετης, but has prehistorically innovated to oxytone accent; the recessive accent of Attic Greek would then retain the older situation. In a sense my main point in this paragraph could stand, though it would admittedly be somewhat

[29] See also additional points of criticism by Vine (2009: 210).

[30] The key passage from the grammarians is Choer.*Can.*167.34 (Hilgard), who explicitly contrasts his practice (παρ' ἡμῖν μὲν...) with that of the Athenians (παρὰ δὲ τοῖς Ἀθηναίοις): ...διετής τριετής ἑξαετής. Ταῦτα δέ, φημὶ τὰ παρὰ τὸ ἔτος, παρ' ἡμῖν μὲν ὀξύνονται κατὰ τὸν προειρημένον κανόνα, παρὰ δὲ τοῖς Ἀθηναίοις βαρύνονται· οἱ γὰρ Ἀθηναῖοι διέτης τριέτης ἑξαέτης λέγουσι βαρυτόνως "διετής τριετής ἑξαετής: for these I affirm are those derived from τὸ ἔτος. For us they are oxytone, according to the aforementioned rule, but for the Athenians they are barytone: for the Athenians treat as barytone διέτης τριέτης ἑξαέτης." (tr. JL)

blunted: either way, the oxytone accent is an innovation. However, if the *koiné* reflects the Ionic accent, no longer would we have a clear diachronic change from recessive to oxytone in historical Greek (opposed to a reconstructed, prehistoric change).

3.2.2 GREEK ACCENTUATION: Persistently Paroxytone s-Stem Adjectives

The persistently paroxytone adjectives like δυσῶδες 'foul' (nom./acc.sg.neut.) are the next class to be discussed. This class has considerably fewer members, and is more constrained: it is made up of three (doubtfully a few more) *s*-stem adjectives, all of which have become adjectival suffixes in their own right. The main sources for the ancient evidence are collected by Lentz (1867b: 350), whose passage derives from our witnesses to Herodian. These herodianic sources include Ps-Arcadius Schmidt on -ώδης (27.8, 135.8), -ώλης (29.1-2, 135.11), and -ήρης (26.15, 27.23), together with *Sch. Il.*A ad Γ.316a (Erbse, and cf. *ad* I 336). The corresponding passages in Io.Al. *Praecepta* are §§54-6 in Xenis 2015: pp.49-50.[31]

I. -ώδης (Hom.+) to ὄδωδα 'I smell sweet' (or 'stink'): e.g. εὐῶδες, 'fragrant'

II. -ώλης (A.+) to ὄλλυμι 'I destroy', pfct. ὄλωλα: e.g. πανῶλες 'utterly destroyed'

III. -ήρης (Myc.+)[32] to ἀραρίσκω 'I join, fit together': e.g. ξιφῆρες 'fitted with a sword'

An account of δυσῶδες and its ilk must apply different means from those used above for recessively accented items such as αὔταρκες. Between δυσῶδες and αὔταρκες, we have two different accentual outputs, so we must have two different inputs. The analyses I invoked for the recessive adjectives took the process of exocentric compounding to be one in which any accents associated with the compounding members were deleted by a stem-level deaccentuation, whereupon a default recessive accent was assigned. Applying such an analysis to the material of the persistently paroxytone class gets the wrong result:[33]

	UNDERLYING	STEM LEVEL	SURFACE
nom.sg.m./f.	/aut + arkēs /	*au.tár.kē.s* (rec. accent)	*autárkēs* αὐτάρκης
nom.sg.m./f.	/dus + ōdēs/	*du.sṓ.dē.s* (rec. accent)	*dusṓdēs* δυσώδης
nom./acc.sg.neut.	/aut + arkes/	*aú.tar.ke.s*	*aútarkes* αὔταρκες
nom./acc.sg.neut.	/dus + ōdes/	^{X}*dú.sō.de.s*	^{X}*dúsōdes*, δύσωδες

[31]Chandler (1881: 197-201) includes here at least three items I omit as too uncertain: -ώης in ἀμφῶες, Theoc.*Id.*1.28 and repeated in grammatical literature; ποδῶκες based apparently only on the manuscript evidence of Aesch.*Sept.* 623 (neut., modifying ὄμμα); and adjectives in -ωρης, on which Chandler (1881: 199, §702n.4) observes that although the grammatical tradition (as represented by Ps-Arcadius and Choeroboscus) prescribes barytone accent, the "books" (critical editions, I believe) everywhere disagree.

[32]Myc. *ka-ka re-a* HAS 12 (KN R 1815 + fr.) very likely represents the nom./acc.neut.pl. /khalkāreha/, 'bronze-fitted', assuming its orthography– it is written as two words– is interpretable as a compound, a pattern that can be paralleled (Luján 2014: 55).

[33]Probert (2010: 17-8) critiques the models of Noyer (1997) and Kiparsky (2003) on just this point, since both authors wrongly predict a recessive accent for these compounds.

A promising solution sees in δυσῶδες a different input, since we need it to emerge from the stem level marked for accentuation on -ῶδες. Arguably we have evidence for an inherently accented (dominant) morpheme in -ώδης, -ώλης, -ήρης. In the case of e.g. -ώδης we would see in the underlying representation /-ṓdes/ and this accentual feature remains dominant through each phonological cycle. There is a historical justification for setting aside just these few persistently paroxytone forms for special, lexically specified accent: all have become suffixes in their own right. On becoming suffixes they are detached from the compositional *s*-stem adjectives and have frozen an older accent. And here too we should bring into discussion -φρων, since it shares the same accentual features as the *s*-stem adjectives -ώδης, -ώλης, -ήρης and arguably for exactly the same reasons. For -ώδης, -ήρης (ἀρ-) and -ώλης, treatment as a compound which has become a suffix is straightforward and the suffixes were analyzed as simplex, derived formations by the ancient grammarians,[34] as well as modern. Buck and Petersen (1948: 698) and Chantraine (1933: 429-32) for instance outline the grand fortune of the new adjectival suffix -ώδης which clearly no longer means 'scented' but comes to signify 'like, -ish', and already Debrunner (1917: 97-8, §195; see too §155) had provided the excellent example from *Il.* 13.53 of Hector λυσσώδης. In context it must mean 'wolfish, wolflike'– the alternative gloss, keeping to the etymological sense, would be 'wolf-stinky,' which must be wrong.[35] Probert (2003: 62) suggests the following accentual history for these suffixes: "It is likely that -φρων, -ήρης, -ώλης and -ώδης, although originally the second members of compounds, had come to be regarded simply as suffixes; hence adjectives with these terminations do not follow the normal rule for compound adjectives in ´-ων and ´-ης, gen.sg. ´-ους, but are accented as if they were non-compound forms."

The suffixes -ώδης, -ώλης, -ήρης (and -φρων) have frozen an older accent, but how old is it? Persistently paroxytone compounds such as those ending in -ώδης, neut. -ῶδες, make up the most exceptional class, since they cannot be generated by productive rules of *s*-stem accent nor by default recessive accent. They represent frozen relics of at least some antiquity, and we may gain a better grasp of their prehistory by considering relative chronologies. Insofar as they reflect the non-oxytone pattern, as seen also in the recessives, paroxytone accent could predate the oxytone innovation; insofar as they reflect the Law of Limitation, they must postdate that law. This line of reasoning allows us at least a relative chronology, which I schematize into stages below (using transponated forms):[36]

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[34]Regarding the ancient testimony, cf. Io.Al. *Tonica Praecepta* §56 (Xenis 2015: p.50) ...καὶ τὰ διὰ τοῦ -ηρης πάντα καὶ τὰ διᾶ τοῦ -ωλης ἁπλᾶ ἐστι καὶ οὐ σύνθετα, ὅθεν οὐκ ἀναβιβάζει τὸν τόνον "and all those ending in -ηρης and -ωλης are simplicia and not compounds, whence they do not have retraction of the accent" (tr. JL). Notice that here -ωλης is Lentz' conjecture, accepted by Xenis, for -ωδες in the AV mss.

[35]At least in one other place Hector's wolfish behavior comes to the fore: Teucros describes how he cannot take Hector down with arrows, him a κύνα λυσσητῆρα 'wolf hound' (*Il.*8.299). The details of this suffix's destiny have been explored further in a Rezensionsaufsatz by Leukart (1974).

[36]I am making no claims about the chronology of other sound changes in relation to the accentual properties specified here, and the forms transponated are given for convenience. Two problems I elide over here: to what age was the underlying accent reflected by κάτα (its accent in anastrophe) still an underlying accent? And more importantly, although -ώδης, -ώλης, and -ήρης are universally taken to be denominal to *s*-stem adjectives with compositional lengthening, so deriving from lost neuter *s*-stem nouns **ódos, *ólos* (though cf. Lat. *odor, -ōris* m.), and **áros*, as Wackernagel (1889) proposed, it arouses suspicion that in no case does the *s*-stem noun remain. Furthermore, we have already seen

- Stage I, PGk. pre-recessive: */káta + antes-s/ → **káta-antēs*, */lúčč-ōdes-s/ → **lúčč-ōdēs*
- Stage II, PGk. with Law of Limitation: */káta + antes-s/ → **katántēs*, */lúčč-ōdes-s/ → *lučč-ṓdēs* (freezes)
- Stage III, early Greek: /kata + antes-s, -antes/ → κατάντης, κάταντες, /luss-ṓdes-s, -ṓdes/ → λυσσώδης, -ῶδες

3.2.2.1 GREEK ACCENTUATION: Oxytones

If the recessive class reflects an archaism in its agreement with the first member accent of Vedic, the oxytones in -ής, -ές must represent an innovation. Other authors have also diagnosed oxytonesis as innovatory; see Tucker (1990: 62) and more emphatically Meissner (2006: 200): "Rather than regarding it [sc. Greek oxytonesis] as the sole relic demonstrating the putative hysterokinetic character of the class, it seems that it is an innovation." I agree with Meissner on this point, and wish to extend the argument further. Partially following Meissner's proposal, I argue that the key to the accentual innovation lies in the major innovation that takes place in the derivational morphology of *s*-stem compounds: they become deverbative. Although the *s*-stem adjectives are universally, and rightly, reconstructed as denominal to neuter *s*-stem nouns in PIE, we see a different picture when we turn to the early Greek evidence.

From our earliest records on, and surely enacted already by some stage of Proto-Greek, *s*-stem adjectives have become a *deverbal* category. Mycenaean offers intriguing, if not exactly conclusive, evidence for the scene in the second millennium. Luján (2014: 55) surveys the *s*-stem nouns and adjectives of Mycenaean, recording a few items strongly suggesting that deverbal derivation was licensed already by this point. For instance, we find adjectives terminating in *-e-ke* /–ekhēs/, e.g. nom.sg.f. *po-ro-e-ke* /prohekhēs/ (cf. προέχω), where a neuter substantive **ἔχος* is lacking, derivation from the verb ἔχω (Myc. *hekhō*) all but certain. Another likely deverbal second member is nom.sg.f. *po-ro-su-re* /pōlosurēs/ 'drawn' (cf. σύρω 'I draw') by colts (cf. πῶλος)'. Deverbative derivation appears to be alive in the second millennium at least in Mycenaean Greek, whence first millennium dialects including Homeric Greek inherit the derivational means. If a source within deverbative derivation can be identified as also the source for the oxytone accent, then the two innovative features of this class will stand united. I propose that such a source is available.[37]

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that in the prehistory of Greek we are not compelled to assume a neuter noun lies behind every *s*-stem adjective. Therefore, we might wonder if -ώδης is rather to be connected to the perfect ὄδωδα, -ώλης to ὄλωλα, and -ήρης to ἄρηρα. Suggestive evidence comes from other pairings of *s*-stem adjectives with vocalism apparently allied to the perfect (a possibility also entertained by Meissner 2006: 190-1): -θηλής to τέθηλα 'I grow, thrive', -γηθής to γέγηθα 'I am cheery', εὐπηγής to πέπηγα 'I fix, thrust in'. I have not, however, worked out the details of this suggestion, so leave it as a possibility, which I hope to return to at a later date.

[37] Meissner (2006: 201) makes a similar proposal to account for the oxytone innovation, and refers also to Alain Blanc's 1987 thesis (non vidi). Kuryłowicz (1958: 145-6), likewise treating the oxytone accent of *s*-stem adjectives as an innovation, seeks to align the oxytone accent with the synthetic compounds like ψυχοπομός 'soul-conductor'. Such compounds may have acted as additional support for the oxytone *s*-stem adjectives, which move increasingly through the history of Greek towards

By the time of Homer it is possible to derive new *s*-stem adjectives from verbal stems without an intervening neuter noun. For example, Hom. δισθανής 'twice-dead' (*Od.*12.22) is deverbal from the aorist stem ἔθανε 'died,' there is no noun [X]θάνος- nor reason to suspect there ever was. Not all verbal roots were eligible to become *s*-stem adjectives. The category developed especially around intransitive verbal roots and often took as its derivational base the intransitive aorist in -η, for instance ἡμι-δαής 'half-burnt' to the aorist ἐδάην 'burnt' (and not to the neuter noun δάος 'torch') or ἀ-αγής 'unbroken' to the aorist ἐάγην 'broken.'[38] Thus, the *s*-stem adjectives in Greek are made up of two derivational sources historically: (1) neuter nouns (μένος → -μενής); and (2) verbal roots. The verbal roots divide into two sources: intransitive aorists, especially those in -η like ἐμάνη 'he went mad' (cf. e.g. γυναι-μανής 'woman-mad'); and the "Tucker statives" with finite verbal forms in -έω, -ησ-. Tucker (1990: 27-72, esp. 57-67) is able to identify a number of cases in early Greek where we find the pairing of a verb in -ησ- (often without an attested present) and a compound adjective in -ής (often without an attested simplex *s*-stem noun). Some of her examples include the following items, all drawn from Homer unless otherwise noted:

Verb	*s*-stem noun	*s*-stem adjective
ἀλγήσας	τὸ ἄλγος	θυμαλγής 'heart-grieving'
ἀνθῆσαι	τὸ ἄνθος	εὐανθής 'rich in flowers, downy'
γήθησε	τὸ γῆθος (Plut.)	πολυγηθής 'much cheering'
θάρσησε	τὸ θάρσος	πολυθαρσής 'with great confidence'
πενθῆσαι	τὸ πένθος	νηπενθής 'without pain'

The verbal stems in -η- and -ησ-[39] became associated with the adjectival suffix -ης before our earliest historical records, though it is hard to say how long before. We may make the assumption that at any earlier period, before Ancient Greek generalized recessive accent to nearly all finite verbs, these verbal classes had accent on the suffix. Non-finite forms of the verb actually preserve oxytone accent; we find, for instance, participles like χαρείς, χαρέντος etc. to ἐχάρη 'he rejoiced', beside numerous *s*-stem adjectives in -χαρής. This is an exceptional accentuation in the recessively accented world of the Greek verb (so too Kim 2002: 70-1, 76). This exceptional oxytonesis suggests ἐχάρη looks back to older **khar-ḗ-t* and that the suffix PGk. **-ē-* was an inherently accented suffix. Notice too that zero-grade of the root in this formation, e.g. ἐδάη, ἐχάρη, etc., further suggests oxytone accent. If the oxytone accent characteristic of the verbal suffix PGk. **-ḗ(s)-* was imported from the verbal base to the deverbative adjectives in **-ēs*, we have a ready source for their accentual properties. Under this proposal, learners of Proto-Greek treated the /-ḗs-/ of a verbal stem like /alg-ḗs-/ 'grieving' and of the

verbal governing compounds (Tribulato 2015: 327-35), but seems unlikely for the earliest period, when the compounds are overwhelmingly intransitive.

[38] That the *s*-stem adjectives had become deverbative in the prehistory of Greek has been known since the 19th century, cf. especially Parmentier (1889: 54). We will discuss this general development to deverbal derivation further below, §3.3.4.

[39] These verbal stems reflect an admixture of denominal stems and statives in **-eh₁(s)-*. Watkins (1971: 64) first proposed a connection of the statives in **-eh₁-* and **-eh₁s-* to "Caland" morphology, including *s*-stem nouns; his proposal has been developed by a number of scholars in recent years, esp. Nussbaum (1976: 50-6), Jasanoff (2003), Rau (2009: 135, 146-60), and now Bozzone (2016).

s-stem adjective /-alg-ḗs-/ as the same morpheme (underlyingly /-ḗs-/, which becomes short [-e(s)-] in inflection outside the nom. sg.). One advantage of this reconstruction is that it aligns the clear derivational change (the class becomes deverbative) with an accentual change (the class becomes oxytone).

Oxytones represent by far the most expansive class in Greek; new *s*-stem adjectives are consistently assigned oxytone accent. The suffix of oxytone *s*-stem adjectives is more precisely characterized as a persistently accented suffix, since the class's defining accentual feature is not that the accent surfaces at the right edge of the stem, but that the suffix -ές- is accented, the accent remaining on this syllable throughout its declension. Thus we get acc.sg. -έα and in dialects with contraction (such as Attic) -έα > -ῆ, and so on through the paradigm. One strong argument that the suffix is endowed with the property of inherent accent, viz. /-és-/,[40] is that the paradigm shows persistent accent "before contraction" throughout inflection. That is, paradigmatic forms -ής, gen.sg. -έος, acc.sg. -έα and not [x]-εά/-ή or the like suggest that the accent is assigned at a phonological level prior to contraction. Had accent applied "after contraction" we would expect forms like acc.sg. [x]εὐγενή, such as occur in the 2[nd] declension duals like κακώ 'two evil ones'. Accent "before contraction" may be, and has been, understood to reflect the placement of an accent at a level of derivation earlier than the postlexical accent. Kiparsky (2003: 16) observes that a number of derived words are accented based on the *input* syllable structure (i.e. "before contraction"), including "a class of compounds that retain the inherent accent of the second member", in reference to the *s*-stem adjectives under discussion here.

3.2.3 Conclusions on Greek Accent

Let us summarize conclusions on the Greek evidence for accent in the *s*-stem adjectives. In Proto-Greek there were two accentual classes of *s*-stem adjectives: (1) inherited denominals with first member accent, precisely as in Vedic, a type ultimately reflected as the relic classes of non-oxytones (recessives, persistently paroxytone); and (2) deverbals with an accented suffix, reflected in the type -μανής. In the prehistory and early history of Greek the *s*-stem adjectives become increasingly related to verbs. Besides the *s*-stem adjectives that must derive from verbs (e.g. those in -θανής), older denominals like -γενής, originally derived from nouns (γένος), presumably come to be understood as deriving from a verb (γενέσθαι). Once understood as deverbal, the adjectives are accorded deverbal accent in -ής. By the age of historical Greek these two classes have all but completely merged, deverbal accent having won out almost everywhere. In one case, the adjectives in -ετης, we could even indicate one item that transfers from relic recessive to novel oxytone in the course of recorded history. Recall that the oxytone accentuation of the *s*-stem adjectives is peculiar within exocentric compounds in Greek, and that the recessive class in Greek agrees with the accentuation of corresponding compounds in Vedic; both oddities make sense once the oxytones in Greek are taken as an innovation.

[40] I will abstract away from the complication of whether the underlying stem form is / -es-/ with an -*s*-, and to what period we may think of the suffix with underlying /s/, or / e / from older */ es /. The issue is immaterial to the point at hand.

3.3 GREEK ABLAUT: αἰνοπαθής, an Archaism or an Innovation?

Although accentual data plays a leading role in the reconstruction of hysterokinesis for the *s*-stem adjectives, according to some authorities additional evidence from Greek ablaut also speaks in its favor. Weiss (2011: 258-9) states this view clearly: "The zero-grade of the root is preserved in Gk. αἰνοπαθής 'terribly suffering' < *-*pn̥t*^{h}*-ēs* vs. the proterokinetic simplex with full-grade root πένθος 'suffering'."[41] I have not been able to trace back the original proposal for this reconstruction in the "paradigmatic" framework,[42] nor is it universally accepted even by scholars working within this framework. Schindler (1975b) in his celebrated and foundational paper does not adduce this ablaut evidence, nor does Widmer (2004) in his more recent work on "internal derivation". In the most detailed treatment to date of the *s*-stem nominals in PIE, Stüber (2002: 46-7) does mention the form, and does appear to support the view that αἰνοπαθής is somehow an archaism, though she does not use the term "internal derivation":

> Wie das bereits erwähnten Beispiel πάθος, -παθής zeigt, ist das Hinterglied manchmal früher belegt als das Neutrum. Die formale Umgestaltung hat also wohl etwas mit der Umdeutung zum verbalen Rektionskompositum zu tun. *αἰνοπαθής wurde nicht mehr als Possessivkompositum* "schreckliches Leid habend" aufgefasst, sondern als Rektionskompositum "Schreckliches erleidend", daher wurde das Hinterglied auch formal an den Verbalstamm ἔπαθον angeglichen. Erst sekundär wurde dazu das im Ionisch-Attischen belegte Neutrum πάθος rückgebildet [ref. to Tucker 1990:65]" [my italicizing, JL].

It would appear from the wording of this passage (which I confess I find ambiguous) that Stüber considers αἰνοπαθής to in fact reflect an ancient bahuvrīhi ("nicht mehr als Possessivkompositum") that came to be understood as a verbal governing compound. Only once it was reinterpreted was the compound formally levelled to the aorist stem. That is, if I understand the passage correctly, Stüber assumes an archaic *αἰνοπενθής 'having terrible suffering', which was reinterpreted as a verbal governing compound *αἰνοπενθής 'suffering terribly', and then the semantic reinterpretation compelled a formal renovation, based on the verbal stem ἔπαθον, delivering αἰνοπαθής.

In this section I will argue against the diachronic analyses of αἰνοπαθής that treat the form as archaism, whether as one born directly out of pre-PIE antiquity (i.e. as an archaism of hysterokinetic inflection), or as a formal renewal thereof (as in Stüber's proposal). I will also argue

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[41] Although Weiss gives the form as *-*pn̥t*^{h}*-ēs*, this reconstruction is of course not a PIE (and certainly not a pre-PIE!) reconstruction. His reconstruction is presumably a placeholder for the actual etymology of the word, which may be either **k*^{w}*end*^{h}- 'suffer, endure', as in Lith. *kenčiù*, OIr. *céss(a)im* (supported by e.g. Rix 2001), or likelier **b*^{h}*end*^{h}- 'bind', as recent commentators have thought (cf. Beekes 2010: s.v. πάσχω with reff.). Assuming the latter etymology, we can trivially rewrite Weiss's paradigm as *-*b*^{h}*n̥d*^{h}*-és*, *-*b*^{h}*n̥d*^{h}*-s-és*.

[42] There are, to be sure, earlier intimations of αἰνοπαθής as an archaism. Schmidt (1889: 147), for one, takes the ablaut of -παθής to be directly induced by the accent, though he understands the basis as an agent noun *παθής.

against the synchronic analysis given by the authoritative *LfgrE* (s.v. 320, entry by Fr.Sch.),[43] where the compound is analyzed as a bahuvrīhi in the style of Sanskrit grammarians, 'whose Y is X', glossed in "German" as "wessen πένθος αἰνόν ist, von verderbenbringendem Leid erfüllt." Against these approaches I will provide further arguments and fuller discussion for the deverbal derivation of αἰνοπαθής, specifically from the aorist stem παθεῖν. I will show that in diachronic terms, far from exhibiting an archaism, the compound is likelier a late, Homeric– in fact, Odyssean– innovation. Against *LfgrE* I will show that the compound in context does not mean 'whose πένθος is αἰνόν', but rather should be understood as a synthetic compound 'terribly suffering'. Once viewed in this light, αἰνοπαθής more clearly reflects its formulaic antecedents, which, I will propose, may be seen in the phraseology surrounding the *Iliad*'s thematic SUFFER WOES (ἄλγεα / πήματα παθ-). The compound αἰνοπαθής is composed of this verbal material. The compound is permitted into the hexameter, against the older compounds in –πενθής, the exclusive form in the *Iliad*, because the process of deverbal derivation had already taken root. Thus a poet could try a hapax deverbal derivation in -παθής because the pattern of deverbal derivation was taking hold, a trend well on display in the post-Homeric compounds, which abound in –παθής, –πενθής becoming a moribund archaism in recession from the language.

Risch (1974: 81-2) precedes me in arguing that αἰνοπαθής is deverbal, and Risch himself is preceded (and followed) by others scholars. I single out his account for its lucidity and its authority in the realm of Homeric word-formation. First he observes that deverbal derivation in the *s*-stem adjectives leads to numerous compounds apparently lacking simplex nouns. He then makes a suggestion I will elaborate on: not only is the second member deverbal, but often it is formed specifically to the aorist. His examples include e.g. δισθανής 'twice-dead' (aor. ἔθανον), πρωτοπαγής 'just put together' (aor. ἐπάγην), τηλεφανής 'visible from afar' (aor. ἐφάνην). He then discusses αἰνοπαθής as a particularly telling case in point: "Bezeichnend ist auch αἰνοπαθής 'Schlimmes erduldend' zu ἔπαθον (πάθος erst Aesch. Hdt.), während πολυ-, νεο-, ταλαπενθής u.a. sich auf πένθος beziehen ('viel, bzw. neues Leid habend', 'Leiden ertragend')."

A few points in this sentence deserve emphasis: Risch translates the compound not as a possessive 'having terrible pain' or 'whose pain is terribleness'– contrast this with his translations of compounds in -πενθής "X habend"– but as a synthetic 'terribly suffering'. Secondly, he derives the second member explicitly from the verb ἔπαθον (the aorist). Finally, he rejects derivation from the simplex πάθος, on the grounds that it is attested too late to be taken into consideration for Homeric Greek.

In pressing Risch's case further, I would like to offer two points of refinement: (1) as few authors have discussed αἰνοπαθής in its actually occurring form, viz. the Homeric hapax αἰνοπαθῆ (acc.sg.f., *Od.*18.201), I will do so, and will show that the hapax itself displays numerous further hallmarks of innovation; and (2) αἰνοπαθής is but one of a number of compounds whose vocalism changes before our eyes. It is best ranged with the following three pairs: -βενθης : -βαθης; -θερσης : -θαρσης; -κρετης : -κρατης. All the examples mutually corroborate each other: the *e*-grade forms are ancient, becoming obsolescent, the innovatory vocalism of the zero-grade, due to deverbal derivation, is on the rise.

[43] The abbreviation "Fr.Sch." is absent from the list of abbreviated authors in the *LfgrE*, so I am not sure to whose name these subscribed initials belong.

3.3.1 αἰνοπαθής is Deverbal

Turning to the early Greek evidence for accent and ablaut of the *s*-stem compounds, one crucial Proto-Greek development cannot be emphasized strongly enough: *s*-stem adjectives become a *deverbal* category. That is, already by the age of our earliest Greek, new *s*-stem adjectives derive straight from verbal stems without an intervening neuter noun. As we have seen above (§3.2.2.1, I repeat some items here), a perspicuous example is Homeric δισθανής 'twice-dead' (*Od.*12.22). A compound in –θανής must be deverbal: unattested is a neuter noun ^{X}θάνος-, nor do we have reason to suspect it ever existed (the meaning 'death' is supplied by θάνατος). We may go further: compounds in –θανής must be derived from the aorist stem θανεῖν, since the other tense-aspect stems, the present θνήισκω and the perfect τέθνηκε, diverge too far from the shape of the adjective. As Meissner (2006: 186-8, et aliter) documents, it was a commonplace of earlier scholarship to assume the loss of a corresponding neuter *s*-stem noun, *in casu* *θάνος, though such reconstructions came to be abandoned by later scholars. Further examples of deverbal *s*-stem adjectives include ὁμηγερής 'assembled', from which an *s*-stem noun *γέρος 'assemblage' was extracted, or from the compound ὑπερπαγής 'very frosty' earlier scholars inferred the *s*-stem noun *πάγος.

We can further demonstrate that Greek's deverbal derivation is an innovation by examining the comparative evidence. In Indo-Iranian, *s*-stem adjectives formed possessive compounds from *s*-stem nouns. Wackernagel and Debrunner (1954: 224-5) outlines well the descriptive situation: "Die Neutra auf –as– sind seit ig. Zeit als Hinterglieder von Bahuvrīhi's sehr beliebt." This situation is preserved in Vedic and in earliest Iranian; cognate sets such as *su-mánas-* = YAv. *hu-manah-* = Gk. εὐμενής confirm the formation's antiquity. In post-Rig-Vedic Sanskrit, Debrunner tracks a general decline of the compound *s*-stem adjectives as a type, though items of high frequency like *sumanas-* predictably remain, a decline standing in marked contrast to what we find in Greek. We saw above (§3.3) that the revival of the category in Greek is owed to deverbal derivation; in Indo-Iranian no comparable use is known. As concerns the evidence for zero-grade roots in the second members of compound, which would help align the Vedic evidence with the supposed archaism of αἰνοπαθής, Wackernagel and Debrunner (1954: 233) describes the Vedic evidence with devastating concision: "das Ai. zeigt davon keine Spur". So far as I am aware, there is no evidence for deverbal derivation elsewhere in PIE. As Stüber (2002: 211) states in her evaluation of the PIE evidence: "diese Kategorie [ist] nur im Indoiranischen und Griechischen überhaupt bezeugt" (see too the same evaluation in Meissner 2006: 163-5). Accordingly deverbal derivation should be treated as a significant innovation of Proto-Greek.[44]

That the class had become deverbal in the prehistory of Greek has been known in some form since the 19th century. Scholars of the mid-19th century recognized connections between verbal stems and the *s*-stem adjectives, but the full significance of this connection was

[44]This point actually raises a further, possibly quite serious chronological discrepancy for the hysterokinetic reconstruction: if the formation of compound *s*-stem adjectives can be dated back only to Greco-Indic ("late" core-PIE), then the possibility of living accent-and-ablaut classes vanishes, since under no paradigmatic account would the classes be active at this stage of the protolanguage. One could imagine chronological emendations: for instance, the compounds could still reflect pre-PIE paradigms that have been lost outside the Greco-Indic area, within which the compounds were retained or else knew a renaissance. But such a solution strains credulity, and the issue of chronology needs to be revisited.

first appreciated in a penetrating– and often overlooked– work of scholarship by Parmentier (1889). Of particular importance was the link he drew between the vocalism of the *s*-stem adjective and its source in verbal formations, and in aorists in particular. Since his work is not well known, and since I believe he was the first scholar to perceive with full limpidity the derivational history of the *s*-stem adjectives, his conclusion on this point is worth citing in full (Parmentier 1889: 54):

> C'est surtout dans les adjectifs composés que la mise en rapport de la voyelle radicale avec celle du verbe a dû se produire. Les thèmes en -ες ont dans les composés un sens très voisin de celui du verbe, et la ressemblance du vocalisme a dû en résulter. Très souvent d'ailleurs, ces adjectifs sont sortis tardivement du verbe lui-même, et leur existence est loin d'autoriser toujours à reconstruire comme fondement un substantif en -ος. De telles formations semblent exister dans δισ-θαν-ής (ἔ-θαν-ον)...

Although scholars in the 20th century acknowledged the innovations to which Parmentier had drawn attention– see Chantraine (1933: 465) and in greater depth Schwyzer (1939: 513)– the consequences of deverbal derivation were not explored in greater depth till the latter half of the twentieth century (Meissner 2006: 186-8, and cf. ch.1, which gives a fuller *historia quaestionis*). As we have seen, Risch (1974: 81) accepts the deverbal derivation of the adjectives, noting the especial attraction of the aorist in this regard. In a clear discussion of the problem Tucker (1990: 57-62) added that the *s*-stem adjectives have become not only deverbal, but are in many cases based on the intransitive aorist in -(θ)η, whose verbal formations have come to be called "Tucker Statives". These statives may be reflected by presents in -έω, aorists in -ησ-, or both; the pairing ultimately reflects the PIE stative marker *-eh_1- and *-eh_1-*s*-. Tucker (1990: 60) describes the situation in which a paired *s*-stem adjective and verb, such as those given above, must be taken from the aorist: "a zero-grade occurs only in the intransitive aorist, and so this tense-formation may be identified with certainty as the one on which the compounds are based." Compounds in -μανής provide an example, since the aorist ἐμάνη 'went mad' is the only source for the zero-grade vocalism, the neuter noun Xμάνος being absent, the present stem μαίνομαι diverging hard from the base vocalism of the compound. Likewise in the examples cited above, -δαής 'burnt' must be derived from the aorist stems ἐδάη 'burnt', -αγής 'broken' from the aorist ἐάγη 'broke' (cf. further Meissner (2006: 188-201, esp. 196-7)).

Just when and how the change to deverbative derivation occurred remains a difficult question. Tribulato (2015: 314-31) has recently investigated this problem, arriving at a number of perceptive conclusions. One result of her study is to show that early forms in -ής are mostly passive, in this role linked closely with the intransitive aorist. Yet within the course of the category's development, the *s*-stem adjectives come to encompass a broader semantic spectrum including transitive, synthetic compounds. The early specialization of passive compounds conveniently filled several gaps in the system of Greek verbal compounds, and hence proved powerfully productive. For instance, Ancient Greek had inherited only one type of passive verbal compound in PIE, verbal adjectives in *-*to*-, which suffix seems to have selected primary particles and preverbs as first members (e.g. ἄ-ελπ-τος 'unhoped for', κασί-γνη-τος 'brother', lit. 'born together', etc.). Passive adjectives in -ής created a more flexible means of composition, since they were unrestricted in their selection of nominal first members. Moreover, forms in -ής were more versatile than passives of the type ὀρεσί-τροφος 'mountain-bred',

which arose via a semantic reanalysis of bahuvrīhi compounds (cf. with reff. Tribulato 2015: 77-85). A further restriction of the ὀρεσίτροφος compounds may be their confinement to ablauting verbal roots, a restriction which -ής adjectives are free of. In light of these selectional criteria with other passive compounding types, the rapid spread of -ής becomes more understandable.

The next stage in the development of -ής deverbal adjectives is marked by the acquisition of active meaning. The first example of an active compound, whose second member syntactically governs the first member as an accusative, occurs already in Homeric Greek, where *s*-stem compounds otherwise have overwhelmingly stative or intransitive meaning. Meissner (2006: 193-4) counts θυμο-δακής 'heart-biting' (*Od.*8.185) the sole Homeric compound to instantiate this incipient evolution towards right-oriented governing compounds.[45] Typical intransitive compounds include εὐρρεής 'well-flowing' and ἐριθηλής 'very luxuriant, flourishing, fertile'. The diachronic trajectory of the *s*-stem adjectives clarifies further when we turn to later Greek: by the Hellenistic period, deverbative compounds in -ής are used with active and passive meaning, at which point they may be derived from a great variety of verbal stems.

s-stem adjectives have become deverbative in the prehistory of Greek, even if we cannot say precisely when. Understanding this change has significant repercussions for assessing the evidence of ablaut grades in the compounds. At the close of this section we return to the question of which stem is chosen in deverbal derivation, and in particular to the issue of why the aorist stem is so privileged. We need now to continue addressing the consequences of deverbal derivation for our assessment of (Proto-)Greek ablaut patterns. We discuss here the root πενθ-/παθ-, which segues naturally into discussion of αἰνοπαθής in particular (§3.3.2).

In Homeric Greek verbal formations made to this root include a present πάσχω 'I suffer, undergo' and an aorist ἔπαθον; its nominal formations include a neuter *s*-stem abstract πένθος 'pain, grief, mourning', in compounds an adjective -πενθής 'having X-grief'. Full-grade of the root and the suffix is standard in the *Iliad*, corresponding closely to what we find in Vedic. In a first change, a new zero-grade adjective arises: αἰνοπαθής 'terribly suffering' is built on the verb παθεῖν 'to undergo, suffer'. As a next step, in post-Homeric Greek (first in Aeschylus/tragedy) we find the noun πάθος 'state experienced (good or bad)'.[46] The textual chronologies alone undercut the hypothesis that these ablaut variants should be projected back to a single plane. We cannot claim that the nouns πένθος and πάθος derive from a single

[45] Meissner (2006: 194) finds that transitive second members are made to verbal roots that were non-ablauting. His proposal feeds a larger question in Greek word-formation: to what extent does ablaut play a living role in Greek morphology? Another category of word-formation where ablaut plays a decisive role is in the derivation of abstract noun in –η (τομή-nouns). As far as their accentuation is concerned, basically nouns formed to ablauting roots come out oxytone, versus nouns to non-ablauting roots which may be recessive (whether they become recessive depends on frequency effects). An example of the latter type is μάχη 'battle' to the non-ablauting verb μάχομαι. (evidence treated in Probert 2006a).

[46] On the massive range of meanings tied to this word see (i.a.) the entries in Montanari (2015), or the instructive gloss given by Chantraine (1999: s.v. πάθος 830-1), "Sur le degré zéro de l'aor. παθεῖν a été créé πάθος n. 'ce qui arrive à quelqu'un ou à quelque chose, expérience subie, malheur, émotion de l'âme, accident au sens philosophique du terme', donc terme très général..." Especially noteworthy is the early specialization of πένθος in the meaning 'grief', whereas πάθος, in accord with its deverbal origin, keeps closer to the broad range of meanings associated with the verb.

paradigm, nor that -πενθής and -παθής do; the textual chronologies are reflecting linguistic change. These developments are schematized as follows, using the sign "»" to mark formal innovations:[47]

	Verb	Noun	Adj.
Stage I, *Iliad*	πάσχω, ἔπαθον	πένθος	-πενθής (*Il.*)
Stage II, *Od.*	πάσχω, ἔπαθον	πένθος	» -παθής (*Od.*+)
Stage III, post-Hom.	πάσχω, ἔπαθον	πένθος and » πάθος (Aesch.+)	-παθής

3.3.2 αἰνοπαθής is an Innovation

Nearly always cited in its lemma form, αἰνοπαθής occurs only once in early Greek epic (with later epic imitations) as αἰνοπαθῆ (*Od.*18.201, acc.sg.f.). Penelope awakes from sweet sleep, shed upon her by a goddess, and describes herself, doomed for an uncertain term to disquieting limbo, as αἰνοπαθῆ 'terribly suffering'. To cease wasting away her life, mourning in her heart, Penelope begs Artemis for death (*Od.* 18.201-5):

(44) ἦ με μάλ ᾽ αἰνοπαθῆ μαλακὸν περὶ κῶμ᾽ ἐκάλυψεν.
αἴθε μοι ὡς μαλακὸν θάνατον πόροι Ἄρτεμις ἁγνὴ
αὐτίκα νῦν, ἵνα μηκέτ᾽ ὀδυρομένη κατὰ θυμὸν
αἰῶνα φθινύθω, πόσιος ποθέουσα φίλοιο
παντοίην ἀρετήν, ἐπεὶ ἔξοχος ἦεν Ἀχαιῶν.

"(Then sweet sleep released Penelope, [18.200] and she rubbed her cheeks with her hands, and said:)"Soft sleep enfolded me suffering terribly. If only chaste Artemis would even now give so soft a death that I might no longer waste my life away sorrowing at heart, longing for [18.205] the manifold excellence of my dear husband, for he was pre-eminent among the Achaeans"

A number of pitfalls problematize the treatment of αἰνοπαθῆ as an archaism. First, the zero-grade -παθής may be taken straightforwardly as deverbative from the aorist παθεῖν. It exemplifies, then, the process whereby older *e*-grade in compounds, like those in -πενθής 'whose grief is X',[48] yield to the zero-grade vocalism of -παθής, which then predominates in post-Homeric compounds. To be more precise, as Chantraine (1999: s.v. πάσχω, 830-1) outlines, there are about 20 compounds in -πενθής, confined to Homer and poetry (basically just Aeschylus); by contrast, there are about 70 compounds in -παθής, beginning with αἰνοπαθής, then stretching through Classical poetry and prose, down to Hellenistic authors, down to authors of the Second Sophistic, and beyond. Thus the larger diachronic trajectory of -παθής also indicates that αἰνοπαθής is more a harbinger of the coming age than a last relic of the past. Furthermore, if derived from the verb παθεῖν, then the second member in no way reflects the simplex πάθος (*pace* the *LfgrE*), which at any rate does not occur in Homer (first in Aeschylus). Moreover, αἰνοπαθῆ shows a late, irresolvable contraction of -ῆ < -έα. Chantraine

[47] Fuller discussion of the ablaut grades and semantics of πενθ-/παθ- may be found in Meissner (2006: 65-72 in general; for this root cf. esp. 67-8.).

[48] νεο-πενθής, πολυ-πενθής in *Il.*; νη-πενθής, ταλα-πενθής in the *Odyssey*.

(1958: 59n.21, 111) fittingly discusses αἰνοπαθής under "l'adaptation des mots au mètre," understanding the word as a reformation of inherited -πενθής compounds *metri causa*. True, but this is only part of the picture: Homer cannot adapt words to the meter with no basis in Greek grammar. αἰνοπαθῆ is an adaptation to fit this metrical slot, but it is permitted precisely because deverbal derivation has become productive at this stage of Greek. Relatedly, αἰνοπαθῆ occurs in a metrical slot not renowned for housing archaisms, i.e. not the line-final adonic. Finally, αἰνοπαθής is a hapax of the *Odyssey*, absent from the *Iliad*, found only in character speech, where younger forms are thought to dwell.

Not only is the compound an innovation, but we may even behold its generation ("s'assister à sa formation" as Calvert Watkins liked to put it). I propose that αἰνοπαθής derives from the formulaic system SUFFER WOES. It does not derive from an underlying *αἰνοπενθέα, adapted to αἰνοπαθῆ (it does not mean 'whose grief is terrible'), but from the verbal syntagm αἰνὰ παθοῦσα. Consider the following passage, Hecabe's ritual mourning at the loss of Hector (*Il.* 22.429-32 West):

(45) Ὣς ἔφατο κλαίων · ἐπὶ δὲ στενάχοντο πολῖται.
Τρωιῆισιν δ' Ἑκάβη ἀδινοῦ ἐξῆρχε γόοιο·
τέκνον, ἐγὼ δειλή· τί νυ βείομαι <u>αἰνὰ παθοῦσα</u>
σεῖ' ἀποτεθνηῶτος; ...

"So he (Priam) spoke in tears and in response to him the people of the city grieved. Among the women of Troy Hecabe led out the vehement lamentation: "My child, woe is me! How am I to live, <u>having suffered terribly</u>, now that you are dead?"

Hecabe leads the Trojan women in a lamentation for the dead Hector. Hers is the second γόος in the triad of γόοι darkly concluding book 22. In the traditional language of ritual lament, Hecabe's αἰνὰ παθοῦσα verbs the frequent noun-epithet formula πένθος + αἰνόν (13x), articulating a variation embedded within the larger formulaic theme shared with adonic ἄλγεα πάσχων, -ει etc. The formulaic system enfolds more than these roots, since ἄλγεα παθ- etc. corresponds metrically with the consonant initial formulas πήματα παθ- etc., as shown by Witte (1972: 6-9). Furthermore, Hecabe's αἰνὰ παθοῦσα is connected not only to ἄλγεα / πήματα παθ- formulas, but shares an enigmatically evocative connection with Thetis's hapax αἰνὰ τεκοῦσα (*Il.*1.414) of Achilles, terribly born. Tsagalis (2004: 155), in his study of epic grief, observes insightfully that "the use of similar diction suggests that the paragon pair of mother and son (Thetis-Achilles) exercises its influence on the Trojan dyad of mother and son (Hecuba-Hector), with the former shaping the latter." Tsagalis's keen remark merits further study. The language by which singers express the theme SUFFER WOES is deeply embedded in epic; it is precisely this traditional language Penelope draws on to form her self-epithet αἰνοπαθής:

- ἄλγεα πάσχων, -ει, –ειν, ἔπασχον (formulaically embedded, *Il.*2.667 al.)
- μή τι πάθοιεν, -ησθα, -ησι, -ωμεν, -ωσιν (*Il.*10.26 al.)
- ἄλλο πάθοιμι, (*Il.*19.321 al.)
- αἰνὰ παθοῦσα (*Il.*22.431)
- ⇒ αἰνοπαθῆ (*Od.*18.201)

As a final remark concerning this compound, its meaning in context hardly fits the interpretation as an ancient bahuvrīhi, especially when the word is considered in relation to its formulaic forebears. On this point, then, the gloss given by the *LfgrE* (s.v. 320, entry by Fr.Sch.) may be improved: "wessen πένθος αἰνόν ist, von verderbenbringendem Leid erfüllt." This is not what the compound means: retaining a Greek gloss, better is the *Iliad*'s αἰνὰ παθοῦσα. If we are to classify it by type, the compound is "synthetic," as correctly analyzed by Risch (1974: 82), who translates 'Schlimmes erduldend'.[49] Given that the compound itself occurs all but localized to one passage in Homer, and given that the simplex πάθος occurs first after Homer, πάθος glosses poorly αἰνοπαθής.

3.3.3 -βαθής, -θαρσής, -κρατής, -παθής are Innovations

To better understand the alleged archaism αἰνοπαθής, other cases of *s*-stem adjectives attested with both full-grades and zero-grades should be consulted.[50] We will see that in cases of ablaut difference within the *s*-stem compounds, the *e*-grade is the older form. The example of -πενθής / –παθής is thus characteristic of the class, not an isolated anomaly. Furthermore, the *e*-grade can be shown to be inherited thanks to the following indices: (1) text-internal chronologies, where the *e*-grade forms are consistently attested earlier than their zero-grade counterparts; (2) a clear motivation for the zero-grade replacement, since the evolving deverbal relationship of *s*-stem categories, including simplex and compound, favors zero-grade verbal forms; and (3) the correspondence of the *e*-grade form with the cognate full-grades of Vedic, where e.g. *sumánas-* < **-men-es-*, *su-śrávas-* < **-k̂lew-es-* etc., shows that an *e*-grade in Greek is likely to be inherited. There are a total of three other cases of apparent ablaut "alternation": -βενθής / -βαθής, -θέρσης / -θαρσής, -κρέτης / -κρατής. I will take up discussion of these items one by one.

3.3.3.1 -βαθής

The simplex βένθος 'depth' is the sole form found in Homer. It occurs ten times in descriptions of the sea; once it is used of the forest βαθείης βένθεσιν ὕλης 'in the depths of the deep wood' (*Od.*1,7.316), evidently a later Odyssean refection of βαθείης βένθεσι λίμνης 'in the depths of the deep sea' (*Il.*13.32). After Homer βένθος falls out of use. It occurs in poetry, at times in reminiscence of, or direct allusion to, Homer, as in Ar.*Frogs* 666 ἁλὸς ἐν βένθεσι 'in the depths

[49] A minor point of definition: this compound type goes under many names, including "synthetic", "verbal-nexus" or "verbal governing" in English linguistics, in German "Verbale Rektionskomposita" (Skt. *tatpuruṣa upapada*). "Synthetic" compounds derive their deverbal head in the process of compounding, so in this case the head -παθής is derived in compounding, and does not imply an adjective ^{X}παθής any more than Eng. 'church-goer' implies an adj. ^{X}goer (though the latter example is a potential lexeme, maybe not the former). It appears that synthetic compounds show a simultaneous use of compounding and derivation, but the issue is not resolved in a wider theoretical context (cf. Olsen 2014: 41-3).

[50] The philological details of this subsubsection are indebted to the research of Meissner (2006: 64-94); my chronology of forms relies on searches of the *TLG*, and use of the reverse index by Buck and Petersen (1948). I have tried to update and critically sift these sources when it seemed pertinent, though I have not done so exhaustively.

of the sea', once in Pindar (*Ol.*7.57), once in a fragment of Euripides (*fr.*304).

In compounds, the full-grade is the rule in earliest Greek: the *Iliad* has only -βενθής. We have the compound πολυβενθής 'having much depth, very deep' in the formula λιμένος πολυβενθέος ἐντός 'within the deep water/harbor' (1.432, 4x), once as ἁλὸς πολυβενθέος (*Od.*4.406). The compound is evidently denominal to βένθος, and shows an inherited full-grade. I have little to add to the concise description of the Homeric compounds in the *LfgrE* (s.v. βένθος, entry by E.M. Hamm) "ältere Form des subst. βένθος in πολυβενθής, βάθος erst Aisch."

The simplex with a zero-grade, βάθος, occurs first in the tragedians. If one accepts Aeschylean authorship of *Prometheus* (a disputed point), then the simplex is found first in Ταρτάρου βάθη 'the depths of Tartaros' (*Pr.*1029; and note μελαμβαθής from the same play, v. 221). Otherwise, it occurs first in Euripides (*Med.*1297). A zero-grade compound first crops up in the *Odyssey* as the hapax ἀγχιβαθής 'deep inshore' (*Od.*5.413). The zero-grade forms -βαθής, βάθος track -παθής, πάθος closely: older *e*-grade forms of the compounds in the *Iliad* (-βενθής, -πενθής), though they are soon to vanish from the language; hapax compounds first emerge in the *Odyssey* (ἀγχιβαθής, αἰνοπαθής). No more than was the case with αἰνοπαθής could we use this compound as potential evidence for hysterokinetic inflection of the *s*-stem adjectives: ἀγχιβαθής is formed at a late date by inner-Greek means.

In post-Homeric Greek the full-grade compound dies a swift death. Apollonius Rhodius does use the full-grade, but does not stray far from his model: at A.R.*Arg.*4.599 πολυβενθής modifies λίμνη. Unsurprisingly Aristophanes goes out on a limb, blending two Homeric epithets into a mock κυανοβενθής, comically of a drinking cup, a λεπαστής (Ar.*fr.*165)). Compounds with zero-grade -βαθής become the norm in Classical Greek.[51]

Meissner (2006: 66) asserts, without further comment, that the zero-grade simplex βάθος underlies the hapax compound ἀγχιβαθής. There are two criticisms to make here: first, by his own acknowledgement, textual chronology militates against the derivational relationship βάθος ⇒ -βαθής. Homer uses only the *e*-grade simplex βένθος. Second, and perhaps more significantly, for this stage of Greek we no longer expect a simplex noun to serve as the basis for the compounds, as again Meissner himself helped demonstrate. Rather than see βάθος as the derivational basis for -βαθής, we should take seriously the textual chronologies, combined with the established point that the class is overwhelming deverbal at this stage of Greek. A verbal form built to the root βενθ-/βαθ- exists already in the *Iliad*, likely underlying the compound: βάθυνε (*Il.*23.421) 'hollowed out', a factitive verb in -υνω (itself of course formed to the *u*-stem adj. βαθύς 'deep'). The textual chronology aligns, then, with linguistic chronology: in the *Iliad* we have noun and compound adjective only with *e*-grade (βένθος, -βενθής), beside which the zero-grade adjective βαθύς and the verb βαθύνω are found. The evolving pattern of deverbal derivation leaves its mark by the time of the *Odyssey*: the hapax compound ἀγχιβαθής is the first zero-grade adjective. Looking forward in time, the Classical period yields further -βαθής compounds, and the full-grade noun βένθος is also drawn into the system of βαθ- derivatives, yielding βάθος in tragedy and beyond. The derivational relationship can be schematized as follows:

- Stage I, early Greek (*Iliad*): βένθος, -βενθής, βαθύ, βαθύνω

[51] Buck and Petersen (1948: 715) for instance gives 11 further compounds, chronologically commencing with μελαμ-βαθής 'darkly deep' of Ταρτάρου κευθμών in Aesch.*Pr.*221.

- Stage II, later early Greek (*Od.*): βένθος, » -βαθής, βαθύ, βαθύνω
- Stage III, early Cl.Gk.: » βάθος, -βαθής, βαθύ, βαθύνω

3.3.3.2 -θαρσής

The root θερσ- / θαρσ- tells a similar story to βενθ-/βαθ-, though in this case the evidence is more diffuse. Survivals of *e*-grade forms in the simplex and the compounds occur, but the simplex is barely preserved at all, the compounds restricted to personal names. Everywhere the zero-grades are winning out. The simplex θέρσος is confined to Aeolic (Alc.*fr*.206.2 Lobel and Page, Voigt); Homeric and Classical usage knows only zero-grades, θράσος 'courage, (over)bold' (*Il.*14.416) and θάρσος 'courage' (12x in Hom.). Similarly the full-grade compound materializes only in residual forms: Ἁλιθέρσης is a personal name in Homer (son of Mestor, *Od*.2.157, 17.78), probably meaning 'whose boldness is in the sea'. A more telling example is Πολυθερσείδης, deriving from *πολυθερσης 'exceedingly bold', which is attested only as a zero-grade πολυθαρσής (*Il.*17.156, *Od.*13.387, both modifying μένος).

After Homer a small number of compounds are formed, all with zero-grade vocalism, beginning with εὐθαρσής 'of good courage' (Aesch.+).[52] Again, a deverbal source for the vocalism is at hand: we find the "Tucker stative" θαρσέω, θαρσησ- already in the *Iliad*. Beside this verb we find a number of formations based on the lost *u*-stem adjective *θαρσύς, such as the factitive verb θαρσύνω 'I encourage', and the extended adjectives θάρσυνος 'bold, confident' (*Il.* 13.823; 16.70). The basic adjective has been replaced by an adjective in -αλέος, i.e. θαρσαλέος, a formation of obscure origins. The *u*-stem adjective θρασύς has a different meaning– 'overbold, rash'– and its vocalism diverges from the θαρσ- based forms.[53]

3.3.3.3 -κρατής

Once again, the simplex with *e*-grade κρέτος 'strength, bodily might' reflects an ancient full-grade, fast on its way out of Greek, beside the refashioned zero-grade noun of Homer and Classical Greek, κράτος / κάρτος.[54] The *e*-grade simplex is found only in Lesbian poetry, in Alcaeus (who also uses verbal forms ἐπικρέτει, κρέτησαι), though the example is not perfectly secure. This commonly cited example occurs in a completely restored passage, Alc.*fr*.141.3

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[52] The other items comprise (in alphabetical order, according to Buck and Petersen 1948: 729): ἀθαρσής 'downhearted', δορυθαρσής 'spear-bold, bold in war', εὐθαρσής 'of good courage', κυνοθαρσής 'impudent as a dog', λυκοθαρσής 'not fearing wolves', μεγαθαρσής 'very bold', πανθαρσής 'exceeding bold', and περιθαρσής 'very confident' (glosses taken from *LSJ*).

[53] Aristotle provides a perceptive definition of ὁ θρασύς: the rash man unrestrainedly eager for danger when it lies in the future, but who recoils when his moment comes (Arist.*Eth.Nic*. 3.7 116a7-8). Fuller discussion of this root may be found in de Lamberterie (1990: 846-66) and van Beek (2013: 109-15).

[54] Van Beek (2013: ch.5) provides an extensive discussion of the meanings of derivatives from κρετ-/κρατ-, with special attention given to the sources of differing vocalisms (κρατ- /καρτ- in particular). I agree with van Beek that the *e*-grades are ancient and inherited, though I am not convinced by his explanations for the variation seen in the root (he attributes it ultimately to an inner-epic retention of syllabic *$r̥$.

L-P (= P.Oxy. 2295 fr.2)[55]; the text of Alcaeus is restored largely on the basis of its parody in Ar.*Wasps*1234-5, which I also give below:

(46) ω]νηρ οὗτ[ος ὁ μαιόμενος τὸ μέγα κρέτος
ὀν]τρέψ[ει τάχα τὰν πόλιν · ἃ δ᾽ ἔχεται ῥόπας
'this man seeking great power will soon overturn the city: its fate hangs in the balance'

(47) ὦνθρωφ᾽ οὗτος ὁ μαιόμενος τὸ μέγα κράτος
ἀντρέψεις ἔτι τὰν πόλιν: ἃ δ᾽ ἔχεται ῥοπᾶς.

Assuming that editors correctly restore the tattered text of Alcaeus, the parodic version τὸ μέγα κράτος can be Aeolicized to τὸ μέγα κρέτος (*e*-grade based on θέρσος, etc.). Another possible example is too fragmentary to be of great evidentiary value: ⸗ρετοσδ in Alc.(*fr.*289.4 L-P, Voigt). Although the evidence is generally sound for an *s*-stem noun κρέτος, the adjective being attested in onomastics and indirectly in derived verbal forms, one must concede that this single "attestation" seems uncertain support. However, assuming that the form κρέτος does exist – and if this example is judged too uncertain, a reconstructed *κρέτος is at any rate unproblematic– κρέτος gives way to κράτος exactly as πένθος to πάθος, βένθος to βάθος, and θέρσος to θάρσος.

Adjectives with an *e*-grade -κρέτης are found, but like -θέρσης only confined to personal names. -κρετης occurs in the onomastic stock within the dialects of Arcadian, Cypriot, and Lesbian (cf. Meissner 2006: 68-70). Elsewhere compounds in -κρατής are the rule: in Homer we happen to have only the adverb ἐπικρατέως 'impetuously', whose *s*-stem adjective *ἐπικρατής is also presupposed by the verb ἐπικρατέω 'have the upper hand'; compounds in -κρατής (including names in -κράτης) remain productive in post-Homeric Greek, as for instance in the Aeschylean compounds ἀκρατής 'impotent' (Aesch.+), παν-κρατής 'omnipotent' (Aesch.+), ἐν-κρατής 'empowered' (Aesch.+), etc., or Herodotean ἰσο-κρατής 'of equal power' (and the PN Ἰσοκράτης), ναυκρατής 'master of the seas', etc.

3.3.3.4 Excursus: Ablaut "Alternations" of the Simplex

Before proceeding on to a fuller analysis of deverbal derivation in the *s*-stem adjectives, let us gather together the preceding cases of full-grade and zero-grade in the simplex. The example of ablaut "alternation" in this category sheds light on the adjectives, our main concern in this chapter, since earlier scholars treated the "alternation" of πένθος v. πάθος in a similar way to how more recent scholars treat the "alternation" of -πενθής v. -παθής.

Already in the 19th century Parmentier (1889: 55-6) discussed the issue of ablaut in the simplex, arguing decisively against the prominent account of his day (he cites the Greek grammar of Meyer, i.a.). Others had proposed that πένθος : πάθος, βένθος : βάθος etc. instantiate an accentually mobile paradigm with accompanying ablaut alternation, viz. **pénthos, *pnθesós*, **bénthos, *bnθesós* (preserving the notation of the day). Parmentier's indictment of this approach proved devastating: "Mais ces spéculations tombent, dès que l'observation strictement chronologique des thèmes en *-es* a fait reconnaître que πάθος et βάθος n'étaient pas

[55]You can view a high resolution image of this mangled papyrus at the website for the papyri of Oxyrhynchus: http://www.papyrology.ox.ac.uk/POxy/.

encore employés comme substantifs simples à l'époque d'Homère et d'Hésiode." Parmentier drew the correct conclusions from the evidence: the apparent ablaut alternations of πένθος : πάθος etc. are just that, apparent. Therefore, he argued, they may not be used as evidence for reconstructing a paradigm **pénthos, *pnθesós*; rather, πένθος is ancient and inherited, πάθος a recent innovation owed to analogy. Parmentier's criticisms and conclusions have stood the test of time and have been rightly entered into the annals of Greek historical grammar.

The *s*-stem nouns apparently showing *e : ø* ablaut have all been discussed in the preceding sections. To recapitulate , they are: βένθος : βάθος, θέρσος : θάρσος, κρέτος : κράτος, πένθος : πάθος. Even a cursory glance through the attestations of these nouns reveals clearly defined divisions. In two cases the *e*-grade form is attested earlier than the zero-grade; this is true of βένθος : βάθος and of πένθος : πάθος. In the former noun, the *e*-grade βένθος is the only form employed by Homer (11x), thereafter becoming a rare and residual word confined to poetry (esp. Homeric reminiscences). The zero-grade simplex βάθος never occurs in Homer, is practically the only form in post-Homeric Greek, turning up in tragedy and in prose. Thus the simplex parallels the compound: Homer has the compound πολυβενθής, -ές, and only as a hapax of the *Odyssey* ἀγχιβαθής (discussed above, §3.3.4), with further –βαθής compounds originating in post-Homeric authors. In the other cases of ablaut difference, the division splits rather along the lines of dialectal archaism vs. innovations, the *e*-grade being restricted to relictal forms, as in θέρσος (Aeol.) vs. θάρσος, and κρέτος (Aeol.) vs. κράτος. We are lucky to have the attestations at all for κρέτος and θέρσος, though we would have predicted their erstwhile existence based on the trend of replacing full-grades with zero-grades in this class of nouns.

3.3.4 -βαθής, -θαρσής, -κρατής, -παθής are Deverbal

Meissner's 2006: 203 main conclusion on the evidence of zero-grade vocalisms is sound and worth citing in full: "A careful examination of the evidence shows that wherever we find an alternation between a full-grade and zero-grade form in composition, the zero-grade is actually younger than the full-grade." This important observation deserves to be emphasized in the present context: textual chronology mirrors linguistic history. Accepting this position, we may ask next, where do the zero-grades in the nouns and adjectives come from? For Meissner, the neuter *s*-stem nouns in question replace their full-grades with zero-grades under the influence of the *u*-stem adjectives (*in casu* κρατύς, θρασύς, βαθύς). He writes (Meissner 2006: 71): "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."[56] Although his definition lacks clarity (what does he intend by more "basic" form?) and seems hedged ("can be conceived"), Meissner's explanation, that the zero-grade of the *u*-stem adjective can be related to the zero-grade of the neuter noun, appears to hold for these examples. That it can be extended to other cases will be a further point in its favor: τάχος 'speed' can be related to ταχύς 'speedy', πάχος 'thickness' to παχύς 'thick, stout'.

[56]It is not clear to me that Risch did in fact propose the explanation Meissner ascribes to him. Risch (1974: 78-9) simply lists the ablaut grades in Caland forms, regardless of whether the full-grade or zero-grade has been generalized. For instance, beside generalized zero-grades, we find also various full-grades like κέρδος 'gain, profit' : κερδαλέος 'cunning', μῆχος 'means': μηχανή 'contrivance', κῦδος 'glory, renown' : κῡδρός 'glorious, renowned' (the last example arguably replacing **kewd-*), etc.

But it is not clear that Meissner's explanation will hold for all the evidence. For instance, πένθος lacks an adjective *παθύς; the verb παθεῖν is by far a likelier source for the zero-grade of the noun. In light of the deverbal derivational scheme I have set out above, the *u*-stem adjectives are not the source of the compound adjectives, and may not be the source of the nouns either. For instance, although it is possible that κράτος may owe its zero-grade to influence from the *u*-stem κρατύς, that κρατύς is attested only in the epic formula κρατὺς Ἀργειφόντης makes the exertion of strong analogical influence unlikely; the better attested verbal root κρατ- presumably influenced both the adjectives in -κρατής and the noun κράτος. Or again, θάρσος might have been influenced by *θαρσύς before it was lost, but a deverbal stem allomorph θαρσ-, as seen in the aorist and present stems θάρσησε, θαρσέω and θαρσύνω, was available to provide the derivational basis for the noun θάρσος and the adjectives in -θαρσής. Since the derivation of zero-grade adjectives from corresponding verbs clearly took place, and since many nouns appear to follow the adjectives (-παθής precedes πάθος, -βαθής precedes βάθος), referring the zero-grade vocalism of either noun or adjective to the exerting power of *u*-stem adjectives, instead of the verbal basis, looks unnecessary. Couple these points with the undesired need to invent *u*-stem adjectives to provide analogical influence, as in the cases of *παθύς, or even *θαρσύς, and the deverbal source for the zero-grade vocalisms prevails as an explanation.

According to the derivations offered in the preceding sections, adjectives like -βαθής fall in line with -θανής, -μανής, etc. This alignment of the two derivational classes into one is clearly an advantage of my account, though it is admittedly a descriptive account of the data, forcing new problems of explanation to the fore. I have, for instance, mentioned more than once that a strong association binds *s*-stem adjectives and the aorist stem. In some instances, semantics arguably plays a role: the intransitive aorists in -η, based ultimately on the PIE stative marker *-eh_1-, share stative/adjectival meaning, such that ἐμάνη 'went mad' and -μανής 'being X-mad' were associated. In some cases a link to the aorist stem is possible, if not strictly probative. -θαρσής is a case in point, since it may be related either to the aorist θάρσ-ησε or the present θαρσ-έω. Since some cases can only be referred to the aorist (-θανής, for example), we may privilege a derivation from the aorist stem in these cases as well. But despite this connection of adjective to intransitive aorist, a semantic bond does not obviously unite the various types of aorists. That is, though plausible for an example like -μανής, what of the aorists not based on the intransitive aorist in -(θ)η, viz. thematic aorists underlying -θανής (θανεῖν) or -παθής (παθεῖν)? The link between these adjectives and their aspectual stems seems exclusively formal; I at least find no way to read an aoristic value into the compound. Accordingly, another path may be tried.

It is arguably the case that deverbal derivation favors a basic lexical value of the verb, without taking over its verbal aspect. That is, if deverbal derivation is plausible for the adjectives at hand, and if the link between verb and adjective may be justly suspected of being solely formal, then we may rephrase the question: is the selection of an aorist stem due to the aorist being the "simplest" verbal stem for deverbal derivation? This formulation makes some intuitive sense, since speakers evidently reached for the form –θανής based on θανεῖν, but does raise the question of what "simple" means in this context.

The aorist is arguably the unmarked verbal stem of Ancient Greek; equating for the moment the terms "simple" and "unmarked" (or "less marked"), the aorist stem may be selected because it is the simplest, the unmarked, stem for deverbal derivation. In his general sur-

vey of the linguistic category of "Aspect", Comrie (1976: 21, and ch.7) shows that in general the perfective in aspect-based languages can often be considered the less marked member of the perfective-imperfective dyad. Ancient Greek is offered as a case where this observation holds. He writes (p.21): "we may consider the view that the perfective represents the action pure and simple, without any additional overtones. In effect, this claims that perfectives are the unmarked members of any aspectual oppositions based on perfectivity... there are both languages where a perfective is marked (e.g. the Perfective in the Slavonic languages) and languages where a perfective is unmarked (e.g. the Past Definite in French, the Aorist in Ancient Greek...)".

In a recent paper (apparently unaware of Comrie's contribution), Garrett (2008: 140-2) argues that the Greek aorist is the unmarked member in the verbal system. As Garrett's aims and examples differ from mine, though converging on the point of the "unmarked" aorist, his proposal merits discussion. Garrett shows that in a number of cases where we might have expected a present stem to be the leveled-to member of an analogically leveled set, we unexpectedly get the aorist stem. Combining this argument with other pieces of evidence, he argues that semantic and morphological evidence indicate that the aorist-present relationship of Ancient Greek is semantically "monotonic", by which he means that it is the imperfective aspect that adds a component of meaning to the perfective (aorist) stem, not vice-versa. He leverages semantic monotonicity to explain the directionality of leveling in stem alternations and word-formation: the leveling in both cases moves towards the semantically "unmarked" member. Garrett's findings chime well with my own. Where extension or leveling of ablaut grades occurs in the *s*-stem adjectives, it moves to the aorist stem, which may now be called the "unmarked" verbal stem, hence -θανής, -παθής.

To explain why speakers favored the aorist stem, we have appealed to "unmarked" stems, the fraught term "markedness" compelling us to keep up scare quotes. The main thrust of Garrett's article is to query the nature of "markedness" itself, focusing on its relationship to innate universals. Garrett mentions two alternative theories to define the "markedness" of the stem. One explanation appeals to universal, or innate, preferences as a constraining hierarchy. For example, a basic preference for semantic monotony would be encoded in the human language faculty, a preference guiding principles of word-formation. The attested patterns of change would provide the proof for this innate preference. Garrett favors a second explanation, drawn from usage-based models of language change, in which the change would be explained with reference to emergent patters in the grammar.[57] In this model, rather than invoking innate universals, one appeals to "salience" within the learning data as a critical factor. That is, there must have existed particularly salient features available in the data for the learner to pick out a pattern. A further assumption Garrett makes (one not confined to usage-based linguistics) is that morphological change is determined by a few key factors: new forms arise when existing forms are not learned, recalled, or accessed quickly enough. A form will be more vulnerable to replacement if it is less salient to memory and so less readily accessed than one derived by the morphology. Thus, in his account, children learn during acquisition the markedness or unmarkedness of the stem. Later on, in their days of word-formation, this less marked stem was preferred in deverbal derivation. As was true of the first theory (innate preference), the attested patterns of change provide the proof. Consequently, adjudicating

[57]This approach is associated most strongly with the work of Joan Bybee, for instance Bybee and Dahl (1989); Bybee (2005).

between these two competing claims will be based on which mechanism (innate preferences vs. salience in learning data) is weighed as the costlier. This much larger theoretical question needs to be resolved in a wider theoretical context; I hope that the Ancient Greek data I have adduced may play a supporting role in that question's resolution.

Returning to the class of adjectives at hand, we have asked the question: why is there a special association between the *s*-stem adjectives and the aorist stem? The tentative answer I suggest is that the aorist appears to be the "unmarked" stem in the Greek verbal system, "unmarked" as per the definition given above. When a compound meaning 'having X-suffering, X-suffering' needed to be formed, speakers turned to the most immediate deverbal stem at hand, the aorist where applicable, thereby delivering new compounds with zero-grades.

3.3.5 Conclusions on Ablaut in S-Stem Adjectives

We began this section by outlining the proposal that αἰνοπαθής preserves a remarkable archaism: based on the ablaut grade of the second compound member, αἰνοπαθής would reflect a pre-PIE relic of an accent-and-ablaut paradigm. Under "paradigmatic" morphology it would be reconstructed as ***b*^{h}*n̥d*^{h}*-és*, ***b*^{h}*n̥d*^{h}*-s-és*, i.e. hysterokinetic inflection. Against this proposal I have attempted to demonstrate that the zero-grade of the root represents an innovation, not an archaism. The sole instance of αἰνοπαθής has all the trappings of a young innovation: it is found only in the *Odyssey*, not the *Iliad*, as an irresolvable contraction (αἰνοπαθῆ, acc.sg.f.), and conforms beautifully to the schema of deverbal derivation (from παθεῖν). I have also tried to suggest the older source material from which the compound itself was drawn: αἰνὰ παθοῦσα (and its formulaic system SUFFER WOES) as found in Hecabe's ritual lamentation towards the end of the *Iliad*. αἰνοπαθής should be dismissed as evidence for a (pre)PIE archaism, as is true also of the other zero-grade "alternations" in the adjectives (-βαθής, -θαρσής, -κρατής). The ancient forms are instead those with full-grade of the root: -βενθής, -θέρσης, -κρέτης, -πενθής. The evidence of ancient full-grades accords perfectly with the Indo-Iranian testimony for the cognate class, where full-grade ablaut is the rule, clearly a welcome result for the comparatist.

3.4 On the Accentuation of the Vedic *s*-Stem Adjectives

Pāṇini lays down the basic rule of bahuvrīhi accentuation (P.6.2.1): *bahuvrīhau prakṛtyā pūrvapadam* "in a bahuvrīhi compound the first member is accented according to its position by nature." His sūtra established the foundation for all work on the accentuation of bahuvrīhi compounds in the West, enshrined and refracted in the handbooks and grammars. Aufrecht (1847: 11), in one of the earliest works on Sanskrit accentuation by a Western grammarian, takes over Pāṇini's rule, commencing his chapter on bahuvrīhi compounds ("composita relativa") with the rule's Latin translation: "Relativorum ea est lex generalis, ut prius membrum suo pronuntietur accentu." Whitney (1889: 504, §1298) follows the rule, though hemming somewhat in its formulation: "They [possessive compounds] regularly and usually have the accent of their prior member." Wackernagel (1905: 291, §113a) begins his treatment, the most extensive his-

torical account to date,[58] with its German paraphrase: "Die Bahuvrīhi haben kl[assisch] in der Regel den Akzent auf dem Vorderglied und zwar auf der Silbe, auf der es als Einzelwort betont ist". Likewise Macdonell (1910: 92, §90A), who writes simply: "Possessive compounds (bahuvrīhis) normally accent the first member on the same syllable as the simple word." I highlight these accounts to make clear the continuing potency of Pāṇini's analysis, and to reveal the shortcomings of accounts that stray from it.

Compounds are often discussed as accented on the first member or the second member, without reference to the underlying accent of either member's stem. This less precise version omits an important distinction conveyed by the Pāṇinian rule: it is not just the first member, but that member's accent *prakṛtyā* 'by nature.' In a major article devoted to accent in nominal compounds, Garbe (1877) lists and classifies by type the compounds of the Rig- and Atharva-Vedas. Despite the thoroughness of his study, Garbe (1877: 502) introduces a slight imprecision into his account of bahuvrīhi compounds, one whose fault we could overlook, except that it insinuates itself into many accounts to the present day. He begins his section by writing (p.502): "Der accent liegt auf dem vordergliede", as if translating two of the three words of Pāṇini's rule, *bahuvrīhau pūrvapadam*. To excise the crucial word *prakṛtyā* undercuts the insight of Pāṇini.

Renou (1957: s.v. prakṛti, pp.212-3) defines and elaborates on the meaning of this word in grammatical literature. When it modifies (or stands in relation to) *-svara*, Renou translates "ton situé à la place primitive", and in compounds, "qui maintient la place primitive du ton". As Renou explains, with reference to the sūtra under discussion here, Pāṇini's formulation "enseigne le maintien du ton primitif du membre antérieur, en principe, pour les *tatpuruṣa* et les *bahuvrīhi*". Behind the word *prakṛti* looms an important analysis: the compound is composed of two (or more) words, each of which is accented at a derivational level prior to the finished compound. The single surface accent results from a resolution of these underlying accents. The first member accent of these compounds may be understood as the basic accentual rule of exocentric compounds in Vedic (*s*-stem adjectives inclusive).

3.4.1 VEDIC ACCENTUATION: First Member Accented, Type prá-śravas-

The class of first member accented bahuvrīhi compounds constitutes a majority: with regard to *s*-stem adjectives, about 200 different adjectives follow this pattern in the Rig-Veda.[59] In this majority accentual class the surface accent falls out straightforwardly from an accentual resolution whereby the leftmost accent wins, provided that both members have an underlying accent. Consider the following examples, for each of which I mark in the underlying form the accent that occurs when that item stands in isolation:

- Noun-Noun: /bāhú + ójas/ → *bāhú-ojas-* 'whose arms are strong, strong-armed'
- Adj.-Noun: /dabhrá + cétas/ → *dabhrá-cetas-* 'small-witted'
- Preverb-Noun: /prá + śrávas/ → *prá-śravas-* 'of advancing fame'

[58] Cf. Wackernagel (1905: §§113-5), a tough read; Renou (1952: 139-40) provides a concise overview.

[59] Melazzo (2010: ch.3-4) furnishes a comprehensive list of bahuvrīhi compounds of the Rig-Veda divided by word-class of each member and by accent.

These examples, which could be multiplied, demonstrate that underlying accent of the first member's stem (*bāhú-, dabhrá-, prá-*) surfaces.[60] Had a general phonological rule held, like the Greek recessive accent, we would have an accent on the leftmost syllable regardless of morphological composition, *[X]bā́hu-ojas, [X]dábhra-cetas*. Exocentric compounds by definition lack a semantic head or, put differently, they do not refer to either member of the compound, but to a referent outside the compound. Arguably, prosodic prominence is assigned to the morphological head in Vedic compounds (a possibility raised in my Introduction, §1.3.2); conversely, in exocentric compounds, where prominence cannot be assigned to a head, a different principle of accentuation must take over. We may augment the basic rule of bahuvrīhi accentuation to take into account morphological headedness as well. In a bahuvrīhi compound, where no morphological head is available to determine accent, a phonological resolution of underlying accents must take over instead to ensure that only one surface accent emerges. That phonological resolution favors the leftmost element.

As far as reconstruction and diachrony are concerned, first member accent accords well with the inherited rule in the exocentric compounds of Greek (3.2). In its cognate class of *s*-stem stem adjectives, Greek has a number of relic formations reflecting first member accent. Joining together the Vedic and the Greek evidence, I reconstruct exocentric compounds in PIE with a first member accent; for example, /pró + k̂léwes–/ will surface as **pró-k̂lewes–* (> Ved. *prá-śravas–*). In earliest Vedic the rule is preserved *tel quel*; in Greek it underlies the recessive class but has been transformed by the Law of Limitation. The rule of accentual resolution on the leftmost accentable domain will be taken as the oldest recoverable accentual rule for Proto-Vedic and Proto-Indo-Iranian (perforce, given the absence of acceptable accentual data in Iranian languages).

The phonological principle driving the leftmost accent has been named the Basic Accentuation Principle, or the BAP, as discussed in my Introduction (1.3.1). When multiple inherently accented morphemes compete for the single surface accent in Vedic, accent falls on the inherently accented morpheme closest to the word's left edge. Combining this generalization about accentual resolution with the pattern of leftmost "default" accentuation, we define the BAP as follows (slightly modifying Kiparsky's definition):

(48) Basic Accentuation Principle (BAP):
If a word has more than one accented syllable, the leftmost of these receives word stress. If a word has no accented syllable, the leftmost syllable receives word stress.

The principle of leftmost resolution is not confined to *s*-stem adjectives; it extends to other types of bahuvrīhi compounds. Even more clearly than in other categories, compounds require a principle of accent resolution to determine which underlying accent will surface. In Vedic, and by extension in PIE, the surface accent is that of the first member, provided that the first member contains an inherently accented morpheme, an accentuation the BAP predicts. I give simplified derivations for several structures of bahuvrīhi compounds in Vedic in order to illustrate the BAP in operation:

[60] An awkward exception needs to be acknowledged at this point, one for which I have no real explanation: some words change their accent in compounds, so do not have their accent "by nature" but must acquire their accent by some other, presently opaque means. For instance, *víśva-* 'all' and, in the later Saṃhitā's, *sárva-* 'all', become in composition *viśvá-* and *sarvá-* (cf. Macdonell 1910: 91, §87).

(49) a. Noun + Noun:

/bāhú + ójas/	→	*bāhú-ojas-*	'having strength in one's arms'
/kaví + krátu/	→	*kaví-kratu-*	'having the will of a poet'
/sóma + kā́ma/	→	*sóma-kāma-*	'desirous of soma'

b. Adjective + Noun:

/ugrá + bāhú/	→	*ugrá-bāhu-*	'mighty-armed'
/dabhrá + cétas/	→	*dabhrá-cetas-*	'small-witted'
/sahásra + dákṣina/	→	*sahásra-dakṣina-*	'having a thousand priestly gift

c. Preverb + Noun:

/ádhi + rukmá/	→	*ádhi-rukma-*	'having bright ornaments upon oneself'
/abhí + krátu/	→	*abhí-kratu-*	'whose will is opposed'

The Vedic evidence for first member accent reflects most faithfully the PIE background; in Greek the recessively accented bahuvrīhi compounds are strongly supportive. On available evidence, this analysis of compound accent extends to core-PIE; I am not aware of any solid accentual evidence to take us further back.

3.4.1.1 VEDIC ACCENTUATION: Second Member Accented in Its Natural Place

While bahuvrīhi compounds with a first member accent in its natural place constitute the majority type in the Rig-Veda, exocentric compounds accented on the second member in its natural place make up a significant subclass (about 50 different *s*-stem adjectives), e.g. *su-śrávas-* 'having good renown, fame'. The two accentual classes share characteristic traits: both are exocentric compounds, composed of second member neuter *s*-stem nouns. Less clear is why the two diverge. I will argue that their divergence owes to the morphophonological input of the first member. Put differently, since the output of *prá-śravas-* differs accentually from *su-śrávas-*, yet both are exocentric compounds with a second member *s*-stem noun, the first member *prá* must be accentable in a way *su-* is not. Inspired by the Pāṇinian rule mentioned above (§3.4.1), we can formulate a rule: when the first member bears no inherent or *prakṛti* accent, the second member is accented on its "natural" syllable.[61] I provide here a list of *s*-stem adjectives that are accented on the second member, and whose first member is either *su-* or *dus-*; other first members inducing second member accent are discussed further on (§3.4.1.2).

(50) dus-: *dur-óṣas-* 'badly burning' (4.21.6c);[62] *dur-vā́sas-* 'with shabby dress'

(51) su-: *su-ápas-* 'whose work is good, good workers'; *su-ávas-* 'of good help'; *su-ójas-* 'of great strength'; *su-cákṣas-* 'of good eye'; *su-cétas-* 'of good perception'; *su-dáṁsas-* 'of

[61] The actual Pāṇinian rules for this accentual class are 6.2.111-138, *su-* ad 6.2.119. In this case his rules seem to me more descriptive than predictive, so I will not engage with them further here, since I am trying to answer a different question.

[62] But Mayrhofer (1986-2001: s.v. duróṣa-) cautions that the *s*-stem, as opposed to a thematic stem, is "schwierig". Lubotsky (1997: s.vv.) gives two attestations of the thematic *duróṣa-* and one of the *s*-stem adjective *duróṣas-*, 4.21.6c.

wondrous power'; *su-péśas-* 'well adorned, well bedizened'; *su-bhójas-* 'well-nourishing'; *su-mánas-* 'benevolent'; *su-rā́dhas-* 'very generous'; *su-várcas-* 'well lustrous'; *su-vā́cas-* 'possessing holy speech, eloquent'; *su-vā́sas-* 'well clad'; *su-śrávas-* 'of good fame'

The first members *dus-* and *su-* regularly fail to be accented in bahuvrīhi compounds with a second member noun. Morphologically both first members are prefixes or particles, at any rate bound morphemes, which have no underlying accent to prevail in accentual resolution. Diachronically both morphemes (*su-, dus-*) grammaticalized from full lexemes. Vedic *dus-* and its various congeners originated as a full lexical item; a good candidate is the pre-PIE neuter *s*-stem noun ***déws-s-* 'lacking' (cf. Dunkel 2014: s.v. *du-, *dus-, pp.161-4). PIE **dus-* has become a bound morpheme certainly by the age of Indo-Iranian, in all likelihood already within PIE. Ved. *su-* supplies another candidate for an unaccented, bound morpheme. The prefix *su-* relates etymologically to the particle *sú* in early Vedic.[63] The particle *sú* is a frozen relic, soon to be lost from the language; the first member prefix *su-* knows a grander destiny.

Precisely when these prefixes lost the morphophonological feature of accentedness, i.e. when *su-, dus-* and their forebears grew unaccented, is hard to tell, since no clear indications come from Ancient Greek, where the Law of Limitation has effectively erased any potential evidence. Relying on Vedic alone we could project the unaccented prefixes back to the PIE level, but we do so rashly in the absence of a check on the reconstruction (to say nothing of a *tertium*!). Synchronically and descriptively, when the first member *su–* is used in a bahuvrīhi compound, it surfaces without accent. Using surface accent to diagnose underlying features, I analyze *su-, dus-* as contributing no accent to the compound. Under such a reading, surface *sumánas-* results from underlying /su + mánas/. Had the first member possessed an underlying accent, i.e. had it been underlying /sú + mánas/, I predict an accent like *prá-manas-*, i.e. ^{X}*súmanas-*. I illustrate the synchronic accentual properties of *su-, dus-* below:

(52) Preverb + Noun: /prá + śrávas/ → *prá-śravas-* 'of advancing fame'

(53) Particle + Noun: /su + śrávas/ → *su-śrávas-* 'having good renown, fame'

If this analysis proves correct, and the underlying accentual properties of unaccented *su-, dus-* determine whether the compound's accent can fall on the first or second member, the analysis should not confine its remit to the *s*-stem adjectives, since they are not the controlling

[63] See Mayrhofer (1986-2001: s.v. su, II.734-6; though note there are dissenting voices), and Dunkel (s.v. *$h_1$sú* pp.299-305). Concerning the deeper prehistory of *su-* in compounds, Nussbaum (2014: 229-31) reconstructs a radically different first member. For him, the first member was *h_1ó/ésu-*, an "acrostatic" noun. He analyzes the zero-grade of the compound *$h_1$su-*, a stem allomorph problematically missing in his base paradigm *h_1ó/ésu-*, as the result of a phonological rule of vowel deletion. He asserts that the first compound member position, at least in possessive compounds, "conditioned maximal apophonic reduction– presumably because the second compound member was originally accented." In support, he cites other zero-grades in the first member, such as the negative particle *$n̥$- (to **ne* 'not'), and especially **dr-u-* 'wood' (to **dóru*) and **ĝn-u-* 'knee' (to **ĝónu*). Nussbaum's proposal is an intriguing one, and would allow an alignment of his proposed *h_1o/esu-* with the other zero-grade forms of *u*-stem adjectives in compounds. While his proposal may be right for a deeper stage of PIE than I am working with here, his reconstruction does not seem to address any of the accentual data of Greek or of Vedic, so sheds little light in this domain. In the present document I restrict my focus to explanations of accentuation in the oldest texts and in the immediately reconstructible ancestor of Greek and Indo-Iranian.

force of the compound's accent. Instead, our analysis should generalize to other exocentric compounds regardless of the stem class of the second member, a prediction happily borne out (illustrative examples, all RV):

(54) Accented Preverb prá + Primary noun

a. -as-: *prá-cetas-* 'attentive', *prá-śravas-* 'of advancing renown'
b. -man-: *prá-bharman-* 'presentation'
c. -ti-: *prá-nīti-* 'guidance', *prá-bhṛti-* 'gift', *prá-mati-* 'solicitude', *prá-tūrti-* 'of advancing speed'

(55) *su-, dus-* + Primary Noun

a. -as-: *su-mánas-* 'kindly', *su-śrávas-* 'of good renown'
b. -man-: *su-mánman-* 'well-disposed', *dur-mánman-* 'ill-disposed', *su-kárman-* 'whose actions are good'
c. -ti-: *su-matí-* 'favor', *dur-matí-* 'ill-willed', *su-nītí* 'of good guidance'
d. -tu-: *su-mántu-* 'of good contemplation', *su-ketú* 'lovely beaconed', *su-krátu-* 'of good resolve'

In dispute is what drives the non-accentedness of the first member. Wackernagel (1909), in an influential proposal, remarked on the tendency ("Tendenz") for first members in *i, u, ṛ* to remain unaccented in exocentric compounds.[64] He then tied this tendency to other cases of unexpected accentuation; for instance, the same non-accentuation of *u*-stem adjectives takes place in other categories, such as the superlative, e.g. *puru-táma-* 'many', despite the secondary comparative and superlative suffixes (here *-tama-*) not regularly imposing an accent on the base-form. Wackernagel (1914a) continues the discussion, adding in the PIE syllabic nasals as another phonological category of unaccentable, or at least less accentable, vowels. This tendency towards non-accentuation in Vedic, and by extension in PIE, Wackernagel connects to a *curiosum* in Ancient Greek accentuation: abstracts in -τητ- almost always show paroxytone accent, but in just a few items having these vowels, or deriving from them, the Alexandrian critic Aristarchus held that Homeric tradition employed oxytone accent, e.g. βραδυτής, -τῆτος 'slowness', ἀνδροτής, -τῆτα 'manhood' (see my discussion in an earlier chapter, §2.1.1). Thus the weaker accentability of high vowels *i, u* and the syllabic liquids and nasals[65] would be an inherited feature. Wackernagel's account is in itself plausible, and at a theoretical level would enjoy wide cross-linguistic support on the graded judgments of vowel accentability (i.e. high front vowels are less accentable than lower, backer vowels).

But a number of facts conspire against his analysis, as critiqued at length by Rysiewicz (1948). First, counterexamples are legion. Accented high vowels are indeed the rule in certain classes; for instance *u*-stem adjectives are oxytone in Vedic (and in Greek for that matter); *-tí-* stem abstract nouns are basically always oxytone in the Rig-Veda (Lundquist 2015b); etc. As a phonological constraint against a surface accent on a high vowel, the rule knows far too many exceptions to be credible. Furthermore, as mentioned earlier (§2.1.1), the Vedic evidence is

[64] I discuss the other items beyond *su-, dus-* below, §3.4.1.2.

[65] This statement translates Wackernagel's "die geringe Fähigkeit des *i u* und der sonantischen Liquidae und Nasale zu Hochtonigkeit" (Wackernagel 1914a: 29).

weak where Wackernagel needs it to be strong. The corresponding number to Greek nouns in -τητ-, viz. Vedic nouns in *-tāt(i)*, are not oxytone; the sole Rig-Vedic instance of a *-tāt-* formation built to a high vowel base is *vasú-tāt-* 'goodness', hardly inspiring confidence!

Similar problems arise with the inclusion of the syllabic nasals to this list. Kiparsky (fthcm.: 53) follows Wackernagel's account for the syllabic nasals, mentioning in particular *sa-* (associative prefix) and negative *a(n)-*. But, again, the analysis is not cogent. It is hard to accept that the morphemes in question still had underlying syllabic nasals at the period when many of the compounds were created. For items whose creation postdates the change of **n̥ > a(n)*, the syllabic nasal constraint cannot condition the accent.[66] More problematically, by enfolding *a(n)-* into the same phonological rule as *sa-*, Kiparsky would predict that the two inputs produce the same outputs, which is not the case: *sajóṣas-* 'jointly, in fellowship' (e.g.) patterns with *su-, dus-*, whereas *acetás-* 'thoughtless' goes its own way, accenting the right-edge of the stem. *sa-* counts as a difficult case, since it shows genuine variation; nevertheless, that variation supports the analysis in which the the morphology, and not the phonology, determines the accent of compounds with *sa-*. Speakers treated *sa-* as a preverb like *pra-* or else a prefix like *su-*, at any rate, not equivalent to negative *a(n)-*.

What I have said so far holds for bahuvrīhi compounds composed of nominal second members, inclusive of neuter *s*-stem nouns. A special class, however, presents an obstacle for my account (and for any account I am aware of): the accent of *su-* with verbal adjectives in *-ta-*, e.g. *sú-kr̥ta-* 'well-made'. If I am right that *su-* lacks an underlying accent (this is how I explain forms like *su-śrávas-*), and if the accent of *kr̥tá-* derives from underlying /kr-tá-/, then my explanation fails, since /su + kr̥tá-/ would yield **sukr̥tá-*. Other accounts, at least those aiming to explain rather than describe the data, either fail on, or merely ignore, this data. Kiparsky (2010: 175-6), for instance, analyzes synthetic (*upapada*) compounds with a participle or deverbal adjective as accented on the first member, e.g. *devá-jāta-* 'born of the gods, god-generated', an accent that will fall out from the BAP. That is, he can treat an example such as *devá-jāta-* entirely in line with e.g. *ugrá-bāhu-*, by setting up /devá- + jātá-/ and letting the first member accent win in resolution. He explicitly discusses only one exception: the accent remains on the second member when the first member is an oxytone ending in a high vowel or *r̥*. I believe that Kiparsky would have to analyze *súkr̥ta-* 'well-made' as /sú + kr̥tá/, with an underlying accent on /sú/, in order for it to be aligned with *devá-jāta-*. I cannot see any other mechanism in his machinery to derive this first member accent. However, we have seen that there stands powerful evidence against an underlying /sú/, and Kiparsky's invocation of the "high-vowels-and-*r̥* rule" is too problematic *per se* to be of much use, and at any rate fails in this context.

I do not have a definitive analysis of this problematic data. However, one point may be mentioned here. Just as we argued that *su-* must differ accentually from *prá-* in order to explain the contrast of *su-śrávas-* vs. *prá-śravas-*, so verbal adjectives in *-tá-* must differ accentually from oxytone nominal stems in order to explain the contrast between *sú-kr̥ta-* and *su-śrávas-*. Descriptively, we could state that the bahuvrīhi rule of accentuation holds when the second

[66] One could elude this criticism by claiming that the syllabic nasal originally conditioned the non-accentuation, and that the non-accentuation feature has become engrained in the lexical representation. Though possible, such a claim would be at least more convoluted than Wackernagel's original proposal; and the accented forms of the negative and associative prefixes (e.g. *sácetas-* 'single-minded') would remain hard to account for.

member derives from a noun; when the second member is an adjective, it loses its accent within the derivation. If we maintain that a nominal second member and an adjectival second member categorically differ, in terms both of word-class and of accentuation, then a different derivation for the adjectival second members may be envisaged. As a tentative proposal, we may derive surface *sú-kṛta-* from underlying /su-kṛta-/. Its surface accent would result from the BAP, the leftmost accentable syllable is accented, calculating over an input with no accents at this stage of the derivation. For this proposal to work, we need adjectival members to have accent deleted in a way that crucially does not occur with nominal second members. Whether this proposal best explains the data will require further demonstration. For the moment, I restrict my claims to nominal second members of bahuvrīhi compounds, and in particular the *s*-stem adjectives, which are the focus of this chapter.[67]

3.4.1.2 Excursus: Exceptions to the Exceptions

Whether *all* compounds accented on the second member should be accounted for along the same lines is harder to say– that is, whether all cases are due to an inherently unaccented first member losing out in resolution. The list is made up of diverse items, one unifying characteristic of which is their vowel-final stems. Coupled with the preceding unaccented first members, or at least *su-*, these items provide the basis for Wackernagel's phonological restriction against accenting PIE high vowels, liquids, and syllabic nasals. I have argued that the unaccentedness of *su-, dus-* owes more to their morphology as prefixes than to the vowel quality they possess; I will now suggest that the remaining less accentable first members also owe their special quality to morphology.

Other first members inducing an accent on the second member in its "natural place", with special reference to the *s*-stem adjectives, include some items that we may classify as bound morphemes, so unproblematically understood as less accentable. A prime example is *tuvi-* 'powerfully', a compositional first member with "Caland" morphology.[68] Other less accentable first members include compounds with numerals in a compositional form (*dvigu* compounds), like *dvibárhas-* 'doubly lofty'. Further cases include *u*-stem adjectives, some of which induce second member accent, as for instance compounds with *āśu-*, *uru-* 'wide', *tṛṣu-* 'greedy', *pṛthu-* 'broad', *vīḍu-* 'firm'. Lastly– and this item proves most difficult for my account– compounds in *nṛ-* 'men/man' are likewise accented on the second member: *nṛ-cákṣas-* 'seeing men/seen

[67] As an additional complication (as if one were needed!), Macdonell (1910: 91) (repeated in Macdonell 1916: 454) claims that a derivational process exists in Vedic whereby forms like *sú-kṛta-* 'well-made' may derive a substantive or a proper name by shifting its accent "from one member to another." He cites *su-kṛtá-* n. 'good deed' as a case in point, which would effectively form a minimal pair with the preceding compound. But this minimal pair does not in reality divide so cleanly in the Rig-Veda. *su-kṛtá-* occurs 8x in the Rig-Veda, 5x in the genitive singular (3.29.8b; 10.61.6d; 10.71.6d; 10.85.24c; 10.95.17c), always ending a triṣṭubh cadence (+ a disyllabic noun). In four verses Jamison and Brereton (2014) translate it as 'well/rightly made/performed'; only in 10.95c do they translate "of a good deed". The other three occurrences of oxytone *sukṛtá-* are in the neuter plural: once translated "well-done" (1.162.10;), while in 3.60.4c it is "good ritual acts", and in 7.35.4c "good deeds". Probably the whole question of derivation through accent shift alone, and at least the example at hand of *súkṛta-/su-kṛtá-*, deserves to be looked at anew.

[68] For one analysis of which see Rau 2009: 135-6.

by men', *nṛ-péśas-* 'having men as adornment', *nṛ-máṇas-* 'of manly mind', *nṛvā́has-* 'conveying men'.

Excluding for the moment *nṛ-*, I propose that the inherent unaccentedness of the first member unites these unaccented first members of bahuvrīhi compounds. Some items lack inherent accent because they are bound morphemes (*tuvi-, dvi-* fall in with *su-, dus-*); some because they are *u*-stem adjectives, arguably another category lacking inherent accent (as I discuss §1.3). Seen in this light, the rule Wackernagel lays down to explain the unaccentedness emerges only as an epiphenomenon: because certain items possess no inherent accent, those same items cannot prevail in an accentual clash. Many of these items do indeed terminate their stems in high-vowels, or *-a-* deriving historically from a syllabic nasal; but this coincidence of vowel and (non)accentedness does not emerge from a phonological restriction. Minimal pairs help clarify the division: *bā́hú-ojas-* 'whose strength is in his arms (*bā́hú-*), strong-armed' shows that a first member in final *-u-* may be accented, if that member is a noun; contrariwise, a *u*-stem adjective as first member surfaces without the accent, because the first member never had an inherent accent to win out. The morphophonology of the *u*-stem adjectives drives the accent of the compound: an adjective like *purú-* 'much, many' loses its accent not only in bahuvrīhi compound, but also in the superlative (*puru-táma-*), just as other *u*-stem adjectives yield their stem accent to the suffix *–mant-* in further derivation (a point elaborated at §1.3.2). We must specify that the unaccentedness as a property pertains to the *u*-stem adjectives, not to the category "adjectives", because bahuvrīhi compounds like *ugrá-bāhu-* 'strong-armed', obviously forming a corresponding number to *bā́hú-ojas-*, demonstrate that an adjectival first member may be accented.

A list of items follows, tallying all compounds whose first members induce second member accent of *s*-stem adjectives in the Rig-Veda, excluding those in *su-*. I draw mainly from the reverse index of Grassmann (1873), though with numerous modifications. I discuss items excluded, but requiring in-depth philological evaluation, following the list of forms. The items are listed according to their stems, not their inflected forms, since these can be recovered easily enough. However, my list departs from Grassman's reverse index in one important respect: whereas he catalogs forms inferred from derivatives, I count only forms actually attested in the Rig-Veda as *s*-stem adjectives. For instance, he gives *su-psáras-* 'well-delighted, with good delight', though it occurs only as a superlative (8.26.24a) *supsárastama-*. Though the superlative in all likelihood implies the adjective *supsáras-*, nonetheless I decline to include it here. Similarly, if in fact more complexly, Grassman's *tuví-śravas-* 'powerfully famed' occurs only as a superlative *tuvíśravastama-* 'most powerfully famed'. This item complicates our analysis since *tuvi-* mostly surfaces without accent; **tuví-śravas-* would constitute an exception. However, the derivation is less straightforward, since the superlative suffix is involved, and the item is better excluded until one achieves a secure analysis of the *s*-stem adjectives.

(56) *s*-stem adj. with second member accent in the RV

a. *agni-tápas-* 'with blazing heat, blazingly hot'

b. *āśú-héṣas-* 'with swift missiles'[69]

[69]This translation follows Jamison and Brereton (2014), who compare the compound to *héṣas(-vant-)* 'weapon', contra Geldner (1951), who translates 'Rosstreiber'. Perhaps relevant to the compound is *āśú-héman-* (5x); although the latter item looks like a bahuvrīhi formed to a nominal abstract in –

c. uru-: *uru-cákṣas-* ‘of broad gaze’; *uru-jráyas-* ‘of wide expanse’; *uru-vyácas-* ‘of wide expanse’
d. *kṣetra-sā́dhas-* ‘assuring success’, discussed further below, perhaps not a bahuvrīhi
e. tuvi-: *tuvi-ójas-* ‘powerfully strong’; *tuvi-rā́dhas-* ‘powerfully generous’
f. *tṛṣu-cyávas-* ‘stirring thirstily’
g. dus-: *dur-óṣas-* ‘badly burning’ (?) (4.21.6c)
h. *dvi-bárhas-* ‘doubly lofty’
i. nṛ-: *nṛ-cákṣas-* ‘whose eye is on men, seeing men’ also ‘drawing the gaze of men, seen by men’; *nṛ-péśas-* ‘having men as adornment’; *nṛ-mánas-* ‘of manly mind’; *nṛ-vā́has-* ‘conveying men’
j. puru-: *puru-dáṁsas-* ‘very wondrous’; *puru-péśas-* ‘much adorned’; *puru-bhójas-* ‘of many benefits’; *purū-rávas-* PN Purūravas; *puru-várpas-* ‘possessing many forms’; *puru-vépas-* ‘much pulsing’
k. pṛthu-: *pṛthu-jráyas-* ‘with broad expanse’; *pṛthu-pákṣas-* ‘broad winged’; *pṛthu-pā́jas-* ‘of broad visage, of broad side’; *pṛthu-śrávas-* PN Pṛthuśravas
l. *vīḍu-dvéṣas-* ‘strongly hating’
m. *śúci-peśas-* ‘blazingly ornamented’
n. sa-: *sa-jóṣas-* ‘in concert, of one accord’; *sa-práthas-* ‘wide-spread’; *sa-bā́dhas-* ‘urgently, eagerly’
o. su-: *su-ápas-* ‘whose work is good, good workers’; *su-ávas-* ‘of good help’; *su-ójas-* ‘of great strength’; *su-cákṣas-* ‘of good eye’; *su-cétas-* ‘of good perception’; *su-dáṁsas-* ‘of wondrous power’; *su-péśas-* ‘well adorned, well bedizened’; *su-bhójas-* ‘well-nourishing’; *su-mánas-* ‘benevolent’; *su-rā́dhas-* ‘very generous’; *su-várcas-* ‘well lustrous’; *su-vā́cas-* ‘possessing holy speech, eloquent’; *su-vā́sas-* ‘well clad’; *su-śrávas-* ‘of good fame’

I exclude on philological grounds a few items usually included. For instance, Grassmann (1873) gives the lemma *abhibhūti-ójas* ‘von überragender Kraft’, which would occur 6x as a possessive compound (always line-final); the adjective *abhíbhūti* occurs a further 10x, once modifying *ójas* (Grassman 337.4 = 4.41.4d). As far as the accent is concerned, I believe Grassman is following the authoritative printing found in Böhtlingk and Roth (1853-1875), s.v. *abhíbhūti-* (with accent sic), nn.1 and 2, p. 341, *abhibhūtyójas-*. If correctly transmitted, *abhibhūti-ójas* would afford an example of a first member inducing second member accent in its natural place. Wackernagel (1905: 301) treats it accordingly. But I am yet to find any editor of the Rig-Veda itself who prints the accent on *-ójas-*. Max Müller (1890) gives the saṁhitā text ad 4.41.4d as *abhíbhūty ójas*, i.e. an *i*-stem adjective modifying a neuter noun *ójas-*, and he gives the pada-text as *abhí–bhūti | ójas*. In the other passages, where the item is more clearly a compound, Müller records the saṁhitā text *abhíbhūtyojas*, reporting no variant orthography in his *lectiones variae*, and records the pada-text as *abhíbhūti-ojas*. This is the same reading presented in both editions of Aufrecht (1861, 1877), and so too in the edition derivative of Aufrecht, van

man-, Wackernagel (1905: 174-5) treats it as a determinative compound with a verbal noun as second member (a verbal governing, or *tatpuruṣa* compound), translating “rasch hineilend”. Jamison and Brereton (2014) ‘swiftly speeding’ (et sim.).

Nooten and Holland (1994).[70] If I am correct in my reconstruction of editorial practice, the accentuation *abhibhūtyójas-* represents an error that has penetrated the transmission.[71] Another case relevant to the *s*-stem adjectives is what Grassmann (1873) prints as *tri-váyas-* 'dreifache Nahrung oder Labung' [váyas] 'darbringend' ('having triple vigor'), also in Wackernagel (1905: 297), no corrigenda mentioned in Debrunner (1957). Again, the editors of the text disagree: at 2.31.5d Müller prints the saṁhitā text *trívayā*, the pada-text *trí-vayāḥ*, Aufrecht *ditto*. The editors of the text seem right in this case, too. Thus my list will differ from previous accounts, since I generalize over a different data set.

In line with my analysis of the main rule of exocentric accentuation, this accentual subclass is better treated morphologically. I suggest that at least two factors are influencing the second member accent: (1) in some cases the accent is determined by the non-accentedness of the first member; (2) in some cases the *s*-stem adjective may not be a bahuvrīhi at all, but a verbal governing compound, with standard second member accent.

Regarding point 1, that some first members may be inherently unaccented, items like *tuvi-* may join *sa-, su-, dus-* straightforwardly. In all cases the first member is a bound morpheme, and accent is precluded. The change from a lexical item to a bound grammatical morpheme defines grammaticalization, and in a little known study Rysiewicz (1948) proposed a grammaticalization account *avant la lettre*. He drew attention to the change from adjective to adverb, and the ramifications thereof for accentuation. As the study is not well known, I quote at length his particularly perceptive conclusion (p.47):

> Ces faits ont une importance essentielle pour les processus accentuels. Si le premier membre du composé (qui est un adjectif) se fige en un adverbe qui par affaiblissement sémantique passe à la valeur fonctionnelle de préfixe, il devient un morphème ayant une certaine fonction dérivative, qui a son expression dans une accentuation spécifique. L'ancien adjectif devenu un adverbe à fonction de préfixe prend peu à peu la faculté de transmettre son accentuation primitive d'adjectif, qu'il possédait jadis étant un member vivant du composé.

We have seen above that *u*-stem adjectives also surface without accent in a number of categories; we posit that they are not inherently accented, so no accent can win out in resolution. Point 2, that some items may retain the accent of verbal governing compounds, requires further comment.

As I remarked above *à propos* the *s*-stem adjective *āśu-héṣas-*, the compound *āśu-héman-* looks like a bahuvrīhi formed to a nominal abstract in *-man-*, but Wackernagel (1905: 174-5)

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[70] Likewise Lubotsky (1997). As a footnote to the history of printed editions of the RV, I find it hard to know for certain what text of the Rig-Veda Böhtlingk and Roth (1853-1875) had before them as they worked on their monumental dictionary. They mention (Vorwort VI) that Aufrecht aided in Vedic matters, but the only edition cited (Abkürzungen XI) seems to be Rosen (1838), who prints no accents at all (and whose untimely death curtailed his projected edition). I believe that Roth, into whose province Vedic matters fell, made the decision to treat *abhíbhūti ójas* as *abhibhūty-ójas-*.

[71] I note here that the updated lexicon *Rivelex* (Krisch 2006, s.v. *abhíbhūtyojas-*, p.345) to its credit prints the form correctly as *abhíbhūtyojas-*, though the editors do not comment on their discrepancy with Grassman.

treats it rather as a determinative compound with a verbal noun as second member (a verbal governing, or *tatpuruṣa*, compound), translating "rasch hineilend". Jamison and Brereton (2014) translate 'swiftly speeding' (et sim.). If some *s*-stem adjectives are also best understood as verbal governing compounds, their accent may in turn align with other verbal governing compounds.

kṣetra-sā́dhas- does not clearly conform to the profile of a well-behaved bahuvrīhi. Although *s*-stem adjectives are routinely used as bahuvrīhi compounds, in this example, at least, the second member reads as a verbal governing compound. *kṣetra-sā́dhas-* arguably nominalizes a verbal phrase, such as 8.71.12d: *kṣáitrāya sā́dhase* "(we beseech Agni) to assure success to the cultivated lands" (tr. Jamison and Brereton 2014). Grassmann (1873) glosses *kṣetra-sā́dhas-* with a governing compound: "die Felder [kṣétra] segnend [sādhas von sādh]", though admittedly his bahuvrīhi glosses are inconsistent in this respect. Likewise, the Jamison-Brereton translation ("assuring success to the field") allows for interpreting 3.8.7 (and 8.31.14) as verbal governing. However, the authors base their translation not on the analysis of *kṣetra-sā́dhas-* as a verbal governing compound, but on the reading of bahuvrīhi compounds as (or at least potentially as) "providing the Y of X", so here "providing the success of the cultivated land", a reading derivative of the possessive meaning of the compounds (Stephanie Jamison, p.c.).

A further example may be *agni-tápas* (10.68.6b):

(57) *bṛ́haspátir agnitápobhir arkáiḥ*
"When Bṛhaspati with his fire-hot chants (split the feebleness of taunting Vala)..." (tr. Jamison and Brereton)

Although *agni-tápas-* is clearly an *s*-stem adjective in its context (*agnitápobhis*), in some ways it may not be an authentic *s*-stem adjective: it may be in fact an extension of an older root noun compound, as seen in *agnitáp-* 'burning like Agni' (5.61.4c). In this case it has taken over the verbal governing accent.

A small core of forms showing linguistically irreducible variation must be dealt with. Why does *sajóṣas-* 'jointly' pattern after *su-, dus-* but *sácetas-* 'singleminded' after accentable preverbs? Such discrepancy may indicate not variation in the output of a single grammar, but sociolinguistic variation spread horizontally across grammars. In some cases we find not discrepancy but aberrancy: many *u*-stem adjectives act like *su-, dus-* and *puru-* in the Rig-Veda, but (e.g.) *dhṛ̥ṣṇú-ojas-* (2.34.1a) 'of audacious power' betrays our expectations (cp. *tuvi-ójas-* 'powerfully strong'). Admittedly, I weaken my explanation by taking refuge in sociolinguistic variation, which I cannot control for at this period. However, poets composed the Rig-Veda over a relatively long period and with various linguistic registers (see, in general, Jamison and Brereton 2014: introduction), so a certain degree of variation or "noise" in the data may not shock. For languages with superior documentation, a complex picture emerges precisely with regard to sociolinguistic variation for compounds and accent (on variation in English cf. Plag (2006)).

And finally within the ranks of the irreducible residue, I cannot explain why bahuvrīhi compounds in *nṛ̥-* accent the second member. They evidently behave the same way as *su, dus, puru* et al., but their first member does not obviously belong to the same lexical category. It is possible that in some instances the second member is being treated as a verbal governing compound (as was posited for *-sā́dhas-* above). If true, the *s*-stem adjective *nṛ̥-vā́has-* would

mean 'conveying men', likely the more clearly verbal governing compound *nṛ-váhaṇa-* 'conveying men' (2.37.5a), both of which would represent a nominalization of the underlying verb *vah-*. But whether all such compounds with *nṛ-* as a first member can be so explained remains to be explored.

To sum up this section, there are good grounds to group together the various first members that do not win out in bahuvrīhi compounds: arguably they all lack inherent accents. Unaccentedness results from various causes. In the cases of *su-* and *dus-*, we are dealing with grammaticalized prefixes, whose accents have long since receded into the mists of prehistory. In the accentual clash of two members in a bahuvrīhi, the first members *su-, dus-* contribute no lexical accent, so cannot win in resolution. A number of other first members follow suit: compositional first members like *sa-, tuvi-* also contribute no underlying accent, because they, too, are bound morphemes. In the case of *u*-stem adjectives, we have diagnosed an underlying unaccentedness from various derived categories; lacking an underlying accent, that member of the compound cannot surface as accented. In terms of accounting for the accents of bahuvrīhi compounds, the preceding explanations purchase much, certainly a lion's share of the whole. However, a residue of less explicable items remains. I have offered tentative accounts above, and hope that my conclusions, necessarily provisional, will spur further research in this domain.

3.4.1.3 Excursus: Looking Forward

The first member's accentedness or non-accentedness determines the essential division in the accentuation of bahuvrīhi compounds. If accented, the first member will win out (*prá-śravas-*); if unaccented, the first member will lose out (*su-śrávas-*). A further split emerges within the prefixes/particles, dividing those whose accents remains on the second member (*su-śrávas-*) from those whose accent redounds to the right-edge (**a-śravás-*, attested *a-cetás-* 'witless'). For the purposes of comparison and reconstruction I confined myself narrowly to the evidence of earliest Vedic, since it is the strongest evidence for the language's earliest inheritance. This evidence looks archaic in part because these accentual distinctions parcel out so neatly only at this earliest stage: casting our eyes forward, we see that the neat distinctions merge into a muddle. The three items of adverbial office, viz. *su-, dus-, a(n)-* diverge accentually in the Rig-Veda, yet are of a piece in post-RV Vedic; Wackernagel (1905: 295) states thus: "Klassisch ist die Oxytonese hinter allen drei Präfixen durchgedrungen".[72]

The few Rig-Vedic forms in *su-* to diverge from the rules stated above (i.e. violating the *su-śrávas-* type) may be early instantiations of this later Vedic rule. The Rig-Veda is a chronologically "mixed" text; conflicting accentuation would make up merely one further proof thereof. As these items have been generally overlooked in the context of later Vedic forms creeping in to this earliest layer of Vedic language, I discuss them briefly here.

In the clearest cases one accent is attested for a given compound in the Rig-Veda, another

[72] Wackernagel mentions one important exception to the "durchgedrungen": in compounds with first member *su-*, despite the general trend to oxytonesis, second member *s*-stem nouns (and abstracts in *-man-*, of less concern here) continue to accent the second member on its natural syllable. In Wackernagel's formulation, ad §114bα: "Hinter *su- dus-* fällt vorklassisch der Ton meistens auf diejenige Silbe des Hinterglieds, die bei dessen selbständigem Gebrauch betont ist."

accent in a later text. These cases are not very numerous, but they are telling. For instance, in the Rig-Veda the thematic noun *phála-* 'fruit' forms the the basis of the compound *su-phála-* 'well-fruited' (4.57.6d, of the Furrow), as expected, but the poet of AVŚ (3.17.8), representing the same verse, produces *suphalá-*.[73] Whitney 1905: ad loc. with some consternation remarks: "All the pada-mss. have the blundering reading *su-phalā́* in d." The Atharva-Veda does reach us via a more fluid transmission than that of the Rig-Veda, so the word's accent may have gotten adjusted to a later standard; yet, though the reading blunders when held against the Rig-Vedic standard, it is unanimously transmitted and conforms to the larger trend of *su-* accentuation, thus may be (and in my opinion is) authentic here. In the same vein, the *u*-stem noun *bándhu-* 'connection' compounds to *su-bándhu-* 'of good connections' (8x) in the Rig-Veda, as expected, but the Atharva-Veda reads *subandhú-* (14.1.17).[74] Here, too, accentual rules of later Vedic infiltrate the tradition.

In less clear cases, the Rig-Veda itself already attests right-edge accent, thereby undercutting the grounds of comparison. For instance, *su-pīvás-* 'very stout' (1x, 10.94.11d, *supīvásaḥ* nom.pl., of the pressing stones) occurs for expected **su-pī́vas-*. Its accentuation, anomalous for the Rig-Veda, may be clarified by the post Rig-Vedic accentuation of *su-* compounds. That *su-pīvás-* crops up only once, and only in a hymn of the tenth maṇḍala, suggests that it too represents a creeping innovation. More complex is the case of *suprayás-* 'very pleasurable, pleasing' (6x). Its attestations spread more evenly across the Rig-Veda, including occurrences within the family books. Furthermore, *suprayás-* could come in theory from an internally derived *s*-stem adjective, viz. an unattested **prayás-* 'pleasing', since underlying /su + prayás-/ would yield the same surface output, *su-prayás-*; there is no way to tell for certain. I incline to understand *suprayás-* in parallel to *supīvás-*, because **prayás-* is unattested, and because an explanation for the right-edge accent is ready at hand. If correct, *suprayás-* does reflect underlying /su + práyas-/, subject to the right-edge accent more familiar from later *su-* compounds.[75]

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[73] As Stephanie Jamison reminds me, RV 4.57 is a late, popular hymn, given both its position at maṇḍala's end and its subject matter. Quite likely it exists on the same chronological level as the hymn in the Atharva-Veda.

[74] The different readings of this verse throughout the Vedas may give us pause. While there are no variants reported for this verse's *subandhú-*, in the equivalent verse– though quite different in wording– RV (7.59.12) has instead *su-gándhim* 'fragrant'; the same word is used in the mantra repetitions elsewhere in the black YV, namely TS (1.8.6.2) and MS (1.10.4). Thus, it is not inconceivable that *sugandhí-* has been corrupted to *subandhú-*, though this suggestion has not been noted before (to my knowledge) and seems gratuitous, since the word *subandhú-* makes good sense in context and follows the pattern of later *su-* accentuation. As an aside, note that both of the latter Vedic texts display the general *su-* trend we are describing here: where the RV has *su-gándhim* the latter texts both read *sugandhím*.

[75] Wackernagel (1926-8 [2009]: 771) observes that certain comparanda (especially from Greek and from Old Irish) indicate a PIE level overlap of **dus, *ḗ-*, an overlap that foreshadows their accentual fusion in later Vedic. Particularly fine is his example from the *Iliad*, δυσάμμορος 'most miserable' (δυσ-α-μορο-, *Il.*19.315; 22.428, 485), where a scholiast ad loc. (*Sch.Il.*BT ad 22.428b, Erbse) comments: δυσάμμορος: δεδιπλασίακε πρὸς τὴν ἐπίτασιν· τὸ γὰρ δυς καὶ α ταὐτὸν δηλοῦσιν "[Homer] has doubled (the prefix) for intensification (ἐπίτασιν), since δυσ- and α- mean the same thing" (tr. JL).

3.4.2 Discussion of the Evidence

Many scholars have treated Greek oxytones like εὐμενής as representative of the oldest accentual class. Such a reconstruction entails that Proto-Indo-Iranian has undergone large-scale innovations in accent and in ablaut, a position Stüber (2002) maintains. Stüber's 2002: 42-3, 189-90 judicious pruning of the evidence reduces severely the Vedic evidence adduced in direct support of hysterokinetic reconstruction. She allows for a single form: *āhanás-* 'bulging(?), moist; lubricious' (discussed below); and one class of forms indirectly supporting the reconstruction: simplex *s*-stem adjectives like *apás-* 'active'. Stüber (2002: 42) rightly excludes the privative compounds in *a(n)-*, despite their surfacing with right-edge accent (e.g. *anāgás-* 'guiltless'), since negative *a(n)-*, when compounded with a noun, derives right-edge accent regardless of stem class. For instance, thematic *vr̥ka-* in /a + vr̥ka-/ → *a-vr̥ká-* 'not having wolves,' or athematic /a + bhrā́tar-/ → *abhrātár-* 'brotherless.' In Greek, by contrast, alpha privative creates recessive stems (except of course in the *s*-stems), e.g. thematic ἀ + σοφός → ἄσοφος 'unwise.' Negative **n̥-*, in PIE terms, is a seperate problem.[76]

Stüber (2002: 42-3, and cf.213-16) posits the following diachronic steps to attain the attested Vedic situation:

- Stage I: *s*-stem compounds were originally accented on the suffix, preserved in the lone archaism *āhanás-*, and in adjectives like *apás-*, putatively from *su-ápas* « **su-apás-*.
- Stage II: Next, the accent-place conformed to the neuter base-form, so **su-apás-, *su-śravás-* metamorphose to *su-ápas-, su-śrávas-* etc.[77]
- Stage III: Finally, the general rule of bahuvrīhi accent (first member) was introduced into the *s*-stem adjectives, whence *prá-śravas-* etc.[78]

A number of problems debilitate this analysis. First, the last two stages are presented in a critically ordered chronological relationship, otherwise *su + śrávas-* would yield *X sú-śravas-*, or an earlier *prá + śrávas-* would yield *X pra-śrávas-*. I know of no independent evidence for the assumption that the last two stages of accentual prehistory happened in historical succession. Evidence against this relative chronology comes from matches between Greek and Indo-Iranian. Second, it is not clear that the simplex adjectives of Vedic derive from compounds. The Vedic forms can as well come via internal derivation from the neuter *s*-stem nouns, so *ápas-* 'work' n. → *apás-* 'working, active' (adj.). Such a derivation frees us from positing unattested compound accents like **suapás-* and allows us to align this type of derivation with other

[76] Kiparsky (2010: 173) proposes that PIE privative **n̥-* is a deaccenting morpheme. In this case, the deaccented stem becomes subject to phonologically imposed accentuation. That is, he envisages a two-tiered derivational process, involving as an intermediate representations an unaccented stem: Ved. /a-vr̥ka-/, Gk. /a-sopho-/. A language-specific default accent is imposed: for Greek, the recessive accent (ἄσοφος) in Vedic the "oxytone rule" (*a-vr̥ká-*). In this reconstruction, the rule of deaccentuation would be common inheritance, the language-specific default a point of divergence. For present purposes we do not need to adjudicate these competing scenarios, though it would be a worthwhile study for the future; for the data cf. esp. Knauer (1885), and (of indirect relevance) Lowe (2011).

[77] "Dann wurde die Akzentstelle an die des zugrunde liegenden Neutrums angepasst" (Stüber 2002: 43).

[78] "Schliesslich führte die allgemeine Akzentregel für Bahuvrihis dazu" (Stüber 2002: 43).

Vedic formations of the type *brā́hman-* n. 'sacred formulation' → *brāhmán-* 'possessing the sacred formulation'.[79] If created from compounds, one must finesse the chronology such that the simplex adjectives are formed at a suitably early point in prehistory where their accent could be influenced by the still oxytone compounds. Consider that for the adjective *apás-* the following compounds are attested in the Rig-Veda: *āśú-apas-* 'quickly working,' *tád-apas-* 'whose work is that,' *nárya-āpas-* 'who performs manly work' (8.93.1),[80] *vidmanā́-apas-* 'working with knowledge,'[81] *su-ápas-* 'whose work is good.' This compound set is typical: no oxytone form exists to generate *apás-*. A response to this problem would be to set back the relative chronology of oxytonesis in compounds: older **su-apás-* would influence the derivative *apás-*, then change to *su-ápas-* in the way outlined above. But *apás-* is precisely the evidence for the oxytone accent of the compounds in the first place, and this circularity weakens the argument.

Finally, the lone archaism *āhanás-* provides an insecure foundation for reconstruction. *āhanás-* is not easily defined in context: in different passages Jamison and Brereton (2014) translate "luxuriant" (9.75.5c) and "swollen" (10.125.2a) of soma; "lubricious" (of Yamī, 10.10.6d, 8c); and "bulging(?)" (5.42.13.c) of Tvaṣṭar in the belly of his daughter. That neither prefix, nor root or stem, can be segmented out, that a simplex is not found, argues caution. Mayrhofer (1986-2001: s.v. *āhanás-*) presents a careful discussion of the word's etymology: it might be of labiovelar origin if connected to *ghaná-* "Klumpen, Masse" (Brāhmaṇa+), but etymological connections he finds "fraglich," warning "doch geht dies alles über Möglichkeiten nicht hinaus." When dealing with an isolated form in the language we may well be dealing with an archaism sheltered from the tides of language change; but when we are uncertain what we are looking at in terms of morphology and semantics, and when that one item is held to be the sole piece of direct evidence for the reconstruction, caution seems in order. Given that Vedic and Greek share an ancient prosodic rule assigning accent to the leftmost accentable domain in exocentric compounds, the evidential value of *āhanás-* appears slight. [82]

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[79] The simplex *s*-stem adjectives are derived in this way by Wackernagel (1905: 19-21), who writes (p.20): "unterscheiden sich die Neutra auf –as- von den entsprechenden Adjektiven durch Wurzelbetonung z.B. v. *ápas* "Werk" : v. *apás-* "werktätig." More recently (e.g.) Rau (2009: 128) employs this schema, deriving Ved. *javás-* 'swift' from *jávas-* as an example of internal derivation (with reference to unpublished material by his teacher Nussbaum). Admittedly Wackernagel and Debrunner (1954: 222-3) do allow that some or perhaps all items derive from compounds ("zum Teil oder ganz aus den Komposita erwachsen"). Manessy-Guitton (1964) provides a primarily synchronic study of the simplicia.

[80] Stephanie Jamison registers various problems in the interpretation of this word and its related forms, online commentary ad 8.96.19 (and 21), http://rigvedacommentary.alc.ucla.edu/.

[81] But, again, Stephanie Jamison registers problems in this word's analysis, online commentary ad I.111.1, http://rigvedacommentary.alc.ucla.edu/.

[82] The kind of lexicalization envisaged for *āhanás-* depends directly on frequency effects, where an item may be lexically stored (opposed to productively processed) provided that the learner has frequent enough access to encode the irregularity (cf. Pinker 1999: 122-8). We may legitimately wonder how often the people of Vedic India talked about "moist," "bulging," and "lubricious" things.

3.5 CONCLUSIONS

We now return to a question posed at the outset of this chapter: does Ved. *su-mánās* form an equation with Gk. εὐμενής? These are equations across the languages in terms of morphology but they disagree on surface accent, indicative of a greater divergence in their underlying representation. The *communis opinio* of the day holds that the Greek type εὐμενής is oldest, the recessively accented adjectives in Greek, as well as the Vedic accentual classes, are to be derived from it. We have challenged the evidential basis for this reconstruction. The non-oxytone classes in Greek cannot be produced by the productive phonological rules of accent assignment in *s*-stem compounds; they will instead preserve an archaism from an earlier stage of the language. They agree with the Vedic first member accent (*mutatis mutandis*) and first member accent should therefore be reconstructed for the proto-language. The Greek εὐμενής class appears to be not an archaism of (pre)PIE but an innovation internal to Proto-Greek, based ultimately on the demonstrable derivational innovation whereby new *s*-stem adjectives are formed from verbs, not nouns.

Putting together the Greek and Vedic evidence, I advance a different reconstruction for PIE. The surface accent will be determined by the underlying accentual properties of the compounding members, combined with phonological rules to determine which element surfaces with the accent. In exocentric compounds, an accented first member wins (**pró* etc.). Some prefixes, long since grammaticalized as morphemes, were possibly or probably unaccented already in PIE (**$h_1$su-*,* dus-*). Morphologically, the **-es-* of the *s*-stem adjectives is to be identified with the **-es-* of the weak cases of the underlying substantive from which the adjectives are derived. An *exempli gratia* reconstruction of the diachronic steps I see leading up to Vedic and to Greek accent would be:

- Stage I, PIE Accent: */pró + k̂léwes-/ → **prók̂lewes*
- Stage II, Proto-Vedic and Proto-Greek:
  P-Ved. */prá + ćrávas-/ → **prá-ćravas-*
  P-Gk. (with law of limitation, inflected in the nom.sg.m./f.) */pró + kléwes-s/ → **prokléwēs*
- Stage III, Vedic and Greek:
  Ved. /prá + śrávas-/ → *prá-śravas-*;
  Gk. recessive class: /pró + kleēs/ → (recessive accent) Προκλέης PN;
  Gk. oxytone class: adj. (with deverbal accent) /pro-kle + ḗs/ → προκλεής* (unattested, cf. e.g. εὐκλεής, ἐπικλεής)

I have offered tentative solutions to some of the puzzles in the evolution of *s*-stem adjectives in the daughter languages: how the Proto-Greek reanalysis of first member accent came about and, relatedly, how the Law of Limitation arose; how exactly to formalize the oxytone innovation; and how the main subclass of Vedic, those items accented on the second member on the same syllable as its derivational base (type *su-mánas-*) may constitute a subspecies of first member accent, provided that the first member has no accent "by nature."

CHAPTER 4

ΦΡΑΣΙΝ in Attica and the Prehistory of the Epic Tradition

4.1 Introduction to the Problem

The earliest instantiation of hexameter poetry is not to be found in the manuscripts of the Homeric tradition but in epichoric inscriptions of the Archaic period.[1] These inscriptions, collected and edited in Hansen (1983) (hereafter *CEG*), derive from regional traditions of poetry and display phraseology that, while clearly Homeric in character, has been adjusted to local dialect. The breadth of the material does not readily lend support to the thesis that there once existed full-blown epic traditions of the size and scale of Homer flourishing outside Ionia in the Archaic period,[2] and should rather be taken to indicate that hexameter poetry flourished on some scale, and regularly permitted regional features. For our present purposes, of particular interest will be the fact that these regional traditions possessed formulas or phraseology arguably independent of, even if ultimately dependent on, the mainstream Homeric tradition. I would like to offer one such case: φρασί in *CEG* 28 (Attica, ca. 540-530), indisputably the inherited form of the dat.pl. of φρήν 'midriff; heart; mind' ((alias?)),[3] but not indisputably "Attic." As I will try to demonstrate below, the dialectal distribution of attestations for this archaic form, which cluster in West Greek dialects, taken with the form's absence from all Attic records (save the one inscription under discussion), suggests that the lone Attic example may not be Attic at all but instead may bear witness to a formulaic phraseology inherited from the literary traditions of the Greek west. We will see that there are other examples of Doric literary language penetrating into the poetic language of Archaic Attica, supporting the thesis that the form φρασί should also be viewed in this light. The present chapter is intended to shed light on the para-epic traditions active in the Archaic period of Greece.

4.2 ΦΡΑΣΙ

On etymological grounds the expected dative plural of φρήν would be φρασί from earlier *$p^hrn̥sí$.[4] That the *a*-vocalism of φρασί is older than the usual φρεσί cannot be doubted: it shows

[1] This chapter expands on and updates my paper Lundquist (2016b).

[2] See Cassio's (2009: 190-2) severe critique of "continental epic."

[3] The gloss just given is that found in *LSJ* and it will suffice for present purposes; a more nuanced understanding of the semantics (with a wealth of bibliography) is found in the large entry in *LfgrE* (Snell et al.) s.v. φρένες, φρήν pp.1013-1035 (Nordheider).

[4] On the etymology Chantraine (1999) and Frisk (1960-1972) reconstruct *$*g^{wh}ren$-* based on Old Norse comparanda; Beekes (2010) demurs. The Gk. φρ- onset could go back to either *$*g^{wh}r$-* or *$*b^hr$-*. The is-

the expected vocalization of *ṇ > *a* (on this change cf. Rix 1992: 157, Sihler 1995: 294, §286.4a). This expected dat.pl. ending is found rarely in a few other nouns belonging to the declension of sonorant stems in Greek (Rix 1992: 157-8); for instance, within the *n*-stems we find forms such as the dative plurals Cret. πλιασι 'more' and Myc. *te-ka-ta-si* /tektasi/ 'carpenters' (in TH Fq 247, cf. alphabetic τέκτων). The phonologically expected *a*-vocalism has mostly been replaced by the vocalism of the oblique stem seen in e.g. φρεν-ός gen.sg., φρεν-ί dat.sg., etc. whence dat.pl. φρεσί, or e.g. τέκτων 'carpenter, joiner', τέκτον-ος gen.sg., τέκτον-ι dat.sg. etc. whence dat.pl. τέκτοσι.[5] The sole attestation of the form with *a*-vocalism φρασί occurring in Attic (or Ionic) is found in *CEG* 28 (Attica, ca. 540-530?), a short funerary epigram in elegiac distich, honoring an otherwise unknown Thrason:

(58) ἄνθροπε hὸστείχε[ι]c : καθ' οδὸ|ν : φρασὶν : ἄλα μενοινῶν, :
cτῆθι | καὶ οἴκτιρον : cῆμα Θράcονος : ἰδόν.
'O fellow, you who walk down the road having other things in mind, stop and take pity, when you have seen the tomb of Thrason.'[6]

In the corpora of Attic and Ionic Greek, which consist of both rich inscriptional material and literary documents, this is the sole occurrence with *a*-vocalism. And it is not that the form φρεσί is rare. Although largely absent from prose authors, it is abundantly attested in poetry: in early elegiac authors it occurs repeatedly in Theognis, once in Tyrtaeus (*fr.*10.17 West^2) and among Attic authors roughly contemporaneous with our inscription it occurs numerous times in Aeschylus as well as occurring once in Solon (fr.4c.1 West^2).[7] Important in these cases is that we never find φρασί and so far as I am aware never once a *varia lectio* for φρασί in any manuscript. Its absence is striking, since we might have expected to find it at least once in at least one Attic author if it had been in real use in this period— exactly as it is found, in fact, in our manuscript tradition of Pindar, to be discussed below (§4.3).

The argument that an archaic form is absent from our paradoses and is therefore unlikely to have been linguistically real is not in itself decisive, given that there are certainly other cases where later orthography has infiltrated the whole tradition, leaving the likely original orthography to be inferred and so restored by bolder editors. For example, there are a number of cases in Aeschylus where the orthography of the paradosis almost certainly does not reflect that of the autograph and likely earliest exemplars; see the discussion in West (1998a: XXVff.). More recently (and more controversially) West (2001b: 163) invokes this same principle for editing the text of Homer.[8] In fact, earlier scholars and editors made an effort to restore φρασί

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sue could be decided by a Mycenaean attestation (since this stage of the language precedes the changes undergone by *g^{wh}-) but no clear data has yet come to light. The whole issue is tangential to the point at hand, so I leave it aside here.

[5]On this point, with special reference to the Mycenaean material, see Maurice (1988).

[6]All translations my own unless marked.

[7]Solon stands closest in time to our inscription, fl. 7th/6th cent; on his dating see the latest appraisal by Noussia Fantuzzi (2010: 4).

[8]He writes, "The editor cannot assume, any more than in other authors, that the true text is necessarily preserved somewhere among the documentary sources. It can hardly be the case that there are no early corruptions affecting the whole tradition... [s]ome intervention may accordingly be necessary

into the text of Aeschylus. Kock (1910: 6), for instance, argues that the form φρεσί in our manuscripts of Aeschylus, for φρασί, ought to be blamed on the scribes' overfamiliarity with Homeric φρεσί: "...[sc. forma φρεσί] a librariis, quibus Homericum illud φρεσίν notum erat, codicibus inseri potuit." Such a solution has not been adopted by any of the recent editors of Aeschylus, and rightly. On this point West (1998a: XXXIX) gives an important assessment:

> Pro φρεσίν passim φρασί edidit Kirchhoff, antiquiorem formam quae et in Pindaro legitur et sane paullo ante Aeschylum natum Atheniensibus adhuc nota erat (v. titulum sepulcralem in Thrasonis memoriam factam, *CEG* 28), neque excludi potest quin et ipse noverit. Cum autem in tragoedia vestigium eius exstet nullum, non est cur credamus eam etiam quinto saeculo Athenis in usu fuisse.[9]

We have just seen that φρασί occurs only once in Attic Greek and is otherwise absent from the texts of early Attic authors. Yet it must be acknowledged that this descriptive fact does not decide the question of whether φρασί existed in spoken Attic in the 6th-5th centuries, since the earliest Attic authors regularly employ poetic dialects suited to their genres. That is, Solon composes in a language clearly based in Ionic poetic tradition and Aeschylus owes much to Doric and Ionic for his dramas, so neither author (and the same holds for other earlier Attic authors) offers direct testimony for spoken Attic dialect. With this in mind, it becomes possible to view our negative evidence from Attic as indicating only that the form φρεσί with *e*-vocalism was marked out as Ionic and preferred for literary composition, while the form φρασί would be parochial and avoided. Under this analysis, φρασί will have been the inherited form in Attic, while in Ionic it was early replaced by φρεσί; in Attic authors, the use of Ionic as a literary dialect brought in φρεσί to all surviving examples, save for *CEG* 28, which would then represent an Attic archaism, presumably because the composer of the epigram did not have access to the prestige form φρεσί. This analysis is the *communis opinio* (if seldom made explicit) and cannot be excluded as a possibility.

There is, however, reason to be hesitant about this possibility. While φρασί is attested on an inscription from Attica, it is found only in a hemistich "rich in epical language" (Friedländer and Hoffleit 1948: no.83), hardly straightforward evidence for spoken Attic dialect. While rightly judged "epic," φρασί as such never actually occurs in our attested epic. The expected Ionic form φρεσί is found hundreds of times in epos, in Homer (*Iliad, Odyssey*), in Hesiod (*Th., Op., Scut., frr.*), and in the Homeric Hymns. Consider the following parallels from the epic corpus, all line-final.[10] These parallels point to diffusion of language, from Homer to the epigram in Archaic Attica.[11]

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without manuscript support..." Not all editors would subscribe to this view, but it is a powerful one to contend with.

[9]"In place of φρεσίν Kirchhoff everywhere edited to φρασίν, the older form that is read in Pindar and surely was known to Athenians up to just a bit before the birth of Aeschylus (see the funerary inscription made in memory of Thrason, *CEG* 28), nor can it be excluded that he himself knew it. Since, however, in tragedy no vestige of the form is extant, there is no reason why we should believe it to have remained in use in fifth-century Athens" (tr. JL).

[10]Text of the *Iliad* from West (1998-2000), of the *Odyssey* Allen (1917).

[11]On the links between epic and *CEG* 28 see further Ecker (1990: 168-173). On the (irrelevant) fluctua-

(59) Parallels to φρασὶν ἄλλα μενοινῶν *CEG* 28 'thinking other things in mind'

a. καὶ τὰ μὲν οὖν ἤειδε, τὰ δὲ φρεσὶν ἄλλα μενοίνα (*h.Merc.* 62) "As he sang all that, his mind was already on other things." (tr. West 2003)

b. νόος δέ οἱ ἄλλα μενοινᾶι (*Od.* 2.92= *Od.* 13.381= *Od.* 18.283) 'her mind is intent on other things'

c. ...ἄλλον ἐνὶ φρεσὶ μερμήριξε (*Od.* 2.93) 'this trick she devised in her mind'

d. ὅ τι/ὅσα/ μετὰ φρεσὶ σῆισι μενοινᾶις (*Il.* 14.221, al. 6x) 'whatever you intend in your mind'

e. ἐνὶ φρεσὶν ἄλλα μεμήλει (*Od.* 1.151) 'considers others things in mind'

f. ἔλπετ' ἐνὶ φρεσὶ ἠδὲ μενοινᾶι (*Od.* 21.157) 'one hoped in his mind and intended'

These parallels from Homeric Greek indicate unambiguously that our inscriptional φρασὶν ἄλλα μενοινῶν is Homeric; the near equation with φρεσὶν ἄλλα μενοίνα (*h.Merc.* 62), coupled with its many close formulations, demonstrates that it participates in a more widespread formulaic network. While it is not hard to establish that the line is "Homeric," it must be emphasized again that in Homer there is only φρεσί(ν) with *e*-vocalism. Whether φρασί represents a real Attic form at all is uncertain, and this is essentially the position arrived at by Threatte (1996: 122), who writes, "Although this is probably the older form of the dative, the Attic example is metrical and may thus not be evidence for the normal spoken form, although the Attic example is older than the Pindaric." The form φρασί, then, has been and should be considered an archaism, but that it is an archaism in Attic may be challenged.

We should notice at this point that there are also personal names in Attica whose first compound member is Φρασι- (most famously Φρασίκλεια, *CEG* 23, ca. 540?), arguably a dative plural form like Homeric Ναυσι-, Χερσι- (Risch 1974: §24a), and thereby evidence for an inherited φρασί in prehistoric Attic. Again, nobody (I suspect) would dispute that φρασί was inherited into Attic and later lost; the question is where φρασί in *CEG* 28 lies in relation to the analogical replacement by φρεσί. One possibility is that these names represent the source of our archaism. In this scenario, personal names in Φρασι- induced the poet to replace his at-home φρεσί with φρασί (this scenario was raised during an oral delivery of an earlier version of this chapter). Against this proposal, there exists no parallel case, so far as I am aware, to suggest that an archaism could be drawn out of personal names in this way. Additionally, and more damagingly, such an explanation ignores the abundance of West Greek evidence for φρασί to be discussed immediately below (§4.3). It is, moreover, not above questioning that the personal names in Φρασι- are built from the dative plural. Brent Vine (p.c.) suggests the following derivation for the personal names in Φρασι-, a scenario that has much to recommend it: these forms *looked* like the other compounds in –σι-, whether originally from *- *si*- (τερψίμβροτος type, itself of polygenetic origin, see Vine 2004, and now Tribulato 2015: 174-9) or compositional forms to *s*-stems, i.e. -σ-ι- forms (Meissner 2006: 168). Due to this accidental

tion in prepositions, cf. West (1966: ad 173), who takes μετά, ἐνί and bare φρεσί as metrical alternatives. One might note as well curiously close parallels like *Il.* 2.241 χόλος φρεσίν, ἀλλὰ μεθήμων 'In Achilles' mind there is no anger, but he is forgiving'. Perhaps of greater significance is the compound ἀλλοφρονέων, 2x: ἀλλοφρονέοντα (*Il.* 23.698), ἀλλοφρονέων (Od.10.374), a denominative verb in -έω whose implied compound *ἀλλοφρον- served as the derivational base (Tucker 1990: 182). In turn, the compound would be made up of the parts seen in the syntagm ἄλλα φρεσί (μενοινῶν).

phonetic overlap the inflected forms came to be treated the same way, viz. as a compositional member in -σι-. In support of this derivation, notice that whereas we do find forms like Ναυσι-, Χερσι-, Φρασι- (Risch 1974: §24a), we do not appear to have any compounds with first members in the dative plural of the first or second declensions, since phonetic overlap with a stem in -σι- would not have occurred. In sum, the names in Φρασι- do speak to an inherited φρασί in prehistoric Attic, but the relationship of the names to the single attestation here is not straightforward.

In our case an alternative scenario for the inheritance of φρασί presents itself. Our Attic composer had access to, and was familiar with, a tradition of poetry that employed φρασί in this hemistich, and recorded it as such on the stone. Considering that the form φρασί clusters in the West Greek world (a point to be demonstrated below, §4.3), it is arguably the case that our hemistich came to Attica via a West Greek tradition, whose *Kunstsprache* we can call "Doric." This scenario gains plausibility in light of the cases where standard dedicatory and funerary epigrams were embellished with forms of Doric literary language in order to elevate the language of the epigram, a procedure rhetoricians term "auxesis." In a series of related studies Kaczko (2009, 2012, 2016) examines the motivations and uses of literary traditions in dedicatory epigrams of Archaic and Classical Attica. As regards how "Doric" features infuse Attic dedicatory epigrams, Kaczko (2012: §6) proposes that the Doric features "were inserted in the basically Attic language of the dedicatory epigrams as high-styled elements for stylistic purposes...those features were the expression of a tradition distinctively different not only from the Attic one, but also from the Ionic-epic and elegiac tradition". As cases in point of such Doric features, Kaczko (2009: 92ff.) mentions the *alpha purum* forms employed in place of expected Attic-Ionic -η in deference to the prestige of Doric lyric tradition. No one, I suspect, would suggest that *alpha purum* was exclusive to the Doric tradition, but *alpha purum* was nevertheless perceived as one of the most salient traits of choral lyric (Kaczko 2009: 94 n.13). For instance, Kaczko (2016: 84-5), commenting on the epithet of Athena ἐγρεμάχαι 'rousing the fight(?)' (dat.sg., *CEG* 194), argues that the use of Doric alpha should be interpreted as a means to raise linguistic register (opposed to influence of lyric hieratic poetry). I restate her conclusions, which, though focused on this one word, apply to the problem in general:

> The text features high-styled archaic and poetic forms, such as... ἐγρεμάχη, notably in the "Doric spelling", with retained inherited [a:] ἐγρέμαχα. The dative ἐγρεμάχαι in an otherwise Ionic-Attic text, makes this one of the few Archaic Attic epigrams that blends Ionic-Attic and Doric features... the form is the outcome of a deliberate attempt to heighten the register by resorting not to an Ionic and Ionic-epic reference, but to the prestigious world of choral lyric. It should be noted, in fact, that ἐγρεμάχη is rare in Archaic Ionic-epic poetry, moreover the form in [ε:] would also have been consistent with Attic phonology and therefore "unmarked".

Further relevant forms with "Doric" vocalism occurring in Attic verse epigrams between the 6th and 5th centuries include the following. We find it in abstract nouns ἱππουσύναι 'horsemanship' (dat.sg., *CEG* 4) and φρασμουσύναι 'understanding' (*CEG* 243). We also find it with the name of the goddess Ἀθάνα (*CEG* 235, al.), likewisein epithets applied to Athena such as ἐγρεμάχαι 'rousing the fight(?)' (*CEG* 194), ἁγνᾶι 'holy' (*CEG* 261), κόραι 'maiden' (*CEG* 284; the same epithet occurs ad *CEG* 61, 229, 243). It is also common enough to find Doric -ᾶν (gen.pl.)

for Attic -ῶν (*CEG* 1,7), etc.[12] An intriguing parallel from an Ionic inscription sheds light on the process of dialect diffusion seen in Attica. The author of a Euboean inscription (*CEG* 108, ca. 450?), presumably a native Ionic speaker, embeds within a clearly Ionic inscription the formulaic adonic ἄματα πάντα 'through all the days', apparently the Doricized adaptation of Homeric ἤματα πάντα. It is likely the Ionic inscriber's motives paralleled his Athenian counterpart: to raise the poetic register, he invokes the dialect coloring of Doric lyric even in an emphatically Homeric, specifically Ionic, context.[13]

Thus one prevailing way to raise the linguistic register was to import Doric forms into Attic inscriptions, and this same importation might explain the use of Doric φρασί in our epigram. That is, just as an Attic inscription could attain a higher literary register by using a form associated with the choral lyric tradition, e.g. using "alpha purum pro eta attico," so too could did our inscriber import a form, φρασί, from the same Doric poetic tradition in order to invoke for his epigram Doric's high solemnity. It might be taken as a measure of support that the base on which this inscription is found, an inscription whose lettering is delicate, spider-like and careful between two deeply grooved guidelines, points to a work of considerable art, especially when viewed together with its close companion *CEG* 27, the famous Kroisos base and kouros. Such fine workmanship renders it likelier that the poet strove after maximum potency of his poetic message and so imported prestige dialect forms; the alternative, that he was simply *subrusticus*, ignorant that the finer form in Attica was already φρεσίν, seems considerably less attractive.

4.3 φρασί in Doric Sources

4.3.1 Pindar

Our major handbooks and grammars state that the form showing the expected zero-grade vocalization in *a* occurs basically in two places: here in *CEG* 28 and in Pindar.[14] In Pindar the form φρασί occurs a surprising seven odd times.[15] In a number of passages the manuscripts divide between the variant readings φρασί and φρεσί. In one case the manuscripts offer only φρασί (I.3.2), in another case only φρεσί (P.3.59). In all cases φρασί is the *lectio difficilior* and retained by editors; see the note in Braswell (1988: ad P.4.219) who states, "The epsilon form

[12] Many of the items mentioned in this paragraph are treated more fully by Kaczko (2016), see her index s.v. "mixture ("Doric" and Attic-Ionic)" (p.615).

[13] For further discussion of dialect use in the early epigrams see the references in Mickey (1981: 44 with nn.25-27) and those ad *CEG* 4. Oswald (2014) analyzes our extant corpus of archaic epigrams in an effort to clarify the context in which they arose. More general discussion of the relation of the *CEG* corpus to dialect may be found in Trümpy (2010).

[14] So e.g. Rix (1992: 157), Beekes (2010: s.v. φρήν), Chantraine (1999: s.v. φρήν). (alias?) (and others) includes *BMus.Inscr.*909 (Halic. 1st cent. BCE), but as Dettori (1996: 296 with n.17) shows, the reading must be considered "decaduta," since the earlier editors' φρασὶ γινώσκηις has yielded to ὄφρα σὺ γινώσκηις.

[15] The passages in question are: O.7.24; P.2.26; P.3.108; P.4.109; P.4.219; N.3.62; I.3.2; and P.3.59 θναταῖς φρασὶν where one should certainly accept the plausible emendation to φρασί by Boeckh against the φρεσίν of the codices. Notice that the expected form φρασί occurs in the same ode, P.3.108.

φρεσί in Pindaric MSS is almost certainly a trivialization of the rare alpha form." Or in the judgment of Gildersleeve (1890: lxxxiii), "φρασί has better warrant than φρεσί."

These forms are regularly treated as belonging to Pindar's Doric literary language. Since Pindar consistently eschews his native Boeotian in favor of Doric for his compositions, a plausible conclusion to draw at this point would be that the *a*-vocalism found in the text of Pindar indicates a retention of an archaism in at least Doric literary language, against the early analogical innovation that yields φρεσί in Ionic. One important corollary is that the form φρασί will likely have been heard in Boeotia, and likely in the wider Greek world through its use in Doric poetry.

Such a conclusion would be strengthened by some independent evidence that the form was inherited into West Greek and so available for use in the widespread *Kunstsprache* of Doric; and indeed this evidence exists. Though unmentioned in our historical grammars or etymological dictionaries, φρασί occurs a number of times in texts of the Greek occident. As these attestations have not all been gathered and discussed together, I will do so now, in the hope that my study may serve to supplement our grammars and lexica by augmenting the number of attestations relevant to the problem of φρασί.

4.3.2 Stesichorus

Considering that φρασί is established in at least the Doric literary language of Pindar, and that it is attested in West Greek inscriptions (§4.3.3), we should expect it to have been present in authors hailing from the Greek west and composing in literary Doric, and indeed φρασί persisted in the Doric language of choral lyric in Stesichorus, a fact not widely known to Hellenists. So far as I have been able to discover, there are a total of two attestations to be discussed.

The first is drawn from a papyrus fragment attributed to Stesichorus[16]: ἐνιφρασι. The division of words can hardly represent anything other than ἐνὶ φρασί, and the attribution to Stesichorus seems secure; it is regrettable that the immediate context is lacking. In Davies and Finglass (2014: no.223, v.18) the reading is presented as ἐνὶ φρασὶν̣. The second attestation is restored in the new edition and commentary by Davies and Finglass (2014: no.103 v.22, following Barrett), where the form is printed φρ[α]σὶν̣ and is accompanied by the text critical note "Barrett post Lobel".[17] The attestation of φρασί in Stesichorus, a poet working in the West Greek colonies of Italy, serves to confirm the place of φρασί in this poetic tradition already in the Archaic period.[18]

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[16] P.Oxy. LVII 3876 fr.39.18, Stesichorus, various poems?, saec. II CE, ed. Haslam.

[17] In P.Oxy. 2619 frr.1(a) + 1(b) + 47 = Finglass 103, v.22. As Michael Haslam informs me (*per litteras*), in this hand alpha is considerably wider than epsilon, so it should be possible to verify the one or the other restoration. I have not been able to verify this through use of the online image provided by POxy. "Oxyrhynchyus Online" (http://www.papyrology.ox.ac.uk/POxy), so I leave this restoration as highly likely, but uncertain. See further the introduction to Davies and Finglass (2014: 40-6), with up-to-date references therein, for an authoritative appraisal of the language and text of Stesichorus.

[18] It is worth noting that the forms with a-vocalism do occur against forms with *e*-vocalism, for instance ἐν φρεσ[ὶ, P.Oxy.3876 fr. 1 = Finglass no. 187.

4.3.3 φρασί in the Orphic West

Embedded in Homeric phraseology we find φρασί already in the oldest Orphic gold leaf, that of Hipponion (Roman Vibo Valentina, colony of Locris Epizephyrii, in Calabria, southern Italy), dated to about 400 BCE. The text in which our form occurs is B10 Hipponion (Bernabé 2004: no. 474), conveniently presented in Edmonds (2011: B10, pp.30-31), whose translation is provided below:

(60)

6 πρόσθεν δὲ heυρέσεις τᾶς μναμοσύνας ἀπὸ λίμνας
ψυχρὸν ὕδορ προρέον · φύλακες δ' ἐπύπερθεν ἔασι.
8 τ/h]οι δέ σε εἰρέσονται ἐν<ι> φρασὶ πευκαλίμαισι
ὅτ<τ>ι δὲ ἐξερέεις Ἄϊδος σκότος ὀρφ<ν>έεντος...

"Further along you will find, from the lake of Memory,
refreshing water flowing forth. But guardians are nearby.
They will ask you, with sharp minds,
why you are seeking in the shadowy gloom of Hades." (tr. Edmonds)

The B-texts descend from an archetype, and so it would be expected that if this form occurred in the archetype, it will have persisted into the later exemplars (see Janko 1984). One parallel for B-10 is the next tablet in the B series, B-11, whose relevant lines (8-11) I reprint below; our form is at line 10 (Entella? West Sicily, 3rd cent. BCE; Edmonds 2011: B11 pp.32-33).

(61)

8 πρόσθεν δὲ heυρέσεις τῆς] μναμοσύνης ἀπὸ λίμνης
ψυχρὸν ὕδορ προρέον ·] φυλακοὶ δ̣ ἐπύπε<ρ>θ<εν ἔ>ασιν
10 τ/hοι δέ σε εἰρέσονται ἐνὶ] φρασὶ πευκαλίμησιν
ὅττι δὲ ἐξερέεις Ἄϊδος σκότο]ς ὀ̣ρφονήεντο[ς]

φρασί appears in exactly the same *sedes* as φρεσί(ν) in Homer and φρασίν in *CEG* 28. Watkins (1995: 281) also signals the importance of the match in *a*-vocalism between *CEG* 28 and the Orphic material and he additionally notes that this inscription contains another "para-epic" word in the phrase (l.16) στείχῡσι κλεινοί 'they tread in glory.' κλεινός is a form never found in our corpus of Homeric and Hesiodic poetry, though old (in Solon, often Pindar,+), and which may employ the scansion of the uncontracted form κλεεινός < * *klewesnós*. Watkins writes that though they are not epic, "The forms φρασί and κλεεινοί must come from somewhere."

The readings of φρασί in the Orphic leaves are secure in both cases, and motivating a reason why the composer would introduce an *a*-vocalism that was not in his dialect is hardly straightforward, since this formula is evidently epic, but again this form has no currency in the epic corpus. Thus we might expect an inter-dialectal translation of a true West Greek φρασί into its more proper Ionic shape φρεσί; that this does not occur here proves the form's West Greek provenance. I would like to claim that ours is a real archaism in these cases, retained in at least some West Greek dialects, whatever the ultimate source of our Orphic material.

Let me note here that a further attestation of φρασί has recently come to light. The form occurs twice in a newly published lead fragment, now in the Getty Villa, Malibu, California (siglum *Mal*). The tablet was published in a preliminary edition by Jordan and Kotansky (2011)

and now in the critical edition published by Janko (2015). It is part of a collection of ten witnesses to a text possibly concerning ritual initiation to the worship of Demeter and Kore.[19] The tablet is the least garbled of the ten. It is tentatively late 5th or early 4th c. BCE. ("Non multum ante a. 409 a.C." according to Janko 2015: 3), its location almost certainly Selinous (Sicily, metropolis Megara, West Greek). All editors (Jordan and Kotansky, and the preliminary edition by Janko in Faraone and Obbink 2013: 40-3) agree on both readings of φρασί: one at l.5, then again towards the end of the tablet, as we hear of the blessed few scattered along the highway of the afterlife (I print below Janko's text and translation):[20]

(62) Col. ii: Frr. 5+6, front.
24. [κηληθ]μο̣ῦ κατάκουε φ[ρ]ασὶν γλυκὺν ὕ̣[μνον ἐύφρων]
"[kindly] hear in your mind the incantation's sweet song."

(63) 40. καὶ φρασὶν αὐτὸς ἔχηι μακάρων κατ᾽ ἀμαξιτὸν αὐδάν

(κατὰ στίχον, with restorations): [καὶ] φρασὶν αὐ[τὸς ἔχηι μακάρων κατ᾽ ἀμ]εξατὸ[ν αὐδήν]
"(Happy is he) who keeps in mind along the road the saying of the blessed gods..."

So these new attestations of φρασί are to be considered secure; what do we make of them? Janko (2013: 46-51) provides an estimation of the linguistic features of this new text and finds a substantial Doric element, despite the consistent Homeric "coloring" of our texts (e.g. Doric pronoun νιν l.4, Doric gen.sg. ἀκαμαντορόα l.11, etc.). He interprets the dialect features intriguingly (if still controversially) as showing that the text's archetype was in Homeric dialect while the embedded incantation Doric (this is the so-called Ephesia grammata of the "Idaean Dactyls"). In this context it will not be surprising that φρασί may well be considered specifically Doric. He observes that φρασί persisted in the Doric language of choral lyric (in Stesichorus and Pindar) and "...was no doubt retained as an archaism in Doric dialects such as those of Selinus and Locri. Standard epic diction uses φρεσίν."(Janko 2013: 50-1). He is interested in establishing a restoration for the texts' archetype, a restoration that he deems ultimately uncertain as to whether φρεσί or φρασί is likelier. Uncertain though the archetypal reading may be, it is clear that this form is strongly associated with West Greek dialects, as had been known already from the earlier discovered Orphic leaves, and is now nicely confirmed by the

[19]The nature of the incantation was treated in a seminar held at the Getty in 2010, whose proceedings are published as Faraone and Obbink (2013). Janko (2013, 2015) has proposed that the set of texts has in fact nothing whatever to do with mystery cult or Orphism, but is a hexametric incantation against witchcraft replete with an embedded spell.

[20]The readings in both cases are secure, though by my autopsy of the inscription in Malibu I have not yet been able to see φ[ρ]ασιν at l.24. The word is split across a curling break of lead, and despite the editors' drawing, I can only make out the letters Φ | ΣΙΝ, with the vertical bar representing the tablet's break. That is, as much as I would like it to be there, the break is right at the alpha. However, as Janko (2013: 43) makes clear, the tablet has suffered damage since it was first studied, and at least according to the earlier tracings (on which the Jordan and Kotansky edition is based) the now missing letters were there. And so an accurate representation of the text in its current condition will not necessarily produce the best edition.

new Getty hexameters. The agreement then between a West Greek colony and Pindar's literary Doric is striking. The clustering of φρασί and its lack of occurrence as a variant even once in our epic tradition seems to preclude the assumption that we are dealing with an Ionic form.[21]

While my own article on this topic was in press (Lundquist 2016b), Janko (2016) re-evaluated the question of (hyp)archetypes in relation to the Orphic texts. He examines anew the larger question of (hyp)archetypes in a "multiform" tradition, applicable to the Orphic texts as well as the Homeric corpus (by his lights, at least). He argues against the position of earlier editors of these Orphic texts, who have held that no archetype can be reconstructed, since the tradition is too multifarious to allow for the usual pruning back to a *stemma codicum*. In a detailed, point-by-point exposition, he argues that we can indeed reconstruct an archetype from the welter of variants transmitted to us. His larger point, and whether its valid or not, will not engage us here, since we need to focus only on his updated treatment of φρασίν. For him, there existed an Ionic archetype, composed in Homeric dialect; later on, the language of the hymns underwent increasing doricization. For our purposes, this thesis would seem to suggest that φρασί must have been a living form in the dialect in question and was inserted as a Doric element in this para-epic corpus. But on φρασί Janko (2016: 125) in fact draws the opposite conclusion: "The form φρασίν for φρεσίν is an archaism rather than a specifically Doric form." His grounds for arriving at this conclusion require comment; I do not believe the evidence will support Janko's conclusion.

He observes (Janko 2016: 115-6) that φρασί is the archaic form of the dative plural of φρήν, while acknowledging it is not attested in Ionic epic. He states that the form is "common in Doric, for example in Pindar." So far, these pieces of evidence lead to the same conclusions I have drawn above: the form occurs in Doric (and we have added in the evidence of Stesichorus) and was taken in as a Doric element to these para-epic texts of the Orphic west. But Janko maintains the form is Ionic, seeking support for the Ionic origin of φρασί in its widespread occurrences, "for example in Attic epigrams (*CEG* 1.28.1) and Halicarnassian inscriptions." However, this formulation easily misleads: he writes "for example" as though other examples were discoverable, though to the best of my knowledge no other examples can be quoted. Likewise, he writes the plural "Attic epigrams" but the only epigram known to me with this form is precisely the one he cites, our *CEG* 28. I have tried to make the case that calling the language of this inscription "Attic" oversimplifies the case. Finally, Janko cites "Halicarnassian inscriptions," but the plural is here as well unwarranted; indeed the singular may be unfounded. He offers as a reference on the last point a work of the 1970's by Foti and Pugliese Caratelli, where the authors on their p.112 cite *GIBM* IV.1.909 (ed. Hicks et al. 1874-1916). This is precisely the inscription I mentioned above (§4.3), whose reading is no longer the φρασί that the original editor posited: as convincingly shown by Dettori (1996: 296, following earlier scholars), the reading φρασί "va considerata decaduta", now to be read ὄφρα σὺ γινώσκηις (following Wilhelm (1980: 19, no.19)). Thus, Janko's claim that an old, Homeric φρασί is supported by "Attic epigrams" is problematic, and as proposed here hardly evidence for an Ionic φρασί in Homer; and his claim that φρασί is found in "Halicarnassian inscriptions" is no longer tenable, since in the one inscription where it would have occurred the older reading has ceded yield to a newer ὄφρα σὺ, i.e. something completely different. Whatever we reconstruct for the archetype of

[21] Similar judgment in Colvin (2007: 174), "This text [viz. B10, JSL] seems to be an effort to produce epic diction by a speaker of West Greek."

the Orphic texts– and φρασί may well remain possible– the weight of evidence is against an Ionic, Homeric φρασί.

4.4 Prehistory of φρασί

Given that the form φρασί with *a* is assuredly inherited, I hope to have shown: (1) it is very unlikely to have existed in spoken Attic or Ionic; (2) it is associated especially with West Greek dialects (Pindar and Stesichorus' literary language; ritual texts from West Greek colonies). The Attic form is our outlier and must be re-examined. We have suggested that φρασί was imported into one inscription in Attica to heighten its poetic language, and therefore constitutes a borrowing parallel to the use of Doric *alpha purum* in Attic inscriptions. With this in mind, we might return to our main question, why is an older-looking form, whose phraseology has clear Homeric connections, found in an Attic inscription but never in Homer? We will answer this by asking a further question: can we specify where the form was likeliest to come from?

4.4.1 Whence?

There is one region of the Greek world that had three prerequisite conditions to pass this form on to a poet in Archaic Attica: (1) *a*-vocalism in the dative plural of this word; (2) hexameter poetry and Doric literary composition; (3) proximity to and linguistic contact with Attica. Such a place would be Central Greece, quite possibly Boeotia. I do not think it is essential to the argument that Boeotia was the donor region for our form, since there would be other paths through which a Doric form might have come; for example, other cities that also stood in proximity to Attica and also had access to Doric traditions include Corinth and Megara. The fact that Boeotia possesses our three requisite conditions but additionally attests φρασί as well as having at least one striking piece of evidence for linguistic contact (the isogloss -ττ- from palatalized * *-ts-*, see below) leads me to incline in the direction of Boeotia as a first region to explore, but I do not insist on it in what follows.

Point (1): We have certain *a*-vocalism occurring in Pindar, a native of Boeotia, some 7x. The claim is not that φρασί is therefore a Boeotian form, but rather that in the Doric literary compositions that prevailed in Boeotia, the West Greek form φρασί was preferred to φρεσί. Pindar's φρασί will be taken over from the Doric traditions he inherited, namely that exemplified by authors like Stesischorus, Ibycus, etc. and it is again possible that the regions where such authors were active could have provided a source for the Attic form. However, it is a fact that we have it well attested in Pindar.[22]

Point (2), hexameter poetry flourished in some form in Boeotia from at least the 6th cent., and probably earlier still (cf. West 1988: 167-168). Important evidence to support this thesis

[22] Actual Boeotian forms are exceedingly rare in Pindar; one is thought to be at Pindar *O*.1.82 where we have the form τά, an interrogative pronoun deriving from the neut.pl. < IE * $k^{w}i$-eh_2 (Lat. *quia*). As Colvin (2007: 240) writes, "It is hard to see why P[indar] should have used this form, which invites speculation on what stage of the text our vulgate reflects: was the Athenian version influenced by a performance tradition in neighboring Boeotia?" This is speculative, but for our purposes it might be borne in mind that there could have been a performance tradition in neighboring Boeotia which influenced Athenian texts.

comes from the inscriptional record, and in particular the famous "Mantiklos" inscription (*CEG* 326; early 7th cent., Boeotia), composed in two hexameters adjusted to epichoric dialect. As this inscription is crucial for establishing hexameter poetry in Archaic Boeotia, I will provide further discussion here, though by no means exhaustive; and as its importance is best estimated by its relationships (shared formulas, etc.) to other Archaic epigrams as well as epic poetry, I will include some of the more significant parallels here.

CEG 326 is a dedication in two dactylic hexameters on a bronze statuette from Thebes of ca. 700-675.[23]

(64) Μάντικλός μ'ἀνέθεκε ϝεκαβόλοι ἀργυροτόξοι
τᾶς {δ}δε|κάτας · τὺ δέ, φοῖβε, δίδοι χαρίϝετταν ἀμοιβ̣[άν]
'Mantiklos dedicated me to the silver-bowed farshooter, out of the tithe; and you, Phoibos, grant a graceful gift in exchange/recompense.'

Parallels for the phraseology include:

(65) Phraseological Parallels for *CEG* 326

a. *Od.* 3.58 δίδου χαρίεσσαν ἀμοιβήν || 'grant graceful recompense'

b. *CEG* 334[24]
καλϝὸν ἄγαλμα ϝάνακτι ϝ[(H)εκαβόλοι Ἀ ¦ πόλονι :]
2. [- ca. 3]ορίδας ποίϝεσέ μ' Ἐχέστροτ | ος · αὐτὰρ ἔπεμφσαν :
3. [ca. 16 ¦ ca. 11]ον Πτοιᾶϝι, :
τὸς τύ, ϝάναχ | ς, φεφύλαχσο, δίδοι δ̓ ἀρ<ε>τάν [τε καὶ ὄλβον].

"A beautiful offering to lord farshooting Apollo, Echestrotos son of Damoris made me. And he sent [names of donors] to Ptous. And you, lord, protect them: and grant me excellence and prosperity." [25]

c. *CEG* 358, Corinth, ca. 600-550? [δί] χαρίεσα[ν ἀφ]ορμάν

d. *CEG* 359 , Corinth (ca. 575-550 vel posterius) τὺ δὲ δὸς χαρίεσαν 'but you give a graceful...'

e. *CEG* 360, Corinth (ca. 510-500) [-˘˘]ς ἀγγείλας· τὺ δὲ δὸ[ς χα]ρίεσ(σ)αν ἀμοιϝάν 'but you give a graceful gift in exchange'

f. Pi. O.1.85 τὺ δὲ πρᾶξιν φίλαν δίδοι[26]

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[23]For discussion of this inscription, see Jeffery and Johnston (1990: 90f., 94, 402 pl.7 #1); Wachter (2001b: §303); Miller (2014: 221-3).

[24]Boeotian, dedication (perhaps on a clay tile) from the temple of Apollo Ptous, ca. 550-525?

[25]Other parallels from epos include: *h.Her.* 15.9 χαῖρε, ἄναξ, Διὸς υἱέ · δίδου δ' ἀρετήν τε καὶ ὄλβον 'hail, Lord, son of Zeus: and give virtue and blessedness'; and *h.Vul.* 20.8 ἀλλ' ἵληθ' , Ἥφαιστε · δίδου δ' ἀρετήν τε καὶ ὄλβον 'But be gracious, Hephaistos, and give virtue and blessedness'.

[26]The imperative δίδοι occurs also in Olympian odes 4x, and in *N.* 5.50b; beside the usual δίδου, probably remade from * *di-do + e*, δίδωθι is most common in Homer, also in Arcado-Cypriot. The many conjectures for the prehistory of this imperative are discussed by Willi (2012). Wachter (2001b) argues that these examples of δίδοι derive from a Lesbian Aeolic strand of hexameter poetry as preserved in both Boeotian and Doric (the Corinthian inscriptions), though he is not widely followed in this suggestion.

g. *CEG* 405, Bronze youth dedicated to Apollo, Central Ionic inscription from Naxos (c. 525/500):[27]
Δειναγό|ρης μ' ἀνέθεκεν ἑ|κηβόλοι Ἀ|πόλλονι
δεκάτ[ην]
'Deinagores dedicated me to the farshooter Apollo, a tithe'

These examples should be taken to indicate that hexameter poetry existed in Boeotia during the Archaic period. In Mantiklos' τὺ δέ, φοῖβε, δίδοι χαρίϝετταν ἀμοιβ[άν] we see part of a line that could be translated dialect to dialect, pronounced according to local canons, and could in addition transform generically into epic (Od. 3.58 δίδου χαρίεσσαν ἀμοιβήν) or into dedicatory epigram, etc. The fact that this line spans three regions of the Greek world—Boeotia, Ionia and Corinth (*CEG* 334)— shows that it participated in the epichoric traditions of hexameter verse in the Archaic period.

Let us consider a final point in our argument that the form φρασί might have been transmitted via Boeotia. We have seen so far that φρασί would very likely have been heard in Boeotia (Pindar); and that Boeotia possessed its own hexameter tradition in the Archaic period. That poets from Boeotia could have diffused forms to the Attic poetic tradition, or at least to this one poet, is more difficult to substantiate, but a suggestive argument may be drawn from our evidence for linguistic contact between the two regions in the pre-alphabetic period. Such linguistic evidence for early contact is furnished in part by the striking innovation that Attic and Boeotian (as well as Euboean) share in the outcome of palatalized * *ky, *ty* to -ττ- (whereas most other dialects have -σσ-), type * *phulák-yō* > φυλάττω vs. other dialects' φυλάσσω. Regarding this innovation, Horrocks (2010: 22, 56) plausibly interprets the data as follows: "The most likely explanation is that western Attica, separated by high mountains from the eastern areas, came under Boeotian influence in the post-Mycenaean period some time after Ionic... had begun to evolve as a distinct variety."[28] This strong evidence for linguistic contact between Boeotia and Attica renders likelier the transmission of a poetic form between the dialects.

Exactly this path of transmission has been posited before. Von Mess 1898: 21 anticipates my suggestion, though he is quite minimal in his argumentation. He writes that the whole phrase φρασὶν ἄλλα μενοινῶν was perhaps taken from a Boeotian epigram, "legimus denique in epigrammate litteris antiquioribus exarato [i.e. *CEG* 28] formam φρασίν, qua Pindarus utitur pro usitata φρεσίν. Fortasse igitur tota sententia φρασὶν ἄλλα μενοινῶν ex epigrammate Boeotico adsumpta est; similia haud raro facta sunt." His thesis is cited by Friedländer and Hoffleit (1948: no.83, n.9), who note (following von Mess) that the "non-Homeric *a*" might have crept in from Boeotia and since φρασίν is the older form, "it is not impossible that it was sometimes heard in the Homeric poems before their language became normalized."

I am not sure if von Mess intended the same analysis as Friedländer-Hoffleit, viz. that φρασί implies a *quondam* existence in Homeric epic before their language became normalized (i.e. Ionicized?), but I would shy away from such a position, nor does it seem necessary for explaining the evidence. We may profitably recast von Mess's proposal in a manner more

[27] Discussion of this inscription's context may be found in Day (2010: 42).

[28] Athenians of the Classical age would have been all too prepared to overlook this striking isogloss with Boeotia (Colvin 2004: 101-7). On the origin and spread of the -ττ- forms, see Miller (2014: 320-1) with further references.

sympathetic to the oral traditions that would have been dominant at the time, and conclude that it is from such an oral tradition that the hemistich φρασὶν ἄλλα μενοινῶν will have come into Attica.

4.5 Conclusions on ΦΡΑΣΙ in Attica

The preceding arguments all point to the same conclusion: the attestation of φρασί in Attica does not furnish evidence for Attic dialect, since the form likelier stems from Doric literary language, and ultimately from this form's longer retention in West Greek. In just what generic tradition our hemistich was embedded remains harder to say: the line certainly looks like hexameter epic, but the epigram is in elegiacs and found on a monumental base; Stesichorus, our earliest Doric author to attest the form, uses not dactylic hexameter but a dactylic-related tradition of Doric lyric.[29] I leave this question open. What is clear is that the form comes not from the main stock of Ionian epic, but must descend from these Doric lyric traditions, which we might name (without prejudice) as "Para-Homeric."[30] The new attestations of φρασί from the Getty hexameter text (discussed above §4.3.3) could be taken to provide a measure of support for my thesis: we would predict that more attestations of φρασί will turn up in West Greek colonies or in new papyri reflecting Doric traditions, and would be surprised if they should turn up in an Attic or Ionic document. When φρασί occurs in *CEG* 28, it is unlikely to be simply Archaic Attic, nor simply Homeric; rather it shows a curious blend of epic in Attica which remains distinct from our Homeric tradition, a blend originating in a Doric tradition, possibly localized in this case to Boeotia. We do not have many traces of Homeric epic outside of Homer: I submit that this may be one.

[29] See the analysis of Stesichorus' meter in Davies and Finglass (2014: 47-52).

[30] Evidence for Para-Homeric traditions has been discussed by numerous authors: Nagy (1990) argues for an ancient, independent lyric tradition, and Trümpy (2010) discusses epichoric poetic traditions influencing dedicatory epigram; Hackstein (2010: 418-421), with further bibliography, provides an overview on "Inscriptional epic Greek and para-Homeric elements." Certainly there are interesting points of contact between Pindar, epic and archaic epigram that are worthy of further research.

CHAPTER 5

Conclusions

5.0.1 Conclusions: A Revised History of Greek -εια, -εῖα, -ειαί, -αια, -αιαί, -υια, -υιαί

In the first chapter I studied archaisms and innovations in Homeric accentuation, with special reference to the *u*-stem adjectives, a investigation that led us into related issues of morphology and morphophonology (2). With some of my conclusions I have reaffirmed longstanding consensus in the field; I have built on the older hypothesis that Homer preserves archaic accents in the oxytone adjectives θαμειαί 'close-set' and ταρφειαί 'thick'. We have seen that scholiasts to the *Iliad* mark out these two adjectives (and also καυστειρῆς 'burning' gen.sg.f.) for special oxytone accents. These two adjectives are anomalies when compared to the paradigmatic feminines in -εῖα; their oxytone accent cannot be generated by productive morphophonology, so must descend from an earlier state of the language. In both adjectives the feminine form has been isolated from its masculine/neuter base paradigm and frozen in the plural, retaining the ancient accent. Comparison with Vedic throws light on the age of the oxytone accent: Ved. *svād-v-ī́* 'sweet' (nom.sg.f.) demonstrates that the oxytone accent in Greek must be inherited from PIE. At considerable length I showed that the morphophonology of the feminine "*devī́*-suffix" remains ill understood (§2.2.1, 2.2.2); I have laid out some of the relevant data, some possible solutions, and have flagged this problem as a topic for future research.

Next we saw that the Greek toponym Πλαταιαί knows a similar prehistory to ταρφειαί, θαμειαί, since it, too, preserves an ancient oxytonesis, in this case a preservation owed to its use as a toponym, cut off from its paradigm (§2.3, 2.3.0.1). With Πλαταιαί I compared directly Ved. *pṛthivī́*. The paradigm from which Πλαταιαί derives (πλατύς, -εῖα) further shows the later history of *u*-stem adjectives in Greek: πλατεῖα evinces the regularized accent and ablaut grade in the suffix, based on the masculine/neuter paradigm πλατέ(ϝ)-.

Against some recent accounts, I have upheld the view that a few nouns in Greek -υιαί correspond perfectly with their Vedic comparanda (§2.3.1). These nouns look back to substantivized adjectives, reflecting zero-grade ablaut of the suffix. Thus the noun ὀργυιαί 'fathoms' reflects directly inherited zero-grade ablaut of the suffix, and the oxytone accent on the inflectional endings, perfectly consonant with its Vedic counterpart *ṛjvī́* 'straight' (nom.sg.f.). I proposed a new account for the "mobility" of the accent in the cases of ἄγυια / ἀγυιαί, ὄργυια / ὀργυιαί, and Πλάταια / Πλαταιαί. Diachronically, the three items were inherited as plurals and accented as oxytones in the same way as θαμειαί, ταρφειαί; but when they came to form singulars, the singular conformed to the accentuation of first declension nouns and adjectives in short alpha, viz. recessive accent. They could not be *ἀγυιά, *ὀργυιά, *Πλαταιά because oxytone short alpha stems are not a morphophonological class in Ancient Greek. Thus the apparent accentual mobility represents rather two chronological stages of morphophonology.

Finally, I addressed the remaining accentual class within the feminine inflection to *u*-stem adjectives, a class more often overlooked than observed: the recessives in unaccented -εια

(θάλεια 'abundant', λάχεια 'wooded', λίγεια 'sweetly sonorous'). I proposed that the recessive accent results from the morphological isolation of these words (i.e. they drifted away from their masculine/neuter base), coupled with a subsequent re-accentuation to the default, recessive accent of the language (§2.4). Like the oxytones, these adjectives have been detached from their masculine/neuters paradigms. These three differ from θαμειαί and ταρφειαί in one critical respect: they have been preserved in the singular, not the plural. Instead of being frozen in their older form (*θαλεῖα etc., even older *θαλειαί etc.), they became subject to default, recessive accent. Earlier accounts either ignore the recessively accented adjectives, or have held that they represent evidence for accentual mobility; I have tried to demonstrate that far from deep archaisms they originate in the shallowest layer of innovation.

Taken together, these accentual classes chronicle the history of *u*-stem morphophonology in Greek. I recapitulate my schematized revision for the history of this adjectival class:

- Stage I: Ancient oxytonesis with zero-grade suffix: Πλαταιαί, ὀργυιαί = Ved. *pṛth(i)ví, -vyā́s*, *ŕjví*
- Stage II: Ancient oxytonesis, but with full-grade suffix: θαμειαί, ταρφειαί
- Stage III: masc./neut. and fem. align: m./n. πλατέ(ϝ)-, f. πλατεῖα
- Stage IIIa/IV: Demorphologized singulars: θάλεια, λίγεια, λάχεια

5.0.2 Conclusions: A Revised History of Accent and Ablaut in S-Stem Adjectives

In the next chapter I studied how archaisms and innovations developed within one morphological category, the compound *s*-stem adjectives (3). In particular, I examined anew questions of accents and of ablaut grades: which are archaisms, which innovations? To understand how the archaisms and innovations developed, we turned first to the complex philological evidence of the divergent accentual classes of *s*-stem adjectives (§3.2). I argued that the recessively accented *s*-stem adjectives agree most closely with the wrongly overlooked cognates of Indo-Iranian, where, according to the Vedic evidence, in bahuvrīhi compounds first member accent is the rule. Putative counter-evidence was non-probative, for example, the evidence from zero-grade ablaut in the root of second compound members like αἰνοπαθής 'terribly suffering'. Items like αἰνοπαθής, previously understood as reflecting ancient PIE derivational processes, reflect rather a highly significant innovation in Greek morphology: the class of *s*-stem adjectives transformed from a denominal to a deverbal class. I then attempted to demonstrate that the zero-grade ablaut in the second member is owed to the verbal bases from which the adjective derives (in this case the aorist παθεῖν 'to experience; suffer'). I have explored, though not fully resolved, why the aorist stem, opposed to the present or perfect, so often serves as the verbal basis in deverbal derivation (§3.3.4). Finally, we examined the Indo-Iranian (effectively just Vedic) evidence for accent and ablaut in the cognate class of *s*-stem adjectives (§3.4).

My re-examination of the combined evidence of Greek and of Vedic has led to a substantially revised picture of the derivational morphology of *s*-stem adjectives in the protolanguage. The *communis opinio* currently maintains that the Greek oxytone type εὐμενής is oldest, the recessively accented adjectives in Greek, as well as the Vedic accentual classes, are innovations. I have posited that in fact the situation is just the reverse: the non-oxytone classes in Greek

agree with Vedic, and preserve the archaisms; the oxytone type εὐμενής represents an innovation. First member accent in bahuvrīhi compounds should therefore be reconstructed for the proto-language. In this reconstruction I aligned the Greek innovation of the oxytone accent with that language's other demonstrable innovation: the *s*-stem adjectives have become deverbal.

A number of questions persist, or rather, a number of new questions emerge: How should we understand the Proto-Greek reanalysis of first member accent (morphological) as recessive accent (phonological)? Relatedly, how did the Law of Limitation arise, both in this category and in general? How exactly should we formalize the oxytone innovation? Although first member accent is the rule in Vedic bahuvrīhi compounds, the main subclass of Vedic– viz., second member accent– awaits a comprehensive treatment; I have offered tentative solutions to explain which first members remain unaccentable in derivation, and why. We necessarily fail to fully grasp Vedic accentuation in this category of compounds in the absence of a systematic treatment of Vedic accentuation in general. My account will benefit from being tried against the fuller data of Vedic prosody; till then, my solutions remain tentative, and may contribute to that project.

A broader question broached in this chapter is what counts as an equation, what counts as linguistic comparanda in accents. I have argued that accent on the same surface syllable may be coincidental; we must also find matches in the underlying representation. Two forms do not correspond just because the same syllable in two cognate words hosts the accent (cf. §3.2.1). A recent formulation of this point by Kiparsky (2015a: 82-3) is worth citing in full:

> The locus of morphophonological variation and change are not the word accents themselves but the system which assigns them, comprising the lexically specified accentual properties of morphemes and the rules by which the accent is computed from them in the lexical phonology.

A similar point had been made earlier in a prescient article by Calvert Watkins (1963: 4). He argued that in historical linguistics we need to pay close attention not to the transmission of what he called the "physical body of the sentence" but to the underlying systems that generate surface forms. Although he focuses foremost on syntax, Watkins mentions explicitly phonology and morphology as well. In the same vein, Hale (1998: 16) opines that, "[h]istorical linguists have simply focused, not surprisingly, on what one can actually *see* in the historical record. This has affected their work in phonology (where far too little attention has been paid to both more abstract aspects of phonological structure and to more concrete, phonetic aspects of the data)" (cf. also Hale 2014).

Any comparative reconstruction must rest first on synchronic analysis; imposing a top-down reconstruction on the forms in Greek has left generalizations missed (the data points to a diachronic change in accentual properties) and interesting questions to go unasked (how does an accent change? how is an inherited accent retained?). The approach to accent change outlined here promises to clarify old accentual cruces in our texts with light brought in from the study of language change, thereby providing a firmer foundation on which to reconstruct back to Proto-Indo-European. Many problems await us in the texts.

5.0.3 Conclusions: Wandering Hexameters, φρασί in Attica

In the last study (4) I turned to broader problems in the transmission of Homeric poetry. We began with one Homeric formula, φρεσὶν ἄλλα μενοινῶν 'thinking other things in mind', and watched it transform as it migrated across the dialects, crossing lines of genre to end up inscribed on an funerary epigram in Archaic Attica as φρασὶν ἄλλα μενοινῶν. φρασί 'in mind' with its α-vocalism undoubtedly is the older form of the dative plural to φρήν (for Class.Gk. φρεσί). But against the standard ascription of φρασί to Athenian dialect, I have suggested, paradoxically, that φρασί is found on an epigram from Attica, but may not be Attic at all; that φρασί closes a Homeric verse-end formula, but may not be Homeric (*stricto sensu*) at all. No other Attic– or Ionic– document proffers φρασί; so I have suggested an alternate route, whereby φρασί came to the Attic stonecutter via the Greek West. φρασί with α-vocalism recurs abundantly– more abundantly, I have argued, than the handbooks and lexica let on– in texts of the Doric West: in Pindar, Stesichorus, and the Orphic leaves.

Where precisely the form originated– what the stonecutter heard, from whom, and where– are imponderables. The line certainly looks like hexameter epic, but recourse to a distinct tradition of mainland epic– besides incurring the charge of *obscurum per obscurius*– runs into a grave obstacle: the epigram is in elegiacs, not hexameter, and is found not in an epic text, but on a monumental base. Likely the line comes to Attica from hexameter epic, but φρασί was heard in choral lyric: Stesichorus, our earliest attested Doric author to deploy the form, composes in dactylic-related tradition of Doric lyric, and his tradition or one like it probably represents the source of Attic φρασί. New attestations of φρασί from the Orphic texts in Doric colonies only contribute grist for the mill: we would predict that more attestations of φρασί will turn up in West Greek colonies or in new papyri reflecting Doric traditions, and would be surprised if they should turn up in an Attic or Ionic document. When φρασί occurs in *CEG* 28, it is unlikely to be simply Archaic Attic, nor simply Homeric; rather it shows a curious blend of epic in Attica which remains distinct from our traditions of Homer.

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