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# Hurrian Meter and Phonology in the Boğazköy Parables

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This article addresses meter in the Hurrian parables from Boğazköy (KBo 32.14). Bachvarova (2011) has characterized this text as having four stressed syllables per line; others have suggested that the pattern of unstressed syllables may also contribute to the meter (e.g., Haas and Wegner 2007, Neu 1988), although the widely variable line lengths pose a problem for an isosyllabic meter. I offer evidence for a meter consisting of four stressed syllables per line, with one to three unstressed syllables between stressed syllables. I further reconcile a syllable-counting meter with the observed variability in line length by positing that lines are in groups of two to three, forming semantic units. Within these groups, the average difference in syllable count between lines is significantly lower than it is between non-grouped lines.

The similarity within groups of lines suggests that, despite apparent differences based on the orthography, lines within groups may have matched exactly in number of syllables. Postulating this exact match, I offer three phonetic interpretations of the orthography that build on phonological characteristics discussed by Wilhelm (2008) and Wegner (2007): 1) an underlying glottal stop producing disyllabicity of <Ca-a-i> sequences and potentially other plene vowel sequences as well; 2) elision at word boundaries where the first word ended with a vowel and the following word began with a vowel; 3) a monosyllabic realization of a word-internal sequence of a high vowel followed by another vowel.

Such a syllable-counting meter provides a new line of evidence for the phonology of Hurrian as well as contributing to the metrical characteristics that can be found in poetry of the ancient Near East.

## 1. INTRODUCTION

The Hurrian Parables, a Hittite-Hurrian bilingual from a collection of texts from Boğazköy (KBo 32), have been established as metrical by several previous accounts. Bachvarova (2011: 289–94) characterizes them as having four stressed syllables per metrical line. Others have suggested that the pattern of unstressed syllables may also contribute to the meter (Haas and Wegner 2007: 348, Neu 1988: 246–48), although variable syllable counts in the metrical lines pose a problem for an isosyllabic meter.

I offer evidence for a syllable-counting but non-isosyllabic meter, with lines in groups of two to three, forming semantic units. Within these semantically natural groups, the average difference in syllable count between metrical lines is significantly lower than it is between non-grouped lines. The similarity within groups of lines suggests that, despite apparent differences based on the orthography, metrical lines within groups may have matched exactly

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in number of syllables. Postulating this exact match, I offer three phonological interpretations of the orthography that build on the established phonological system of Hurrian.

### *1.1 Hurrian*

Hurrian was a language spoken in northern Mesopotamia and southeastern Anatolia from at least the late third millennium BC until the twelfth century BC. There is evidence for contact between Hurrian and several other languages which may be relevant for poetic meter in Hurrian: most importantly Akkadian, Sumerian (Wilhelm 2008: 103), Hittite (Wegner 2007: 21–32), and an unattested Indo-Iranian language (Thieme 1960, Gamkrelidze and Ivanov 1995: 809).

There is still uncertainty about the phonological inventory of Hurrian. There is ambiguity in whether some apparent characteristics are phonological or reflect limitations of the writing system (Wilhelm 1983: 163–64). Most Hurrian texts are written in the cuneiform syllabary borrowed through Akkadian from the Sumerian logo-syllabary. There were also Hurrian texts written in the Ugaritic consonantal alphabet, which can supplement the information provided by texts in the cuneiform syllabary (Dietrich and Mayer 1999: 58–66, Speiser 1940).

### *1.2 Poetry in Hurrian*

There are few Hurrian poems preserved in continuous sections large enough to facilitate metrical analysis, but some of them have clear poetic features, including chiasmus, syntactic repetition, and parallelism (Haas and Wegner 2007: 351–54; Thiel 1975: 240–43), alliteration, hyperbaton (Haas and Wegner 2007: 348–50), semantic parallelism, and repetition of the same or similar sounds and morphemes in the same position in adjacent lines (Thiel 1975: 256–58).

## 2. THE HURRIAN BOĞAZKÖY PARABLES

The Hurrian Parables, KBo 32.14, come from a collection of texts<sup>1</sup> from Boğazköy, published in Neu 1996. The Parables are a well-preserved unit with a consistent style. This text has been observed to share stress-counting characteristics with the four-stress meter found in Akkadian and Hittite. The content is closely reflected in the Hittite translation, though the Hittite does not correspond to the Hurrian in syllable count or syntactic patterns, even when similar constructions are possible in both languages. The Hurrian text contains poetic features, including parallelism, hyperbaton, and repeated forms of a word at the end of one line and the beginning of the next. Although some other meters of the ancient Near East required parallelism, it was not always metrically required (Vanstiphout 1993: 316–22) and could also be found in prose (Michałowski 1996: 146). Within the Hurrian Boğazköy Parables, parallelism seems to be an optional stylistic feature rather than an obligatory characteristic of the meter.

I build on Bachvarova's (2011: 289–94) thorough demonstration of the four-stress meter in this poem and additional proposals that the meter is based on syllable count (Neu 1988: 247; Haas and Wegner 2007: 348) and that there is a larger metrical pattern in which not every line is the same length (Neu 1988: 246–48). I will show that there is a restriction that these stressed syllables must be separated by one to three unstressed syllables and furthermore that metrical lines occur in groups of twos and threes with equal or nearly equal length.

1. There has been debate whether this entire collection is really a unit, based on the content and ordering of the tablets, as well as debate on the most accurate term for the texts. See Wilhelm 2012 for a discussion.

### 2.1 Metrical Lines

Metrical lines in the Boğazköy Parables are based on syntactic groups, not based on textual lines; there is no tendency in this text for metrical lines to align with textual lines.<sup>2</sup> Metrical lines and textual lines do align in some cuneiform texts, such as the Babylonian Theodicy (Oshima 2013) and elsewhere in Akkadian, Sumerian (Güterbock 1951: 141), and Ugaritic (Watson 1999: 166), which can shed light on the structure of these metrical units in other texts where they are not indicated graphically.

In the Boğazköy Parables, there is great consistency in having four stressed syllables in each syntactic unit, which is taken to correspond to a metrical line (Bachvarova 2011: 289–90). There are ninety-six metrical lines which can be measured and grouped with confidence. Some metrical lines are repeated either fully or in part; these repeated sections can be useful in determining syllable count, as they provide multiple lines for comparison, allowing the equation of parts of metrical lines.

The graphic organization of the text also supports the existence of metrical lines, as the paragraphs, identified semantically and often also by horizontal dividing marks, always contain an integer number of syntactically and semantically defined metrical lines. There are also *Winkelhaken*, wedge marks which only occur at metrical line breaks. The apparent metrical function of these marks within Hurrian has previously been noted (e.g., Wilhelm 1991: 43). While these marks do not occur at every metrical line break in the Parables, they mark the end of the first line and appear in several places where the metrical line break or group of metrical lines is somehow unusual.

Example [1] illustrates a typical pair of metrical lines, including where stress should fall given the characteristics of Hurrian stress established by previous work.

[1] Vs. 31–32<sup>3</sup>

S	S	S	S
[na-a]-li	ma-a-an-nu-u-bur	ma-[a-an-n]i	tar-šu-ṽa-a-ni
nāl=i	mān=ō=vor	mānn=i	taržuvān=i
deer=THV	is=THV=NEG	is= STAT	man=THV

“It is not a deer; it is a man.”

S	S	S	S
[ḫal-zu-uḫ]-la	ma-a-an-ni	e-eb-re-eš	na-a-ḫé-la-a-i
ḫalz(i)=ō=ḡl(i)=a	mānn=i	ēvr(i)=i=ž	nāḡ=e=lāi
district=DV=lord=ESS	is= STAT	lord=3sg.POSS=ERG	appoint=TR=GER

“As a district administrator, his lord appointed him.”

2. Through Rs. 21, the tablet presents Hurrian and Hittite side-by-side, which results in an average 3.3 words per textual line in the Hurrian text, based on sixty-nine textual lines that are syntactically clear and not short due to their occurring at the end of a section. Of these lines, seven correspond exactly with metrical lines, which is consistent with what is expected by chance. Beginning at Rs. 23, the tablet alternates sections of Hurrian and Hittite, resulting in long textual lines that never correspond to metrical lines. It is also notable that textual line breaks could even occur in the middle of a word, though this only happens once, in Rs. 58 (Neu 1996: 205).

3. Examples will be cited with a transliteration, showing the standard value of cuneiform signs divided by dashes, followed by a transcription with assumed phonetic shapes and morpheme boundaries. Vowels written plene are marked with a macron in transcription, but should not be assumed to be equivalent to vowel length. Sounds given in parentheses are assumed to be part of the underlying form not realized in their given phonetic environment. The transliterations and translations primarily follow Neu 1996 and Bachvarova 2011. A key to abbreviations can be found in Appendix A..

In comparison, a stress-based meter has also been established for other languages of Mesopotamia and Anatolia, generally characterized by four stresses per metrical line, but also with lines of three or five stresses, and sometimes with even greater variation (West 1997: 184). Some attempts have been made to explain rules of stress assignment, particularly in Hittite, to allow such lines to fit into this meter either following consistent stress rules (e.g., Durnford 1971) or poetically licensed optional stress rules (e.g., Melchert 1998: 485–93). Several optional stress rules have also been proposed for Akkadian to fit longer and shorter metrical lines into the four-stress pattern, e.g., allowing secondary stress within long words (West 1997: 184) and stress on heavy clitics (von Soden 1981: 176). Knudsen (1980: 6–10) observes that the evidence for the Akkadian stress system is limited because plene spelling is used inconsistently to mark both stress and length and does not reliably align with positions of inherited length or stress.

Hurrian words had penultimate stress, calculated from the word-end, including suffixes but not including clitics. The position of Hurrian stress is based on evidence from internal vowel deletion and the frequent plene spelling of penultimate vowels, which Wilhelm (1992: 125) interprets as reflecting lengthening of stressed vowels. Increased duration is a characteristic commonly associated with stress, and could easily have been an element of the phonetic realization of Hurrian stress. This pattern of plene would be consistent with the usage of plene in Akkadian to mark vowel length (e.g., Huehnergard 2011: 71), though alternative explanations for the Akkadian plene patterns have also been proposed (e.g., Diakonoff 1991: 296). This usage would also be similar to Hittite plene, which marks long vowels and accent, but could also clarify vowel quality and write monosyllabic words (Hoffner and Melchert 2008: 25). Wegner (2007: 47) suggests that plene in Hurrian may also have been used to clarify vowel quality. Morphological variation in Hurrian shows that there was also a tendency to lower penultimate vowels, which also could have been conditioned by stress (Wilhelm 2008: 86).

Consistent with this characterization of stress, the majority of penultimate vowels in this text were written plene (58%); in comparison, 27% of vowels in other positions were written plene. A  $\chi^2$  test demonstrates that this difference in frequency is significant ( $p < 0.001$ ). However, the interpretation of plene spellings in Hurrian is not entirely clear; Wegner (2007: 47) asserts that plene probably did not reflect vowel length.

Plene spelling was not used consistently in all occurrences of a word, though there is a clear distinction between words which sometimes have plene spelling and those which never have it. Whether an extra vowel sign is included or not in a word which has variable spelling may be motivated by the scribe's desire to fit the words to the length of the textual line (Neu 1996: 181).

## 2.2 *Couplets and Tercets*

The metrical lines within the Hurrian Boğazköy Parables fall into groups of two and occasionally three lines, forming a semantic and syntactic unit, with more consistency in the length of lines within a couplet than between couplets. Some aspects of this metrical structure correspond to characteristics of metrical traditions in other languages which Hurrian may have come in contact with.

Some of the languages of the ancient Near East and surrounding regions had poetry characterized by groups of metrical lines bound together by syntactic and semantic similarity with no formal regulation of stress or syllable count (Michałowski 1996: 146); lines within metrical groups were instead tied together by parallelism in form and meaning, rhyme, or repetition (Hecker 1974: 142–43; Vanstiphout 1993: 323–25). Often metrical groups were

couplets or tercets, as in Akkadian (Buccellati 1990: 113–14), Hebrew (Watson 1984: 183–88), and Egyptian (Foster 1980: 89–90). Some analyses of these texts also propose more restricted patterns of stress and syllable weight (e.g., Sauren 1971–72), but the limited evidence for stress and vowel length makes it difficult to confirm or disprove prosodic features of verse (Vanstiphout 1993: 307). However, there is some evidence for recurring stress patterns, e.g., stress of the penultimate syllable of lines in Hebrew, sometimes even when the word stress would not normally fall on that syllable (West 1997: 183).

Loanwords in Hurrian provide evidence for contact with an Indo-Iranian language by the fourteenth century BC (Thieme 1960: 301); while this evidence comes from later texts, it is unclear how much earlier contact might have occurred. The loanwords reflect an absence of the characteristic changes of Iranian but contain some Indic features, suggesting that their source language was Indic (Thieme 1960: 301–2, Burrow 1973: 123–24). The question of when and where this contact occurred connects to broader questions of where the Proto-Indo-European homeland was, when outward migrations occurred, and what paths they took; contact between Hurrian and Indic most likely occurred in northern Mesopotamia (Burrow 1973: 123–26), which is consistent with the lack of evidence for direct contact between Indic or Indo-Iranian and Hittite or other Anatolian languages (Gamkrelidze and Ivanov 1995: 808–9).

Vedic Sanskrit may provide an additional source of comparisons, as it contains meters with couplet structure as well as syllable counting, which may share features with the Indo-Iranian language which Hurrian came in contact with. There are Vedic meters with stanzas of two to three verses, some of which are also characterized by having twelve syllables per line, although these meters are based on syllable weight and not stress (Arnold 1905: 244–45). In these meters, lines were roughly isosyllabic, which is probably an archaic feature, as it is shared in meters of several distant Indo-European languages (Campanile 1999: 137). Although lines did not exhibit a greater similarity in length within couplets in Vedic meters, lines patterned differently within couplets than across them: hiatus was avoided more between lines of a couplet than across couplets, as was resyllabification of coda consonants when it would result in a light syllable (Gunkel and Ryan 2018: 47–49).

There is some evidence for the existence of couplets elsewhere in Hurrian meter. The length of metrical lines in the prayer of Tadoḥeba (ChS I/1 41), as marked by *Winkelhaken*, is generally consistent, with the occasional unit of approximately twice this length (Wilhelm 1991: 42–43). This pattern may suggest some confusion between the marking of lines and of couplets.

The *Winkelhaken* which mark line ends within the Boğazköy Parables were perhaps included to assist the reader in keeping track of potentially unclear metrical line breaks (Thiel 1975: 258–59), as they often occur between instances of a word repeated at the end of one line and the beginning of another, as well as between lines of many tercets. However, not all tercets are marked this way, if they are parallel to previous tercets. The use of *Winkelhaken* also seems to interact with the textual line breaks; for instance, the end of the tercet in Rs. 23–24 is marked by a *Winkelhaken*, perhaps because the first two metrical lines of the tercet are on a single textual line, while the third metrical line falls on the following textual line. The occurrence of *Winkelhaken* in these positions seems to support the hypothesis that tercets existed as an acceptable but marked variant on the normal structure. In Hebrew texts, tercets were sometimes used to mark ends, beginnings, and climaxes (Watson 1984: 183), while in Akkadian they were mixed irregularly with couplets (Buccellati 1990: 114). In Egyptian, tercets and other metrical irregularities were sometimes marked by punctuating dots (Foster 1980: 102, 108).

This text contains paragraph breaks, defined semantically and often accompanied by horizontal dividing marks. These sections might be interpreted as stanzas; larger scale groups of lines like this have been established in Hebrew (Watson 1984: 185–88) and have also been proposed for Hittite. Güterbock (1951: 141–44) proposes that there is an inexact stanzaic structure in the Song of Ullikummi, based on syntactic and semantic units and the existence of horizontal dividing marks, and in the hymnic introduction to the Story of the Sun-God, the Cow, and the Fisherman. Stanzaic groups within Hurrian poetry have also been proposed. Thiel (1975: 248–54) suggested that lines form groups sharing the main semantic theme, with the length of metrical lines following a pattern based on order within such a group; Wilhelm (1991: 42–43) also employs this analysis.

The paragraph breaks are consistent with the couplet and tercet breaks. There is one place where a horizontal divider occurs in the middle of a couplet (Vs. 50–53), which is also in the middle of a semantically defined paragraph. The motivation for this divider is unclear; perhaps it was drawn to aid the scribe in ending the first side of the tablet with a paragraph break, without leaving blank lines at the end, as this divider comes in the middle of the final paragraph on this side. The divider might also have been drawn in order to keep the lines of text horizontal, as the previous textual lines had begun to slant upwards and the lines after this break are closer to horizontal. This location for the divider may have been chosen because the couplet being broken would likely still be recognizable as a unit because both lines begin with the same word, *tab-re-e-en<sub>6</sub>-ni*.

Metrical lines within groups forming a semantic and syntactic unit have a greater similarity in syllable count than is found across the whole poem, which further supports the argument for such groups.<sup>4</sup> If this poem had no couplet structure, then the difference in syllable count between lines in groups forming semantic and syntactic units, henceforth referred to as “natural groups,” should not be significantly different from the difference in syllable count between lines in “artificial groups,” formed by randomly assigning lines to groups to form the same number of couplets and tercets as occurred in the natural groups: five tercets and thirty-three couplets. In calculations, pairs with the catalectic line in example [6] were omitted, because catalectic lines are by definition not meant to match the length of other lines. Couplets which occur repeatedly were only counted once, though couplets were counted independently if they differed by at least one word or occurred in different contexts such that alternative couplet assignment would produce non-identical couplets. This resulted in eighty-one lines for comparison.

The average differences in syllable count between grouped lines for natural groups is 0.86 syllables<sup>5</sup> (sd = 0.86 syllables) and for artificial groups is 1.28 syllables (sd = 0.88 syllables); the difference is statistically significant (*p* value = 0.029).<sup>6</sup> 35% of naturally grouped lines

4. This pattern of couplet-dependent variability in line length has a parallel in Tamil epics, in which lines have a strong tendency to match in syllable count and metrical pattern within couplets, with greater variability between couplets (Ryan 2011).

5. However, one might worry that matching of line length within semantic groups is a side effect of parallelism. In Job 1–2 (cf. Green 1983), an example of a couplet/tercet meter without isosyllabism, lines defined syntactically and semantically defined couplet or tercet is 4.5 syllables, significantly smaller than the average difference between artificially paired lines, 7.3 syllables (*p* = 0.014). Rigorous parallelism can produce patterns of line length similarity within couplets. Parallelism within the Boğazköy Parables is less consistent. The relationship between line length and couplets cannot be found in Hurrian prose; see n. 15 for a description of syllable count in the Mittani letter, a Hurrian example of stylized prose.

6. This result depends on the randomly generated groupings; it is possible to generate different random groups in which the difference does not reach significance. Notably, significantly greater similarity in length within natural

match exactly in length, while 21% of the artificially grouped lines do. There is no trend to suggest that there might have been a pattern for either the first or second of a pair of metrical lines to be longer. The tercets also exhibit no consistent pattern in where their differences lie.

As a starting point for syllable count calculations, each written vowel or sequence of identical vowels was treated as a single phonetically realized vowel; each sequence of three different vowels in which the middle vowel was high was treated as two syllables, divided by a glide; and each sequence of two adjacent vowels was treated as a monosyllabic diphthong. The first and second of these are standard, fairly uncontroversial assumptions, but the third assumption has been the matter of some discussion, which has not yet yielded a clear answer (see Wegner 2007: 48, Giorgieri 2000: 188).

### 2.3 Problematic Lines

There are a few sections which pose potential problems for the meter because they do not easily break into metrical lines of four stresses; these lines will be addressed here to establish what analysis has been used in these unclear cases and which lines have been omitted in analysis based on being too uncertain.

Most apparent exceptions to the pattern of four stressed syllables per line can be resolved by a small set of explanations. First, one must allow that sometimes metrical lines were composed of two or more short sentences, as in example [2]. The allowance for a strong syntactic break mid-line is similar to the Akkadian meter, in which a syntactic break divides each line into two smaller units, or cola (Hecker 1974: 108), each of which contains two stress units of a single word or a phrasal group (Buccellati 1990: 109–11).

[2] Rs. 3–4

S	S	S
te-ḫé-eš-tab	ta-al-mu-u-ṽa-ab	at-ta-i
teḡ=ešt=a=b	talmōv=a=b	atta(i)=j
grow=CAU=INTR=3sg	big=INTR=3sg	father=3sg.POSS

S

a-mu-u-lu-tu-u-um  
am=ūl=ud=ō=m  
look=DUR=NEG=TR.PRF=3sg

“He grew big. He did not look at his father.”

It is possible that long sentences could be divided over two metrical lines, with a clausal break at the line break, as in [3]. The connective =ma, in addition to being a conjunction, could occur at the beginning of a sentence to indicate a relationship to the actions of the previous sentence, so such examples may not even require this allowance.

[3] Vs. 47–49

S	S	S	S
a-a-i	ta-bi-ri-pu-ú-i	š-u-ni	si-ik-ku-ú-ul-li
āi	tav=ir(i)=ifū=we	šōni	sikk=ūl=le
if	cast=AG.ABS=1sg.POSS=GEN	hand.ABS	break=DUR=1sg.OP

“If only I could break my caster, his hand”<sup>7</sup>

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groups of lines is also found in comparison with a quasi-random grouping of neighboring lines that are not semantically or syntactically connected.

7. Partitive apposition. Although Hittite also allows this construction, it is not used in the Hittite translation of this clause.



S	S	S	S
e-ḫé-ep-šu-ul-li-ma	e-ke-e-ni	pa-an-ta-ni	ḫé-e-ra-a-ri
eḡeps=ul=le=ma	eḡē=ne	fanda=ne	ḫērār=i
break=DUR=1sg.OP=CONN	within=LOC	right=REL	arm=THV

“and I could break his right arm inside.”

Some lines contain five words instead of four, as shown in example [4]; however, many such lines do not contain five stressed syllables, because it seems that attributive demonstratives (e.g., andi ‘this’) and attributive quantifiers (e.g., šinzi ‘second, other’) were consistently unstressed. Clitics do not seem to attach to these words, which is further consistent with a lack of stress. On the other hand, the Hurrian conjunction āi ‘if’, which clitics also do not attach to, does seem to bear stress, as seen in [3]. For comparison, the placement and spelling of Hittite sentential clitics in poetry and in prose suggests that these items never bore their own stress (Kloekhorst 2011: 160–62).

[4] Vs. 18–19

	S	S	S	S
an-ti	ta-a-ḫi	ma-a-an-ni	a-ar-ti-i-ta-ni	du-ú-ri
and=i	tāḡ=i	mānn=i	ārd(i)=j=dani	tūr=i
this=THV.ABS	man=THV.ABS	is=STAT	city=3sg.POSS=ABL	go.down=3sg

“He is this man; he ran away from his city.”

Other metrical lines with five words actually seem to have contained five stresses, because there are no function words providing likely candidates for words that lack underlying stress nor phrasal units likely to bear a single stress. There are four clear cases of such lines, forming two couplets, both times corresponding to someone uttering a curse. The ends of these lines are marked by *Winkelhaken*. Thus it seems possible that there was a distinct curse meter with five stressed syllables per line (Bachvarova 2011: 296). Example [5] demonstrates a pair of such lines. Another possible case of a pair of five-syllable lines occurs in Vs. 4–6, of which only the second line is a curse; see example [7] and the surrounding discussion.

[5] Vs. 56–59

S	S	S	S	S
i-ti <sub>7</sub> -i-e	ka-a-zi	te-eš-šu-u-pa-aš	e-el-ki	sà-am-ma-la-aš-du-uš
id=i=e(n)	kāz=i	Teššōb=až	ēlgi	samm=al=ašt=ož
strike=TR=3sg.JUS	cup=THV	Teššub=ERG	coat	tear=UNCL=PAT=OP

“May Teššub strike the cup; may the coating be torn off.”

S	S	S	S	S
ku-ú-du	ka-a-zi	pé-el-le-e-ni	e-él-ki-il-la	ši-i-e-ni
kūd=o	kāz=i	pellē=ne	ēlg(i)=i=lla	šīe=ne
throw=PAT	cup=THV	canal=LOC	coat=3sg.POSS=3pl.ABS	water=LOC

“May the cup be thrown into the canal, its coatings into the water.”

There is also one metrical line which appears to have only three stressed syllables, as it contains only three words. It appears twice at the end of a section, in the couplet given in example [6]. It is likely that this three-syllable line was permitted as a marker of the end of a stanza (Bachvarova 2011: 296). The first two words of this line form a syntactic unit, which might suggest that the final stress is the one that is missing. Catalexis, in which lines at the ends of stanzas have one fewer syllable than is typical elsewhere in the text, is common cross-linguistically (Golston and Riad 2005: 106). The same three-word sequence from this line also occurs one other time in a position where line breaks are unclear, given in [9].

[6] Rs. 3–5

S	S	S
te-ḫé-eš-tab	ta-al-mu-u-ṽa-ab	at-ta-i
teḡ=ešt=a=b	talmōv=a=b	atta(i)=j
grow=CAU=INTR=3sg	big=INTR=3sg	father=3sg.POSS

S

a-mu-u-lu-tu-u-um  
am=ūl=ud=ō=m  
look=DUR=NEG=TR.PRF=3sg

“He grew big; he did not look at his father.”

S	S	S
at-ta-i-bi-né-eš-ša	e-né-eš	ši-ti-la-a-i
atta=i=we=ne=ž=na	ene=ž	šid=i=lāi
father=3sg.POSS=GEN.REL=ERG=3sg.ABS	god=ERG	curse=TR=GER

“The god of his father cursed him.”

An alternative approach to reconciling this line with the four-stress meter would be with secondary stress, but there is nothing to motivate an additional stressed syllable in this line and not in other lines.

There is also a problematic three-word phrase; in addition to being syntactically and semantically not fully understood, this phrase also poses problems for syllable count.<sup>8</sup> The phrase appears four times; in three of these appearances (two of them in identical lines), its position is clear based on the surrounding phrases, always as the first half of a metrical line, as in example [7]. In the first occurrence of this phrase, given here, it may be part of a group with the five-stress curse meter, as it introduces a curse and the following line also seems to contain five stressed syllables, as long as āi ‘if’ contains a stressed syllable.

[7] Vs. 3–4

S	S	S	S
ṽu-ú-ru	te-e-lu	tap-šu-ú	pa-pa-an-ni
pūr=u	tēl=u	tapš=ū	faban(i)=ne
see=INTR <sup>9</sup>	rebel=INTR	burn=INTR	mountain=REL.ABS

S

ši-ta-ri-il-lu-u-um  
šid=ar=ill=ō=m  
curse=IT=INCH=TR.PRF=3sg

“He looked [at another mountain]; he rebelled; he burned/was angry. He began to curse the mountain.”

In [8] and the other instance of the same line, this phrase behaves metrically as if it contained only two stressed syllables, as it is paired with a four-word line. The explanation for the scansion of this line may lie in elision, if vowels marked by plene were indeed susceptible to elision (see §2.4.2). Elision in *tápšū árd(i)j* would result in two adjacent stressed syllables. It is possible that stress would shift leftwards in such cases to prevent stress clash (see §2.5.2); however, stress shift could not prevent stress class here, because all words

8. The analysis adopted here primarily follows Giorgieri 2001: 132–33 and Haas and Wegner 2007: 353–54.

9. The function of this =u morpheme is not entirely clear, beyond probably marking intransitive verbs (cf. Wilhelm 1992: 138; Giorgieri 2000: 228; Wegner 2007: 130).

preceding the sequence of stressed syllables contain only two syllables, which may have led instead to stress loss, i.e., tapš ārd(i)j. However, due to the limited evidence for this process, I do not assume it in my analysis.

[8] Rs. 15–17

S	S	S
te-li-ip-pa	ḥa-a-u-li-ma-a-i-in	a-ar-ti-i-ta-an
tel=i=b=ma	ḥā=ol=i=māi=n	ārd(i)=j=dan
enlarge=TR=3sg=CONN	take=DUR=TR=GER=UNCL	city=3sg.POSS=ABL
S		
e-ra-a-na		
erān=a		
gift=ESS		

“Taking (it), he enlarged the gift from the city.”<sup>10</sup>

S	S	S	S
ūu-ú-ru	te-e-lu	tap-šū-ú	a-ar-ti
pūr=u	tēl=u	tapš=ū	ārd(i)=j
see=INTR	rebel=INTR	burn=INTR	city=3sg.POSS
			look=DUR=NEG=TR.PRF=3sg

“He looked [at another city]; he rebelled; he burned/was angry. He did not look at his city.”

The other instance of this phrase has a less obvious position within a line, because it is part of a group of lines which do not lend themselves to a neat division into four-syllable lines, given in [9]. These lines are preceded by a Winkelhaken and thus seem to be a metrical group which cannot be resolved by including surrounding material.

[9] Vs. 19–22

u-ul-ūi-ne-e-ma	a-am-mi-i-ib	u-um-mi-in-ni
ōlvi=nē=ma	āmm=i=b	ōmmin(i)=ne
another=REL=CONN	look=ANTIPASS=3sg	land=LOC

“He was looking at another country.”

ūu-ú-ru	te-e-lu	tap-šū-ú	a-ar-ti-i-ma	a-ma-ri-il-lu-u-um
pūr=u	tēl=u	tapš=ū	ārd=i=ma	am=ar=ill=ō=m
see=INTR	rebel=INTR	burn=INTR	city=3sg=CONN	harm=IT=INCH=TR.PRF=3sg

“He looked; he rebelled; he burned/was angry, and he began harming his city.”

a-ar-ti-bi-né-eš-ša	e-ne-eš	ši-ti-la-a-i
ard=i=j=we=ne=š=na	ene=ž	šid=i=lāi
father=3sg.POSS=GEN=REL=ERG=3sg.ABS	god=ERG	curse=TR=GER

“The god of his father cursed him.”

If the lines are divided to keep the phrase pūru tēlu tapšū together in a metrical line, the result is two lines with three stressed syllables and one line with five stressed syllables, though if the stress loss described for example [8] has also occurred here, the second line would have four syllables.

The final phrase in this sequence is identical to the three-stress line discussed above and given in [6]; this parallel as well as its position at the end of a horizontally delineated paragraph suggest that it could be reasonable to analyze this unit as a catalectic line marking the end of a stanza. However, there are no parallels to justify a three-stress line within the

10. Following Campbell 2007: 353.

middle of a paragraph, so the syntactically predicted line divisions given in [9] are metrically problematic.

It might be possible to split *pūru tēlu tapšū* over two lines in order to supply the missing stress of the first line in [9], if this phrase can behave both as a unit and as a series of independent verbs and can have different realizations of stress based on elision and stress retraction or other phonological processes conditioned in [8] but not in [9]. In the absence of clear evidence for how to break it into metrical lines, I will omit these lines from analysis.

#### 2.4 *Phonological and Orthographic Features*

If one assumes that in the poem as written, every couplet and tercet was internally consistent or nearly consistent in the syllable count of its metrical lines, several potential features of Hurrian phonology or spelling conventions can be identified. In some places, it is apparent which part of the line must be the location for an alternative reading of syllable count, based on partially repeated couplets which differ in only one or two words. These features can also reduce some of the apparent long sequences of unstressed vowels.

Identifying spelling conventions is hindered by the variability in some aspects of Hurrian spelling and the limitations in vowel information from syllabic and consonantal writing systems, which make testing a hypothesized spelling convention difficult. Fortunately, logograms are infrequent, so there is rarely the additional problem of determining the underlying Hurrian word; the one logogram that appears in the Parables is <IGI> ‘eye’, which is reliably established as having a Hurrian value [ši] (Wilhelm 1998: 174, Wegner 1995: 124–25).

##### 2.4.1. *Disyllabic Vowel Sequences*

The first analysis to be considered is that plene writing could be used to mark a consonant, possibly a glottal stop, in parallel to the Akkadian usage, in which word-internal glottal stops could be marked by plene or by sequences where a vowel was written independently instead of in a VC sign with the following consonant. The Akkadian glide [j] could also be written with <a> signs. In many cases, the same spellings used to mark these consonants could also be used for writing vowel sequences (Huehnergard 2011: 211). It is unclear whether diphthongs existed in Hurrian or if there was a consonant between orthographically adjacent vowels, perhaps a glottal stop (Wilhelm 2008: 85) or a glide (Wegner 2007: 48). Though a glottal stop is not generally included in hypothetical phonological inventories (Wegner 2007: 46–47, Wilhelm 2008: 84–85), Wilhelm suggests that it could have been part of the Hurrian phonological inventory, which could explain why certain vowel sequences seem to be disyllabic (Wilhelm 2008: 85).<sup>11</sup> Treating every orthographic sequence of two different vowels as disyllabic does not produce strong consistency of line length within couplets of the Parables, which may suggest a contrast between diphthongs and vowel sequences separated by a glottal stop.

Hurrian texts in the consonantal Ugaritic alphabet can contribute to resolving how to treat vowel sequences, although there are relatively few Hurrian words known in both writing systems and interpretation of these consonantal Hurrian texts is often uncertain. Ugaritic had three “aleph” signs for a glottal stop + vowel: <sup>?</sup>a, <sup>?</sup>i, <sup>?</sup>u (van Soldt 2010: 124–25). Some words are consistently written with these aleph signs, e.g., *h<sup>?</sup>urn* for [haurun] ‘heaven’ (Dietrich and Mayer 1999: 66), but many words are spelled variably with <w> and with <<sup>?</sup>u>, which may reflect a glide or a glottal stop and a vowel (Lam 2011: 149), though the Ugaritic

11. Perhaps the glottal stop was lost late during the recorded history of Hurrian. This might explain why the <a-e> vowel sequence of the instrumental, for example, generally seems to be disyllabic (Wilhelm 2008: 85), though in later Hurrian it tends to be written as a single vowel (Diakonoff 1985: 598).

glottal stop + vowel signs may have represented simple vowels in Hurrian texts, as Speiser (1940) asserts.

Hurrian words which appear both in the Ugaritic alphabet and the cuneiform syllabary provide evidence for interpreting these signs. For example, <𐎎𐎗𐎎> has been interpreted as a form of ‘man’, followed by suffixes; this stem was rendered in syllabic cuneiform as <ta-a-e> (Lam 2011: 161–62), which is consistent with an analysis as [taʔe/i]. The consonant that was marked by plene in Hurrian might also have been a glide, as suggested by the name Šauška, written as <𐎗𐎎𐎗𐎗𐎗𐎗> in the Ugaritic texts (Lam 2011: 149) and as Šawuška (dʒša-wu-uš-ga) in later Hittite (Beckman 1998: 1).

Aleph signs are consistently used for vowel-initial Hurrian words in alphabetic texts (Lam 2011: 149), but this does not necessarily indicate that all apparently vowel-initial Hurrian words actually began with glottal stops, as there is no clear parallel elsewhere in cuneiform for this usage. The phonological status of word-initial glottal stops in Akkadian is unclear; they might not have been phonologically contrastive in this position, so interpretations of word-initial VC or V-VC are varied (Buccellati 1996: 24–26), while in Sumerian a glottal stop is generally not included in the phonological system at all (Edzard 2003: 14–21).

Example [10] demonstrates the context and effect of positing glottal stops in orthographic sequences of a plene vowel before another vowel:

[10] Vs. 31–32

[na-a]-li	ma-a-an-nu-u-bur	ma-[a-an-n]i	tar-šu-ua-a-ni
nāl=i	mān=ō=vor	mānn=i	taržuvān=i
deer=THV.ABS	is=THV=NEG	is=STAT	man=THV

“It is not a deer; it is a man.”

Syllable count: 11

[ḫal-zu-u]ḫ-la	ma-a-an-ni	e-eb-re-eš	na-a-ḫé-la-a-i
ḫalz(i)=ō=ḡl(i)=a	mānn=i	ēvr(i)=j=š	nāḡ=e=lāi
district=THV=lord=ESS	is=STAT	lord=3sg.POSS=ERG	appoint=TR=GER

“As a district administrator, his lord appointed him.”

Syllable count: 10

Syllable count if =lai is disyllabic: 11

The most common vowel sequence with a plene vowel is <Ca-a-i>. It is possible that other plene vowel sequences also could have been disyllabic, but they are uncommon and the effect of reanalyzing them as disyllabic is small, so I have not included them here. The <a> vowel is particularly useful because interpretation is not complicated by the ambiguity of spellings which are used both for high vowels and for glides. In vowel sequences with plene high vowels, it is sometimes clear that the vowel sign is to be read as a consonant, based on alternative spellings of a word, but it is sometimes unclear whether a vowel sign is best interpreted as reflecting a vowel or a glide. The interpretation of high vowel signs also depends on the conditions assumed for the high vowel diphthongization rule proposed in §2.4.3.

Table 1 shows how positing disyllabic vowel sequences influences the matching of line length within groups of metrical lines. For comparison, the average difference in artificially grouped lines is given; it remains consistently higher than the difference between naturally grouped lines. Although the effect of applying this rule alone is small or negative, the effect is stronger in combination with the other rules, as is shown in Table 4.

Table 1. Average difference in number of syllables within groups of metrical lines, with disyllabicity

	un-amended	disyllabic Ca-a-i	disyllabic Ca-a-i (except =māi)	disyllabic Ca-a-i (except =māi and āi)
natural groups	0.86	0.95	0.84	0.86
artificial groups	1.28	1.35	1.26	1.19

How to interpret vowel sequences seems to depend on the particular morpheme, as one morpheme may have vowels divided by a consonant and another may have a diphthong: =la-a-i consistently scans better as disyllabic, and =ma-a-i consistently scans better as monosyllabic. The patterns of how they are spelled also differ. The variants =ma-a-i and =ma-i both occur, but =la-i never occurs; if plene indeed can reflect a consonant, perhaps this usage was more consistent than plene marking vowel length. If the <a-i> vowel sequence is interpreted in both cases as derived from the instrumental, as Neu (1996: 108–9) suggests, it is surprising that the result would be different in these two places. Perhaps a glottal stop was present in the sequence preceding the instrumental in <la-a-i>, i.e., /laʔ + ai/, but not in <ma-a-i> /ma + ai/. A difference in the syllable count of these two suffixes might help explain their distribution, which is not clearly motivated by differences in meaning, as both mark gerunds.

The number of syllables in the conjunction āi ‘if’ is unclear. This word appears four times within the text; three of the instances are in variants of a partially repeated line. In these three cases, disyllabicity of āi would improve syllable-count matching within line groups, but would result in a sequence of four unstressed syllables, which does not occur elsewhere in the poem. Example [11] gives one of these lines. The fourth instance of āi also produces the best line-length match within its group if it is disyllabic.

#### 2.4.2. Elision

The next process to be considered is elision, the elimination of word-final vowels when followed by a vowel within a metrical line. Elision in Hurrian poetry has previously been suggested based on patterns of line lengths in IBoT 2.39 (Thiel 1975: 253). This has parallels in the observed phonology, as vowel loss could occur word-internally in certain morphological conditions. The exact conditions for word-internal vowel loss have not yet been definitively identified; it may only occur with the theme vowels /a/ and /i/ (Wilhelm 2008: 86). The clearest results for elision between words in this text are also with the vowels /a/ and /i/, but this may just reflect the high frequency of these vowels word-finally. For the sake of consistency, in the absence of phonetic justification for restricting elision to these vowels, it is assumed that all vowels could elide, though elision of /e/ has no net effect and elision of /u/ has a negative effect. For the high vowels, the effect of elision might overlap with the effect of the high vowel diphthongization rule proposed in §2.4.3, if that process could apply between words as well as within them. Example [11] demonstrates the context and effect of positing elision:

- [11] Rs. 58–59  
 a-a-i ši-ja-li-ri-pu-ú-i                      šu-u-ni                      sí-ik[-k]u-ul-li  
 āi sijal=ir(i)=ifū=we                      šōni                      sikk=ul=le  
 if build=AG.ABS=1sg.POSS=GEN hand.ABS break=DUR=1sg.OP

“If only I could break my builder, his hand”

syllable count: 12

e-ḥ[é-e]p-šū-ul-li-i-ma      i-ke-e-ni      pa-an-ta-ni      ḥé-ra-a-ri  
 eḡepš=ul=le=ma      eḡē=ne      fandan-i      ḥērār=i  
 break=DUR=1sg.OP=CONN      within=ABL.sg      right=THV      arm=THV

“and I could break his right arm inside.”

syllable count: 14

syllable count after elision: 13

If elision was indeed at work, it did not occur across metrical line breaks. It is possible that elision also failed to occur at line-internal syntactic breaks, but there is limited evidence for the outcome of vowel sequences in this environment; many lines do not contain a clear internal syntactic break. Line-internal breaks have different effects in different poetic traditions; in Latin, sometimes the caesura, a metrically required break, could license hiatus that would elsewhere be resolved by elision, though hiatus was generally simply avoided (Sturtevant 1916: 35). There seems to be no tendency in the Hurrian Parables to prevent a vowel sequence from occurring at syntactic breaks and strong syntactic breaks do not seem to preclude elision, though it is possible that they could license hiatus. If mid-line syntactic breaks could optionally block elision, the lines could be improved further; however, I wish to be cautious about positing optional rules, because the text is too short to identify patterns in support of rules which did not apply systematically.

Table 2 shows how applying the elision rule influences syllable-count matching within groups of lines, as well as how allowing optional hiatus at the mid-line syntactic break would further improve this matching. Although the improvement produced by the assumption of the elision rule alone is negative, applying this rule in conjunction with other rules will show a clearer result, as will be shown in Table 4.

Table 2. Average difference in number of syllables within groups of metrical lines, with elision

	un-amended	with elision	with optional hiatus at break
natural groups	0.86	0.91	0.70
artificial groups	1.28	1.28	1.26

#### 2.4.3. High Vowel Diphthongization

The last process to be considered is high vowel diphthongization. I suggest that high vowels became glides when followed by another vowel word-internally, reflected in the spelling by a high vowel followed by a glide.

To verify this rule would depend on knowledge of underlying sounds which orthography does not always mark unambiguously. <ḡ> signs were sometimes to be read as labial fricatives or stops instead of glides; in some words, the <ḡ> signs alternate with <p> and <b> signs (Speiser 1940: 326–29). In words with few attestations, a lack of alternation is not sufficient reason to assume that the sign reflects a glide. Both /j/ and /w/ could be written with high vowel signs (van Soldt 2010: 121). In Hurrian texts, <u> signs were also sometimes to be read as /o/, though in this text they tend to be written distinctly (Neu 1996: 20–21). Signs representing /i/ and /e/ were not generally distinguished in Hurrian, with only a few <CV> and <VC> signs with a strong tendency to be restricted towards /e/ (Giorgieri and Wilhelm 1995: 37–39). The established readings of high vowels versus mid vowels in particular morphemes generally match up with places in the text where assumption of the gliding rule improves the matching of metrical line length or not, which is a point of support for the existence of this rule. If confirmed, this rule also provides a distinct line of evidence for the reading of vowel qualities.

I propose that a high vowel diphthongization rule applied where an underlying high vowel occurred before another vowel, i.e.,  $uV > wV$  and  $iV > jV$ . There is a reduction process like this in Babylonian poetry, in which the vowel /i/ could become a glide before other vowels, but such sequences could also remain disyllabic (von Soden 1981: 167). A glide also likely occurred in Hittite to break up VV sequences (Kloekhorst 2011: 159).

Following this phonological process, an orthographic convention may have developed in which glides between a consonant and a vowel were written as if preceded by a homorganic high vowel. This is consistent with the lack of cases where there is a sequence written with a consonant followed by a glide where the glide sign is to be interpreted as a glide.<sup>12</sup> The spelling would have been facilitated by the ambiguous values of signs for high vowels and glides. Example [12] demonstrates the effect of interpreting <ijV> and <uwV> sequences as monosyllabic, in /šēduilianeš/ > [šēduiljanež].

[12] Vs. 9–11

na-a-li      pa-pa-an-ni-iš      ši-ta-ar-na      ku-lu-u-ru-um  
 nāl=i      faban(i)=ne=ž      šid=ar=n(e)=a      kul=ūr=o=m  
 deer=THV    mountain=REL=ERG    curse=IT=REL=ESS    say=INDV=DUR=3sg

“The mountain said curses to the deer”

syllable count: 11

i-ja-a-at      še-e-du-i-li-ja-ni-iš      ši-ta-a-ra      na-a-al-li-iš  
 ijā=t(ta)      šēdu=ili=a=ne=ž      šid=ār=a      nāl(i)=ne=ž  
 why=1sg    grow=PASS.PRT=UNCL=REL=ERG    curse=IT=3sg    deer=REL=ERG

“Why does the deer, grown fat, curse me?”

syllable count: 12

syllable count if the internal <ij> is nonsyllabic: 11

If this rule was present, it could clarify some of the conditions in which the internal elision rule applied and what the underlying sounds in given words were, based on the different outcome which each combination of assumed rules and sounds would predict. Because it would only occur with high vowels and glides, and not mid vowels or labiodental fricatives, it could also establish the pronunciation of ambiguously spelled words or confirm pronunciations that have been assumed for other reasons. It could alternatively be imagined as an optional rule applied when metrically necessary, perhaps as an extension of an existing phonological process in the spoken language. I include the results of making this assumption, though I still wish to maintain a distinction between the results that can be achieved by applying rules systematically and those that can be obtained by applying rules optionally, because the results of the latter, while superficially greater, are less meaningful. Table 3 presents the results of applying the high vowel diphthongization rule consistently or optionally.

Table 3. Average difference in number of syllables within groups of metrical lines, with high vowel diphthongization

	un-amended	/i/ gliding	/i/ and /u/ gliding	optional gliding of /i/ and /u/
natural groups	0.86	0.86	0.95	0.70
artificial groups	1.28	1.26	1.37	1.28

12. There are, however, places where <uV> signs occur after VC signs when the <u> is to be read as a labial stop or fricative, as in example [1]. The final sign of the morpheme =ppa varies between <u> 42% and <pa> 56% in the twelve times it appears in this recurring couplet. The preceding sign is always <ap>, which is why the consonant is taken to be [p], though [f] might also be imagined.



Although the data are not improved by the application of this rule alone, the rule fares much better when applied together with the previous rules, as will be seen in the following discussion and Table 4. There are also some individual words in which this process does not seem to be reflected, most notably taržuvāni ‘man’, which occurs five times in this text and in all of them is best treated as containing four syllables, which may warrant further consideration of the characteristics of its antepenultimate vowel or the following consonant, or may indicate that there was a contrast between /uwa/ [uwa] and /ua/ [wa], even if both were spelled the same way.

#### 2.4.4. Net Result

While each rule alone has a small effect, together they work to improve the matching of line length within couplets more than each one independently. The following table shows the cumulative effect as each rule is applied. For the first three rules, I include only changes made if they are applied without exception. The next column is based on interpretations for two individual morphemes based on the presence or absence of a glottal stop within them: that the gerund morpheme =mai is monosyllabic, and that the morpheme =iri ‘one who does X’ begins with a glottal stop. Both appear six times, and in each case, making this assumption improves the matching of syllable count. Assuming that the agent-deriving morpheme was /ʔiri/ means that when it followed a vowel, the resulting vowel sequence would be disyllabic, although neither vowel is doubled in the spelling of such sequences. It is noteworthy that all apparent cases of disyllabic Ca-a-i are found within a morpheme, so it is possible that plene spelling to mark glottal stops was not used across morphemes. In the column for optional rules, elision and high vowel diphthongization are treated as permitted but not required.

Table 4. Average difference in number of syllables within groups of lines, with all of the preceding rules

	un-amended	disyllabic Ca-a-i	elision	high vowel gliding	ʔ in specific morphemes	optional rules
natural groups	0.86	0.95	0.86	0.72	0.60	0.35
artificial groups	1.28	1.35	1.30	1.35	1.26	1.09

After applying these rules, the range in metrical line length is unchanged (10–15 syllables), but the maximum difference within naturally grouped lines is reduced from four to two syllables. If the optional and word-specific rules are also applied, the maximum difference between naturally grouped lines is one syllable. Optional rules allowing flexibility in number of syllables and placement of stress in a meter are not uncommon (Halle and Keyser 1971: 149), so including them here has parallels from other traditions. However, it can be unclear how to interpret such rules in written poetry; they can indicate variation in pronunciation to fit the meter (Kiparsky 1977: 243–44), but they can also indicate tolerance for variation in the meter, reflecting no phonetic change (Halle and Keyser 1971: 141). Furthermore, it is impossible to check such rules within a small corpus, and thus there is a risk that they could provide apparent explanations which do not reflect actual rules of Hurrian composition. With this caveat in mind, they are nonetheless interesting to consider, so I have given them independently from the systematically applied rules, to give an impression of some possible processes that may have allowed groups to match exactly.

#### 2.5 Stress Patterns and Syllable Count

The meter of the Boğazköy Hurrian Parables seems to be more restricted than just in the number of stressed syllables per metrical line and the similarity of line lengths within a group.

It has been suggested by Thiel (1975: 250–56) as well as others subsequently (e.g., Haas and Wegner 2007: 348, Neu 1988: 247, Wilhelm 1991: 42–43) that the pattern of unstressed syllables contributes to the meter for several Hurrian texts, with a tendency for metrical lines to contain a similar number of syllables. Wilhelm (1991) observed that the prayer of Tadoḫeba (ChS I/1 41) has been divided into units of about seventeen syllables each.

It has also been suggested that there was a syllable-counting meter in the earlier works of Old Babylonian and in Sumerian, though ambiguity in the orthography hinders detailed scansion. Von Soden (1981: 169–71) observes that in Sumerian, stressed syllables were often separated by one to two unstressed syllables and metrical lines tended to end with a trochee. However, the apparent prevalence of stressed penultimate syllables may also be the result of the frequency of penultimate word stress (Hecker 1974: 108).

Syllable-counting meter has also been proposed for Hittite, though such metrical analysis is hindered by unresolved questions of stress and vowel length in Hittite (Edzard and Wilhelm 1997: 150). The Song of Neša is one likely candidate for syllable-counting meter (Melchert 2007: 128, Eichner 1993: 104); some other possibilities are the incantation of the Ritual of Iriya (Melchert 2007: 129–30) and the Song of Ullikummi (Güterbock 1951: 142–43).

### 2.5.1. *Dolniks*

A pattern of stress placement within lines is apparent in the Boğazköy Hurrian Parables: two adjacent stressed syllables are avoided, as are more than three unstressed syllables between stressed syllables. This pattern is similar to the dolnik meters found in Russian, German, and English, which usually allow zero to two unstressed syllables preceding the first stressed syllable and one to two unstressed syllables between stressed syllables (Gasparov 1963: 96–97), though some allow up to three. Dolniks are not just loose syllabotonic meters; they exhibit distinct patterns of their own. They tend to avoid having a high percentage of the same pattern of stressed and unstressed syllables and Russian dolniks avoid having any line with unstressed intervals all of the same lengths (Tarlinskaja 1992: 2–12).

The phonological processes proposed in the previous sections produce a pattern with fewer exceptions than would be present in the un-amended text, but following the same trends. In this analysis, I assume disyllabicity of Ca-a-i except in =mai, elision of the first of two neighboring vowels across a word boundary, gliding of high vowels preceding other vowels, a consonant beginning =iri, and no optional processes. For a summary of the metrical lines before and after these emendations, see Appendix B.

### 2.5.2. *A Hurrian Dolnik*

The Hurrian meter can be neatly described based on rules very similar to those of modern Slavic and Germanic dolniks. The meter of the Hurrian Parables allowed one to three unstressed syllables between stresses and allowed up to two unstressed syllables preceding the initial stressed syllable. There are no metrical lines containing only unstressed intervals of one length. Metrical lines consistently ended with a final unstressed syllable preceded by a stressed syllable. An example of a couplet is given in [13].

[13] Vs. 31–32

S	w	w	S	w	S	w	w	w	S	w
[na-a]-li		ma-a-an-nu-u-bur		ma-[a-an-n]i		tar-šu-ṽa-a-ni				
nāl=i		mān=ō=vor		mānn=i		taržuvān=i				
deer=THV.ABS		is=THV=NEG		is= STAT		man=THV.ABS				

“It is not a deer; it is a man.”

w	S	w	S	w	S	w	w	w	S	w
[ħal-zu-u]ħ-la			ma-a-an-ni		e-eb-re-eš		na-a-ħé-la-a-i			
ħalz(i)=ō=ħl(i)=a			mānn=i		ēvr(i)=i=ž		nāġ=e=lāi			
district=THV=lord=ESS			is= STAT		lord=3sg.POSS=ERG		appoint=TR=GER			

“As a district administrator, his lord appointed him.”

Stress assignment is generally clear; it depends on whether elements following a root are suffixes and thus part of the accentual unit, or clitics, which do not influence accentuation. The stress pattern of some lines remains unclear; these lines as well as lines which don't have exactly four syllables have been omitted from these calculations, leaving a total of sixty-eight lines.<sup>13</sup>

Table 5. Number of unstressed syllables following each stress in 4-stress lines, by position

	first stress	second stress	penultimate stress	last stress
one	17	37	7	68
two	43	29	39	0
three	8	2	22	0

Many dolniks have a tendency to have a single unstressed syllable in the final interval between stressed syllables (Tarlinskaja 1992: 6–12). In this text, all metrical lines end in a trochee; a tendency for this would be expected as a result of penultimate stress in Hurrian, but it appears that clitics were consistently avoided at the end of a line. A tendency for final trochees in metrical lines is also observed in poetic traditions of other languages of the ancient Near East in which there is no phonological motivation for this metrical stress pattern, which could potentially suggest a Hurrian origin for this metrical feature.

The other intervals between stressed syllables also exhibit tendencies as to how many unstressed syllables occur; these different patterns seem to be part of the meter. The pattern of unstressed syllables in each of these intervals is significantly different from the pattern in other intervals. A  $\chi^2$  test demonstrates this significance: between the first and second stress,  $p = 0.001$ ; between the first and third stress,  $p = 0.0043$ ; between the second and third stress,  $p < 0.001$ .

As in other dolniks, metrical lines may have zero to two unstressed syllables preceding the initial stressed syllable. 49% of lines have no initial unstressed syllables, 32% of lines have one initial unstressed syllable, and 18% of lines have two. However, there is one line, given in [14], which seems to have three unstressed initial syllables.

[14] Rs. 14–15

w	w	w	S	w	S	w	S	w	w	w	S	w
a-mu-ú-mi-ne-e-ya			ma-a-an-ni		e-eb-re-eš		na-aħ-ħi-la-a-i					
amūmi=nē=va			mānn=i		ēvr(i)=i=ž		nāħħ=i=lāi					
administrator=REL=DAT			is= STAT		lord=3sg.POSS=ERG		appoint=TR=GER					

“As administrator, his lord appointed him.”

The resolution of the stress pattern in this line may be elision and consequent stress shift. Elision in this line would produce a sequence of two adjacent stressed syllables, which may indicate either that hiatus is permitted when elision would produce stress clash, or else stress

13. āi ‘if’ is treated as being monosyllabic; were it disyllabic, there would be three cases of four adjacent unstressed syllables.

could shift left when elision would leave two stressed syllables adjacent. In this line, stress shift to resolve stress clash would have to be recursive and permitted across words, with the second stress moving to the end of the first word and the first stress moving to antepenultimate position, resulting in the single remaining syllable of mānn=i being unstressed and amūmi=nē=va containing two stressed syllables. A simpler case of apparent stress shift is found in [15].

[15] Vs. 23–24

S	w	w	w	S	w	S	w	w
ku-u-le-eš		an-ti		ti-i-ib-ša-a-ri		u-la-	ap-ūa	
kōl=e=ž		and=i		tīp=šār=i		ol(i)=a=ppa		
set.aside=2pl.IMPT		this=THV.ABS		word=COLL=THV		other=ESS=2pl.ABS		
	w	S	w					
ka <sub>4</sub> -du-ul-li								
kad=ul=(i=)le								
tell=DUR=TR=1sg.VOL								

“Set aside this story. I will tell you another.”

Based on the posited rules for elision and stress retraction, the outcome of tīpšāri ólappa<sup>14</sup> would be tīpšār ólappa. Stress shift in this line also resolves what would otherwise be a sequence of four unstressed syllables. There are two other lines in which elision without stress shift would result in two stressed syllables in a row, and there are no places where stress shift would create a line that does not follow the parameters described above. However, there is not sufficient data in this text to statistically evaluate the potential interaction between elision and avoidance of stress clash.

There is a tendency for grouped lines within couplets and tercets to match in stress pattern. Using only couplets and tercets containing lines in which there are exactly four stressed syllables and their positions are clear, Table 6 gives a comparison between the average difference in number of weak syllables in each position within natural groups and within artificially grouped lines. The differences here indicate that the matching is unlikely to be simply the result of overall tendencies for certain sequences in certain positions of the line.

Table 6. Average difference in number of weak syllables, by position

	before first stress	following first stress	following second stress	following third stress
natural groups	0.86	0.65	0.51	0.51
artificial groups	0.89	0.86	0.81	0.57

The number of unstressed syllables preceding the first stress does not seem to be considered in matching the stress pattern within groups, as it exhibits no tendency towards greater similarity within natural groups than in artificial groups:  $t(35) = 0.15$ ,  $p = 0.88$ . Natural groups have a significantly smaller difference than artificial groups in the number of unstressed syllables between the second and third stress:  $t(35) = 2.22$ ,  $p = 0.033$ , and the difference approaches significance for the number of unstressed syllables between the first and second stress:  $t(35) = 1.55$ ,  $p = 0.13$ . Without the phonological processes proposed in the previous sections, both comparisons also approach significance ( $p = 0.092$  and  $p = 0.13$ , respectively). The difference between natural and artificial groups in the number of unstressed syllables between the third and fourth stress is not significant:  $t(35) = 0.39$ ,  $p = 0.70$ . Only

14. Note that stress is initial instead of penultimate, because =ppa is a clitic.

three natural groups match exactly in stress pattern and one of the artificial groups; a  $\chi^2$  test demonstrates that the difference is not significant ( $p = 0.61$ ). Exact matching in stress patterns does not seem to be a feature of the meter, though it is perhaps noteworthy that the first couplet is one with exact matching.

### 2.6 The Possibility of Other Examples of This Meter

If there was a dolnik couplet meter in Hurrian, one might expect to find evidence for this meter in other texts either in Hurrian or in other languages from this region; in this section, I present several examples of texts which may share characteristics of this meter. Some works which have been described as being in a four-stress meter might be amenable to analysis using this dolnik meter, though the uncertain position of stress in Akkadian and Hittite means that it would be difficult to distinguish between a dolnik meter and a stress-based meter in these languages.

There are few good candidates for this meter in other Hurrian texts. The texts in ChS I/1 Nr. 41 (KUB 32.19, KBo 27.99, KBo 15.73) provide a set of likely metrical Hurrian texts for comparison. This tablet is divided into sections by geometric lines, and within sections further divisions are marked by *Winkelhaken*. Whether the *Winkelhaken* are best interpreted as marking metrical lines or larger metrical groups is not clear. The sections exhibit different syllable count trends for each unit (Wilhelm 2001: 42–43). Column III 28–78 are relatively consistent in having six stressed words per unit, as marked by *Winkelhaken*, resulting in an average length of 16.6 syllables ( $sd = 1.6$  syllables). There is no metrical evidence for couplet grouping; the average difference in number of syllables in semantically natural groups (1.7 syllables) is not significantly different from the average difference in randomly assigned groups (1.6 syllables);  $p = 0.92$ . While this section looks metrical, it seems to be in a different meter than the Boğazköy Hurrian Parables.<sup>15</sup> However, Column II 43–68 provide a possible parallel for the dolnik meter. If the *Winkelhaken* are treated as marking couplets/tercets, the average metrical line length is 11.7 syllables ( $sd = 1.2$  syllables). In comparison, the lines of the Hurrian Parables have an average length of 11.9 syllables ( $sd = 1$  syllable); the line lengths in these two texts are not significantly different ( $p = 0.39$ ). This text also exhibits evidence for couplets. The average difference in number of syllables in semantically natural groups (0.7 syllables) is significantly smaller than the average difference in randomly assigned groups (1.5 syllables);  $p = 0.046$ . Unfortunately, testing meters is limited by the condition of texts; even relatively limited damage can inhibit accurate syllable counts.

The Hittite translation of the Boğazköy Parables, written alongside the Hurrian text, does not seem to share the Hurrian dolnik meter. Although this text may follow a four-stress meter, the metrical lines are too long to possibly follow the dolnik restrictions, with lengths ranging from nine to twenty-four syllables. The Hittite parables have an average length of 15.4 syllables ( $sd = 3.4$  syllables). There is also no metrical evidence for couplet grouping; the average difference in number of syllables in semantically natural groups (3.4 syllables) is not significantly different from the average difference in randomly assigned groups (3.7 syllables);  $p = 0.70$ . The position of Hittite stress is often unclear, which limits syllable-

15. This low standard deviation does suggest a poetic meter. Prose has much more variable syllable counts within units. For example, the Mittani letter (see Dietrich and Mayer 2010) is a stylized prose text in which phrases frequently contain three to five words and often align with textual lines. The first half of the third column, one of the best preserved continuous sections, has syntactically defined units varying at least from eight to twenty-six syllables, even using liberal definitions of syntactic units; the average length is 16.2 syllables ( $sd = 4.3$  syllables). The average difference between lines in semantically natural groups of such units (4.5 syllables) is not significantly different from the average difference within artificially grouped units (4.1 syllables);  $p = 0.62$ .

counting analyses. Plene is not a reliable indicator of stress (Hoffner and Melchert 2008: 25), and work on stress in Hittite meter is mainly focused on which words contain stress and not on the position of stress within words (e.g., Melchert 2007, Kloekhorst 2011).

However, it might be possible to find this meter elsewhere in Hittite. The flexibility of a dolnik meter may provide a possible way to account for Hittite texts which cannot be in an isosyllabic meter but which have more consistency in line length than would be expected in texts indifferent to syllable count. The Hittite Song of Ullikummi as presented by Güterbock (1951) may share some features of the meter of the Boğazköy Hurrian Parables; as a translation of a Hurrian myth, it is a particularly good candidate for sharing aspects of a Hurrian meter, although translations do not necessarily match in meter, as shown above for the Boğazköy Hittite Parables. Ullikummi seems to be structured in stanzas (Güterbock 1951: 142), though not couplets. Within these stanzas, the metrical lines are of a significantly more consistent length than lines paired from different stanzas, with an average difference of 2 syllables and 3.4 syllables, respectively ( $p = 0.024$ ). The meter of this text is more variable than in the Hurrian Parables: even when the outlying short lines which introduce speeches are omitted, the average line length is 13 syllables ( $sd = 3$  syllables).

Akkadian also contains potential examples of couplets characterized by internal similarity in line lengths; the Babylonian Theodicy,<sup>16</sup> a wisdom text containing metrical lines corresponding to textual lines, exhibits a syllable-count pattern consistent with couplet structure. The uncertainty of Akkadian stress inhibits a reliable evaluation of whether this text could be in a dolnik meter. Using ninety-seven lines which are complete enough to make a syllable count and which do not contain logograms, lengths range from eight to eighteen syllables (mean = 11.8 syllables;  $sd = 1.8$  syllables). The average difference between lines within semantically natural groups is 1.1 syllables, while the average difference between pairs of lines assigned randomly within a stanza is 2.3 syllables; the difference is significant ( $p = 0.0029$ ). The greater similarity of line length within metrical groups may in part be due to extensive repetition and parallelism; for comparison, naturally paired lines in Job have significantly more similar lengths than randomly paired lines (see n. 5), though the variability in line lengths is much larger.

Hattic may also provide a parallel for the Hurrian dolnik meter: the Hattic text in KUB 28.<sup>17</sup> Eichner (1993: 153–55) offers a possible analysis of a four-footed syllable-counting meter in this text. If Hattic stress is correlated with plene spelling, as suggested by Watkins (2006: 54), no line has two adjacent stressed syllables nor more than four stressed syllables, though there are sequences of more than three unstressed syllables in a row. Though there are several logograms for which the underlying Hattic value is unknown and the text is short, the metrically interpretable lines are of similar lengths, and the consistency is even further improved if the short lines that occur at the ends of sections are omitted from calculations, resulting in an average line length of 11.7 syllables ( $sd = 1.6$  syllables).

### 3. CONCLUSION

I have presented evidence that the Boğazköy Hurrian Parables, KBo 32.14, are in a meter characterized by couplets and tercets that match in length, unified by a dolnik meter in which each line has four stressed syllables, separated by one to three unstressed syllables, with one unstressed syllable at the line end and zero to two unstressed syllables at the beginning. The poem's apparent obedience to this meter is improved by positing several phonological

16. Given in Oshima 2013.

17. Given in Laroche 1947.

and orthographic characteristics reflected in this text, either metrically licensed or general characteristics of Hurrian phonology: elision, high vowel gliding, and disyllabicity of <Ca-a-i> sequences. Based on metrical evidence for phonological and orthographic rules such as these, it may be possible to provide an alternative line of evidence in the investigation of Hurrian phonology, supporting existing theories and producing new ones.

The identification of this meter warrants investigation into whether it is reflected in other texts, in Hurrian or in other languages. Although most Hurrian texts are short and thus resistant to clear metrical analysis, testing them against a known meter will be easier than identifying a new meter within them. While the Hittite translation of the Parables cannot be in the same dolnik meter, other Hittite texts may be, particularly if they are adaptations from Hurrian. If such texts could be identified, this could prove useful in confirming theories about stress placement and other aspects of phonology in Hittite or other languages which use the meter. Establishing a meter for this text also adds to the picture of the poetic tradition of the ancient Near East.

## APPENDIX A: KEY TO ABBREVIATIONS

ABL	ablative	INDV	individualizer
ABS	absolutive	INTR	intransitive
AG	agent	IT	iterative
ANTIPASS	antipassive	LOC	locative/directive
CAU	causative	NEG	negation
COLL	collective	NMZ	nominalizer
CONN	connective	OP	optative/voluntative
DAT	dative	PASS	passive
DIR	directive	PAT	patientive
DUR	duration	POSS	possessive
DV	derivational vowel	PRF	perfect
ERG	ergative	PRT	participle
ESS	essive	REL	relator
FCT	factitive	STAT	stative
GEN	genitive	THV	theme vowel
GER	gerund	TR	transitive
IMPT	imperative	UNCL	unclear meaning
INCH	inchoative	VOL	voluntative

## APPENDIX B: SUMMARY OF METRICAL LINES

Metrical Line No.	Textual Lines	Before Rules	After Rules	Notes
1	Vs. 1–2	11 syllables	10	
2	Vs. 2–3	11 syllables	10	
3	Vs. 3–4	13 syllables	13	
4	Vs. 5–6	13 syllables	13	
5	Vs. 6–7	13 syllables	13	
6	Vs. 8	12 syllables	11	
7	Vs. 9–10	11 syllables	11	

Metrical Line No.	Textual Lines	Before Rules	After Rules	Notes
8	Vs. 10–11	12 syllables	11	
9	Vs. 11–13	14 syllables	15	5 stress
10	Vs. 13–15	15 syllables	16	5 stress
11	Vs. 17	11 syllables	10	
12	Vs. 18–19	12 syllables	11	
13–15	Vs. 19–22			metrical breaks unclear
16	Vs. 23–24	13 syllables	12	
17	Vs. 24–25	12 syllables	12	
18	Vs. 26–27	13 syllables	12	
19	Vs. 27–28	13 syllables	12	
20	Vs. 28–29	13 syllables	12	
21	Vs. 31	11 syllables	10	same as line 11
22	Vs. 32	10 syllables	10	
23	Vs. 33–34	12 syllables	12	
24	Vs. 34–35	12 syllables	12	
25	Vs. 35–36	13 syllables	13	
26	Vs. 37–38	13 syllables	12	
27	Vs. 39–40	13 syllables	12	same as line 16
28	Vs. 40–41	12 syllables	12	same as line 17
29	Vs. 42–43	11 syllables	11	
30	Vs. 43–44	11 syllables	11	
31	Vs. 44–45	14 syllables	11	
32	Vs. 46–47	13 syllables	12	
33	Vs. 47–48	11 syllables	12	
34	Vs. 48–49	14 syllables	13	
35	Vs. 50–51	12 syllables	11	
36	Vs. 52–53	11 syllables	10	
37	Vs. 53–54	13 syllables	12	
38	Vs. 54–55	11 syllables	11	
39	Vs. 56–57	13 syllables	13	5 stress
40	Vs. 57–59	12 syllables	11	5 stress
41	Rs. 1	11 syllables	11	partial match of line 11
42	Rs. 2–3	12 syllables	11	
43	Rs. 3–4	12 syllables	12	
44	Rs. 4–5	10 syllables	10	3 stress
45	Rs. 6–7	13 syllables	12	same as line 16
46	Rs. 7–8	12 syllables	12	same as line 17
47	Rs. 9–10	12 syllables	11	
48	Rs. 10–11	12 syllables	12	
49	Rs. 11–12	11 syllables	11	



Metrical Line No.	Textual Lines	Before Rules	After Rules	Notes
50	Rs. 13	11 syllables	10	partial match of line 11
51	Rs. 14–15	12 syllables	12	partial match of line 22
52	Rs. 15–16	12 syllables	12	
53	Rs. 16–17	12 syllables	11	
54	Rs. 17–18	11 syllables	11	
55	Rs. 18–19	12 syllables	11	
56	Rs. 20–21	13 syllables	12	same as line 16
57	Rs. 21	12 syllables	12	same as line 17
58	Rs. 23	13 syllables	12	
59	Rs. 23	12 syllables	12	same as line 48
60	Rs. 24	11 syllables	11	same as line 49
61	Rs. 24	11 syllables	11	partial match of line 11
62	Rs. 25	11 syllables	11	partial match of line 22
63	Rs. 25–26	12 syllables	12	same as line 52
64	Rs. 26	12 syllables	11	same as line 53
65	Rs. 26–27	11 syllables	11	same as line 54
66	Rs. 27	12 syllables	11	same as line 55
67	Rs. 33	13 syllables	12	same as line 16
68	Rs. 33	12 syllables	12	same as line 17
69	Rs. 35	11 syllables	10	
70	Rs. 35	11 syllables	10	
71	Rs. 36	12 syllables	11	
72	Rs. 36	12 syllables	12	
73	Rs. 37	10 syllables	12	partial match of line 33
74	Rs. 37	14 syllables	13	same as line 34
75	Rs. 38	12 syllables	11	partial match of line 35
76	Rs. 38	11 syllables	10	partial match of line 36
77	Rs. 38–39	12 syllables	11	partial match of line 37
78	Rs. 39	12 syllables	11	partial match of line 38
79	Rs. 39–40			illegible
80	Rs. 40			
81	Rs. 48	11 syllables	10	partial match of line 11
82	Rs. 48	12 syllables	11	
83	Rs. 48–49	12 syllables	12	same as line 43
84	Rs. 49	10 syllables	10	same as line 44
85	Rs. 53	13 syllables	12	same as line 16
86	Rs. 53	12 syllables	12	same as line 17
87	Rs. 55	11 syllables	11	
88	Rs. 55	10 syllables	12	
89	Rs. 56	13 syllables	12	

Metrical Line No.	Textual Lines	Before Rules	After Rules	Notes
90	Rs. 56–57	11 syllables	11	
91	Rs. 57	11 syllables	10	partial match of line 71
92	Rs. 57–58	13 syllables	11	partial match of line 72
93	Rs. 58	12 syllables	12	partial match of line 73
94	Rs. 58–59	14 syllables	13	same as line 34
95	Rs. 59	12 syllables	11	partial match of line 75
96	Rs. 60	11 syllables	9	partial match of line 76
97	Rs. 60	12 syllables	11	partial match of line 77
98	Rs. 61	11 syllables	11	partial match of line 78

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