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Biblical Accents: Prosody

1. INTRODUCTION

Prosody (from Ancient Greek προσῳδία *prosōdía* 'song sung to music; variation in pitch of the speaking voice; pronunciation of a syllable on a certain pitch') refers in linguistics to the patterns of stress, intonation, rhythm, and phrasing in a language. This entry will focus on the Masoretic system of accents as a guide to the prosody of the biblical text. Following a brief discussion of the difference between a prosodic, syntactic, and semantic representation (§2), I will look at the relation between the accents and Biblical Hebrew phonology (§3), and then consider syntactic (§4), prosodic (§5), and positional (§6) determinants of the phrasing indicated by the accents in the twenty-one prose books of the Bible.

2. THE SENSE OF THE TEXT: SYNTAX, SEMANTICS, AND PROSODY

The Hebrew Bible text is annotated with a system of diacritic marks called 'accents' (Hebrew טעמים *ṭeʿamim*; singular טעם *ṭaʿam* 'taste, sense, reason'). These accents, assigned to every word in the Bible, parse each verse in minute detail. This complex system of representation, developed in and around Tiberias over several generations up until the 10th century (Dotan 2007; → Tiberian Reading Tradition), serves several purposes: among other things, it marks the position of stress, and guides the musical cantillation of the text (→ Biblical Accents: System of Combination). The focus here is on the way the accents indicate the sense of the text (in line with one of the meanings of the term טעם *ṭaʿam*); according to GKC (58), they serve as "*marks of punctuation* to indicate the logical (syntactical) relation of words to their immediate surroundings, and thus to the whole sentence" (emphasis in original). Most commentators have stressed the semantic and logical functions of the accents. Thus, Yeivin (1980:158–159) observes that though the accentuation provides a guide to the syntax, it chiefly marks semantic units, which are not always identical with syntactic units. Breuer (1982) takes a similar view, citing cases where the accents follow the syntax, as well as those where they depart from syntax while still expressing logical relations between words. Aronoff (1985) proposes that the accentuation is meant to correspond to a syntactic representation, though the syntactic theory behind it is quite different from any modern one.

The view taken here is that the accents serve as a guide to the proper phrasing of the text (Spanier 1927); that is, they represent neither a semantic nor a syntactic representation, but a prosodic one. As Janis (1987:10) writes, "the Masoretes intended the accents to help convey the sense of the text, not abstractly but through utterance".

The three ways in which the accents can be said to convey the 'sense of the text' correspond to three distinct linguistic levels: semantic, syntactic, and prosodic. In simple sentences, the three levels are often isomorphic: the logical relations between the words are conveyed by the syntax, and both are directly mirrored by the prosody. It is in the more complex cases that we will be able to distinguish between these representations. Dresher (1994) argues that where these representations diverge, the system of accentuation reflects the prosody. Further, this prosodic orientation helps to account for some of the well-known shortcomings of the accents as markers of logical and syntactic relations.

3. The Prosodic Hierarchy and Phonology

While some phonologists have proposed that phonological rules apply directly to syntactic structure (Kaisse 1985; Odden 1996), a more common view is that the relationship between phonology and syntactic structure is mediated by prosodic representation. On this view, phonological rules operate in a hierarchically organized set of prosodic domains that make up the 'prosodic hierarchy' (Selkirk 1984; 1986; Nespor and Vogel 1986; Hayes 1989); from the word level up, the units of the prosodic hierarchy are commonly viewed as in (1a).

(1)   The prosodic hierarchy

(1a) The modern hierarchy		(1b) The Tiberian hierarchy	
Utterance	U	Biblical verse	V
Intonational phrase	I	Hierarchy of phonological phrases	Di, 0≤i≤3
Phonological phrase	P		
Prosodic word	W	Prosodic word	W

Surface syntactic structure consisting of units with syntactic labels is mapped into a prosodic structure whose constituents have labels drawn from the categories in (1a). Though the Tiberian accents do not correspond to any system of syntactic node labels known to us, there are interesting correspondences between the accents and the prosodic hierarchy in (1a). The various levels of the modern prosodic hierarchy can be put into a rough correspondence with the hierarchy expressed by the Tiberian accents, as shown in (1b).

Like the utterance, U, the biblical verse, V, does not correspond to a well-defined syntactic or semantic constituent (Nespor and Vogel 1986:221–247): while some verses consist of exactly one sentence, many verses contain both more and less than full sentences. Like the Utterance, the biblical Verse serves as the starting point for prosodic analysis.

Rather than two different units representing the intonational phrase and the phonological phrase, the Tiberian system has a set of recursive nested phrases divided into four levels. The level of a phrase is indicated by the type of disjunctive accent it ends with, designated D0 for the highest level and D3 for the lowest; Dif represents a final accent at the Di level (→ Biblical Accents: System of Combination). The upper levels of the disjunctive hierarchy of phrases correspond imperfectly to the intonational phrase, I. A Tiberian phrase which may not be further divided into phrases corresponds to the phonological phrase, P. Finally, both the modern prosodic hierarchy and the Tiberian notation recognize a unit of prosodic word, W.

Biblical Hebrew has a series of phonological rules which operate at various levels of the prosodic hierarchy. As would be expected if the accents were a prosodic representation, these rules—with one exception—can be consistently assigned to distinct domains of the Tiberian representation.

The lowest level of the prosodic hierarchy is the prosodic word. Prosodic words, for purposes of the accents, consist of (a) orthographic words (words surrounded by spaces in the unpointed text), and (b) orthographic words connected by a hyphen called מקף *maqqef*, which count as a single prosodic word (Dresher 2009; → Clitics: Pre-Modern Hebrew). The prosodic word serves as the domain for main stress assignment, which, in turn, conditions a rule that Prince (1975) calls 'Tone Lengthening':

(2)   Tone Lengthening (Prince 1975)
   Lengthen a vowel bearing main stress in its prosodic word when:
   (a) the rule does not apply to the vowel /a/ (indicated by *pataḥ*) when followed by two consonants;
   (b) the rule does not apply to verbs.

This rule is exemplified by the accusative particle את *ʾt*. In the majority of cases, this particle is attached by *maqqef* to the following word, indicating that it is cliticized to it and does not have its own word stress. In these cases the particle is pointed with the vowel *seghol*, as in (3a). When it is an independent prosodic word (3b), it is pointed with the vowel *ṣere*.

(3) Pointing of the accusative particle

(3a) as clitic ־אֶת *ʾɛt-*   (3b) as independent word אֵת *ʾēṯ*

אֶת־הָאוֹר   אֵת הַשָּׁמַיִם

ʾɛt-hā-ʾōr   *ʾēṯ haš-šāmáyim*

'(acc) the light' (Gen. 1.4)   '(acc) the heavens' (Gen. 1.1)

Moving up the hierarchy, we can identify a constituent which Dresher (1994) calls the 'conjunctive phrase', and which Strauss (2009) calls the 'minimal phrase'. A word marked with a conjunctive accent is part of the same minimal phrase as the word which follows it; a word with a disjunctive accent ends such a phrase. The minimal phrase forms the domain for three phonological rules: spirantization, gemination, and rhythmic stress shift. Similar processes are found in the sentence phonology of other languages. Because it occupies the same place in the hierarchy, above the word level, we can identify the Tiberian minimal phrase with the phonological phrase, P, of the modern hierarchy. One of these rules, spirantization, is briefly illustrated below.

A non-emphatic non-geminate plosive consonant (*bgdkpt*) is spirantized following a vowel (GKC 75–76; Joüon and Muraoka 2006:76–77), within words as well as across words that are in the same minimal phrase. For example, the initial consonant of בְּנֵי־ *bənē-* in (4a) is spirantized following וַיִּלָּחֲמוּ *way-yillāḥămû*, which ends in a vowel; the conjunctive accent on the latter word (מהפך *mahpak*,) indicates that it is part of the same phrase as the following word. In (4b), the ב *b* of בְּנֵי *bənē* is not spirantized, even though the preceding word ends in a vowel, as וַיִּשְׁאֲלוּ *way-yiš'ălû* carries a disjunctive accent (פשטא *pašṭa*,), indicating that it ends its phrase. The phrase boundary blocks spirantization.

(4a) Spirantization within a phrase

וַיִּלָּחֲמוּ בְנֵי־יְהוּדָה בִּירוּשָׁלַֽם

(*way-yillāḥămû*   *bənē-yəhûḏā̊*)   (*b-īrūšā̊láyim*)

(and.fought   the.men-Judah)   (against.Jerusalem)

'And the men of Judah fought against Jerusalem' (Judg. 1.8)

(4b) No spirantization across a phrase

וַיִּשְׁאֲלוּ בְּנֵי יִשְׂרָאֵל בַּיהוָה

(*way-yiš'ălû*)   (*bənē yiśrā'ēl*)   (*ba-YHWH*)

(and.inquired)   (the.people Israel)   (of.the.Lord)

'The people of Israel inquired of the Lord' (Judg. 1.1)

Aronoff (1985:68) observes that the examples in (4) are syntactically parallel, though the phrasing indicated by the accents is not the same, for reasons to be discussed below. Significantly, the phonology follows the phrasing, not the syntax, as would be expected if phonology refers to prosodic structure, and the accentual phrasing is a representation of prosodic structure.

In addition to word-level and phrase-level phonological rules, Biblical Hebrew exhibits phonological processes that apply in a domain larger than the minimal phrase. At the ends of major breaks in a verse we usually find pausal forms, which differ from contextual forms in a number of ways. The central effects of pause appear to be connected with heightened stress or prominence associated with the end of a major phrase. In prosodic hierarchy theory,

such effects are associated with the ends of intonational phrases, and it is likely that this was the case in Biblical Hebrew. Most pausal forms in Hebrew are assigned the top-level (D0) accents אתנחתא *ʾatnaḥta* and סלוק *silluq*, which in many cases correspond to intonational phrases. However, this correspondence is far from exact, and in many cases pausal forms may be assigned a lower-level disjunctive accent (and in some extreme cases, even a conjunctive accent, which would appear to be a contradiction of the basic function of a pausal form). The reasons for these 'mismatches', and the relation of pausal forms to the accentual system, are complex and cannot be pursued further here (see Revell 1980; 1981; Ben-David 1990; 1995; Dresher 1994; Mashiah 1994; DeCaen 2005; and Strauss 2009).

4. Syntactic Determinants of Accentual Phrasing

A number of theories of the syntax-phonology interface assume that the mapping at the level of the P-phrase is based either on relations between syntactic heads and their modifiers (Nespor and Vogel 1986) or on alignment of the P-phrase with the left or right edge of some designated syntactic category (Hale and Selkirk 1987). Biblical Hebrew has a right-recursive syntax, with specifiers on the left of the head and complements on the right; therefore, following the hypothesis of Nespor and Vogel (1986:168), we expect that P-phrases will be delimited by the right edges of designated syntactic categories. This appears to be generally true. We can observe the effects of mapping to the right edge of major syntactic categories ('maximal projections', designated X^{max}) in some typical situations.

One consequence of this rightward orientation is that prepositions, complementizers, and other minor-class lexical items which do not end a maximal projection typically pattern with the following word, as in the phrases in (5). The phrasings in (5) are consistent with setting the end parameter to the right edge of X^{max}. Consequently, in (5a) the prepositional phrase (PP), which consists of a single prosodic word, forms a phrase together with the preceding complementizer (cutting across the left syntactic S boundary), leaving the verb (V) to form another phrase. In (5b) a phrase boundary again occurs between the PP and the V (with cliticization of the preposition to the following noun).

(5) Syntax and phrasing: X^{max} right

(5a) Gen. 3.19: End of half-verse

כִּי מִמֶּנָּה לֻקָּחְתָּ
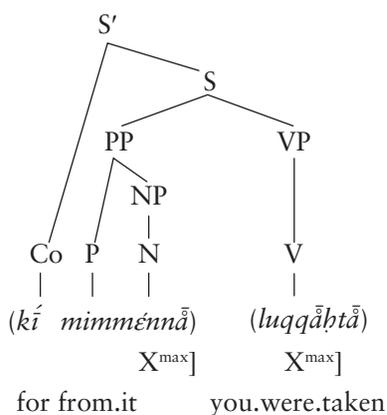
(5b) Gen. 3.19: End of verse

וְאֶל־עָפָר תָּשׁוּב:


```
            S′
             |
             S
          /     \
        PP       VP
         |
        NP
       / | \
     Co  P  N       V
      |  |  |       |
   (kī mimménnā́)  (luqqā́ḥtā̆)
         X^max]        X^max]
    for from.it    you.were.taken
```



```
             S
          /     \
        PP       VP
         |
        NP
        / \
       P   N         V
       |   |         |
    (wə-ʾel-ʿāp̄ā́r) (tā̆šúb)
        X^max]      X^max]
    and.to-dust   you.shall.return
```
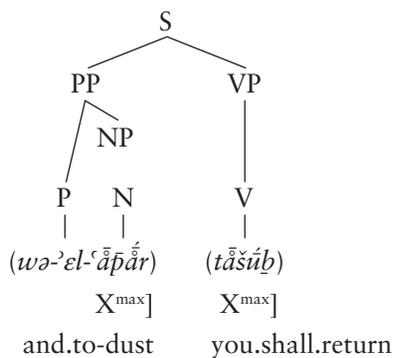
When a verb or noun has a coordinate complement immediately to its right, the phrasing may keep the members of the complement together, as we would expect if the phrasing mirrors syntactic constituency. But such phrasings occur mainly when the bond between the two elements of the coordinate is particularly strong. An example of this kind is shown in (6a), where the coordinate phrase refers to knowledge of good and evil together (i.e., 'good-and-evil' as a single concept), not knowledge of good plus knowledge of evil (Spanier 1927:38; Janis 1987:120).

(6) Phrasing of X [Y and-Y], X governs Y

(6a) יֹדְעֵי טוֹב וָרָע:

(yōd̠ʿé)   (ṭób̠   wā̆-rā́ʿ)

knowers good and.evil

'knowing good and evil' (Gen. 3.5)

(6b) כַּבֵּד אֶת־אָבִיךָ וְאֶת־אִמֶּךָ

(kabbéd̠ ʾet̠-ʾā̆b̠íkā̆)   (wə-ʾet̠-ʾimmékā̆)

honor   acc-your.father and.acc-your.mother

'Honor your father and your mother' (Deut. 5.16)

In most cases, however, the phrasing is more likely to group the first member of the compound

with the preceding governor, as in (6b). This type of phrasing is consistent with putting a phrase boundary at the right edge of X^{max}: the first such edge in (6b) coincides with the end of the first noun phrase (NP) of the complement.

It is significant that this type of regrouping is never reported to occur in structures where the coordinate phrase precedes its governor, as in a structure of the form [NP and-NP] V, for example, as shown in (7a):

(7) Phrasing of [Y and-Y] X, X governs Y
(7a) כִּי־חֶמְאָ֤ה וּדְבַ֖שׁ יֹאכֵ֑ל
      (kī-ḥem'ā̊ u-ḏḇáš)   (yōḵḗl)
      for-curds and.honey   shall.eat
      'For (everyone)…shall eat curds and honey' (Isa. 7.22)
(7b) *(kī-ḥem'ā̊) (u-ḏḇáš yōḵḗl)

These structures are not parsed as in (7b) because there is no source for such a phrasing. It is not compatible with the syntax; and unlike (6b), putting a phrase boundary at the right edge of

every X^{max} would create not two phrases but three. Hence, the asymmetry in phrasing between coordinates governed from the left and those governed from the right follows from a general principle for deriving prosodic representations that has been observed in many languages.

5. PROSODIC DETERMINANTS: WEIGHT EFFECTS

There is now much evidence from diverse languages that the conditions on P-phrase formation are not strictly syntactic, but also include prosodic factors. In Tiberian Hebrew, phrasing is sensitive both to the number of words in a phrase, as well as to the length of words; that is, to prosodic weight. Beginning with the number of words, a Biblical Hebrew minimal P-phrase typically consists of two prosodic words. Therefore, a syntactic unit that would normally be divided into two phrases forms a single phrase when it consists of only two words. Compare (8a) and (8b).

(8) Effects of number of prosodic words on phrasing

(8a) Gen. 3.16: 2 phrases   (8b) Gen. 3.14: 1 phrase
בְּעֶ֣צֶב תֵּֽלְדִ֣י בָנִ֑ים   עַל־גְּחֹנְךָ֣ תֵלֵ֔ךְ

```
              S                                              S
           /     \                                        /     \
         PP       VP                                    PP       VP
        /  \     /  \                                  /  \       |
       P   NP   V    NP                               P   NP      V
       |    |   |     |                               |    |      |
       N    N        N                                N    N
```

(bə-'éṣɛḇ) (tēlḏí   ḇā̊nî́m)   ('al-gəḥōnḵā̊́ tēlḗḵ)
            X^{max}]   X^{max}]   X^{max}]   X^{max}]
in.pain   shall.you.bear children   on-your.belly shall.you.crawl
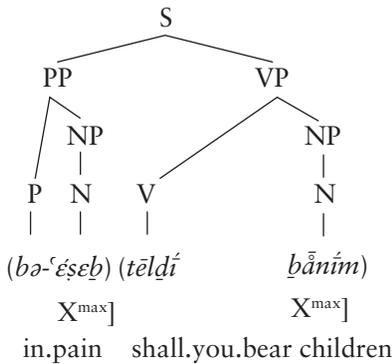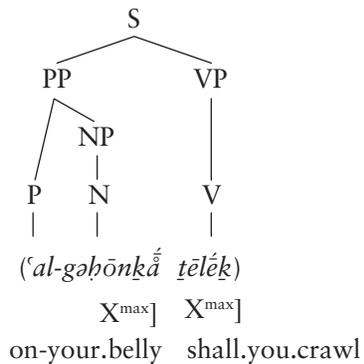
(8a) has a phrase boundary at the right edge of the prepositional phrase, PP, as we expect, because PP is a maximal projection. However, (8b) unexpectedly has only one P-phrase. In (8b) the preposition has been cliticized to its object. Since only two words remain, they are combined into one phrase, annulling the phrase boundary that otherwise occurs in this position.

Conversely, syntactic units which are normally kept together if they consist of two words are

broken up if they contain more than two words. We have seen an example of this in (4): in (4a) the verb is phrased with a following subject that consists of a single prosodic word; in (4b) a subject that consists of two prosodic words is phrased separately from its verb. Another example occurs in (7a) above, where the verb is separated from its preceding two-word object. Compare (9), where the verbs are phrased together with their preceding one-word objects.

(9) Phrasing of object-verb sequences

מַיִם שָׁאַל חָלָב נָתֵנָה

(máyim šắ'al) (ḥālā́ḇ nắṯắnā̀)

water he.asked milk she.gave

'He asked for water, she gave him milk' (Judg. 5.25)

Not just the number of words, but also the length of words plays a role in phrasing. The accents distinguish between long and short words, defined as in (10), following Wickes (1887:62, n. 4) and Breuer (1982:xvi) (see Dresher 1994:35 for a metrical interpretation, and Strauss 2009 for a different proposal).

(10) Long and short words

(10a) A long word is one which has at least two vowels before the stressed vowel, not counting *shewa* or *ḥaṭef* vowels, such as בֶּן־יוֹסֵף *ben-yōsḗp̄* 'the son of Joseph', הַכֹּהֲנִים *hak-kōhănîm* 'the priests'; or else contains a long vowel in a closed syllable or before a *shewa* (often marked with *meteg*), such as יֵלְכוּ *yēlḵú* 'they will go', בֵּית־אֵל *bēṯ-'ēl* 'Bethel', גֹּאֲלָם *gō'ălā́m* 'their redeemer'.

(10b) A short word is a word that is not long.

An example of the influence of word length on phrasing is the rule in (11).

(11) Long Word Division Rule (Breuer 1982:109) A two-word P-phrase that ends with a D0 accent tends to be divided if one of its words is long.

Rule (11) explains why example (5b) above consists of two phrases: although it consists of two prosodic words and is therefore expected to be phrased together (compare (8b)), the first prosodic word is long, and the phrase ends in a D0, סִלּוּק *silluq*; therefore, the phrase is divided. The phrase in (8b) ends in a D1 accent, זקף *zaqef*, so even though it, too, has a long word, it is not divided.

Another example is shown in (12).

(12) Example of the Long Word Division Rule

(12a) Short words in final P-phrase

אֵיכָכָה אֲטַנְּפֵם:

('ēḵắḵā̀ 'ăṭannəp̄ḗm)D0

how was.I.to.soil.them

'How was I to soil them?' (Cant. 5.3)

(12b) Long word in final P-phrase

אֵיכָכָה אֶלְבָּשֶׁנָּה

('ēḵắḵā̀)D1f ('elbắšénnā̀)D0

how was.I.to.don.it

'How was I to don it?' (Cant. 5.3)

In (12a) the two words in the final P-phrase are both short. In (12b) the last word is long, causing the final two words to be phrased separately. It is as if in prominent prosodic positions a long word counts as if it is two words, exhausting its P-phrase (Dresher and van der Hulst 1998).

Word length also influences cliticization (→ Clitics: Pre-Modern Hebrew). Cliticization is closely bound up with phrasing, as we have seen. Taking together the effects of alignment to the right edge of syntactic boundaries and of word count and word length, we can see that what appear to be eccentric phrasings from a syntactic or logical point of view turn out to have a prosodic basis.

6. Positional Effects and the Nesting of Phrases

The above examples also show that phrasing in Tiberian Hebrew depends on context: the division rule in (11) applies to phrases that end in D0 accents, that is, to prominent positions of the prosodic tree. In prominent positions, words appear to have more weight: phrases are limited to two words, and long words can count as if they are two words. Conversely, we will see that phrases can be expanded in less prominent prosodic positions (that is, in more deeply embedded positions in the prosodic tree), resulting in multi-word phrases.

We are now in a position to explain the difference in phrasing in the examples in (4) above. In (4a) בְּנֵי־יְהוּדָה *bənē-yəhūdā́* is a single prosodic word, allowing it to be phrased together with the preceding verb, whereas בְּנֵי יִשְׂרָאֵל *bənḗ yiśrā'ēl* is not cliticized in (4b), and exhausts its own two-word phrase. There are two relevant differences that cause these different outcomes. First, in (4a) the phrase in question ends in the disjunctive accent D2f (פשטא *pašta*), whereas in (4b) it is D1 (זקף *zaqef*); the conditions on cliticization are less rigid in lower-level disjunctive phrases. Second, יְהוּדָה *yəhūdā́* in (4a) is a short word (having only one non-*shewa* vowel before the stress),

whereas יִשְׂרָאֵל *yiśrā'ēl* in (4b) is long (two vowels before the stress): cliticization occurs more readily before short words. Both conditions favor cliticization in (4a) over (4b).

The different levels of prominence of phrases indicated by the disjunctive accents can be illustrated by the tree diagrams in (13).

(13a) Nested phrases in half-verse of Judg. 1.8

וַיִּלָּחֲמ֤וּ בְנֵֽי־יְהוּדָה֙ בִּירוּשָׁלִַ֔ם וַיִּלְכְּד֖וּ אוֹתָ֑הּ וַיַּכּ֖וּהָ לְפִי־חָֽרֶב

(*way-yillåḥămû ḇənē-yəhūḍå̄*) (*b-īrūšåláyim*) (*way-yilkəḍû 'ōṭå̄h*) (*way-yakkúhå̄*) (*ləp̄ī-ḥǻreḇ*)
'And the men of Judah fought against Jerusalem and captured it and struck it with the edge of the sword'.
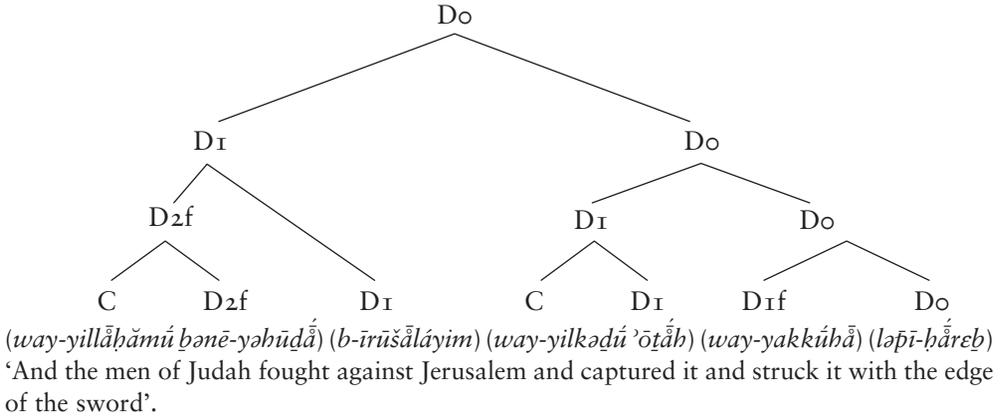
(13b) Nested phrases in half-verse of Judg. 1.1

וַיְהִ֗י אַחֲרֵי֙ מ֣וֹת יְהוֹשֻׁ֔עַ וַֽיִּשְׁאֲלוּ֙ בְּנֵ֣י יִשְׂרָאֵ֔ל בַּיהוָ֖ה לֵאמֹֽר

(*wa-yhî*) (*'aḥărḗ*) (*mṓṯ yəhōšúaʻ*) (*way-yiš'ălû*) (*bənḗ yiśrå̄'ḗl*) (*ba-YHWH*) (*lēmṓr*)
'After the death of Joshua, the people of Israel inquired of the Lord'.
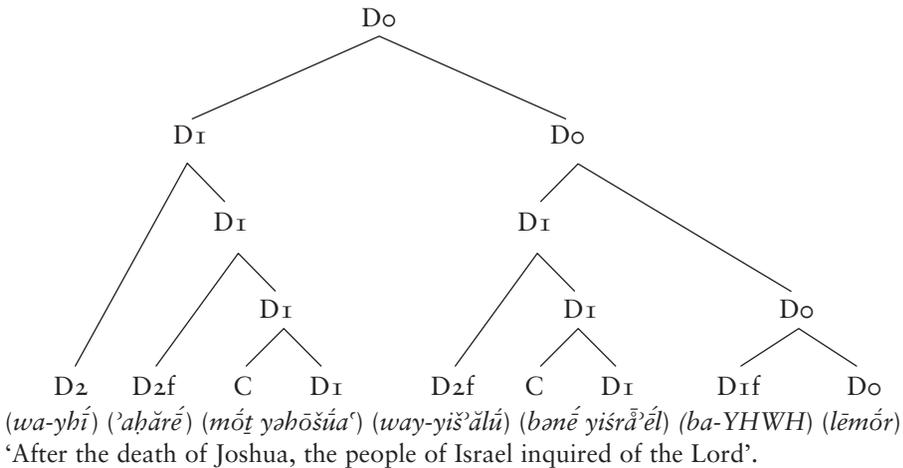
The kind of variability of phrasing characteristic of Tiberian phrasing has been found to occur with different rates of speech. In Mandarin, for example, the domain of a rule of tone sandhi expands as the speech rate increases (Cheng 1973; Shih 1986): phrase boundaries are progressively erased, starting with the least important. What the Tiberian Hebrew data suggest is that non-prominent phrases have characteristics of fast speech, and prominent phrases have characteristics of deliberate speech; thus, we observe systematic tempo variations even within one utterance.

The division rule in (11) is representative of a number of rules whereby a two-word phrase is divided in relatively prominent positions. Janis (1987) refers to them as 'pacing rules', because they regulate the speed at which words are said: treating long words as two words has the effect of slowing down the reading in prominent phrases.

We also find the opposite sort of adjustment, whereby two phrases are combined into one, in effect speeding up the reading in less prominent positions. Following Cohen (1969:60), we will refer to such adjustments as simplification.

The conditions under which simplification occurs are quite complex, and we will not attempt to review them all here (see Breuer 1982 and Cohen 1969 for detailed discussions). The general trend, however, can be simply stated: in prominent prosodic positions simplification is rare and occurs only in special circumstances; as we proceed down to lower prosodic levels, that is, to phrases more deeply embedded in the prosodic structure of the verse, the conditions for simplification become progressively more liberal. The sample observations in (14) are taken from Breuer (1982:83–107).

(14) Simplification

1. A phrase of the form $((W_1 \, W_2)D_2f \, W_3)$ D_1 is simplified to $(W_1 \, W_2 \, W_3)D_1$ only if W_1 is easily cliticizable.

2. A phrase of the form $((W_1 \, W_2)D_3f \, W_3)$ D_2 may be simplified to $(W_1 \, W_2 \, W_3)$ D_2.

3. A phrase of the form $((W_1 \ldots W_n)D_3$ $(W_{n+1} \ldots W_{n+m}))D_3$ is simplified to $(W_1 \ldots W_n \, W_{n+1} \ldots W_{n+m})D_3$.

An example of Simplification Rule 2 in (14) is given in (15):

(15) Simplification Rule 2

אַ֫יִל תָּמִ֥ים מִן־הַצֹּ֖אן

$(('áyil \quad t\tilde{a}m\acute{\imath}m)D_3 \qquad (min\text{-}ha\d{s}\text{-}\d{s}\acute{o}n))D_2 > ('áyil \, t\tilde{a}m\acute{\imath}m \, min\text{-}ha\d{s}\text{-}\d{s}\acute{o}n)D_2$

  ram without.blemish from-the.flock

'a ram without blemish from the flock' (Lev. 5.15)

At the lowest levels of the disjunctive hierarchy the conditions on simplification become very free, as suggested by Rule 3 in (14), presented here without its various refinements and sub-conditions. Multiple applications of simplification can produce multi-word phrases as in (16).

(16) Simplification Rule 3

אֲשֶׁ֣ר עָשָׂ֗ה לִשְׁנֵֽי־שָׂרֵ֤י צִבְאוֹת֙ יִשְׂרָאֵ֔ל

(16a) Initial parse without simplification

$(('\check{a}\check{s}\acute{e}r \quad '\tilde{a}\dot{s}\tilde{a})D_3 \quad ((li\text{-}\check{s}n\bar{e}\text{-}\acute{s}\tilde{a}r\acute{e})D_3 \qquad (\d{s}ib\text{'}\acute{o}\d{t} \qquad yi\acute{s}r\tilde{a}\text{'}\acute{e}l)))D_3$

what   he.did   to.the.two-commanders the.forces Israel

'what he did to the two commanders of the forces of Israel' (1 Kgs 2.5)

(16b) Simplification Rule 3 (applied twice)

$('\check{a}\check{s}\acute{e}r \, '\tilde{a}\dot{s}\tilde{a} \, li\text{-}\check{s}n\bar{e}\text{-}\acute{s}\tilde{a}r\acute{e} \, \d{s}ib\text{'}\acute{o}\d{t} \, yi\acute{s}r\tilde{a}\text{'}\acute{e}l)D_3$

As with division, we would not know which phrases are subject to simplification if we did not have a highly articulated prosodic tree which can distinguish the various levels of embedding that play a role in the conditions of simplification.

though this survey has been confined to the system of the twenty-one books, DeCaen (2009) shows that a study of the accent system of the three poetic books can shed much additional light on Masoretic prosody.

7. CONCLUSION

I have surveyed a number of ways in which the phrasings indicated by the Masoretic accents reflect prosodic principles. Like prosodic representation generally, the phrasings indicated by the accents are sensitive to a variety of factors, including syntax, prosodic weight (word count and length), and position within the prosodic structure. Other prosodic principles, such as rhythmic balance, have also been shown to play a role (see Strauss 2009 for a detailed study of these and other influences on phrasing). Finally,

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Biblical Accents: Relation to Exegetical Traditions

The Masoretic accents recursively divide the words of a verse into units and sub-units. In so doing they create a hierarchy of nested constituents that indicates, in great detail, how the reader should group the words into phrases. Accentual phrasing is greatly constrained by the syntactic relations between the words; consequently, the terminal boundary of an accentual phrase usually coincides with the end of a syntactic unit. However, many biblical verses are syntactically ambiguous—that is, given to more than one plausible syntactic analysis. Since competing syntactic analyses may require different accentual phrasings, the accents often act as arbiters between conflicting syntactic analyses. By their phrasing of the text the accents thus often serve an exegetical function. Consider Isa. 40.3:

קוֹל קוֹרֵא בַּמִּדְבָּר פַּנּוּ דֶּרֶךְ הֹ' יַשְּׁרוּ בָּעֲרָבָה מְסִלָּה לֵאלֹהֵינוּ

qōl qōrē bam-miḏbā̆r pannū dereḵ YHWH yaššə̆rū bā̆-ʿărā̆bā̆ məsillā̆ l-ēlōhēnū

literally 'a voice cries (or: the voice of one crying) in the wilderness clear the path of the Lord make straight in the desert a highway for our God'.

Syntactically, the prepositional phrase 'in the wilderness' could modify either the preceding verb ('cries') or the following verb ('clear'). The choice between these two possible analyses affects where the quote begins, as the translations below demonstrate, respectively:

'A voice cries in the wilderness: "Clear the path of the Lord; make straight in the desert a highway for our God"'.