Eranos 115 (2024–2025) 7–28 • doi: 10.33063/er.v115i.607

Rhythmical figures in Pindar

Boris Maslov
University of Oslo

Abstract: The article puts forward a new functionalist approach to Pindaric meter, inspired by Snell's dynamic analysis of lyric cola and research on rhythm in modern European syllabo-accentual poetry. Pindar is shown to employ cola-like syllable series, termed rhythmical figures (for example, long sequences of light syllables), as local prosodic events within individual poems that belong (mostly) to the non-dactylo-epitritic ("Aeolic") subcorpus of the epinikia. These *rhythmical figures* are often buttressed by word boundaries, especially toward the beginning of the poem, making them more easily perceptible. Pindar's use of this device reveals an added level of complexity in metrical responsion, which extends beyond rhythm and lexical recurrence to prosodic phrases marked by word boundaries.

Keywords: metrics; Archaic Greek lyric; rhythm; prosody; word boundary.

> Never again has the world seen poetry which equals that of Pindar in keeping its far-flung variations under the strictest control by means of measure and number. Therefore the demands which it makes on the metrical skill of the author are beyond compare.

Bruno Snell's assessment of Pindar's metrical practice in the *Discovery of the Mind* ([1946] 1953, 84) builds on more than a century of work by classical philologists, beginning with August Boeckh's foundational *Über die Versmasse des Pindaros* (1809). Boeckh detected in Pindar's form an "architectonic seriousness" (12), characterized not "by blind and unprincipled groping" but by "lucid critical judgement and scientific knowledge" ("nicht auf dem Wege des blinden principlosen Herumgreifens, sondern durch klare Kritik und Wissenschaft" [23]).

This scholarly consensus thus challenged the entrenched view that Pindar's poetry is free and spontaneous, its "measures released from law" (Hor. *Carm.* 4.2.11–12);[1] according to Boeckh, Horace's *fervere* "is a wrong expression for our poet" (1809, 22–23). Nevertheless, throughout the 20th century the older conception of the

✉ b.r.maslov@ifikk.uio.no

✍ The author is grateful to Francesco Buè, Giovanni Fanfani, Knut Olav Nordstoga Sandvik, Leon Wash, and the two anonymous referees for *Eranos*, for their comments on a draft of this paper, as well as to the audiences at three conferences where earlier versions of the argument were presented: Annual M. L. Gasparov Readings, Moscow, RGGU, April 2013; NordMetrik conference, Stockholm University, September 2018; and 'Weave, sweet phorminx' conference, UCL, Louvain-la-Neuve, May 2019.

[1] In its original context, Horace's phrase describes Pindar's dithyrambs, not his work in other genres; notably, the most extensive extant dithyramb fragment fr. 75 is so aberrant that modern editors are not able to supply a metrical analysis.

Pindaric form has continued to provide an inspiration for poets who experimented with a grandiloquent voice unencumbered by conventional contraptions such as rhythm, rhyme, or regularized verse length; Mandelstam's "The Horseshoe Finder" and Pinsky's "Ode to Meaning" furnish notable examples. Indeed, today's dominant lyric medium, the international *vers libre*, has a Pindaric genealogy, due to the influence of Goethe and Hölderlin who still had the Horatian notion of what it means to write like Pindar.[2] If philology's insight into the intricacies of Pindar's metrical form—encapsulated by Boeckh's and Snell's dicta—holds true, the prevalent idea of Pindar's poetic genius may well represent the single most consequential misconception in the history of European versification.

In my view, the current emphasis on discipline over license in the analysis of Pindar's meters is, in fact, misleading. Classicists still often approach meter in the spirit of grammar school poetics, which construes verse forms as sets of rules. Metrical patterns can appear overly complex and nearly impracticable when they are formulated prescriptively; it would be a mistake, however, to infer that these patterns are generated by a procedure that is scientific or even particularly strict. The Homeric hexameter includes many nuanced rules for the placement (and avoidance) of word boundaries but these are an outcome not of a theory carefully applied but of spontaneously evolved usage. What is called for is an analogous reappraisal of the logic of Pindar's metrical practice. Ancient Greek melic verse comprised manifold forms, at once linguistic and artistic, which evolved over time, often in response to developments in other parts of the literary field. In this paper, I draw on statistical data and on close analysis of individual poems to present a functionalist account of the dialectic between regularity and variation that, while at the heart of all verse, is manifested in Pindar's victory odes (epinikia) in a highly peculiar, perhaps unparalleled manner.

Two kinds of verse

In contrast to other, more familiar metrical forms, Pindar's medium improvises most of its constraints. Each of the extant epinikia employs a unique metrical pattern: a given sequence of light (L) and heavy (H) syllables, which ranges from several dozens to several hundreds, is reserved for the "stanza" designed for just one poem.[3] That stanza is, in most epinikia, *triadic*, that is, composed of three segments: strophe, antistrophe, and epode; the arrangement of L and H syllables in the strophe and an-

[2] Gasparov 1996, 280; another important influence came from the prose-like medium of the Psalms, a key precedent for Walt Whitman. An adventurous argument for a Pindaric element in Whitman is advanced by Leo Spitzer (1949, 247–249).

[3] There is one exception: Isthmians 3 and 4, dedicated to the same victor, which use the same meter (for a metrical argument in favor of treating these as two separate poems see Barrett 2007, 162–167).

tistrophe is (as a rule) identical, which means that the syllabic sequence employed in the epode occurs half as often as that used in the strophe and antistrophe. Crucially, the sequence established on the first occurrence (in the first stanza of the poem) is repeated, with only minor deviations, in perfect metrical *responsion* (Sicking 1993, 161, with further references); syllable substitutions endemic to recited meters such as the dactylic hexameter (where in some positions H can be equivalent to LL) are generally disallowed. Pindar's main resource for rhythmical variety lies elsewhere. In a notable contrast to the tragic poets who often repeat the same *colon* (a traditionally established metrical phrase, consisting of 4–9 syllables) unchanged, sometimes achieving an effect that is "almost mesmeric" (Itsumi 2009, 85), Pindar tends to vary the shape of the cola that he chooses as building blocks for the given poem, often modifying them beyond recognition as he moves through the stanza.[4]

In sum, Pindar's metrical practice takes the tension between freedom and necessity to an extreme. In the first strophe and in the first epode, the poet's compositional freedom is almost absolute, or at least unmatched among ancient metrical media. Once the meter has been established, however, it must be adhered to, for as many cycles of repetition as the strophe and the epode undergo. It is by attending to the workings of Pindar's stanzas that we can grasp the liberties and the strictures inherent in his verse.[5]

Pindar's stanzaic architecture is, to an underappreciated degree, conditioned by the poet's choice between two types of verse, the one known as dactylo-epitrites and the other relying on ancient cola inherited from Aeolic, and ultimately from common Indo-European sung verse. As Kiichiro Itsumi has demonstrated, there are only a handful of odes that qualify as pure Aeolic (Pythian 8 and Isthmian 7, and three shorter monostrophic odes: Nemean 2, Nemean 4, Pythian 6). Other poems show an admixture of elements that can be interpreted as iambic or cretic extensions (Snell 1982, Cole 1988) or as amalgamations with the dactylo-epitritic system (Itsumi 2009). There is thus a kind of gradation of the experimental element within

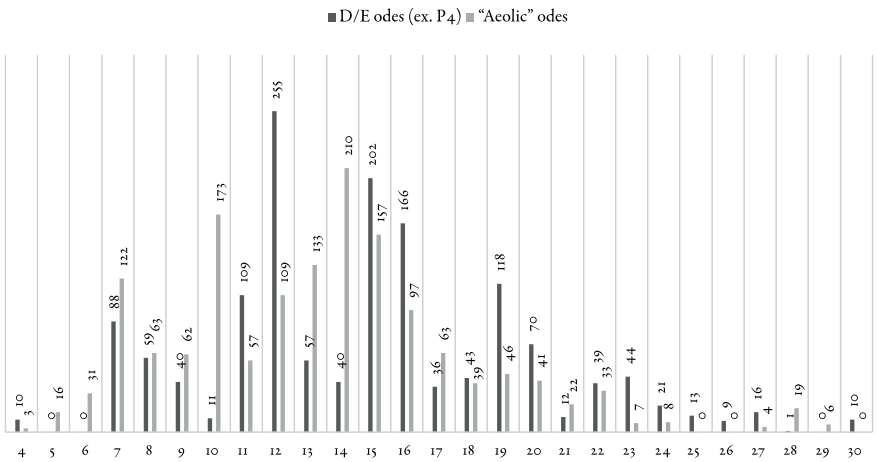
[4] Notably, it was Bruno Snell's discussion of the transformations of cola in Olympian 1 in *Griechische Metrik* (1982[4], 55–57) that marked a move away from the traditional classificatory approach. M. L. West (1982) follows Snell's method. In his monograph on meter in Pindar, Kiichiro Itsumi (2009, 3) rejects the Snellian "dynamic analysis," instead reaching back to the methodology of classification of cola. This paper does not rely on, or engage with, the ancient philological commentary on lyric meters (see Phillips 2018 on rhythmical observations contained in Pindar's scholia).

[5] The exceptional metrical freedom of the first stanza is confirmed by Pindar's treatment of *ancipitia* (undefined syllables, marked as "X" in what follows): there is a far greater likelihood of them being realized as light (L) syllables on their first occurrence (in the first strophe and the first epode) than later in the poem (Barrett 2007, 118–173). The most important contribution to our understanding of the workings and thematic relevance of Pindar's triads is Mullen 1982.

the "Aeolic" odes; the dactylo-epitritic odes, by contrast, are considerably more homogeneous.

The statistical data drawn from a specially annotated corpus[6] confirms that the two systems of versification used in Pindar's epinikia are fundamentally distinct. As shown in Chart 1, the length of the *period* (verse followed by prosodically regimented pause) in the "Aeolic" odes is very flexible, with the distribution resembling a natural one with a peak on 14 syllables (although the lengths of 7 and 10 interestingly stand out). By contrast, in the dactylo-epitrites, there are peaks at 7 (corresponding to "D" or "E" segments, in the terminology proposed by Paul Maas), 11–12 (D or E + e + one or two anceps syllables), 15–16 (E or D x 2 + one or two anceps syllables), and 19–20 (E or D x 2 + e + one or two anceps syllables).

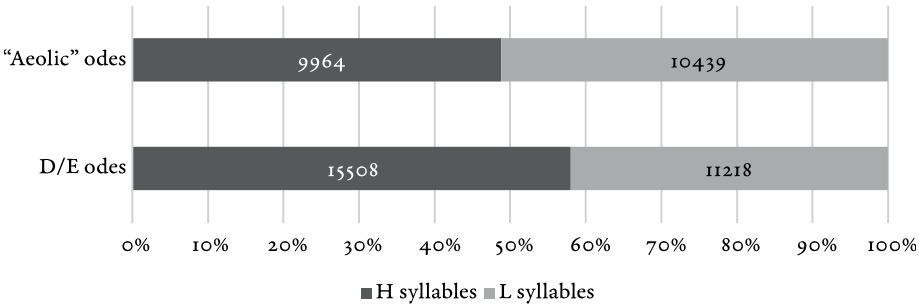
Chart 1. Verse length in "Aeolic" vs. dactylo-epitritic odes compared



[6] The multilingual Prosimetron corpus (Vashchenkov and Kazartsev 2024) includes Ancient Greek texts annotated for syllable length, period boundaries (in the case of verse), and clitic elements (see Maslov 2022 for more information). In addition to all of Pindar's epinikia, it includes works by Aeschylus, Euripides, Sophocles as well as samples of prose (Lysias, Plato, Thucydides). I take the opportunity to acknowledge the contributions of Liia Ermakova and Tatyana Kostyleva who worked on the annotation of Greek texts, as well as the expert help with software development and maintenance provided by Viktor Vashchenkov.

This indicates that dactylo-epitrites represent a mechanism of verse composition that uses clearly defined blocks.[7] A further aspect of Pindar's prosody that showcases the difference between the two kinds of verse within the epinician corpus is that far fewer light syllables are used in the dactylo-epitrites: 51% syllables in Aeolic odes, but only 42% in D/e odes, are light (see Chart 2). Greek prose displays a proportion of light syllables that is close to that of Pindaric dactylo-epitrites (Maslov 2022, 54).

Chart. 2. Distribution of heavy and light syllables in the two subcorpora of Pindar's epinikia[8]



The overall "heavier" rhythm of dactylo-epitrites is also reflected in the data for the most frequent prosodic words (see Table 1).[9] HH is by far the most frequent word shape in Pindar's dactylo-epitrites, while it is second in frequency to LH in the Aeolic odes. By contrast, LL, LLL, and LHLH are more frequent in the Aeolic odes.

[7] It is not the case that Pindar obviously preferred the dactylo-epitrites over the "Aeolic" verse type for longer compositions. Discounting Pythian 4, by far the longest ode in the extant corpus (written in dactylo-epitrites), the average length of an "Aeolic" epinikion is approximately the same as that of a dactylo-epitritic one (342 vs. 327 prosodic words).

[8] Based on the Fisher Exact test, the distribution is statistically significant. The data corroborates the figures, which are based on counts by hand, in Itsumi 2009, 77–78.

[9] Word shapes are calculated in the context of a word's occurrence. For example, ξίφος would be LL at the end of a period or before a word beginning with a vowel, but LH before a word beginning with a consonant. For the sake of consistency, all counts used in this paper assume that Attic correption applies throughout (this assumption, however, makes no significant difference to the results). A "prosodic word", as opposed to a lexical word, includes clitic elements; in the Prosimetron corpus all items listed in Probert 2003: 134, 142–143, with the addition of γάρ (for the rationale behind this, see Snell 1982, 68), are annotated as clitics. For the method, cf. Devine and Stephens 1983, 4–5.

Table 1. Most frequent prosodic word shapes in dactylo-epitritic vs. "Aeolic" odes (with occurrence ratio that exceeds 0.02, in proportion to the total number of prosodic words; the frequency is preceded by total number of occurrences of the given word shape in the given subcorpus)

D/e odes			"Aeolic" odes		
HH	**1262**	**0,1373**	**LH**	**751**	**0,1092**
HL	819	0,0891	HH	666	0,0969
LH	726	0,079	HL	539	0,0784
LLH	577	0,0628	LLH	432	0,0628
HLH	560	0,0609	**LL**	**384**	**0,0558**
LHH	531	0,0578	HLH	370	0,0538
HHH	**490**	**0,0533**	LHL	353	0,0513
LL	456	0,0496	LHH	327	0,0476
HLLH	424	0,0461	HHL	267	0,0388
HHL	391	0,0426	HLLH	244	0,0355
H	385	0,0419	H	214	0,0311
HLL	346	0,0377	HLL	203	0,0295
LHHH	**223**	**0,0243**	**LLL**	**174**	**0,0253**
			LHLH	170	0,0247
			LLHL	148	0,0215

The quintessential Aeolic colon, the glyconic, in the shape favored by Pindar, HL-HLLHLH, is no more welcoming to light syllables than "D" (HLLHLLH), the fastest sequence in dactylo-epitrites. Ostensibly, it is the slower "E" elements that account for the stark difference between the two sub-corpora. There is, however, another, more particular reason why the Aeolic odes display a notable preference for light syllables.

What is a "rhythmical figure"?

Light syllables represent the greatest resource for rhythmical experimentation available in the "Aeolic" odes, but not in the dactylo-epitrites. On the level of the colon, Pindar, as noted by Itsumi (2009, 34), "is perhaps the first poet to introduce resolution in the aeolic base," whereby, for example, the glyconic can be realized as **LLL**HLLHLH.[10] In general, Pindar's extensive use of long series of light syllables

[10] In drama, the use of resolution in Aeolic verse is so rare until Euripides that Itsumi even suggests that its occurrences in the *Oresteia* may betray the influence of Pindar's Pythian 11, which recounts a

is unmatched in surviving melic poetry. It does, however, find parallels in Attic drama, particularly in Sophocles and Euripides.[11] For example, in Sophocles' *Oedipus Tyrannos* 168=179, two resolved heavy syllables in iambic dimeter result in a series of six shorts:

iambic dimeter X H L H X H L H
realized as H LL L LL L H L H
ὦ πόποι, ἀνάριθμα γὰρ φέρω /
ὧν πόλις ἀνάριθμος ὄλλυται:

In *OT* 661=690, even more strikingly, all heavy positions in dochmiac dimeter are resolved, resulting in a series of as many as fifteen light syllables (in Pindar's extant odes, the longest run of light syllables, in *Olympian* 1, is seven).

dochmiac dimeter X H H X H X H H X H
realized as H LL LL L LL L LL LL L LL
Ἄλιον: ἐπεὶ ἄθεος ἄφιλος ὅ τι πύματον /
ἴσθι δὲ παραφρόνιμον, ἄπορον ἐπὶ φρόνιμα

In both cases, the rapid movement of verses sung by the chorus conveys agitation and distress: in 168=179, the citizens describe the plague's effect on the city, in 661=690, one of the most dramatically charged passages in the whole work, they are in dialogue with Oedipus, pledging loyalty which he, with good reason, comes to doubt (cf. Finglass 2018, 376).

The main difference between Pindar's metrical medium and that of drama is that whereas lyric stanzas in tragedy come in pairs, and often (as in the two cases considered above) represent overt thematic echoes of each other, in Pindar stanzas recur many times and the semantic import of metrical responsion is, in general, much less evident. It is in part due to the multiple recurrence of stanzas that sequences of light syllables are not perceived as resolved positions but as sovereign prosodic events that stand out from the metrical environment of the poem. The iteration of these syllable series, which obviously demands considerable technical virtuosity from the poet, is anticipated by the audience each time the ode completes the next phase of the triadic cycle.

version of the Orestes myth (40–41, fn. 67; a strong case for the opposite direction of influence is made in Kurke 2013).

[11] When Aristophanes parodies the lyric verse of Aeschylus and Euripides in the *Frogs*, the former is blamed for hackneyed and repetitive phrasing "ripped from the kitharodic nomes" (1281) whereas the latter receives scorn from his older colleague for songs that use multiple series of resolved positions (1309–1322).

I propose to refer to such prosodic events as *rhythmical figures*, borrowing the term from scholarship on modern English syllabo-accentual verse (Bailey 1975, 34; Tarlinskaja 2006, 59–60). What constitutes a rhythmical figure is defined by the metrical context in which it occurs. For example, the same prosodic arrangement in iambic tetrameter may qualify as a rhythmical figure in English verse in the 18th century, but not in other periods and not in typologically similar meters in other languages. As Marina Tarlinskaja has shown, in English, rhythmical figures range from being more frequent (and less striking) to being quite whimsical. For example, Shakespeare does not, except occasionally (and only in his dramas), place a two-syllable word stressed on the second syllable in the second and third positions of iambic pentameter (e.g. "And begin: "Why to me?"'); in Donne and later poets this is much more common. More extended rhythmical figures make a line stand out from its metrical milieu, like Frost's "Though I found your hand full of wilted fern", where two strong positions in a row are not matched to lexical stress (Tarlinskaja 2006, 58–63). As Tarlinskaja further argues, rhythmical figures can assume a semantic valence; in Shelley's *The Revolt of Islam*, 58% of the verbs accounting for stress mismatch in the first three positions of the iambic pentameter indicate "vigorous, forceful, violent action" (e.g., "Stabbed in their sleep" or "Creaked with the weight of birds" [66]).

Whereas in syllabo-accentual poetry rhythmical figures amount to local effects of sound and sense, generally confined to a single verse, in Pindar's medium comparable prosodic incidents, such as aberrant sequences of light and/or heavy syllables, follow a pattern of recurrence throughout the poem. For example, in Olympian 1, the sequence LLLLH LHLH (initially analyzable as two iambs, with one H position resolved) occurs eight times in the sixth verse in strophes and antistrophes (O1s6[12]). In the eighth verse of the same poem (O1s8), two such "resolutions" produce an exceptional sequence of seven L syllables: LLLLLLLHLHLHLH; this sequence also occurs eight times. As in English verse, Pindar can occasionally endow his rhythmical figures with thematic connotations. This is evident at least in one case: in Olympian 1, the 7L series connotes speed in the phrases μετὰ τὸ ταχύποτμον (66) and ἐμὲ δ' ἐπὶ ταχυτάτων (77), Πέλοπος, ἵνα ταχυτὰς (95) (Gerber 1982, 108; Phillips 2018). Other possible examples include the use of an 8H figure in O4s3/4 to suggest gravity of public pronouncement (in keeping with the etymology of spondee, a meter appropriate to libations), the ominous "Clytaimestra" LHHH figure in P11s1 (Itsumi 2009, 273), and the use of three series of light syllables (3L+3L+3/4L) in I8s10 to suggest delight or relief (see below and Maslov Forthc.). Elsewhere,

[12] To refer to verse position in the triad I use Itsumi's notation, where "s" stands for strophe and antistrophe, "e" for epode, and the number, for verse within the strophe/antistrophe or epode.

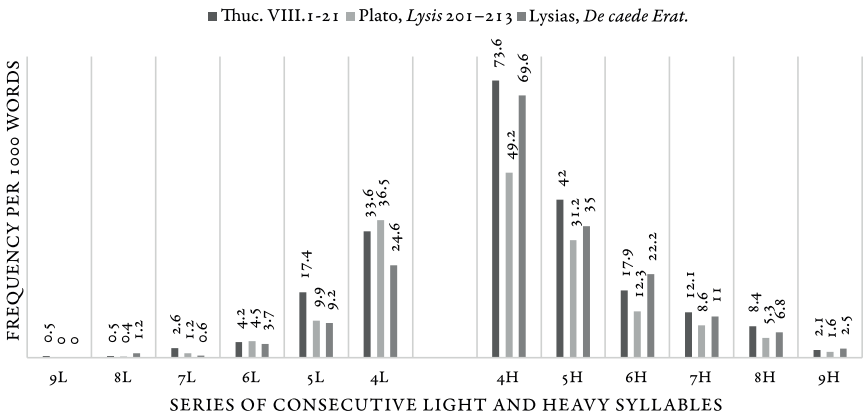
however, Pindar employs rhythmical figures as arresting prosodic effects without a consistent semantic import, as with the 6L figure in the opening line of Pythian 2 (P2.1), occurring eight times. Pindar's rhythmical figures most often make use of light syllables; "spondaic" sequences are less common.[13]

It is possible to assess the perceptive salience of such series of light or heavy syllables not only in the context of the metrical medium in which they occur but also in relation to what speakers of Ancient Greek heard in everyday speech. In particular, following a method originally proposed by Boris Tomashevsky, it is possible to compare Pindar's poetic rhythm to the spoken norm hypothetically constructed based on available linguistic data.[14] Such comparison is obviously complicated by the highly artificial nature of extant Ancient Greek prose. Nevertheless, various authors of prose works do pattern together in a way that suggests basic faithfulness to spoken language, with Plato as the likely closest analogue (Maslov 2022, 55–58). The data extracted from three small corpora of Attic prose of the 5–4th c. BCE (Thucydides, Plato, Lysias), each about 2000 prosodic words in size, displays a distribution of series of consecutive L and H syllables that approximates the bell curve (expected distribution), yet the series of heavy syllables are generally more common than series of light syllables (see Chart 3).

[13] Itsumi treats series of L and H syllables in the epinikia under 'Miscellanea' (2009, 434–437); his colon-centered approach entails the marginalization of this device.

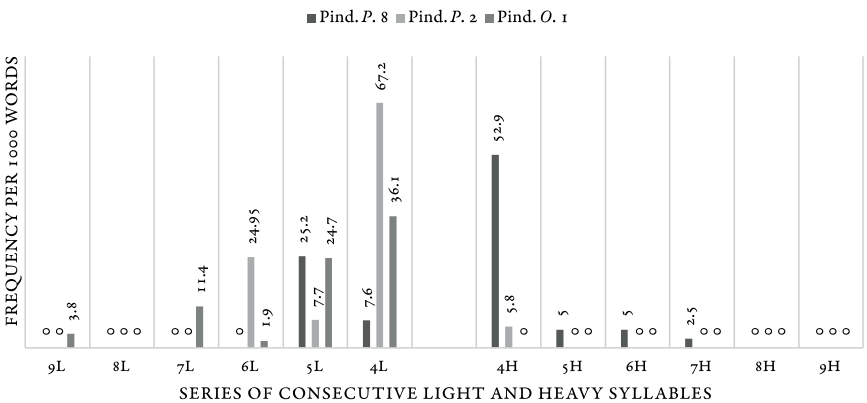
[14] Tomashevsky's initial idea (1918) was to compare the distribution of rhythmical variants of Pushkin's iambic tetrameter (rhythmical variants are patterns of non-coincidence of lexical stress with ictus) with the probability of these variants calculated based on frequency of different word shapes in contemporary Russian (one-syllable word, two-syllable word with accent on the first syllable, two-syllable word with accent on the second syllable, etc.), combined into hypothetical tetrameters. Tomashevsky derived the frequencies of word shapes from the corpus of Pushkin's own poetry. In the 1960s, the mathematician Andrei Kolmogorov improved on the method by deriving the frequency rates for word shapes from contemporary prose corpora (see the work collected in Kolmogorov 2016). A different approach—"the speech model" (vs. the Tomashevsky-Kolmogorov "language model")— extracts incidental iambic tetrameters from a prose corpus and compares the probability of their rhythmical variants to those observed in poetry. On more recent and complex "language models", see Kazartcev 2014.

Chart 3. Series of consecutive light and heavy syllables in three prose corpora



By contrast, the series of both light and heavy syllables in the three of Pindar's "Aeolic" odes that are remarkable for their rhythmical figures show no such consistency. Pythian 8 is the only one of the three that shows a propensity toward heavier sequences (but it also uses 5L); Pythian 2 uses two striking rhythmical figures, 4L and 6L; Olympian 1 is remarkable for its use of 5L and 7L rhythmical figures.[15]

Chart 4. Series of consecutive light and heavy syllables in Pindar's P. 8, P. 2 and O.1.



The perceptual salience of series of multiple light syllables—4L, 5L (in O. 1, but not in P. 8), 6L and 7L figures—can be confirmed by a simple statistical test (Fisher

[15] To ensure consistency between prose and verse corpora, series of light and heavy syllables were calculated irrespective of period boundaries in verse. The 7L figure in Olympian 1 is twice (in v. 7-8 and 76-77) amplified by two light syllables at the end of the preceding period (αὐδά:σομεν / ὅθεν ὁ πολύφατος ὕμνος).

exact), comparing their occurrences in the combined prose corpora and in a given poem. By contrast, rhythmical figures using series of H, far from being remarkable from the viewpoint of prose usage, occur in P. 8 significantly less often than a Greek speaker would expect to hear them.

Table 2. All occurrences of series of L and H syllables (in this table 6 H includes all instances of 7 H, etc.)

	Prose corpora	**P. 8**	**P. 2**	**O. 1**
Total number of words	5964	397	521	526
7 or more L	15			8 (far more than expected: p <0.1)
6 L	40		13 (far more than expected: p <0.1)	
5 L	112	10 (not significant)		22 (far more than expected: p <0.1)
4 L	305		52 (far more than expected: p <0.1)	
4 H	824	26 (far less than expected: p <0.1)		
5 H	451	5 (far less than expected: p <0.1)		
6 or more H	238	3 (far less than expected: p <0.1)		

Compared to prose, Aeolic verse is demonstrably in short supply of series of heavy syllables. A similar deficiency can be detected in dactylo-epitrites, which, in general, permit no more than 3H in a row.

In their comparative study of different metrical systems, Kristin Hanson and Paul Kiparsky introduce the parameter of "fit" to explain why languages prefer some meters over others: meters differ in their capacity to include the pool of vocabulary of a language (1996, 294). In contrast to modern free verse or indeed most types of sylla-

bo-accentual versification, which have perfect fit (any word can be used by the poet), various Ancient Greek meters introduce restrictions on syllable combinations. All these meters, however, coexist in the literary system. Moreover, an accurate method of determining the amount of naturally occurring speech that "fits" a meter is yet to be discovered.

For example, the dactylic hexameter has a reputation for being at odds with the Greek lexicon; in addition to excluding the sequence LLL (similarly to other recited meters, traditional Aeolic, and dactylo-epitrites), it bans LHHL and HLH. Yet it is the dactylic hexameter—in a stark contrast to all other Greek meters—that is most open to extended series of H, which are naturally found in Greek speech (see Chart 3). This makes it hard to offer a relative assessment of the fit characteristics even between the (notoriously artificial) hexameter and the iambic trimeter that, notwithstanding its reputation as a meter closest to natural speech (Arist. *Poetics* 1449a25; *Rhet.* 1408b35), rules out HHHH and limits LL.

Nevertheless, comparing basic fit properties can be helpful in revealing overt similarities between meters. From this point of view, traditional Aeolic cola and dactylo-epitrites are identical: both rule out HHHH and LLL. The extensive use of rhythmical effects in the "Aeolic" subpart of Pindar's corpus, however, highlights the differences in how the two kinds of verse in Pindar respond to analogous pressures. Dactylo-epitrites favor greater regularity of elements within the stanza; in this, they are close to recited meters, which compensate for the reduced role, or absence, of melody by complex metrical rules (including the regimentation of word boundary placement) that, in general, entail inferior fit characteristics: Pindar's dactylo-epitrites, as a rule, observe the ban on HHH+ and LL+ series. The difficulty of composing in dactylo-epitrites derives from these inherent restrictions on the lexicon. The "Aeolic" poems of Pindar, by contrast, shed these restrictions, and become a site for experimenting with sound sequences that are otherwise unheard of in Greek melic verse and very infrequent in spoken discourse. The challenge of this kind of versification comes from replicating these sequences when stanzas recur.

To explain why poets choose between two meters that have identical fit characteristics, Hanson and Kiparsky put forward the additional principle of "interest" ("the parameters are set so as to maximize the esthetic interest of the verse" [1996, 295]). Such a single parameter is insufficient to explain the choice of a metrical medium—even in the relatively simple case (Pindar's epinikia) of one poet composing in one genre. Ancient Greek poetry, ignorant of a universal "(a)esthetic" standard, attests to a remarkable proliferation of metrical forms that have different prosodic properties and cultural functions. Most importantly, the long-established song culture found itself in competition with new stichic (recited) meters that rely on

verse-internal rhythm. In Pindar, sung forms can be shown to respond innovatively to the challenge of spoken meters in two ways: (1) in "Aeolic" odes, by loosening inherited cola and using rhythmical figures that are only possible in sung verse; (2) in dactylo-epitrites, by applying the principle of rhythm-like repetition within the stanza and within the period (but rejecting the use of periods of the same length).

To sum up, while the reasons behind Pindar's choice of one or the other type of meter for any given commission remain murky, both have a distinct expressive capacity: the dactylo-epitrites offer a relatively predictable medium based on the alternation between fast and slow segments (with strophes and epodes almost always slowing down at their end), whereas the "Aeolic" poems showcase their uniqueness through spectacular prosodic effects and echoes across triads.

Word boundary buttress

The importance of the placement of word boundaries is familiar from the study of recited meters such as the dactylic hexameter or the iambic trimeter, which display a feature shared by longer types of verse in various languages: the use of an obligatory word break ("caesura") somewhere near the middle of the verse. In melic verse, scholars have pointed to the effect of "dove-tailing," whereby word division, rather than coinciding with the juncture between metrical cola, occurs after the following syllable position (Nagy 1974, Appendix B).[16]

Pindar does not use word boundaries to separate cola, instead composing in lengthy, flowing periods (Sicking 1993, 160, 166).[17] Instead of highlighting traditional building blocks of verse, Pindar employs word boundaries to emphasize rhythmical figures unique to a particular poem. Pythian 11, which comprises four triads (A–Δ), furnishes a particularly clear example: the 5L figure, which recurs eight times (in the s2 position), is isolated by word boundaries in the first two triads and is partially supported by word breaks on two out of four recurrences (closural word break in the two remaining antistrophes):[18]

[16] The rhythmical salience of word boundary placement is also recognized by students of syllabo-accentual meters. For example, it is possible to contrast foot-emphasizing vs. foot-effacing rhythm in English iambic pentameter, resulting from the use of masculine (Present | the spear) vs. feminine/trochaic (Some living | death) word boundaries (Tarlinskaja 1987, 402; 1989, 151).

[17] Indeed, even Pindar's periods are weakly demarcated by pauses, as is apparent from a remarkable reluctance to end periods with short open syllables (West 1982, 61; Barrett 2007, 173–197).

[18] In the Γ antistrophe μέ is possibly a stress-carrying element, rather than an enclitic leaning on ἥ, in which case this instance of the LLLLL figure is also isolated.

Pythian 11s2 (LLLLL)

A ὁμοθάλαμε
νυν ἐπίνομον
B τροφὸς ἄνελε
βαρυπάλαμον
Γ ἁβρότατος. ὁ δ' ἄρα γέροντα ξένον
ἤ μέ τις ἄνεμος
Δ ὠκύτατι θεόθεν ἐραιμαν
ἠσυχᾷ τε νεμόμενος

The pattern whereby rhythmical figures are made especially audible by word boundaries on their first occurrence(s) is generally maintained. In Pythian 2, the 6L figure is isolated in the beginning of the first three triads and on its final occurrence.

Pythian 2s1 (LLLLLL)

A Μεγαλοπόλιες
ἐπὶ γὰρ ἰοχέαιρα
B ἔμαθε δὲ σαφές
ὅτι τε μεγαλοκευθέεσσιν
Γ θεὸς ἅπαν ἐπὶ
τὺ δὲ σάφα νιν ἔχεις
Δ καλός. ὁ δὲ Ῥαδάμανθυς
ἀδύνατα δ' ἔπος

In Olympian 1, the 7L figure is made perceptually salient when it is sounded for the first time; it is then reinforced once in the middle of the poem; elsewhere it begins with a new word (necessarily, as it begins a new period) but adds one more syllable, effectively transforming the figure into LLLLLLLX (where 'X' is an anceps).

Olympian 1s8 (LLLLLLL)

A ὅθεν ὁ πολύφατος
νόον ὑπὸ γλυκοτάταις
B ὁπότ' ἐκάλεσε πατὴρ
ὕδατος ὅτι τε πυρὶ
Γ μετὰ τὸ ταχύποτμον
ἐμὲ δ' ἐπὶ ταχυτάτων
Δ Πέλοπος, ἵνα ταχυτὰς
θεὸς ἐπίτροπος ἐών

The use of word boundary reinforcement makes it possible to highlight even less striking rhythmical figures, as in the case of the 3L figure in the epodes of Olympian 1:

Olympian 1e2 (LLL)
A ἐν εὐάνορι Λυδοῦ Πέλοπος ἀποικίᾳ
B ἀκέρδεια λέλογχεν θαμινὰ κακαγόρους
Γ θανεῖν δ' οἷσιν ἀνάγκα, τά κέ τις ἀνώνυμον
Δ παρ' εὐδείελον ἐλθὼν Κρόνιον. ἐμοὶ μὲν ὧν

While such triplets are generally characteristic of the meter of Olympian 1, in 1e2 they stand out as an element that does not permit analysis in terms of traditional cola:

LHHLLHH | LLL | LHLH
pherecratean | LLL | iamb

This confirms that Pindar's "Aeolic" poems show an awareness of where the inherited cola give way to new, experimental sequences. Similarly, in Olympian 10, the aberrant sequence LLHLLL, embedded between a reizianum and a spondee, is isolated by word boundaries on all five occurrences:

HHLLHH | LLHLLL | HH |
reizianum | LLHLLL | spondee |

Olympian 10e4 (LLHLLL)
A ἐν Ὀλυμπιάδι
B βαθὺν εἰς ὀχετὸν
Γ σὺν Ὀλυμπιάδι
Δ κελαδησόμεθα
E κρατέοντα χερὸς

As this example demonstrates, Pindar's rhythmical figures are best understood not as outcomes of transformation of the inherited cola but, on the contrary, as moments of the "state of exception" when the established logic of versification is suspended and these cola, along with their modifications, are demonstrably abandoned. In Isthmian 8s10, the verse concludes with 4L (the last position is never realized as an H), an aberrant series emphasized by word boundaries on all occurrences except one:

Isthmian 8s10 (LLLL)
A μετὰ πόνον
B βασιλέϊ.
Γ ἑκάτερος
Δ θεόμορον
E Ἀχιλέος·
F πολύφα:μον ἔχεαν.
Z δέκετο πρίν

Minor rhythmical figures would be barely visible were they not emphasized by word boundaries. In the case of Isthmian 8s12, the analysis "iamb+ba+chodim" (offered by Snell and Maehler) misses the LLL figure which bridges the "bacchius" (always realized as LHLL) with the following choriambic dimeter. (In this case the rhythmical effect may be said to originate in the dove-tailing pattern.)

Isthmian 8s12 (LLL)
A παρά τις
B πόλιος
Γ τέλεσαν
Δ φάτις Ἰαολκοῦ
E μέλανι
F φθίμενον
Z ἄπειρον ὑπὸ

In some poems minor rhythmical figures, inasmuch as they are supported by word boundaries, can be no less perceptible than syllable sequences that are prosodically unusual. In Nemean 6, the first two periods of strophe/antistrophe consist of straightforward Aeolic cola, with the opening bacchius, unusually, emphasized by word boundaries. The third period is where we land in uncharted territory; the entrance is marked by a 3L rhythmical figure, which is separated by word boundaries on its first five occurrences (out of six). By contrast, the sequence of five shorts in e2 is not buttressed by word breaks. In Isthmian 4, a monostrophic poem and a relatively straightforward Aeolic ode, there is one rhythmically aberrant moment, a 3L figure in s7; of the twelve occurrences of this period, eight are reinforced by word boundaries, including the first three.

Rhythmical figures can be found even in those Aeolic poems that are most conservative from the metrical point of view, such as Isthmian 7, which preserves rudiments of the Aeolic base. In this ode, there are three notable moments: two light syllables in the beginning of the very first glyconic (in s1) and of the opening glyconic in e4, as well as the heavy opening of the glyconic in s5 (HHH). These prosodic events—all warranted by the inherited form of the glyconic—are marked by word

boundaries in the first two strophes and the last antistrophe and epode. By contrast, the middle section largely dispenses with these prosodic effects:

A	strophe	Τίνι	|LL|
		ἄντειλας	|HHH|
	antistrophe	ὁπότ’	|LL|
		ἢ Σπαρτῶν	|HHH|
	epode	Λακεδαιμονίων	|LL
B	strophe	ὅ τι	|LL|
		νί:καν παγκρατίου	|HHH
	antistrophe	φλέγεται	|LL
		ἴστω γὰρ	|HHH|
	epode	τὺ δέ	|LL|
Γ	strophe	προμάχων	|LL
		ἐκ χειμῶνος	|HHH
	antistrophe	ὅτι	|LL|
		παπταίνει	|HHH|
	epode	γλυκὺ	|LL|

Nemean 7, a remarkably complex poem, includes as many as ten rhythmical figures which can in principle be buttressed by word boundaries; the most spectacular is the 6L figure in s6. Only in four cases out of ten (underlined in Table 3) is an effort perceptible to employ word boundaries.

Table 3: Rhythmical figures in Nemean 7 (with fully isolated examples)

Strophes/antistrophes	**Epodes**
s2 LLLL	e2 LLL (ἔμαθον, σύνεσιν, τὸ δ’ ἐμὸν)
s4 LLLL (ἐλάχομεν, ἐνέβαλε, παρὰ μέγαν, ἀτενέϊ)	e3 LLL
s5 LLLL	e4.1-3 LLL (ὕδατος, δάπεδον, ἔπεσι)
s6 LLLLLL (ἕτερον ἕτερα, ψάγιον ὄαρον)	e4.8-10 LLL
	e5.1-3 LLL
	e5.10-12 LLL (ἔλασεν)

As demonstrated in Table 4, the distribution of word-boundary-buttressed rhythmical figures across the ode suggests that the previously observed pattern holds (i.e. the importance of the first and last occurrences), except in the case of e4.1–3, which takes on salience in the later three triads.

Table 4: The distribution of word boundary buttresses for rhythmical figures in Nemean 7

	s4	s6	e2	e4.1-3	e5.10-12
A	|+|	|+|	|+|	-	|+
	|+|	+|			
B	+|	-	|+	|+	|+|
	|+|	|+[19]			
Γ	+|	|+	|+|	|+|	|+
	+|	+|			
Δ	-	|+|	|+	|+|	-
	+|	+|			
E	|+|	+|	|+|	|+|	+|
	-	+|			

The pattern of gradual abandonment of word boundary buttresses can be observed in Nemean 10, a dactylo-epitritic ode. Dactylo-epitrites furnish minimal potential for rhythmical figures, yet in Nemean 10 two such figures are employed, at the cost of abandoning metrical rules: the opening sequence LLHLL in the strophes/antistrophes and a run of LLL in the sixth period in the epodes. The distribution of word boundary buttresses is presented in Table 5:

Table 5: Word-boundary buttresses for rhythmical figures in Nemean 10

	s1 LLHLL	e6 LLL
A	|+|	|+|
	|+|	
B	|+|	|+|
	|+|	
Γ	|+	|+|
	|+|	
Δ	|+	|+
	|+	
E	|+	|+|
	|+	

[19] For the aberrant syllabification in Νεοπτόλεμος, cf. N. 7.61. Itsumi (319) prefers emending to Νεοπόλεμος.

Conclusions

Pindar's use of rhythmical figures confirms a fundamental disjuncture between the two kinds of verse employed in the epinikia: the one based on "Aeolic" cola, and dactylo-epitrites. Only very rarely are rhythmical figures employed in dactylo-epitrites, which impose much more stringent metrical demands within the period and the stanza. More generally, these two metrical media can be said to have evolved from opposed principles. Whereas dactylo-epitrites employ a very narrow set of colon-like elements, and in a way that is partially controlled by stanzaic architecture (preference for slower E cola at a stanza's end), Pindar's "Aeolic" poems reach beyond all established cola, fancifully conjuring new syllable series that serve as a specially designed ornament for the particular epinician commission. Closer analysis has shown that such rhythmical figures indeed function as new experimental colon-like elements rather than modifications of old cola. Nor are they limited to sequences of light or heavy syllables; even minor series, such as LLL, can have compositional significance; LLHLLL (in Olympian 10) and LLHLL (in Nemean 10) present further examples of such ad-hoc rhythmical effects.

The pervasive and strategic use of word boundary buttressing demonstrates the extent of interaction between different levels of prosodic organization in Pindar. Most obviously, word boundaries highlight spectacular departures from the prosodic norm, such as long sequences of light syllables. Yet Pindar also employs this device to transform even slightly aberrant sequences into recurrent, perceptually salient prosodic events that can arrest the audience's attention during performance. At least in one case, Nemean 10, this resource is employed to add a flourish to an ode written in dactylo-epitrites. Finally, the word boundary buttress is often abandoned in the course of the poem: once the listeners have become accustomed to recognizing the figure, this prosodic aid can be dropped, only to be picked up again, in some cases, at the poem's end.

Works cited

Bailey, James. 1975. *Toward a Statistical Analysis of English Verse: The Iambic Trameter of Ten Poets*. Lisse, Netherlands: Peter de Ridder.

Barrett, W. S. 2007. "Two Studies in Pindaric Metre." In *Greek Lyric, Tragedy, and Textual Criticism: Collected Papers*, 118–207. Oxford: Oxford University Press.

Boeckh, August. 1809. *Über die Versmasse des Pindaros*. Berlin: Realschulbuchhandlung.

Cole, Thomas. 1988. *Epiploke: Rhythmical Continuity and Poetic Structure in Greek Lyric*. Cambridge, Mass.: Harvard UP.

Devine, A. M. and L. D. Stephens. 1984. *Language and Metre: Resolution, Porson's Bridge, and Their Prosodic Basis*. Chico, California: Scholars Press.

Dresher, B. Elan and Nila Friedberg (eds.) 2006. *Approaches to Poetry: Recent Developments in Metrics*. Berlin: Walter de Gruyter.

Finglass, Patrick J. (ed.) 2018. *Sophocles. Oedipus Rex*. Cambridge: Cambridge UP.

Gasparov, M. L. 1996. *A History of European Versification*. Trans. G. S. Smith and Marina Tarlinskaja. Oxford: Oxford University Press.

Gerber, Douglas E. 1982. *Pindar's Olympian One: A Commentary*. Toronto: University of Toronto Press.

Hanson, Kristin and Paul Kiparsky. 1996. "A Parametric Theory of Poetic Meter." *Language* 72.2, 287–335.

Itsumi, Kiichiro. 2009. *Pindaric Metre: The 'Other Half.'* Oxford: Oxford University Press.

Kazartcev, Evgenii. 2014. "Comparative Study of Verse: Language Probability Models," *Style* 48.2, 119–139.

Kolmogorov, A. N. 2016. *Trudy po stikhovedeniiu*, ed. A. V. Prokhorov. Digital Edition. Moscow: MTsNMO.

Kurke, Leslie. 2013. "Pindar's Pythian 11 and the *Oresteia*: Contestatory Ritual Poetics in the 5th c. BCE," *CA* 32.1, 101–175.

Maslov, Boris. 2022. "The Greek Tragic Trimeter as a Prosodic Milieu." *Symbolae Osloenses* 96, 45–71.

———. Forthc. "One Step Beyond Melic Meter: Choriambs and the Semantics of Rhythm in Isthmian 8"

Mullen, William. 1982. *Choreia: Pindar and Dance*. Princeton: Princeton UP.

Nagy, Gregory. 1974. *Comparative Studies in Greek and Indic Meter*. Digital edition: http://nrs.harvard.edu/urn-3:hul.ebook:CHS_Nagy.Comparative_Studies_in_Greek_and_Indic_Meter.1974

Phillips, Tom. 2018. "Words and the Musician: Pindar's Dactylo-Epitrites," in Phillips & D'Angour (eds.) 2018, 73–98.

Phillips, Tom and Armand D'Angour (eds.). 2018. *Music, Text, and Culture in Ancient Greece*. Oxford: Oxford UP.

Probert, Philomen. 2003. *A New Short Guide to the Accentuation of Ancient Greek*. London: Bristol Classical Press, 2003.

Sicking, C. M. J. 1993. *Griechische Verslehre*. Munich: C. H. Beck.

Snell, Bruno. 1953. *The Discovery of the Mind* [1946]. New York: Dover.

———. 1982. *Griechische Metrik*. 4th ed. Göttingen: Vandenhoeck & Ruprecht.

Spitzer, Leo. 1949. "*Explication de Texte* Applied to Walt Whitman's Poem 'Out of the Cradle Endlessly Rocking'," *ELH* 16.3, 229–249.

Tarlinskaja, Marina. 1987. "Meter and Mode: English Iambic Pentameter, Hexameter, and Septameter and Their Period Variations," *Style* 21.3, 400–426.

———. 1989. "General and Particular Aspects of Meter: Literatures, Epochs, Poets," *Phonetics and Phonology* 1, 121–154.

———. 2006. "What is Metricality? English Iambic Pentameter," in Dresher & Friedberg (eds.) 2006, 53–74.

Tomashevskii, Boris. 1918. "Ritmika chetyrekhstopnogo iamba po nabliudeniiam nad stikhom "Evgeniia Onegina"." *Pushkin i ego sovremenniki*. Petrograd, 1918. Vyp. XXIX-XXX, 144–187.

Vashchenkov, Viktor and Evgenii Kazartcev. 2024. Prosimetron corpus. Online resource. http://vikvas1r.beget.tech/#

West, M. L. 1982. *Greek Metre*. Oxford: Clarendon Press.