



THEME AND VARIATION IN PSALM 111: PHRASE AND FOOT IN GENERATIVE-METRICAL PERSPECTIVE¹

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Abstract

This programmatic paper approaches the metre of biblical poetry as a problem in generative metrics. Recalling the earlier proposal of Kuryłowicz (1972, 1975), it is argued that the organizational principles of the Tiberian liturgical chant (syllable, foot, and, crucially, phonological phrase) are also the metrical principles of biblical poetry — or at least that of Job, Proverbs and a fair portion of the Psalms. When the musical transformations of the poetic accent system are taken into account, Psalm 111 conforms to Kuryłowicz's 2+2 phrases per verse. However, the 2+2 analysis only scratches the surface: the distribution of foot-, word- and line-types in Psalm 111 is also regulated by prosodic principles.

¹ A special word of thanks to Elan Dresher, to whom this paper is dedicated, and whose continued support and encouragement through the years have kept me working away at generative grammar and Tiberian Hebrew phonology (or as I prefer, 'generative Masoretics'). It should be obvious that Dresher's seminal 1994 study is my constant inspiration throughout.

I must also recognize John Hobbins and his invaluable online resources, especially his detailed bibliographies and history of research (see <http://ancienthebrewpoetry.typepad.com>). He was quick with voluminous and insightful feedback on earlier drafts, and the study is many times better as a result. I am especially grateful for his pointing out those crucial footnotes in Dhorme's commentary on Job, and also for patiently explaining the details of Fokkelman's syllable counting.

Thanks also to Jim Price who, in addition to offering feedback on an earlier draft, generously supplied me with data for *nesiga* before *silluq*. Specific insights are noted in the relevant footnotes.

Of course, these gentlemen can in no way be held responsible for the views — let alone the errors — contained herein.

I should also thank an anonymous reviewer for helpful suggestions that have been incorporated in this draft, especially for alerting me to Loretz's count for Psalm 111.

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It seems that in the present stage of research the accentuation system may not be excluded from the competition of prosodical systems of Old Hebrew poetry, but its application should be substantially limited, perhaps to the poetical works from the first half of the first Millennium B.C. (Segert 1960: 286).

‘The psalms are for singing’, intones Mowinckel, ‘and singing implies a constriction of the rhythm called metre’ (1962, II: 159). This declaration echoes that of Gustav Hölscher, from whom Mowinckel borrowed his metrical theory wholesale: ‘Dichtung ist metrisch geformte Rede’ (1920: 93).

Mowinckel’s bold statement should be amended, however, to add a subtle but crucial distinction: *the psalms are for chanting*. Jacobson distinguishes ‘logogenic’ liturgical chanting, with a rhythm ‘determined by the natural cadences of speech’, from ‘melogenic’ song in which ‘the words are fitted to the music, rather than vice versa’ (2002: 14, citing C. Sachs). Similarly, Drescher describes liturgical chant, both in its Tiberian and Gregorian forms, as ‘a stylized form of intonation’ projected ‘from the tendencies inherent in ordinary speech’ (forthcoming: 1).

The psalms are for chanting, then, and Tiberian chanting implies the delimitation and hierarchical organization of *phonological phrases* to which one of four ‘tropes’ (fixed musical phrases) is assigned (Jacobson 2002, Portnoy and Wolff 2000, 2001; see further Weil 1995).

The phonological phrase, the basic building block of the liturgical chant, is at the very same time the primary domain of Tiberian Hebrew (TH) *postlexical phonology*: the so-called ‘sandhi rules’ of spirantization; external gemination; and, crucially, the rhythm rule or *nesiga* (Drescher 1994: esp. §3.2, 10–11; see further Revell 1987) that reorganizes syllables into (typically) binary feet,² reinforcing the characteristic TH *iambic rhythm*.³ It is worth underscoring this point, since the phonological phrase rarely gets the attention deserved by its fundamental role in TH phonology.

² Khan furnishes a prototypical example, *tô`ābôtêhém* (Ez. 6:9); see further Khan (1987: 54ff).

³ Specifically, a ‘loose iambic’ rhythm. The loose-iambic foot is analogous to deuterium (one proton, one neutron) with its two isotopes, tritium (one proton, two neutrons) and standard hydrogen (one proton, zero neutrons). For a general review of the theory of iambic meter and its many variations, see, e.g., Steele (1999). For comparable loose-iambic verse in German and Russian, see further Tarlinskaja (1993); see also Segert (1960: 289).





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Moreover, ‘poets “*measure*” those elements of their language that are *most essential to its nature and structure*’ (Steele 1999: 13, emphasis added). It is a commonplace that the verse of a tone language like Chinese organizes tones; and that the verse of quantity-sensitive languages like ancient Sanskrit, Greek and Latin organizes by long versus short syllables, whereas quantity-insensitive languages like French, Italian and Japanese simply count syllables. It only stands to reason in this light that the phonological phrase, both the primary domain for TH phonological rules and the basic building block of the liturgical chant, should play the key organizing role in ancient Hebrew poetry.

In this perspective, it is curious that Mowinckel apparently never refers to the special mode of chanting devised for the Pss, together with the poetry of Proverbs and Job (Price 1990, II: Chs. 10ff; 1996, vol. 5; see also Flender 1992). This second, less well-known system of cantillation has ‘its own rules and associated grammar — similar in structure [to the so-called prose system] but different in content’ (Price 1990: 18). Indeed, on the one hand it has an impoverished phrase structure — less articulated, seemingly more primitive — yet, on the other hand, is exquisitely sensitive to the number and nature of syllables.⁴

The linguist Jerzy Kuryłowicz is apparently alone in assuming that the poetic accent system is the foundation of biblical metre (1972: Ch. 10, §§14–34, 166–78; 1975: Ch. 12, §§6–17, 215–25; see further Cooper 1976),⁵ tentatively proposing a metrical analysis of Biblical Hebrew (BH) poetry based on the phonological phrase (his ‘accented word-complex’) on the analogy of the Old Germanic ‘bar’.⁶

⁴ Representative here is the choice among three conjunctives to serve the disjunctives *great revia* and *azla-legarmeh*; see further Price (1990: 250–1, 260–2). Interestingly, it is not simply a matter of full versus schwa syllables, but, crucially, surface-long versus surface-short vowels: thus, the nature of the pretonic vowel determines the choice between the conjunctive *sinnorit-mahpak* (pretonic open syllable with surface-long vowel) versus *illuy* (pretonic closed syllable with surface-short vowel). In Psalm 111, compare v. 9aα (with *sinnorit-mahpak* serving *great revia*) and v. 10aα (with *illuy* serving *great revia*).

⁵ Closely allied to Kuryłowicz’s line of investigation is the work on *colometry* in light of TH accentuation, e.g., LaSor (1979). On the so-called Kampen School of colometry, see the history of research provided by de Hoop (2000: 48–50). See further the recent study by Thomas Renz (2003) that pays special attention to the syntax of the accent system.

⁶ Interestingly, the family resemblance between Biblical Hebrew and ancient Germanic metres crops up in the recently published notes to Lambert’s grammar (Lambert 2005): ‘La prosodie hébraïque (comme la prosodie germanique) est fondée sur le nombre des syllables accentués ...’ (appendix II: §1, p. 9).





Vance's superficial and unsympathetic treatment of Kuryłowicz's proposal (Vance 2001: Ch. 2, 166–73) fails to do justice to his genuine insights.⁷

As is so often the case, this seems to be a reinvention of the wheel. Dhorme's footnotes to his discussion of metre in Job (1926: cxlviii, notes 2-3) point to an obscure paper by Paul Vetter (1897).⁸ Vetter's 'elementarste und grundlegende Gesetz' summarizes his approach to the metre of Job guided by the poetic accents:

Jeder Vers des Buches Job enthält, wenn er ein Distichon ist, drei Cäsuren: eine Haupt- [major disjunctive] und zwei Nebencäsuren [minor disjunctives]. Ist es aber ein Tristichon, dann zählt er fünf Cäsuren, nämlich zwei Haupt- und drei Nebencäsuren. Diese Scheidung des Verses in vier bezu. sechs Cäsurgruppen beruht auf logischer Grundlage (Vetter 1897: 399f, emphasis original).

This paper adopts a generative-grammatical framework to reformulate and extend this *phonological-phrase approach* to BH poetry, in the first instance to those portions of the biblical corpus marked out by the poetic cantillation: the three so-called 'Books of Truth' (from the Hebrew acronym for Job, Proverbs and Psalms; or alternatively and appropriately 'Twin'). This is in keeping with the recommendation of Hölscher, who for a number of methodological reasons confines his study to 'nur *Texte der jüngsten Zeit*': 'Als Gegenstand metrischer Untersuchung empfehlen sich darum in erster Linie Psalmen, Sprüche, Hiob, Hoheslied, Klagelieder und Sirach' (1920: §17, p. 99, emphasis his; cf. Segert 1960: 286).

⁷ To be fair, Kuryłowicz evinces a lack of sophistication when it comes to the accent system. A glaring case is found in his parade example of Ps. 1:1, comparing his parse to that of Sievers (Kuryłowicz 1972: §29, 175f): here he counts *mahpak-legarmeh*, a disjunctive (D3f) clearly marked by the *paseq* (vertical bar), as simply *mahpak*, a conjunctive, giving a count of one phrase instead of the correct two. Another case, noted by Vance (2001: 169), is Kuryłowicz's reading of the tetragrammaton as vowel-final *yahōwā* instead consonant-final *'ādōnāy*. This reading produces an exceptions list for the Psalms (1972: §19, 170) where all but one exception have the tetragrammaton on a conjunctive (of note among his 'exceptions' is Ps. 21:14a, where *BHS* is incorrectly missing the *dagesh*); as a result, his analysis is systematically thrown off by one in §20 (p. 171) in six of his 26 examples. Furthermore, that lone exception not involving the tetragrammaton, 26:9b, is the output of a *transformation* that converts an underlying disjunctive to a conjunctive (Price 1990: 170f, 209ff, et passim) — Kuryłowicz's 'rule' that he borrows here unattributed from Gesenius-Kautzsch §15 *o* (though see 1975: 223, n. 13). He turns around and invokes this rule of a virtual disjunctive, extrapolating from 29:6b — incorrectly in the event — to cover the putative exceptions with the tetragrammaton as well.

⁸ Thanks again to John Hobbins for pointing out this obscure reference.





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This programme in generative phonology is explicitly situated within the interdisciplinary study of *generative metrics*, where formal music theory and literary linguistics engage theoretical phonology and generative grammar generally (Fabb 1997, 2002; see further Drescher and Friedberg 2006). Within this formal framework the linguistically significant generalizations of Hölscher, Horst, Mowinckel and Segert⁹ on the metrical ‘foot’ on the one hand, and Vetter, Kuryłowicz and Cooper on the metrical ‘phrase’ on the other, can be captured, integrated and thereby more adequately reformulated.

1. Psalm 111 and Counting Regularities

Pursuing the strategy of divide and conquer, the scope of this programmatic paper is drastically limited to just the twenty-two lines of Psalm 111 *and those lines only* (a traditional romanization with phrase divisions added is provided in appendix 1). The paper explains how the prosodic representation of the liturgical chant regulates the poetic metre of this psalm. The analysis is proposed as the basis of an extended research programme in generative metrics and BH poetry.

Psalm 111 has been selected, first and obviously, because it is a poem that has been annotated with the poetic accents, and so presumably is representative of the metrical tradition. Second, it is an *acrostic*, which removes the fiddle-factors in lineation as well as possible intercalation of extraneous lines (of potentially different metrical structure). Third, there are no emendations worth troubling about. Fourth, it is short for a biblical acrostic, presenting a more tractable database.

Finally, and most importantly, Psalm 111 emerges as *the most regular poem* in the seminal syllable-counting study of Culley (1970). Furthermore, because it is an acrostic, it also receives a detailed statistical analysis in Vance’s massive doctoral study (2001) as an additional check.

Culley (1970) proposes a ‘strictly descriptive approach’ to BH poetry. He adopts a syllable count as the better measure of the length and the contour of the colon. He provides a detailed analysis of several key poems, the product of the application of his relatively crude statistical approach.

Vance, however, is dismissive of the value of Culley’s paper (Vance 2001: Ch. 2, 182–4) — despite the broad overlap of the two approaches.

⁹ Segert (1960) provides an overview of the ‘alternating-stress approach’, with references for the history of this line of research (see esp. his note 1, p. 284).





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Culley is careful not to declare that this demonstrates meter, since it surely does not, but that these data might prove useful for the question of meter. One is hard pressed to see how. All that seems to be demonstrated is that the lines (cola, verses, or whatever) are approximately the same length. But this has never been in disputed and hardly points conclusively to some underlying meter. Culley admits this latter point but fails to show what value syllable counts do have if one is not going to propose a syllabic meter (p. 184).

On the contrary, the 'value' of Culley's syllable counts is at least threefold. First, the resulting *taxonomy* (his 'groupings and distinctions') 'permits some distinctions to be made within the corpus of Classical Hebrew' (p. 28): a non-trivial diagnostic tool with implications for source criticism (see further Fokkelman 2000: 9–11 on 'normative numbers').

Second, the several 'significant patterns' strongly suggest 'that restrictions have been imposed upon the poetic structure'—or perhaps better, *superimposed*—implying a 'metrical structure of some sort' (p. 27), *pace* Vance.

Third and more pertinent in the present context is Culley's implied identification of Psalm 111 as the most regular among his most regular group, the group characterized by a statistical mode of *eight syllables per line*. This eight-syllable-modal group includes, significantly in the context of poetic cantillation here, representative chapters from Job (chs. 6 and 9) and, not surprisingly, the twin acrostic of Psalm 112 (as well as three other psalms).¹⁰

Specifically, Culley provides a statistical 'summary' of Psalm 111: a range of 7–10 syllables per line, a 'significant range' of 7–9 syllables, with a 'most frequent length' (or mode) of 8 syllables (p. 18).

¹⁰ Interestingly, select lines from the so-called P Source (Numbers 23–4) are grouped here too. In a corpus-linguistic study of biblical dialectology (DeCaen 2000–1), I suggest that the Pss congregate at the extreme end of the dialect spectrum together with the P Source.

À propos the significance of the eight-syllable count, Fokkelman (2000) writes, 'And what if we should find more than 40 poems in the Psalter that score this perfect 8.00 as the average number of syllables per colon? In that case, the proposition that the occurrence of such a round number is a coincidence has become totally untenable... I am toying with the idea that the 148 poems of the Psalter contain 1193 strophes, 2695 verses..., 5714 cola, 18,944 words and 45,733 syllables. If we divide this last number by the number of cola we get 8.0036, a highly remarkable number as it only deviates from the perfect number 8 (8.00) in its third decimal. This is such a minimal deviation that we should consider whether the number 8 might not have been a guideline or normative figure for the poets in constructing cola' (Fokkelman 2000: 9–10).





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Vance provides a check on Culley's rough analysis: Vance's range is 6-9 syllables, with a mode and median of 8 syllables and an arithmetic mean, rounding to one decimal place, of 7.7 (Vance 2001: Ch. 3, 421-427).

Appendix 2 is provided as a comparative guide to counting. The Masoretic Text (MT) counts for word¹¹ and syllable are provided first (notice the interesting *average word* count of 3.0). Culley's count (1970: 18) reduces MT by four syllables by reading the divine name as bisyllabic *yahwe* instead of the trisyllabic *'ādōnāy* (but then he adds a syllable in v. 2b, apparently a typographical error). Vance (2001: 425) and Fokkelman (2003: 369) are more or less following Friedman's system of syllable counting, discounting various shwa vowels. Vance obtains a slightly higher figure by counting the segholate *'ōmedet* as trisyllabic in verses 3b and 10c. The letter-counting system developed for ready comparison with Ugaritic verse is provided as an additional check (Loretz 1979:168; see further Loretz and Kottsieper 1987: esp. 23, 25-6, 39-40); an average of 13.5 letters is roughly what might be expected for an average of 8 syllables.

(In appendix 3 and elsewhere, the anaptyctic vowels¹² are isolated by the use of <pointed brackets>; similarly, the post-tonic syllables are so marked. There does not appear to be any reason here *prima facie* to discount any such syllable in the count, as will become clearer below, *pace* Vance and Fokkelman. Indeed, the post-tonic syllable of the segholates substantially improves the rhythm and strengthens the generalization regarding anapests, as explained below; and the post-tonic syllable seems to be absolutely required *metri causa* in v. 10b: *šēkel tōb*).

This exceedingly *narrow range* around the average of eight syllables (mean, median and mode) surely demands an explanation in terms of a *syllable-organizing unit* or 'foot' that permits minor variations. The remainder of this paper is devoted to such an explanation in terms of higher-level organizing units: the phonological phrase and metrical foot.

¹¹ 'Word count' here discounts white space counter-indicated by the TH hyphen or *maqgef*. The word count for the purely consonantal text increases to 72 by eliminating the five *maqgef*s, giving a mean of 3.3 words instead.

¹² For a theoretical explanation of the nature and distribution of TH anaptyxis in terms of syllable contact and sonority constraints, see DeCaen (2003).





2. Theme and Variation: Continuous Dichotomy and the Prosodic Hierarchy

‘Meter is a contract between the poet and the reader. The poet declares what he or she is going to do in the opening lines of the poem, and this in turn, sets up the reader’s expectation’ (Vance 2001: 491). Following Vance’s suggestion, the heuristic adopted for this research programme is that the *first line* and *first stanza* must establish the underlying metrical *theme* of the Psalm.

Further, the ‘fulfilling of the contract may involve permissible variations to which the reader is sensitive and that give heightened pleasure for the reader’ (491). Accordingly, the ‘permissible’ *variation* will be sought in subsequent lines.

At the highest level, we observe two ‘bars’ or phonological phrases in 111:1a (see the accentual parse provided in appendix 3). Indeed, the poem generally approaches, in Kuryłowicz’s terms, a 2 + 2 verse.¹³ However, making due allowance for the lawful transformations of disjunctives into *virtual disjunctives*, made explicit in Price’s phrase-structure analysis (1990, 1996),¹⁴ the acrostic becomes consistently 2 + 2. (The ‘virtual’ disjunctives are marked below by an exclamation mark (!), and all such cases are so indicated in appendix 3, section (B).)

This observation of 2 + 2 *metrical regularity* hardly scratches the surface, however, and still might be compatible with the syntax-only approach of conventional wisdom (see references in Vance 2001).

The linguistically significant generalization is the *double dichotomy* of the accentual parse of 111:1a given in (1).¹⁵

¹³ Cf. Ps. 44:5–27 (Kuryłowicz 1975: §15, pp. 222f), Prov. 8:22–31 (Cooper 1976: 199ff); and Job generally (Vetter 1897). The apparent cases of 4 + 2 in verses 9 and 10 are reanalysed here as tripartite 2 + 2 + 2.

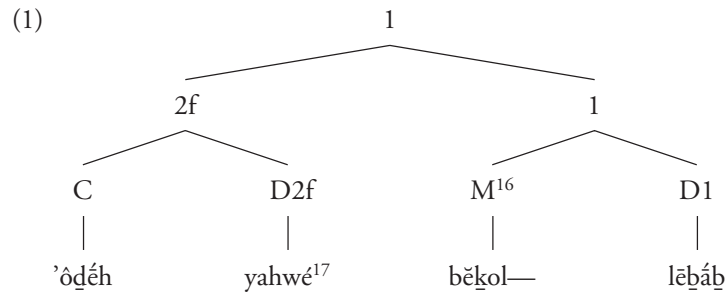
¹⁴ The Law of Transformation is similar to rhythm rule or *nesiga*, just one prosodic level higher: the clash of back-to-back disjunctives is resolved by *demoting a disjunctive* to its ‘virtual’ disjunctive counterpart (an appropriate conjunctive). Schematically, we could characterize all instances in Psalm 111 as $CDD \rightarrow CCD$. (Indeed, musically, the reality might even be more *nesiga*-like: $XYX \rightarrow YXY$. This might explain why putative conjunctives, reserved exclusively for the output of such a transformation, graphically resemble disjunctive counterparts in the prose system: conspicuously, the conjunctive *tarcha*, which is identical to the prose D1f *tiphcha*.)

¹⁵ The standard notation employed here is borrowed from Dresler (1994), ultimately from Cohen (1969). Conjunctives (C) are distinguished from disjunctives (D). The relative rank of the disjunctive is given {0–3}, where 0 marks the highest/strongest grade among the disjunctives and 3 the lowest/weakest; D0 is verse-final *silluq*, for example, and D n will be the general variable, where n ranges over {0–3}.

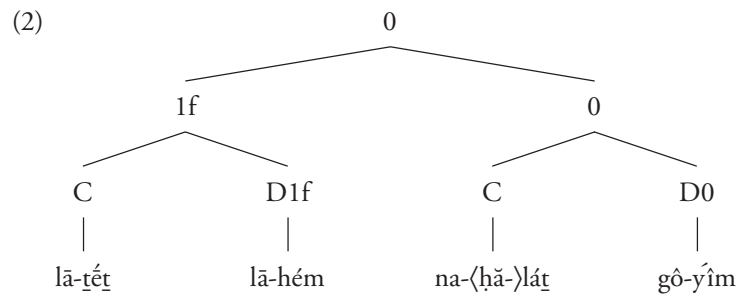




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Significantly, the double dichotomy in (1) captures the very essence of the TH trope (fixed musical phrase): **C D_n+If C D_n**. Each such phrase is characterized by its own basic conjunctive. For the *athnach* trope (D1) in (1), for example, the phrase is dominated by the conjunctive *munach*: *munach dechi munach athnach*. The *silluq*-trope (D0) in 111:6b (given by way of contrast in (2)) is dominated by the conjunctive *mereka*: *mereka revia-mugrash mereka silluq*. (Similarly, D2 is dominated by *sinnorit-mahpak*, and so on.)



There is yet another significant generalization one level further down. Psalm 111 is certainly not a series of random collections of more or less eight syllables distributed over two ‘bars’ or phrases. In terms of *theme*, it is not a coincidence that the very first line 111:1a instantiates exactly the average eight syllables and the average three words; nor is it a coincidence that the syllables alternate weak-strong

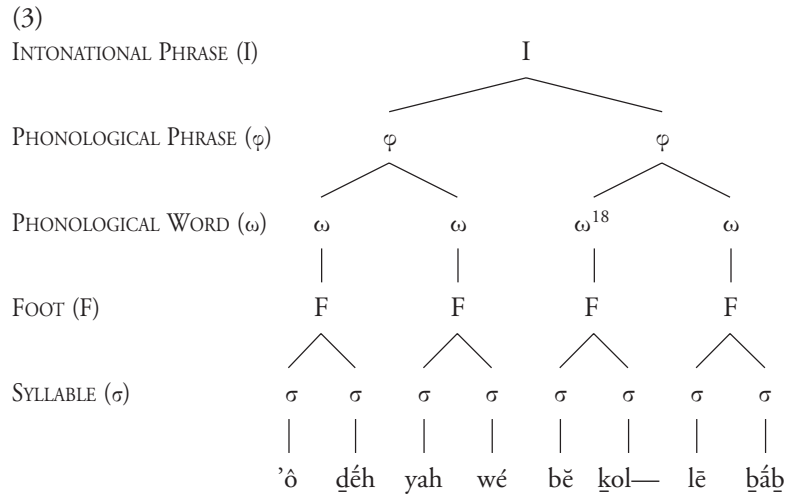
The additional *f* for ‘final’ separates the minor disjunctives (*Dnf*) from the major disjunctives (simply *Dn*); in Price’s terminology, *Dnf* is the ‘subordinate’ disjunctive, while *Dn* is the ‘remote’ disjunctive. Finally, as a conjunctive place-filler in the representations, I am using *M* to mark *maqgef*.

¹⁶ The *maqgef* (*M*) is assumed throughout to do duty for the trope’s conjunctive: a ‘virtual *munach*’, as it were, in this case.

¹⁷ The rendering of the divine name is conventional, and the doubt regarding the actual pronunciation of this name does not raise substantive questions in this study, as will become clear in the sequel.



in the *iambic rhythm*, suggestive of a syllable-organizing metrical ‘foot’. The prosodic representation in (3) is given as the explanation (for details, see further Dresher 1994).



In (3) we observe the *general isomorphism* between the TH accentual parse and the underlying *prosodic hierarchy* of generative phonology (Dresher 1994: esp. (4), p. 8; see further Nespor & Vogel 1986). Notice that the intonational phrase (I), the domain governing pausal phonology, corresponds on this view to the *poetic line* governed by the major disjunctive. Notice further how the *continuous dichotomy* characteristic of TH prosody extends in this thematic line all the way down to the level of the syllable. Finally, it is worth noting the correspondence of prosodic ‘foot’ (F) in (1)–(3) to the TH ‘accent’ (virtual or otherwise). The mere observation that this line instantiates a *regular iambic rhythm* (Hölscher’s *Silbenalternation*) misses this significant linguistic generalization regarding the *global* nonlinear, dichotomous organization.

The diagram in (3) is the Platonic form of Hölscher’s regular eight-syllable, four-foot, two-phrase *Doppeldipodie* or *Vierheber* (1920: §C, 99–101, esp. 100). Let us consider this first line and its *double dipod* as, following Vance, the ‘contract between the poet and the reader’, necessarily declared in the opening line, which ‘sets up

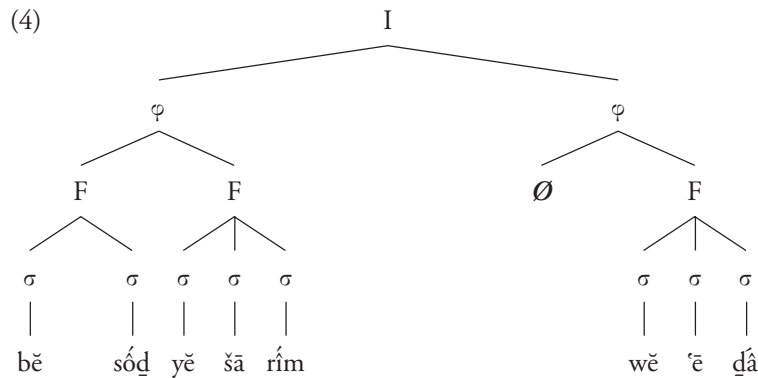
¹⁸ The prosodic level of phonological word (ω) is ignored in the sequel where redundant. The questions of ‘prosodic word’ versus ‘clitic group’ and the proper analysis of TH cliticization generally are tangential to the goals of this paper, and are consequently left to the side. For a theoretical overview, see Dresher (2000, in press).



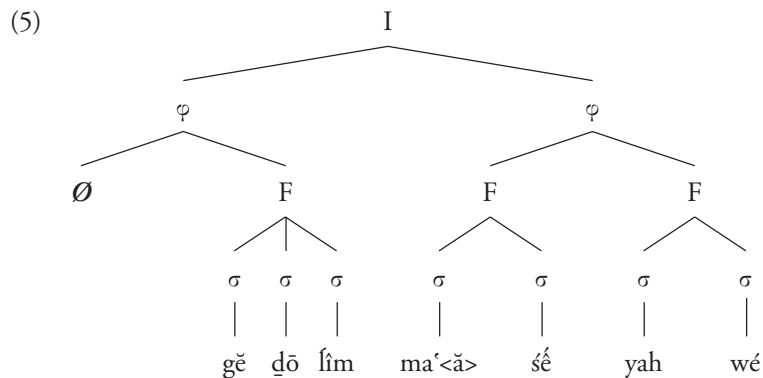
the reader's expectation' (Vance 2001: 491). Once this *theme* is firmly established, the way is cleared for 'permissible' minor *variation*, to which we now turn.

3. Variation: Foot-Syncopation and Foot-Substitution

The superficial observation that Ps. 111:1b is also composed of exactly eight syllables misses the prosodic family resemblance with 111:1a. The analysis of v. 1b in terms of the prosodic hierarchy is given in (4). In order to transform the *theme* (v. 1a) into this *variation* (v. 1b), we need only posit one rule of *foot-syncopation* (missing foot marked \emptyset).



The mirror-image foot-syncopation is found in 111:2a, which is provided in (5) by way of contrast (extrametrical anaptyxis is marked with <pointed brackets>).





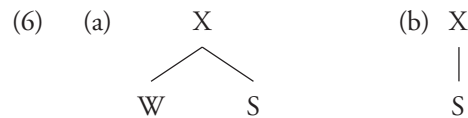
We can accordingly characterize these *rule-governed metrical variants* in the first stanza in terms of constrained (a) *foot-syncopation* and (b) *foot-substitution*.

3.1. Foot-Syncopation

The upper end of the range is necessarily four feet per line, given the dipodic nature of the phonological phrase. The variants mark the lower end of the range as three feet per line.

Two questions arise once we admit the *tripodic line under syncopation*. First, how do we keep the lower range from dropping to two feet per line, since permitting syncopation generally would obviously overgenerate in Psalm 111? In other words, how do we prevent syncopation from applying to *both* phrases in the line? Second, more technically, what is the prosodic nature of the tripodic input and output of the ‘Law of Transformation’ (note 14) governing the TH virtual disjunctives?

First, we obviously need a basic phrase-structure rule that introduces asymmetry and syncopation. Accordingly we introduce *optionality* (indicated by the round brackets) into a generalized phrase-structure rule, obtaining thereby $X \rightarrow (W) S$ (read ‘some prosodic unit X maps to an optional weak unit W and an obligatory strong unit S on the lower prosodic level’). This rule permits only the two mappings between levels shown in (6): the iambic structure in (6a) and the so-called ‘degenerate’ structure in (6b).

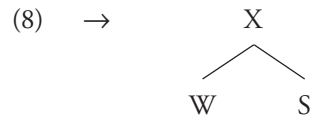


To avoid overgenerating (i.e., obtaining the reduction to just two feet per line through syncopation in both phrases), we require a *general constraint* against ‘stress clash’. The constraint is formulated in (7), abbreviated *CLASH (read ‘star clash’), to ensure that two feet are insufficient to project the two phonological phrases demanded by the poetic line. (Let us assume further that the repair strategy would result in the structure in (8).)

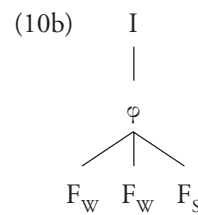
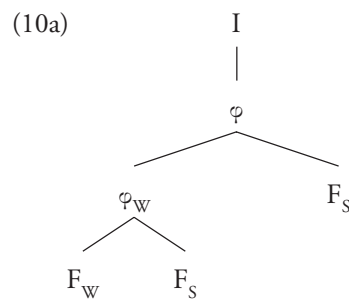
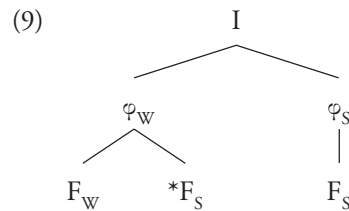




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The clash constraint in (7)–(8) suggests in turn the proper treatment of the TH Law of Transformation, whereby a disjunctive is demoted to its ‘virtual’ counterpart (note 13). The input in (9), with back-to-back strong nodes, would obviously violate *CLASH; the output must be similar to (8). I propose that the asymmetrical *left-recursive* structure in (10a) captures the Janus-faced behaviour of the virtual disjunctives, contrasting with the flat structure in (10b).



In favour of the proposal in (10a) is the *asymmetric ternary structure* observed at other levels of the hierarchy: in the F/σ mapping (the *anapest*, see below) and the U/I (verse/line) mapping.

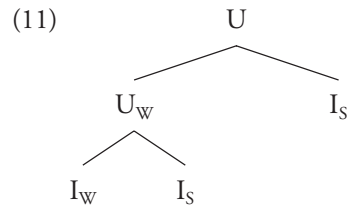
The entire TH verse or *prosodic utterance* (U) (consistent with Drescher’s isomorphism between TH accent system and prosodic hierarchy) permits a 4 + 2 in verses 111:9 and 10, which according to the major TH disjunctives should be parsed as the asymmetric 2 + 2 + 2 in (11).¹⁹ The diagram in (11) captures Dhorme’s intuition on

¹⁹ This suggestion opens up an interesting way to explore the *asymmetric nesting* of TH phonological phrases with consequences for Drescher’s Discrete Level Hypothesis versus the Strict Layer Hypothesis (Drescher 1994, esp. p. 39). Specifically, the following diagram shows the *maximum left-recursion* possible on the view proposed here, treating the Strict Layer Hypothesis more as the *licensing condition* for such recursion. This diagram as conjecture makes a testable prediction regarding





the three-line construction: ‘Selon nous, le vers tristique n’existe point. Il y a vers accompagné d’un hémistiche ou demi-vers’ (1926: cxlviii, n. 2).

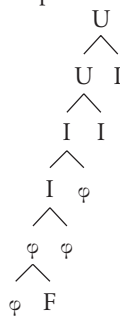


Against this proposal of left-recursion in (10a) is the apparent lack of phonological effect of the asymmetry and virtual disjunctive. Indeed, the data from the sandhi rule of *spirantization* in the Pss—otherwise diagnostic of phonological phrasing — are consistent rather with the flat structure in (10b).

On the other hand, the data from *nesiga* (stress retraction) cut the other way in favour of (10a). There is an apparent failure of *nesiga* in 111:9c, where the word-pair *wěňôrá’ šěmô* might be expected to create a clash (repaired by stress retraction as *wěňôrá’ šěmô*). This failure can be readily explained by the asymmetric structure (10a), but not by the flat structure (10b). While phonologically-analogous *lăkă* does in fact trigger *nesiga* (Revell 1987), this isolated, problematic example in 111:9c is not much to hang one’s hat on.

Unfortunately, data on *nesiga* in the Pss²⁰ are hard to come by, and minimal pairs are virtually nonexistent. There are, nevertheless, at least two apparent minimal pairs that capture the conjecture’s *pre-*

the distribution and depth of TH phonological-phrase nesting, derived from first principles.



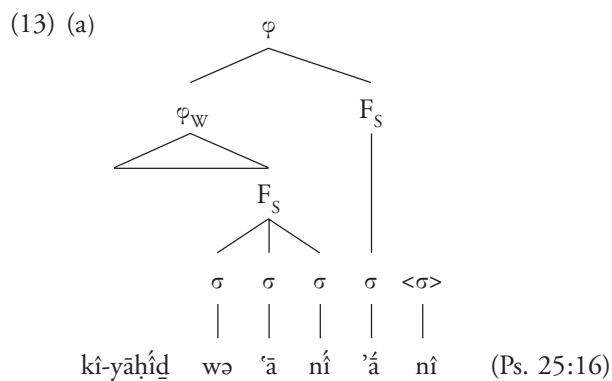
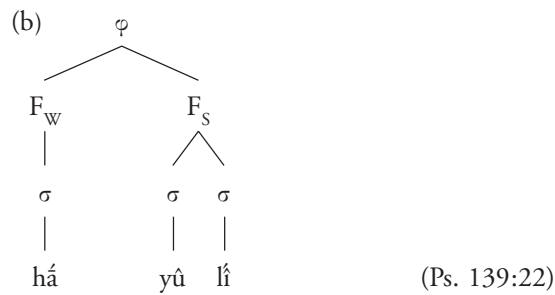
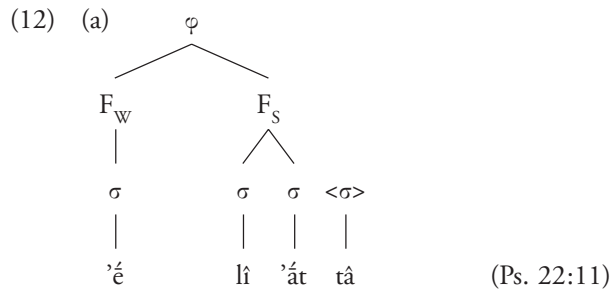
²⁰ Many thanks again to James Price, who kindly provided me with *nesiga* data from his marked-up database. His data relating to the environment before *athnach* and *silluq* in the three poetic books are consistent with the *complementary distribution* predicted by the conjecture here.





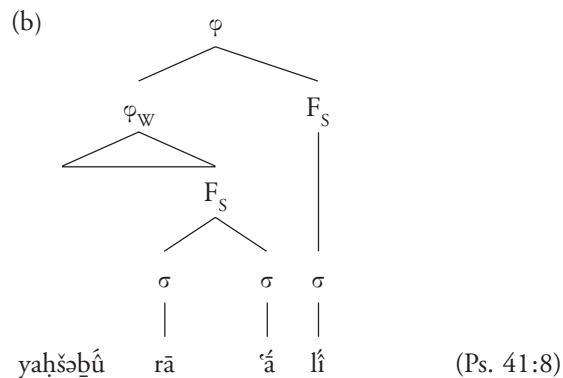
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dicted asymmetry, contrasting retraction in (12) under normal phrasing with the failure to retract stress on the virtual disjunctive in (13) despite the analogous stress environment. The geometry and the weak (W) versus strong (S) contrast conjectured here considerably simplify the characterization of the necessary environment for *nesiga*,²¹ eliminating the need to invoke syntactic categories and/or structures with Revell (1987).



²¹ A quick summary of Praetorius's description of the environment is supplied by Khan (1987: 62); see Revell (1987) for an exhaustive treatment.





There are more subtle effects that could likewise be attributed to the asymmetrical geometry. For instance, the regular conjunctive *mereka* before *silluq* predictably alternates with the marked *munach* according to syllable-count. That alternation disappears—indeed, is *neutralized* in favour of the marked alternative *munach*—where that conjunctive represents the virtual disjunctive *revia-mugrash* (Price p.c.). In other words, the necessary (but not sufficient) condition for *mereka* is the structure in (12), not (13).

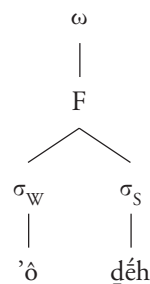
3.2. Nature and Distribution of Feet

There can be no doubt that TH prosody admits the *ternary anapest* in some form as a foot. The alternative would predict the projection of degenerate feet from *shewa*-syllables willy-nilly. The asymmetric analysis in (14c), however, has considerable explanatory power, able to constrain and explain the distribution of *shewa*-syllables across TH prosodic structure: the *shewa* is *restricted to weak nodes* in (14).

(14) (a) one syllable



(b) two syllables

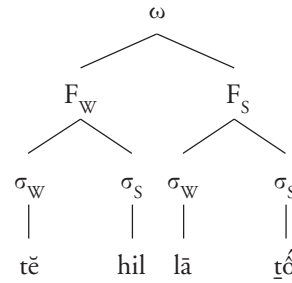
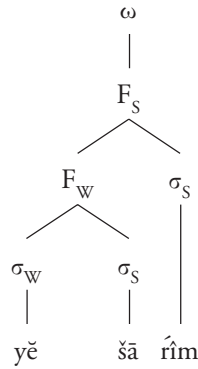




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(c) three syllables²²

(d) more than three syllables



Of considerable interest is the distribution of the anapest above in (4)–(5), indeed throughout the psalm (see especially appendix 3). We observe that an anapest in Psalm 111 appears on the *disjunctives only*, not the conjunctives. Indeed, the anapest is much preferred on the major disjunctives (the generalization is strengthened by reading *’ādōnāy* for the divine name), and is virtually *de rigueur* on the minor disjunctives in line types B–C. Consider further that this sort of distribution and *prosodic* head-dependent asymmetry is consistent with the general prosodic approach here, but remains unexplained under the conventional, crucially *non-prosodic*, syntax-only approach.²³

Simple foot-substitution in the double dipod, constrained by the proposed asymmetry, would therefore generate a principled range of 8–10 syllables per line as result; syncopation would drop the lower limit, generating 6–10 syllables with an *average of 8 syllables* per line. We therefore explain Culley’s findings from first principles.

²² It should be pointed out that the Tiberian cantillation distinguishes ‘short’ versus ‘long’ trisyllabic words (Dresher in press; 1994: §6.2, 34–6), whereas there is no distinction here in Psalm 111 (they are all short anapests). Specifically, *lirē’āw* (5a) and *ne’ēmānîm* (7b) are both ‘long words’ by rule, but this does not register in the metre — or rather, the Tiberian prosody results in *supernumerary* feet. This very subtle mismatch is worth exploring as a diagnostic and perhaps key in future study.

²³ While this ‘head-dependent asymmetry’ in Psalm 111 is quite striking, in cross-linguistic perspective it is rather commonplace. A theoretical treatment within current generative phonology can be found in Dresher and van der Hulst (1998); they specifically treat TH under ‘visibility’ asymmetries (§2.1, 328ff). (Notice further that this head-dependent ‘complexity’ asymmetry here in Psalm 111 may in part shed some light on the original differences in stress and trope between conjunctives and disjunctives.)





However, there is much more going on terms of distribution of foot- and word-types. Consider, for example, the distribution of the monosyllabic or *degenerate* word-feet (14a). In five lines (111:3a, 4a, 5a, 6a and 10b, indicated by Ø in appendix 3) the weak syllable of the foot is itself syncopated, as it were, at the beginning of the line; notice further that in all cases we are dealing with a D2 *dechi* line. In itself, such an iambic line, known as a ‘clipped’ (or ‘truncated’) line with initial syncopation (and ‘broken-backed’ with medial syncopation), is rather commonplace in iambic metre. For instance, the clipped line can be found throughout the English tradition, beginning with Chaucer among other worthies (e.g., Steele 1999: Ch. 2, §6, pp. 84ff).²⁴ (Notice again the explanatory superiority of the prosodic versus syntactic theories with respect to the distribution of prosodic phenomena.)

Consequently, the range in Psalm 111 *ex hypothesi* is now 5–10 syllables per line when all permissible variation is accounted for. It is worth noting, however, that the actual range obtained in Psalm 111 in fact avoids these extremes: 6–9 syllables per line (consistent with Vance 2001: 426).

It is possible to distinguish other patterns in the distribution of words and feet generally, though this takes us beyond the current remit. Suffice it to suggest that the distribution of ‘long’ (14d) versus ‘short’ words (Dresher in press; 1994: §6.2, 34–6) may prove to be rule-governed. Notice, for example, that the two-foot ‘long word’ (*wəšidqātô* (3b), *lənīplē’otāw* (4a), *təhillātô* (10c)) appears exclusively on the D1 accent in Psalm 111. We know independently that the lesser accents D2 and D3 are somehow more complex—or at least more discriminating—perhaps reflecting a difference in free ‘initial’ versus fixed ‘cadence’ (see further Fabb 1997: §4.1.2.).

4. Distribution of Line-types over Stanzas

The three varieties of poetic-line are assigned, in the appendix 3 below, the *sigla* **A** (the majority four-foot double dipod), **B** (medial syncopation with resulting virtual disjunctive) and **C** (initial syncopation). The distribution across Psalm 111 is marked out in appendix 1, with three movements indicated (I-III).²⁵

²⁴ Indeed, probably Chaucer’s most famous line, the first line from the general prologue to the *Canterbury Tales*, begins:

Ø / x / x / x / x / <x>

Whan that Aprill with his shoures soote.

²⁵ The simple arrangement of lines into quatrains and so on is the result of applying the principle of *continuous dichotomy* bottom-up, and is consistent with





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The first thing to notice is the restricted distribution of the problematic B-line. Generally it is restricted to the second line of a verse: AB (vv. 1 and 4) and CB (v. 5; cf. v. 9); the exception is the BA in v. 3. Notice, further, that such second-position B-lines are all dominated by the D0 *silluq*-trope.

Staying with the distribution of B, the second thing to notice is the movement-initial quatrain pattern *XBYY*, where *X* is either A or C, and *Y* is the remaining choice: hence the quatrain patterns ABCC (vv. 1–2) and CBAA (vv. 5–6). Pursuing this line of analysis in the spirit of Dhorme (1926), we can interpret verses 9–10 as the rule-governed *amplification* of the CBAA pattern: $CB^+AA^+ = CBBAAA$ (in this light, see again (11) above). Further, this last observation could be understood as consistent with the general idea that the overall structure of the first verse should be replicated in some fashion elsewhere, especially in the poem's conclusion.

As a final note on global structure, notice that the first verse of the quatrains in the opening movements (vv. 1, 3, 5, 7) are all characterized by the count *6/7*: six phonological words and seven metrical feet.

5. Conclusion: Theme and Variation in Psalm 111

The metre of Psalm 111 can be characterized, therefore, in terms of the *double-dipod* 'contract' in the opening line of v. 1a (and again in the concluding line 10c), with the 'permissible', rule-governed variation of *syncopation* licensed in and by the following three lines that make up the opening quatrain (all four lines with 8 *syllables*, according to Culley)²⁶.

We can capture this metrical generalization with the diagram in (15): a prosodic template with *asymmetry* (the F/σ choice) and *optionality* (indicated again by parentheses), augmented by a metrical-grid interpretation beneath (the height of the columns representing relative stress)²⁷; the tree in (15) does not encode the additional

suggestions in the secondary literature (see further Scoralick 1997: 191–193). Fokkelman finds Scoralick's recent study 'unsatisfactory' (2003: 213, n. 1). His analysis is admittedly inconsistent with that of the twin Psalm 112, as well as the MT and 'all subsequent translations and commentaries', yet Scoralick is chided for not spotting it in her 'unsound' analysis (p. 213). Indeed, his version is so obvious that he can 'leave it to the reader to find good poetical reasons' for altering MT (2002: 170)!

²⁶ Assuming that the typographical error in his count is corrected.

²⁷ This metrical grid can naturally and simply explain the *relative length of vowels* in TH orthoepy. Khan gathers the details from the masoretico-grammatical literature with special reference to the accentuation (1987: esp. 59–66).

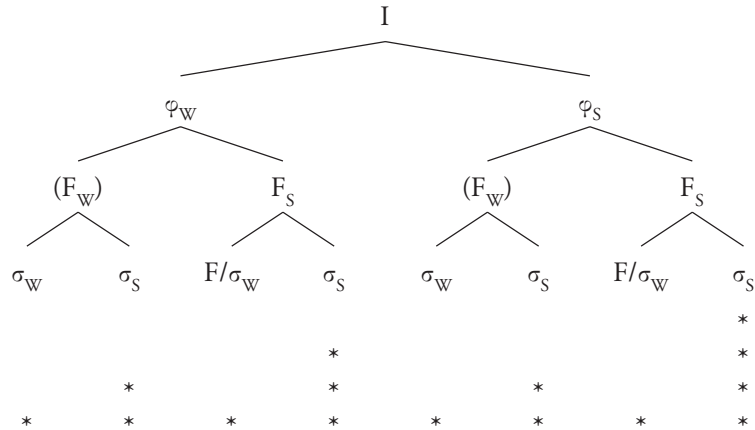




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possibility of ‘clipping’. Once the ‘reader’s expectation’ is fixed, further ‘permissible variations to which the reader is sensitive and that give heightened pleasure for the reader’ (Vance 2001: 491), leading sonnet-like up to the spectacular double three-liner as *envoi* in vv. 9–10.

(15) Template for Psalm 111



On the basis of this study we can hazard of number of claims. Crucially, we can make the strong claim that the definition of the BH *poetic line* (half-verse or colon²⁸) is simply *a pair of phonological phrases*. Similarly, the *poetic verse* or prosodic utterance (U) is a pair of *intonational phrases* (or a triple by left-recursion), the right edge of which is marked by pausal phonology.

The yoking of such prosodic phrases generates top-down, as a first approximation, a range of 3–4 feet per line, hence 6–10 feet per verse. Consequently, the combinatorics can in principle explain the *narrow range* of syllables per line in Psalm 111 that was observed by Culley (1970), generating the sort of statistical profile provided by Vance (2001). On this view, the prosodic-word count (Dresher 1994: esp. §3.1, p. 9) and syllable count are both *epiphenomenal*, though still *diagnostic*²⁹ of the underlying organizing units of phrase and foot.

²⁸ In his study of the prose accents and colometry, de Hoop similarly concludes, ‘it was demonstrated that ... colons generally end with a so-called “major” accent ... provided that they are preceded by the own fixed minor disjunctive accent [near accent]. This pattern of a major accent being preceded by its fixed minor disjunctive accent generally leads to the so-called “dichotomic structure”: a colon subdivided into two parts by the fixed minor distinctive accent’ (2003: 33).

²⁹ The prosodic-word (ω) count is derived as follows, assuming the phrase-





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There are a variety of important implications flowing from this programmatic study. First, because prosody is the *syntax-phonology interface*, it might still be possible to explain the structure of Psalm 111 in terms of the *no-phonology, syntax-only* consensus position (again, see Vance 2001 for summaries with references). However, the prosodic approach, inspired by the TH chanting, uncovers and explains linguistically significant distributional facts that can only be stated in terms of syllables and relatively weak/strong positions. Such distributions would be the merest coincidences in the non-phonological approach.

The non-trivial distribution of monosyllabic words, for example, and the phenomenon of clipping cannot be captured by a syntax-only theory. Similarly, syntax has nothing to say about syllables, whereas the metrical grid developed here can generate both the count's range and average. Or again, the distribution of word types is apparently governed by the *rank* of the disjunctive accent, not by syntactic structure per se.

On the view proposed here, then, it is the *metrical phonology* that explains the syntactic regularities in BH poetry (to the extent that there are any genuine regularities), not vice versa. (It is more likely, then, that we are dealing with a 'grab bag' of syntactic fragments that happen to match a given metrical grid.)

Second, there are also interesting implications of a more technical nature: tentative answers, if we extrapolate the findings here, to the questions posed in passing by Drescher (1994). For example, why is the domain of pausal phonology (the intonational phrase (I)), not explicitly marked in the Tiberian system(s)? Answer: if liturgical chanting originated with the structures in Psalm 111, then the intonational phrase was *already encoded* in the distinction between major/non-final/remote D2–D0 (crucially, *not* D3, or rather D3f, significantly encoded as quasi-conjunctives graphically with *paseq*) versus minor/final/near disjunctives (cf. de Hoop 2000: 61f, 67f), coinciding predictably and redundantly with major pause on the half-verse (DeCaen 2005; see also Sanders 2003).

Or, again, why four degrees of disjunction? Why does the system run out at D3? Why not D4 or D5? There may be a variety of linguistic explanations: for instance, it is well known that stress systems

structure rule above, restated here: $X \rightarrow (W) S$. The minimum of the range would equal the number of phonological phrases in the layer above, while the maximum of the range would be capped by the number of feet permitted in the layer below. In Psalm 111 the range is *predictably 2-4 prosodic words per line*.





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typically distinguish at most four degrees of stress. There are also just four basic elements, for example, in the Latin chant (*initium, tenor, mediant, finalis*). There are in fact many sources of four without resorting to numerology. Nevertheless, in Psalm 111 the *maximal expansion* of the system to handle the final tricola only requires branching to the depth of a 'minor' D3 (or D3f): surely not a coincidence, on the view presented here.

Finally, why 'twin' Tiberian cantillation systems? Perhaps because the simpler poetic system was designed to handle the metrically simple and regular 2 + 2 verse that characterizes 'truth' (Job, Proverbs and much of the Psalms), presumably with deep roots in the Second Temple liturgy. Subsequently, it might be conjectured, the primitive system³⁰ had to be greatly *expanded and articulated* (including crucially the promotion of *athnach* to D0 status) to handle the challenge of reading extended prose passages in a similar fashion.

The next steps in this programme are the analysis of the remaining acrostic psalms and the parallel track of investigating the so-called 2 + 2 *mashal* metre (4 + 4 in terms of 'beats' or feet) of the presumably homogeneous corpus in Job (Vetter 1897). Also on the agenda is the relation of the two Tiberian systems to each other³¹ and to the non-Tiberian accent systems. A particular question arising in the present discussion is why the Law of Transformation (note 14) should stand as an iron law for all degrees of disjunctive in the TH poetic system, whereas the analogous transformation is confined to *geresh* (D3f) in the prose system.³²

³⁰ Revell points out (p.c.), in this regard, that the Palestinian and Babylonian systems bear a strong family resemblance to the *poetic*, not the prose, Tiberian system.

³¹ Price points out that the prose in Job 32:1–6a is accentuated according to the poetic system, and that 'these verses exhibit minor deviations from the rules of accentuation due to their non-poetic structure' (1990: note 1, p. 161). These 'minor deviations' might be a good place to begin.

³² A startling implication follows from this difference: two *different* liturgical readings are possible, given *identical* Hebrew inputs. The difference would be conspicuous in terms of spirantization (or lack thereof).





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Appendix 1: Transcription of Psalm 111

[Line-internal phrase divisions are marked by the vertical bar |. The annotation in the right-hand column refers to the number of words, the number of feet, and finally the three-way contrast in line type (A–C) in appendix 3. The sigla I–III demarcate the three movements.]

I

1a	'ò-déh yah-wé ³³ bē-kol—lē-bāb	3 / 4 / A	
1b	bē-sôd yē-šā-rīm wē-'ē-dā	3 / 3 / B	6 / 7
2a	gē-dō-līm ma-'ā-sē y yah-wé	3 / 3 / C	
2b	dē-rū-šīm lē-kol—ḥep-šê-hém	2 / 3 / C	5 / 6
3a	hōd—wē-hā-dār pō-'ō-lô	3 / 3 / B	
3b	wē-šid-qā-tô 'ō-mé-det lā-'ád	3 / 4 / A	6 / 7
4a	zé-ker 'ásâ lē-nip lē'ō-tāw	3 / 4 / A	
4b	han-nūn wē-ra-ḥūm yah-wé	3 / 3 / B	6 / 7

II

5a	tē-rep nā-tān lí-rē'-āw	3 / 4 / C	
5b	yiz-kór lē-'ô-lām bē-rî-tô	3 / 3 / B	6 / 7
6a	kóah ma-'ā-sāw hig-gīd lē-am-m'ô	4 / 4 / A	
6b	lā-tēt lā-hém na-ḥā-lāt gô-yīm	4 / 4 / A	8 / 8
7a	ma-'ā-sē yā-dāw 'ē-mét-ūmiš-pāt	4 / 4 / A	
7b	ne-'ē-mā-nīm kol—piq-qû-dāw	2 / 3 / C	6 / 7
8a	sē-mû-kīm lā-'ád lē-'ô-lām	3 / 3 / C	
8b	'ā-sû-yīm be-'ē-mét wē-yā-šār	3 / 3 / C	6 / 6

III

9a	pē-dūt šā-lāh lē-'am-mô	3 / 3 / C	
9b	šiw-wâ—lē-'ô-lām bē-rî-tô	3 / 3 / B	6 / 6
9c	qā-dōš wē-nô-rá šē-mô	3 / 3 / B	9 / 9
10a	rē'-šit ḥok-mā yir-'āt yah-wé	4 / 4 / A	
10b	šē-kel tōb lē-kol—'ō-sé-hém	3 / 4 / A	7 / 8
10c	tē-hil-lā-tô 'ō-mé-det lā-'ád	3 / 4 / A	10 / 12

³³ Here and throughout, one can read *'ādōnāy* instead.





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Appendix 2: Syllable Counts for Psalm 111

Verse	MT Word	MT Syllables	Culley (1970) p. 18*	Vance (2001) p. 425**	Fokkelman (2003) p. 369	Loretz (1979) p. 168***
1a	3	9	8	8	8	14
1b	3	8	8	8	8	13
2a	3	9	8	7	7	13
2b	2	8	+ 9	8	8	15
3a	3 ³⁴	7	7	6	6	11
3b	3	9	9	+ 9	8	13
4a	3	9	9	8	8	14
4b	3	8	7	7	7	13
5a	3	7	7	6	6	12
5b	3	8	8	8	8	14
6a	4	9	9	8	8	15
6b	4	9	9	8	8	14
7a	4	10	10	9	9	16
7b	2	8	8	7	7	14
8a	3	8	8	8	8	14
8b	3	9	9	9	9	13
9a	3	7	7	7	7	11
9b	3	8	8	8	8	13
9c	3	7	7	7	7	12
10a	4	9	8	8	8	17
10b	3	8	8	7	7	14
10c	3	9	9	+ 9	8	12
<i>total</i>	68	183	180	170	168	297
<i>average</i>	3.0	8.3	8.2	7.7	7.6	13.5

*Culley is counting MT syllables, but correcting for the divine tetragrammaton: counting the bisyllabic *yahwe* instead of the trisyllabic *'ādōnāy*. He appears to have made a typographical error in the count for verse 2b.

**Both Vance and Fokkelman are more or less following Friedman's syllable-counting system. Vance, however, obtains a slightly higher figure by counting the segholate *ōmedet* as trisyllabic (an inconsistent treatment of the segholate class) in verses 3b and 10c.

***Loretz is counting letters in the consonantal text as an alternative to counting syllables; the regularity is equally obvious.

³⁴ The *maqṣef* here with *bōd* is a variant output of the virtual transformation, creating an apparent mismatch between prosodic word and phonological word. This is the only case in Ps 111, and so the count is quietly corrected from 2 to 3.

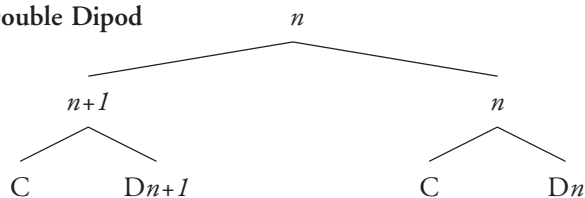




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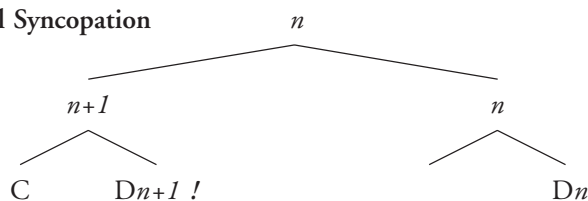
Appendix 3: Accentual Parse of Psalm 111

(A) Full Double Dipod



D1f – D0	<i>revia mugrash</i>		<i>silluq</i>	
3b	wě-šid-	qā-tô	'ō-me-	<det> lā-'ad
6b	lā-tēt	lā-hem	na-<ḥā->laṭ	gô-yim
10c	tē-hil-	lā-tô	'ō-me-	<det> lā-'ad
D2f – D1	<i>dechi</i>		<i>athnach</i>	
1a	'ò-dēh	yah-wé	bě-kol—	lē-bāb
4a	∅ ze-	<ker> 'ā-sā	lē-nip-	lē'-ō-tāw
6a	∅ kóah	ma'-<ā-> šāw	hig-gid	lē-am-m'ò
7a	ma'-<ā-> sé	yā-dāw	'ě-meṭ	û-miš pāṭ
10b	∅ sē-	<kel> tōb	lē-kol—	—'ō-sé-hém
D3f – D2	<i>legarmeh</i>		<i>revia gadol</i>	
10a	rē-'šit	ḥok-mā	yir-'aṭ	yah-we

(B) Medial Syncopation



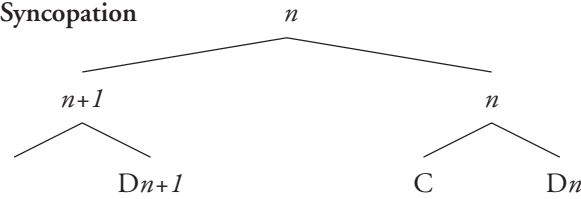
D1f! – D0	<i>virtual revia mugrash!</i>		<i>silluq</i>	
1b	bě-sôd	yě-šā-rīm		wě-'ē-dā
4b	ḥan-nūn	wě-ra-ḥūm		yah-we
5b	yiz-kōr	lēlē-'ò-lām		bě-rī-tô
9c	qā-dôš	wě-nô-rā'		šē-mô
D2f! – D1	<i>virtual dechi!</i>		<i>athnach</i>	
3a	∅ hōd—	wě-hā-dār		pó'-<ō->lô
9b	šiw-wā—	lē-'ò-lām		bě-rī-tô





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(C) Initial Syncopation



D1f – D0	<i>revia mugrash</i>	<i>silluq</i>	
2b	dě-rû-šîm	lě-kol—	heṗ-šê-hém
7b	ne-<’ě>mā-nîm	kol—	piq-qû-dāw
8b	’ă-sû-yîm	be-<’ě>meṭ	wě-yā-šār
D2f – D1	<i>dechi</i>	<i>athnach</i>	
2a	gě-dō-lîm	ma’-<ă->šê	yah-wé
5a	Ø ṭe <-reṗ>	nā-tān	lî-rē’āw
8a	sě-mû-kîm ³⁵	lā-’ad	lě-’ô-lām
D3f – D2	<i>legarmeh</i>	<i>revia gadol</i>	
9a	pě-dûṭ	šā-laḥ	lě-’am-mô

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³⁵ Technically, this line, as parsed by the TH accents, is the output of the virtual-disjunctive transformation (that is, technically line-type B). However, I am reading here this *munach* as a virtual disjunctive *dechi* (hence, line-type C) *metri causa*. This reading removes the glaring irregularity of the trisyllabic *sēmûkîm* on a conjunctive, and removes an awkward B-line from the strophe pattern. Regardless, nothing substantive is at stake as far as the essential claims put forward in this paper; it does raise, however, the vexing question of just what sort of *mismatches* might be permitted between the TH accents and a regular metre. (This question of mismatches is not unrelated to the problem of finding an algorithm that can generate the TH accentuation from the raw morphosyntactic input [and what sort of mismatches result], and how this algorithm might differ between the two accent systems[prose versus poetic].)





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