

Prosodic Dependency in Tiberian Hebrew
Vincent DeCaen & B. Elan Dresher

Ernest John Revell, 1934-2017
In Memoriam

1. Introduction

We examine two related but different notions of prosodic freedom and dependency in Tiberian Hebrew (TH). One is a morphosyntactic notion, whereby absolute forms are free and construct forms are dependent. Examples of absolute forms are *dʌvʌ́:ʀ* ‘word’ and *dʌvʌ́:ʀí:m* ‘words’; in the construct, these become *dʌvʌ̀(:)ʀ*, as in *dʌvʌ̀:ʀ hammé:lex* ‘the king’s word’, and *dívrè:*, as in *dívrè: hammé:lex* ‘the king’s words’.¹ The other is a prosodic notion whereby free forms receive an accent (in the musical interpretation of the prosody), and dependent forms are clitics bound to a free form by a *maqfef* ‘hyphen’ (marked throughout by the equal-sign ‘=’ to distinguish it from a morpheme boundary, marked by a hyphen ‘-’ where required). An example is the accusative particle, which appears as *ʀé:ʁ* when it is prosodically free and receives a musical accent, and as *ʀéʁ=* when it is prosodically bound by *maqfef*.²

One would reasonably expect there to be isomorphism between the prosodic dependency of the construct and the system of accents: that is, we might expect that construct words would be unaccented and marked with *maqfef*, and that absolute words would always be prosodically free and accented. This is not always the case, however: a construct word is sometimes accented (*dʌvʌ́:ʀ*) and sometimes deprived of the accent (*dʌvʌ̀:ʀ=*). Conversely, absolute state words are sometimes deprived of an accent according to the rules governing phrasing. It appears, therefore, that there are two distinct definitions of prosodic dependency: morphosyntactic versus accentual.

That is not the end of the matter, however: “small” nouns (Breuer 1982: 167), that is monosyllabic stems such as *lé:v* ‘heart’, *šé:m* ‘name’, *hó:q* ‘ordinance’, *ró:v* ‘multitude’— are caught up in a conflict between these two notions. There is considerable variability in how these nouns behave in this respect. In this article we will consider the reasons for the development of two different notions of prosodic dependency.

2. The prosodic dependency of the construct

There are various phonological differences between the absolute and construct forms. Some of these involve differences that are morphological or morphophonological (Prince 1975; Joüon & Muraoka 2006). The masculine plural suffix is *-ím* in the absolute form, as in *dʌvʌ́:ʀ-ím* (1a); this suffix does not appear in the construct, *dívrè:* (1b). Instead we find an ending *-è:*, which may be connected to the augment found in suffixed forms such as *dʌvʌ́:ʀ-é:-nu:*, *dívr-é:-hém* (1c).

¹ Our phonetic transcriptions of TH forms follow Khan (1987, 2013). We indicate the lower degree of stress that construct forms receive by a grave accent (`); see (12) below. We assume that this stress is lost when the construct is cliticized with *maqfef*, and promoted to a full word stress (´) when the construct is a prosodic word with a musical accent.

² Joüon & Muraoka (2006: 54m) note three exceptions where *ʀéʁ* occurs accented and uncliticized: Ps 47:5, 60:2, Prov 3:12.

(1) Absolute and construct forms of masculine words

a. ABSOLUTE

SINGULAR

dɔ:vó:r

word.MS.ABS

'word'

PLURAL

davɔ:r-í:m

word-MP.ABS

'words'

b. CONSTRUCT

SINGULAR

davà:r ham-mé:lex

word.MS.CSTR the-king. MS.ABS

'the king's word'

PLURAL

divr-è: ham-mé:lex

word.MP.CSTR the-king. MS.ABS

'the king's words'

c. SUFFIXED

SINGULAR

davɔ:r-é:-nu:

word.MS-AUG-1P

'our word'

PLURAL

divr-e:-hé:m

word-MP.AUG-3MP

'their words'

In the feminine, the absolute singular form ends in -ó: (2a), whereas the construct singular ends in -à:θ (2b). Pretonically, the feminine singular morpheme appears as -ɔ:θ-, thus *ʃiðq-ɔ:θ-í:* 'my righteousness' (2c). Therefore, the construct morphology of both the masculine and feminine nouns has some connection to morphology found in the suffixed forms, suggesting there is some underlying form from which both the absolute and construct forms of a noun can be derived. For example, the unspirantized underlying representation of the feminine singular must be /-ɔ:t/ < *at.

(2) Absolute and construct forms of feminine words

a. ABSOLUTE

SINGULAR

ʃaðɔ:q-ó:

righteousness-FS.ABS

'righteousness'

PLURAL

ʃaðɔ:q-ó:θ

righteousness-FP.ABS

'acts of righteousness'

b. CONSTRUCT

SINGULAR

ʃiðq-à:θ haʃ-ʃaddí:q

righteousness-FS.CSTR the-righteous.MS.ABS

'the righteousness of the righteous'

PLURAL

ʃiðq-ò:θ ʔaðo:nó:j

righteousness.CSTR-FP lord.IS

'the gracious acts of the LORD'

c. SUFFIXED

SINGULAR

ʃiðq-ɔ:θ-í:

righteousness-FS-1S

'my righteousness'

PLURAL

ʃiðq-o:θ-é:-nu:

righteousness-FP-AUG-1P

'our virtues'

Here, we will focus on differences between absolute and construct forms that can be attributed to differences of stress. These are of particular interest because they support the idea that construct forms are prosodically dependent on the word that stands at the end of a construct chain. According to Joüion & Muraoka (2006: 253), “The two nouns form a phonetic unit...The first noun is said to be in the construct state because it rests phonetically on the second...[it] always loses something of its stress.” The vowel deletions and reductions observed in the construct all follow from the assumption that a word in the construct lacks the full word stress that words in the absolute form receive.

Consider the derivations of the absolute and construct singular of *דָּבָר*, based on Prince (1975) as modified by Dresher (2009a). We assume that their lexical representations are the same, except that the construct and the word that follows it “form a phonetic unit”, formalized by Prince (1975) as a single word boundary (3b), in contrast to the double word boundary that follows a word in the absolute (3a).

- (3) Lexical representations of the absolute and construct of ‘word’
- | | | |
|-------------|--------------|--------|
| a. ABSOLUTE | b. CONSTRUCT | |
| x x | x x | Line 0 |
| da baR## | da baR# | |

Dresher (2009a) proposes a new analysis of Biblical Hebrew stress in the framework of the Simplified Bracketed Grid (SBG) metrical theory (Idsardi 1992; Halle & Idsardi 1995). This theory builds on the metrical theory of Liberman & Prince (1977), Halle & Vergnaud (1987), and Hayes (1995). On this approach, stress is computed by projecting elements (grid marks and brackets) onto a metrical grid. The examples in (3) show the first line of the grid, conventionally called line 0. Every potential stress-bearing unit receives a grid mark on line 0; in Biblical Hebrew, these units are vowels.

It appears that Biblical Hebrew main stress must apply early in the derivation to account for Pretonic Lengthening and the phonology of pausal and contextual forms. This creates a problem, in that later rules require that the early metrical feet must be over-written by conflicting feet that govern vowel reduction and deletion as well as secondary stress (Blake 1951; Prince 1975; Rappaport 1984; Malone 1993; Balcaen 1995). Dresher (2009a) proposes that rather than an early rule assigning main stress or stress feet, there is an early rule of Left Bracket Insertion (LBI), given in (4):

- (4) Left Bracket Insertion (LBI)
 Insert a left bracket to the left of the last vowel of the word that is not absolutely word-final.

What we are proposing here is that LBI does not operate in the domain of a single #. Therefore, a left bracket is inserted in the absolute form (5a), but not in the construct (5b).

- (5) Left Bracket Insertion (LBI) in the absolute of ‘word’
- | | | |
|-------------|--------------|--------|
| a. ABSOLUTE | b. CONSTRUCT | |
| x (x | x x | Line 0 |
| da baR## | da baR# | |

The next rule that applies is Pretonic Lengthening (PTL), given in (6).³

- (6) Pretonic Lengthening (PTL)
Lengthen a vowel in an open syllable immediately to the left of a left bracket.

PTL applies in the absolute state (7a) but not in the construct (7b), because the latter does not have a left bracket.

- (7) Pretonic Lengthening (PTL) in the absolute of 'word'
- | | | |
|---|---|--------|
| <p>a. ABSOLUTE</p> <p style="padding-left: 2em;">x (x</p> <p style="padding-left: 2em;">daa baR##</p> | <p>b. CONSTRUCT</p> <p style="padding-left: 2em;">x x</p> <p style="padding-left: 2em;">da baR#</p> | Line o |
|---|---|--------|

Next, heavy syllables (syllables with long vowels or that are closed by a consonant), which are the heads of feet, receive a right bracket. In the absolute form of 'word' (8a), both syllables receive a right bracket because they are both heavy: the first because of its long vowel, the second because it is closed by a consonant. In the construct (8b), only the final syllable receives a right bracket.

- (8) Heavy syllables receive a right bracket
- | | | |
|---|--|--------|
| <p>a. ABSOLUTE</p> <p style="padding-left: 2em;">x) (x)</p> <p style="padding-left: 2em;">daa baR##</p> | <p>b. CONSTRUCT</p> <p style="padding-left: 2em;">x x)</p> <p style="padding-left: 2em;">da baR#</p> | Line o |
|---|--|--------|

Two more bracket insertion rules apply on line o, as described in (9) and (10).⁴ Edge marking puts a left bracket at the edge of every word; Iterative Constituent Construction (ICC) limits the size of line o metrical constituents (feet) to be maximally binary. These rules yield the line o representations in (11) (in (11b), the effects of (9) and (10) coincide to place a left bracket at the left edge).

- (9) Edge marking on line o
In every word, insert a left bracket to the left of the leftmost element on line o.
- (10) Iterative Constituent Construction (ICC)
Starting from the right on line o, insert a left bracket after every pair of grid marks in which no bracket intervenes.
- (11) Representations showing edge marking (and ICC)
- | | | |
|--|---|--------|
| <p>a. ABSOLUTE</p> <p style="padding-left: 2em;">(x) (x)</p> <p style="padding-left: 2em;">daa baR##</p> | <p>b. CONSTRUCT</p> <p style="padding-left: 2em;">(x x)</p> <p style="padding-left: 2em;">da baR#</p> | Line o |
|--|---|--------|

³ This formulation is inspired by Balcaen (2000).

⁴ This part of the analysis departs from that in Dresher (2009a), but adheres to the proposals of Halle & Idsardi (1995).

Iambic (right-headed) feet are assigned by projecting the rightmost element in a line 0 foot to the next line (line 1, the level of heads of feet). The rightmost foot head is projected to receive the word-level stress on line 2. Then words that are the heads of their prosodic word (clitic group) receive a further level of stress on line 3. This level of stress is typically assigned to words in the absolute state (12a), but not to words in the construct state (12b), for they are not the heads of a prosodic word.

(12) Projection of foot-level, word-level, and phrase-level stress: masculine singular nouns			
a. ABSOLUTE		b. CONSTRUCT	
	x		Line 3 (prosodic word stress)
	x	x	Line 2 (word stress)
x	x)	x)	Line 1 (heads of feet)
(x)	(x)	(x x)	Line 0 (stressable units)
daa	baR##	da baR#	

At this point the metrical grids are in place, and further rules shown in (13) apply to derive the phonetic forms of the absolute (14a) and construct (14b) forms.⁵

- (13) Some segmental rules
- Tone Lengthening: A vowel with prosodic word stress is lengthened under certain conditions.
 - Vowel reduction: A vowel in the weak position of a foot loses its grid mark (is reduced or deleted).
 - Spirantization of non-geminate, non-emphatic, stop consonants: /b, g, d, k, p, t/ become [v, ʁ, ð, χ, f, θ], respectively, following a vowel.
 - Rounding: [a:] becomes [ɔ:].
 - Phonetic Lengthening: Vowels with word stress and vowels in open syllables are lengthened
 - Schwa Realization: /ə/ is pronounced as [a] in most environments.

(14) Application of segmental rules to the forms in (13)	a. ABSOLUTE	b. CONSTRUCT
Output of (13)	(da:) (báR)##	(da bàR)#
Tone Lengthening	(da:) (bá:R)##	—
Vowel reduction	—	(də bàR)#
Spirantization	(da:) (vá:R)##	(də vàR)#
Rounding	(dɔ:) (vó:R)##	—
Phonetic Lengthening	—	(dɔ và:R)#
Schwa Realization	—	(da và:R)#
Phonetic forms	[dɔ:vó:R]	[davà:R]

⁵ These derivations can be understood either as derivations from underlying to surface forms or as a compact summary of diachronic developments. Since the Masoretic manuscripts date from around 500 years after Hebrew had ceased to be spoken as a first language (Blau 2010: 11), we might expect that a ‘synchronic’ grammar of Tiberian Hebrew would have some unusual properties; see Edzard (2013) and Rendsburg (2013).

Similarly, it can be shown (without dwelling on the steps) that the differences between the masculine plural absolute and construct forms can be derived from /dabar+i:m/ and /dabar+ay/, respectively. The rules that construct metrical grids and PTL give the representations in (15).

(15)	Projection of foot-level, word-level, and phrase-level stress: masculine plural nouns			
	a. ABSOLUTE		b. CONSTRUCT	
		x)		Line 2 (prosodic word stress)
		x)	x	Line 2 (word stress)
	x	x)	x	Line 1 (heads of feet)
	(x x)	(x)	(x (x x)	Line 0 (stressable units)
	da baar + iim##		da ba r+ay#	

Then, the rules of vowel reduction/deletion and other segmental rules apply as in (16) to give the phonetic forms [davɔ:r-í:m] and [divr-è:].

(16)	Application of segmental rule to the forms in (15)			
	a. ABSOLUTE		b. CONSTRUCT	
Output of (15)	(da ba:r)+(í:m)##		(da (ba r+ày)#	
Tone Lengthening	—		—	
Vowel reduction	(də ba:r)+(í:m)##		(da (bə r+ày)#	
Other rules	—		(dib (r+è:)#	
Spirantization	(də va:r)+(í:m)##		(div (r+è:)#	
Rounding	(də vɔ:r)+(í:m)##		—	
Schwa Realization	(da vɔ:r)+(í:m)##		—	
Phonetic forms	[davɔ:rí:m]		[divrè:]	

We have established that almost all differences between the absolute and construct forms of a noun derive from the fact that the latter do not have the same level of stress as the former. Another way to put this is that a construct forms a single prosodic word with a following word. If we did not have a vocalized text of the Bible, then from the phonology alone we would be inclined to indicate that a construct is part of the same prosodic word as the word that follows it. We might, for example, leave spaces around a prosodic word and connect a construct to a following word with a hyphen, as in (17).

(17)	Indication of prosodic dependency by a hyphen			
	a. ABSOLUTE		b. CONSTRUCT	
	dɔ:vó:r tó:v		davar=ham-mé:lex	
	word.MS.ABS good.MS.ABS		word.MS.CSTR-the-king. MS.ABS	
	'good word'		'the king's word'	

We actually do have such a text, but, as we mentioned at the outset, the *maqef* does not always appear where we would put it, based on the phonology of the construct. This sets up a tension

between the prosody we expect based on morphosyntax, and the prosody indicated in the Tiberian transcription. We will show that even if the intention of the Masoretes was to indicate every construct form with a *maqṣef*, the constraints of their system would have prevented this outcome. In order to understand why this is, we need to review some basics of the Tiberian prosodic hierarchy and the rules of cliticization that are tightly bound up with the phrasing.

3. The Tiberian prosodic hierarchy

Prosodic representation mediates the relationship between phonology and syntax. On this view, a prosodic hierarchy organizes domains in which phonological rules operate (Selkirk 1984, 1986; Nespor & Vogel 1986; Hayes 1989). From the word level up, the units of the prosodic hierarchy are commonly supposed to have at least the levels in (18a):

(18) The prosodic hierarchy		b. The Tiberian hierarchy	
a. Contemporary theory			
Utterance	U	Verse	V
		Hierarchy	D ₀
		of	D ₁
		phonological	D ₂
Phonological Phrase	P	phrases	D ₃
Prosodic Word (with clitics)	PW	Prosodic Word (with clitics)	PW

The Tiberian transcription marks the bottom and top of the hierarchy very systematically (18b). Between the Utterance and the Word, however, the Tiberian transcription departs from the contemporary understanding of the prosodic hierarchy. Rather than a Phonological Phrase and an Intonational Phrase, the Tiberian transcription parses each verse into a hierarchy of phrases, D₀–D₃, where D₀ is the highest level and D₃ is the lowest.

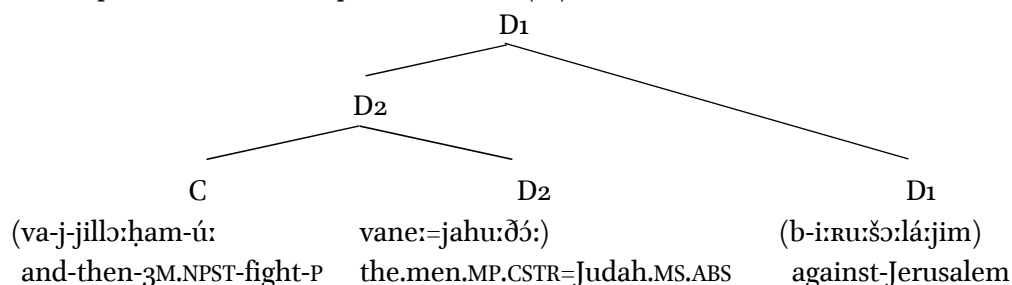
The Tiberian notation distinguishes two types of accents: conjunctive and disjunctive. A conjunctive accent C on a word indicates that the word is part of the same phrase as the word that follows it. A disjunctive accent D_i indicates that a word is final in its phrase. A phrase that ends in a disjunctive accent and which contains no other disjunctive accents is a Minimal Phrase (MP; Strauss 2009). We can identify this MP with the Phonological Phrase, P. In the example in (19), the first word *vajjillōḥamú:* ‘fought’ has a conjunctive accent, and forms a minimal phrase with *vane:=jahu:ḏó:* ‘the men of Judah’. The third prosodic word, *bī:ru:šō:lá:jim* ‘against Jerusalem’, makes a second phrase.

(19) Conjunctive and disjunctive accents		
	C	D ₂
		D ₁
(va-j-jillōḥam-ú:	vane:=jahu:ḏó:)	(b-i:ru:šō:lá:jim)
and-then-3M.NPST-fight-P	the.men.MP.CSTR=Judah.MS.ABS	against-Jerusalem
‘The men of Judah fought against Jerusalem’ (Judg 1.8)		

The MP forms the domain for three phonological rules: spirantization, gemination, and rhythmic stress shift (*nasibɔ:*). In the first phrase in (19), the initial consonant of the second word, *vane:*, is spirantized from underlying /b/ because it follows a vowel that ends the preceding word in the same MP. By contrast, the initial /b/ of *bi:RU:šɔ:lá:jim* is not spirantized, though it also follows a word-final vowel, because the preceding word is not in the same MP.

Recall that the disjunctive accents form a hierarchy with four levels. The hierarchy of disjunctives indicates that Tiberian phonological phrases are nested, so that a phrase with accent of level D_i is divided by a phrase ending in accent D_{i+1} . In example (19), the second disjunctive, D_1 , terminates a non-minimal phrase comprising all three words. This non-minimal phrase is divided by accent D_2 . The prosodic structure can be represented as a tree, where a phrase ending in a disjunctive D_i is itself labelled D_i . Here, the inner phrase is labelled D_2 , and the entire phrase is a D_1 .

(20) Tree representation of the partial verse in (19)

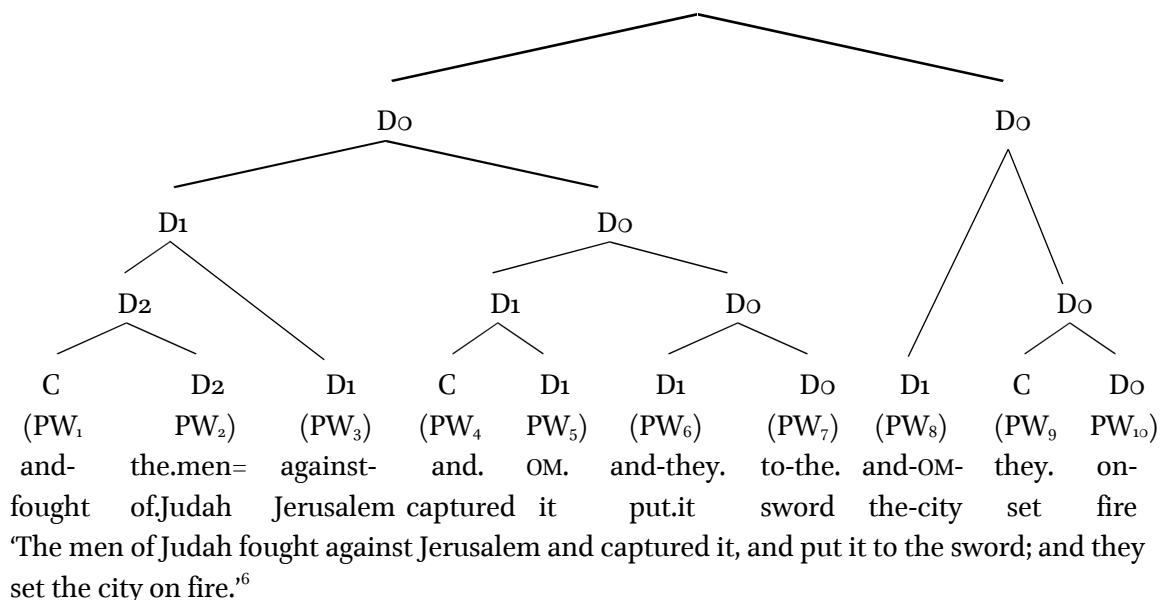


Why does the phrase in (20) end in D_1 ? Recall that the top of the hierarchy is labelled D_0 . The three prosodic words in (20) form the beginning of a verse; the phrasing of the complete verse is shown in (21). The verse has ten prosodic words, labelled PW_1 – PW_{10} . There are seven MPs, indicated by parentheses (). These MPs can be equated with the Phonological Phrase and serve as the domain of the three phonological rules mentioned above.

The higher-level phrases are not associated with phonological rules, but indicate how the P-phrases are organized. The verse is divided into two parts by D_0 accents. The largest break comes after PW_7 , which ends the first half-verse. There is a maximum of two D_0 accents in a verse, and every verse ends in a D_0 accent. Short verses may lack a second D_0 . The first half-verse consists of five MPs. The main division comes after the second MP (PW_3). Since the whole half-verse ends in D_0 , it is divided by a D_1 accent on PW_3 . This D_1 phrase is in turn divided by a D_2 accent on PW_2 . This is the three-word phrase we looked at earlier in (20).

This organization is important in governing a series of phrasal simplification rules: in certain prosodic conditions, two or more MPs may be combined into one. It also crucially interacts with cliticization, which is sensitive to position in the prosodic tree.

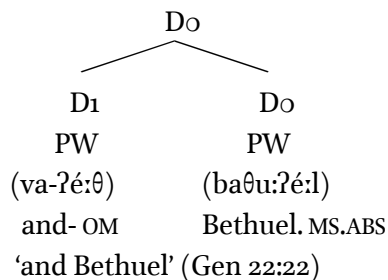
(21) Tree representation of Judg 1.8



4. The Tiberian prosodic hierarchy and the rules of cliticization

In this section we review some principles governing cliticization in Tiberian Hebrew, as set out by Breuer (1982), Drescher (2009b), and Holmstedt & Drescher (2013). We can begin with the accusative particle, which takes the form ʔeθ= when it is a clitic, and ʔé:θ when it stands as an independent prosodic word. The lengthened vowel is due to the aforementioned rule of Tone Lengthening under the main stress of a prosodic word. This particle is one of the most easily cliticizable morphemes, and in the majority of cases it is attached by *maqef* to the following word. However, there are various cases where cliticization does not occur.

First, there is a very strong constraint that the half-verse, which ends with a Do accent, should consist of at least two phrases. In some verses, the main division is such that one of the half-verses contains only two words, one of which is a small cliticizable word. In such a case, the small word almost always remains an independent word in its own phrase, marked with a disjunctive accent, as in the example in (22).

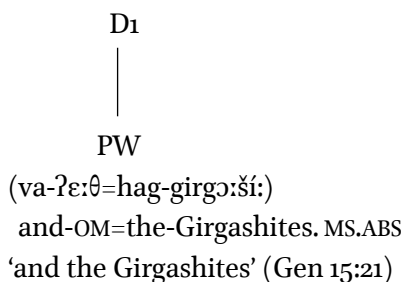
(22) Suspension of cliticization of OM ʔé:θ in a two-word Do

⁶ We give our own translation, since neither *JPS* nor *NIV* follow the MT in putting the major break after PW₇.

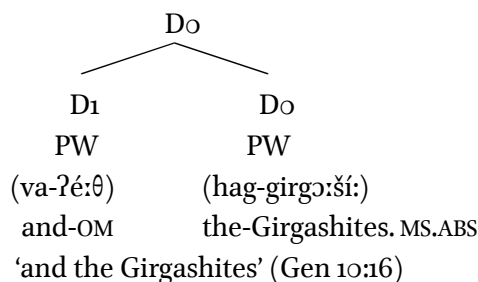
Another constraint is that a long word does not easily coexist with another word in a MP governed by Do.⁷ Thus, a small word is generally not cliticized to a long word in a Do phrase but again is placed in its own phrase with a disjunctive accent. This phenomenon is illustrated by the verses in (23): *ʔé:θ* is normally cliticized before a long word, for example, *haggirgɔ:ší:* in (23a), but it remains prosodically independent before the same word in a Do phrase (23b).

(23) Cliticization of OM *ʔé:θ* in D₁ and suspension of cliticization in D_o

a. *ʔé:θ* cliticized before a long word



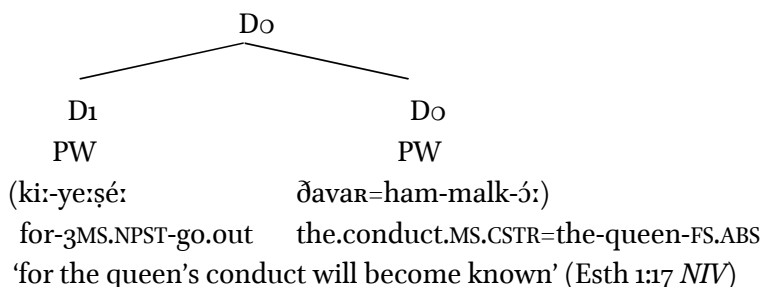
b. Cliticization suspended in a D_o phrase



In general, the conditions on cliticization are very restrictive in prominent prosodic positions (in the domain of D_o) and become more liberal as one proceeds down the prosodic hierarchy. Thus, returning to construct forms, it follows that though we may want to cliticize them all the time, in many positions cliticization would violate the phrasing rules. We can illustrate this point with some verses from the book of Esther, though similar examples occur all through the Bible.

In Esth 1:17 (24), the construct *ḏavar* is in the domain of D₂, that is, not in a prominent prosodic position. Therefore, cliticization can proceed even though it creates a long prosodic word, and the preceding PW is assigned a conjunctive accent to complete the two-word MP.

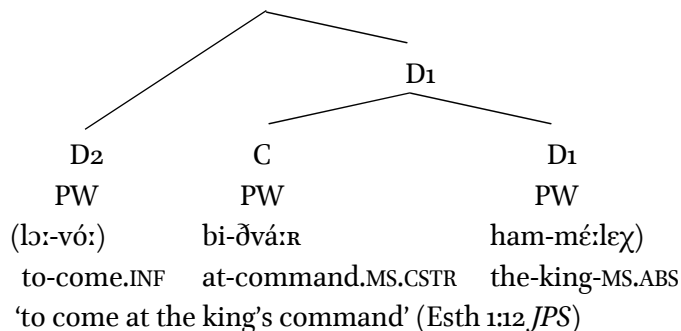
(24) Cliticization of construct *ḏavar* in the domain of a D₂ accent



In Esth 1:12 (25), the construct *bi-ḏvá:R* is in the domain of a D₁ accent. If it were cliticized with the following word it would create a PW that is too long, so the phrasing of the previous verse is not allowed here.

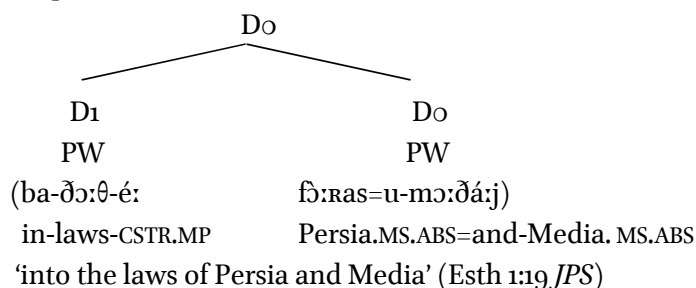
⁷ A long word is one which has at least two vowels before the stressed vowel, not counting reduced vowels, or else contains a long vowel in a closed syllable or before a shewa (often marked with *metheg*); see Wickes (1887: 62n4), Breuer (1982: xvi), and Drescher (2013).

- (25) Suspension of cliticization of construct *bi-ḏavar* in the domain of a D₁ accent



Esth 1:19 (26) exemplifies a different complication: the combination ‘Persia and Media’ is typically kept together as a single PW, leaving the construct *ba-ḏoṯ-e* to form a second PW on its own. Note the retracted secondary stress in *fɔːras-*, the result of treating *fɔːras=u-moḏáj* as a single PW, even though *fɔːras* is in the absolute state. The initial [f] is due to spirantization from /p/ following a vowel-final word in the same MP.

- (26) Suspension of the cliticization of a construct before an already cliticized phrase



5. Small nouns

We will start our survey of small nouns with *doːm* ‘blood’ and *joḏ* ‘hand’. They behave just like we would expect, based on what we observed from nouns like *doːvoːr*. The absolute forms are always free and have the long vowel [ɔː]. The construct forms tend to be cliticized, except when prevented by the phrasing rules; their vowel is [a] when cliticized and unaccented, or [aː] when free and accented.

- (27) Absolute and construct forms of *doːm* ‘blood’

a. ABSOLUTE

FREE

doːm

BOUND

—

b. CONSTRUCT

FREE

(dáːm hoː-ʔoṯ-šóːm) Do

blood.MS.CSTR the-guilt.offering.MS.ABS

‘the blood of the guilt offering’ (Lev. 14:17)

BOUND

dam=ziːvḥ-íː) Do

blood.MS.CSTR=sacrifice.MS.ABS-IS

‘the blood of my sacrifice’ (Ex. 23:18)

(28) Absolute and construct forms of <i>yó:ð</i> ‘hand’	
a. ABSOLUTE	
FREE	BOUND
<i>yó:ð</i>	—
b. CONSTRUCT	
FREE	BOUND
(<i>ʕal=já:ð jo:sé:f</i>) D ₁	<i>jað=paṛšó:</i>) D ₁
on-hand.FS.CSTR Joseph. MS.ABS	hand.FS.CSTR=Pharaoh. MS.ABS
‘on Joseph’s hand’ (Gen 41:42)	‘Pharaoh’s authority’ (Gen 41:35)

Other small nouns do not all behave like this; we will continue with nouns with stem vowel [o:] whose suffixed forms have [u]. Consider *kó:l* ‘all’, which occurs over 5,000 times.⁸ We assume that the underlying form of the vowel is short /o/.⁹ Parallel to /a/ in (14), we expect it to be lengthened to [o:] by Tone Lengthening when absolute. Assuming that Tone Lengthening does not apply in the construct, the underlying vowel should remain short until very late in the derivation; thus, it is expected to surface as [ɔ], the surface reflex of short /o/, or as [ó:], by late (phonetic) lengthening. That is, we expect the vowel in /kol/ to parallel the [ɔ:] ~ [a(:)] alternation in (27) and (28), appearing as [kó:l] when absolute and as [kɔl=] or [kó:l] in construct, independent of *maqṣef*.

In fact, the absolute forms are always free and have a long vowel [o:] as expected (29a), but the construct forms depend on the phrasing: with five exceptions, they are short [ɔ] when cliticized with *maqṣef*, but long [o:] when prosodically free (accented) (29b). That is, *ko:l* behaves like the accusative particle *ʔe:ʕ* in being sensitive to phrasing. Of course, morphosyntactically *ʔe:ʕ* is always the same. Perhaps *ko:l* is itself becoming a grammatical particle.

(29) Absolute and construct forms of <i>ko:l</i> ‘all’	
a. ABSOLUTE	
FREE	BOUND
<i>kó:l</i> 118 ¹⁰	— 0
b. CONSTRUCT	
FREE	BOUND
<i>kó:l</i> 460	<i>kol=</i> 1 (Jer 33:8) ¹¹
<i>kó:l</i> 4 ¹²	<i>kɔl=</i> 4,344

⁸ There are 5,194 instances according to Even-Shoshan (1990), plus another 100 or so Aramaic instances, which pattern in the same way. A search of *MORPH* yields 5,201 instances.

⁹ This *o* is itself derived from /u/ which is still visible in suffixed forms, e.g. *kulló:m* ‘all of them’ (Rendsburg 2103).

¹⁰ This is the number of absolute forms listed by Even-Shoshan (1990). *MORPH* lists 396 instances coded as absolute, a very significant discrepancy that appears to point to a major disagreement in how to classify forms as absolute or construct. However, the two sources agree that we find [kó:l] when free and [kɔl=] when cliticized, leaving aside the 5 exceptions.

¹¹ This form is doubly anomalous in being written *plene* with a *vav*.

¹² According to Joüon & Muraoka (2006: 54n2), the 4 instances of construct *kó:l* without *maqṣef* occur in Ps 35:10, 87:7 (but *BHS* has *maqṣef*), Isa 40:12, and Prov 19:7. *MORPH* and *BHS* have [laχɔl] in Ps 119:96 with no *maqṣef*, but also no accent.

Another frequent small noun in this class is *רֹב* ‘multitude’. In the absolute state it is as expected, prosodically free and with a long vowel [ó:]. When in construct and prosodically free, the vowel is always long, following the prosody like *כֹּל* does. When bound by *maqfef*, the construct is usually short [ɔ], again like *כֹּל*. But there are relatively more (3/15) [o] vowels with *maqfef*.

(30) Absolute and construct forms of *רֹב* ‘multitude’

a. ABSOLUTE

FREE		BOUND	
רֹב	59 ¹³	—	o

b. CONSTRUCT

FREE		BOUND	
רֹב	76	רֹב=	3 (Isa 1:11, Job 37:23, Lam 1:5)
רֹב	o	רֹב=	12

חֹק ‘statute’ in absolute is mostly free and has a long [ó:], with two exceptions: Job 26:10 has *חֹק=חֹב* ‘horizon=mark. PST.3MS’ (‘He marks out the horizon’ *NIV*), with *maqfef* in stress clash; and Ps. 148:6 has *חֹק=נֹחַ* ‘statute=give. PST.3MS’ (‘he issued a decree’ (*NIV*)).¹⁴ The construct is mostly bound with *maqfef* and has a short vowel [ɔ]. There is also one free construct form with [ó:].

(31) Absolute and construct forms of *חֹק* ‘statute’

a. ABSOLUTE

FREE		BOUND	
חֹק	21	חֹק=	1 (Job 26:10)
חֹק	o	חֹק=	1 (Ps 148:6)

b. CONSTRUCT

FREE		BOUND	
חֹק	1 (Ezek 45:14)	חֹק=	o
חֹק	o	חֹק=	14

Finally, we will consider some small nouns with stem vowel [e:]. The normal absolute of *לֵב* ‘heart’ is free with a long [é:]. Surprisingly, there are 3 bound absolute forms with a short [ɛ], all in stress clash: *לֵב=תֹּב*, *לֵב=רֹב*. In the construct, there are 13 forms with short [ɛ], all in clash (*לֵב=רֹב*, *לֵב=מֵבֶלֶח*), and 2 forms with long vowels when not in clash. For this word, then, stress clash is the best predictor of vowel length.

¹³ This is the number we find in Even-Shoshan (1990). Once again *MORPH* classifies more of the free forms as absolute, with 67 absolute and 69 construct. How these forms are classified does not affect our conclusion that prosody is the main determinant of the vowel in this word.

¹⁴ This form is classified by both Even-Shoshan (1990) and *MORPH* as a construct, but it is not clear what the rationale for this is (apart from its having the vowel ɔ).

(32) Absolute and construct forms of *lev* 'heart'

a. ABSOLUTE

FREE

lé:v 142

lé:v 0

BOUND

lev= 1 (Ps 51:19)

lev= 2 (Prov 17:16, 26:23) (*stress clash*)

b. CONSTRUCT

FREE

lé:v 86

lé:v 0

BOUND

lev= 11 (*not in stress clash*)lev= 14 (*all in stress clash*)

Similarly, *šém* 'name' has a long vowel [e:] except for 6 cases with [ε] where the construct is bound and in a stress clash.

(33) Absolute and construct forms of *šém* 'name'

a. ABSOLUTE

FREE

šé:m 53

BOUND

šém= 0

b. CONSTRUCT

FREE

šé:m 233

šé:m 0

BOUND

šém= 54¹⁵šэм= 6 *all in stress clash*¹⁶

Finally, *ben* 'son' has [e:] in the absolute and [ε] in the construct, whether these forms are free or bound. An example of a bound absolute form is *bén-šiššú* 'a sixth son' (Gen 30:19). It has a long [e:] despite being bound with *maqgef*.

(34) Absolute and construct forms of *ben* 'son'

a. Absolute

Free

bé:n

Bound

ben=

b. Construct

Free

bé:n

Bound

ben=

To sum up, some small nouns follow the morphosyntax, some follow the prosody, and some have more complicated behaviours. This is an area where we might expect to find that manuscripts differ, because the lack of clear principles would make these forms particularly prone to copying errors.

¹⁵ Some forms have a *metheg* indicating that the vowel is long and has some stress; thus, some of these forms should be represented as *šém=*.

¹⁶ Gen 16:15, 21:3, 1 Sam 8:2, 1 Kgs 16:24, Ezek 39:16, Prov 30:4.

6. Conclusion

To conclude, we have argued that the reason for the divergence between construct phonology and the prosody is to be found in basic principles of Tiberian phrasing, which force many construct forms to be independent prosodic words. In earlier work (Dresher 1994; DeCaen 2005, 2009) we have also argued that the Tiberian phrasing is not a made-up system, but has properties found in other prosodic systems, and appears to reflect an actual reading tradition grounded in natural speech (Revell 1980).

So if something like Tiberian phrasing was operative at the time when construct phonology emerged, could it be that all construct forms at one time followed the prosody the way some small nouns do in the Tiberian text? That is, the construct of *דָּוָןֶ:ר* would have been *davar* when actually prosodically dependent on a following word, but would have been *דָּוָןֶ:ר* when the phrasing prevented its cliticization. If this line of thinking is correct, it would suggest that the behaviour of some of the small nouns is not simply an innovation that is a reaction to a chaotic system, but might point back to a time when all construct forms alternated depending on their prosodic representation.

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