Poetic Line Boundaries in Hittite Epic "Song of Ullikummi"[1]

Maria Molina – Institute of Linguistics, Russian Academy of Sciences
maria.molina@iling-ran.ru

[The paper presents one of possible methods to determine poetic line boundaries in Hittite poetic texts. The method has been developed on the material of "Song of Ullikummi" (Kumarbi cycle). Poetic lines in Hittite texts might have or have not coincided with cuneiform line boundaries — we have no graphic data on this score. This poses a big question for the Hittite verse analysis. It has been suggested before that a poetic line in the Hittite verse coincided with a clause and was based on stress count, 4 stresses per line (2x2), following the Akkadian verse and so called Mesopotamian tradition. Detailed analysis of "Song of Ullikummi" demonstrated, though, that the Hittite verse cannot be described in this manner in at least 60% of the text. This could only mean that segmentation for poetic lines should be different. Typological and graphical evidence was involved in determining the most probable segmentation of the text for poetic lines. Repetitions and assonances applied on the next stage yielded a piece of quite a satisfactory verse where poetic lines differed from clauses. The suggested method is yet to be proven against a bulk quantity of texts, but it has already survived the first application to "Song of Ullikummi", with stable results throughout the text. The first preliminary results hint at accentual nature of Hittite verse and at combinations of 3 and 2 stresses per line.[2]]

Key words: Hittite, epic, syntax, verse, clause structure, verse segmentation, meter, stress.

1. *Hittite Verse: Half a Century of Studies*

More than half a century ago, in 1951, a prominent Hittitologist H. Güterbock first described Hittite verse in his publication of "Song of Ullikummi" (Güterbock 1951). The document, found in archives of the Hittite capital Hattusa (Bogazköy, Central Anatolia, Turkey), is a literary text belonging to a group of mythological compositions about the Hurrian god Kumarbi. Kumarbi cycle presents the Hittite version of this Hurrian epic. "Song of Ullikummi" tells the story of Tarhunt (Teššub), the Storm-God, who takes throne in the Heavenly Kingdom, and Kumarbi, dethrowned

1. The project "Typology of verse genesis", which comprises the work on the Hittite meter at the Institute of Linguistics, is supported by Russian Foundation for Basic Research (project #17-06-00392).

2. T. Skulacheva adapted principles and theory of linguistic approach to verse analysis to our Hittite studies. Without her help the method of verse analysis, presented in the paper, would have never been thought of. For the help with the Akkadian verse I am grateful to R. Nurullin, and for the discussion concerning problems of multiple choice — to A. Kassian. I. Yakubovich read the draft of the paper, and made invaluable comments that helped improving the paper so much. I am also grateful to A. Sideltsev for the detailed discussion of Hittite accent and Hittite clitics. All errors, naturally, are the author's fault.

Recibido/Received: 09/08/2018
Aceptado/Accepted: 12/09/2018

by Tarhunt, who tries to regain power. The latter is determined to raise a rebellion against the Storm-God. The theme is presented in the 1st paragraph, where Kumarbi is called "the father of all gods", see copy B, KUB 33.98(+) i 4–5: *ḫūmantaš *šiunaš addan Kumarbin išḫamiḫḫi*[3] "Kumarbi, father of all gods, I sing". Ullikummi is a stone monster created by Kumarbi for the fight with the Storm-God, see copy A, KBo 26.58+ iii 18: *paidd*[*u=wa=šš̆an*] ^{d}*ullikummi *laman ēšdu* "Let his name be Ullikummi". Ullikummi grows up and reaches Heavens, where he is first seen by the Sun God who tells the Storm-God about the monster. This is the end of the first tablet, text of which is analysed in the paper.

All these years it was *communis opinio* that Kumarbi cycle was a poetic text, in comparison to "Myth of Telibinu", for one, which is considered prosaic. The basis to such a belief was a heterogram SÌR (hitt. *išḫamaiš*, "song") in the colophon. Unfortunately, there appears to be no poetic line markers, like a line break, or anything, in the Hittite literary texts, — one reason why, in fact, we cannot be completely sure that texts with SÌR are poetic, i.e. that they have any poetic meter. Still, as a song is supposed to be poetic, the tradition has a few works on Hittite poetic meter in general, and meter of "Song of Ullikummi" in particular. A quick review of this part of previous research, made by the author (Molina 2017), revealed something unexpected: no proper statistical research of the Hittite poetic meter based on thorough count of syllables, stresses or moras have been undertaken so far, on any comprehensive corpus of texts, and according to the standards of modern linguistic verse studies. What is more important for our study, there is no proper evidence concerning boundaries of poetic lines.

Most papers start out from the suggestions made by Güterbock half a century ago, without critical approach to it. The main hypothesis of Güterbock's, relevant for our research, is that oral tradition of reading Hittite epic texts had line boundaries at the same places as clause boundaries, i.e. the end of a poetic line coincided with the end of a clause. The following research was based on an *apriori* belief of a line correspondence with a clause. Literature includes papers of prominent Hittitologists, such as I. McNeill (1963), S. Durnford (1971), H. Eichner (1971), H.C. Melchert (1998, 2007), R. Francia (2004, 2012), M. Bachvarova (2011), M. Weeden (2013), A. Kloekhorst (2014), see detailed references and short reviews in (Molina 2017). The understanding of so called Mesopotamian tradition[4] applied to the Hittite poetry in literature was always based on the Akkadian poetic meter: 4 stresses per line, 2 hemistichs. Quick review and references on the Akkadian meter see, for one, in (Jimenez 2017), on difficulties with delimiting the accentual groups see detailed discussion in (West 1997: 177–178, Lambert 2013: 23). The last word in an Akkadian poetic line has a stressed penultimate syllable with a long vowel — this phenomenon is called *clausula accadica*, few exclusions to the rule have been noted so far.

Naturally, keeping this Mesopotamian tradition in mind, researchers of the Hittite poetry expected the same 4 stresses in a line, and a verse matching with a clause. This idea is a foundation for almost all the reasoning concerning stress count, and meter, in previous literature reviewed in (Molina 2017). Unfortunately, there is no solid proof so far for this assumption. And yet, some Hittitologists already drew certain conclusions relevant for Hittite prosody and phonetics (see Kloekhorst 2014 with references). One of these results was notion of deliberate unstressability of

3. Cit.: E. Rieken et al. (ed.), hethiter.net/: CTH 345.I.1 (TX 2009-08-31)

4. The existence and ubiquity of the "Mesopotamian tradition" was questioned, as I was informed, by Prof. Dr. E. Rieken, Marburg University, during her talk at the 63rd RAI: https://www.uni-marburg.de/de/cnms/altorientalistik/abstracts-rai63.pdf, p. 22–23.

certain grammatical categories in Hittite verse (see, among others, Kloekhorst 2014:602 on "Song of Ullikummi", Melchert 2007 on "Song of Nesa"; also a discussion in Sideltsev, Molina 2015).

It is remarkable that no one after Güterbock discussed the principles of determining the boundaries of poetic lines in Hittite verse. Meanwhile, the idea of one line being equal to one clause obviously leaves too much room for doubt, particularly in cases when a clause is too long or too short. Ex. (1) presents one of the best preserved paragraphs of "Ullikummi", first as a continuous text, which is further divided into clauses:

(1) OH/NS (CTH 345, §8") KBo 26.58+ rev. iii 10–25[5]

(rev. iii 10) *ḫaššanuer=an* MUNUS^{M}[^{EŠ} ...] (rev. iii 11) *nu=*gulšuš* DINGIR.M[AḪ$^{ḪI.A}$*-uš *pullan karper*] [*n=an=kan ANA=*K*]*um*[*arbi* (rev. iii 12) *g*]*inuwaš ḫalāe*[*r*] [**Kumar*]*biš=*˹*za*˺ *a*[*ši* D]UMU.NITA-*a*[*n*] (rev. iii 13) *duškiškiuwan dā*[*iš*] [*n*]*=an kunkeškiuwan dā*[*iš*] (rev. iii 14) *nu=šanezzi *lamān* [*... (set / pulli) p*]*eškiuwan dāiš* (rev. iii 15) **Kumarbiš=za* [**ištanzani=šši memi*]*škiuwan dāiš* (rev. iii 16) *kwit=wa=šši=kan *lamān* [*teḫḫi*$^{?}$] **gulšuš=wa=mu* DINGIR.MAḪ$^{ḪI.A}$*-uš* (rev. iii 17) *kwin *pullan *piyer nu=war=*[*aš=kan*] **twekkaz arḫa *šiyatal* (rev. iii 18) *mān watkut paidd*[*u=wa=ššan*] **ullikummi *laman ēšdu* (rev. iii 19) *nu=war=aš=kan nepiši* [**haššuizna*]*nni *šarā paiddu* (rev. iii 20) *nu=wa=kan *kummiyan *happir*[*an šan*]*ezzin *katta tamašdu* (rev. iii 21) **Tarḫunan=ma=wa *walḫdu nu=war=*[*an e*]*zzan *mahhan arḫa puššaeddu* (rev. iii 22) *lalakwešan=ma=war=an=*[*kan *maḫḫan*] **patit anda pašiḫaeddu* (rev. iii 23) **Tašmišun=ma=wa ḫaḫḫa*[*rin *nat*]*an mān arḫa zaḫreškeddu* (rev. iii 24) **šiuneš=ma=wa=kan ḫūmanduš* [*nepiš*]*az *katta *šuwaiš *mahhan išḫuwāu* (rev. iii 25) *nu=war=aš dannaruš* ^{DUG}ÚTUL$^{ḪI.A}$*-u*[*š*][**maḫḫan a*]*rḫa duwarneškeddu*

№ clause
1. *ḫaššanuer=an* MUNUS^{M}[^{EŠ} ...]
2. *nu=*gulšuš* DINGIR.M[AḪ$^{ḪI.A}$*-uš *pullan karper*]
3. [*n=an=kan *K*]*um*[*arbi g*]*inuwaš ḫalāe*[*r*]
4. [**Kumar*]*-biš=*˹*za*˺ *a*[*ši* D]UMU.NITA-*a*[*n*] *duškiškiuwan dā*[*iš*]
5. [*n*]*=an kunkeškiuwan dā*[*iš*]
6. *nu=šanezzi *lamān* [*... (se-et / pulli) p*]*eškiuwan dāiš*
7. **Kumarbiš=za* [**ištanzani=šši memi*]*škiuwan dāiš*
8. *kwit=wa=šši=kan *lamān* [*teḫḫi*$^{?}$]
9. **gulšuš=wa=mu* DINGIR.MAḪ$^{ḪI.A}$*-uš kwin *pullan *piyer*
10. *nu=war=*[*aš=kan*] **twekkaz arḫa *šiyatal mān watkut*
11. *paidd*[*u=wa=ššan*] **ullikummi *laman ēšdu*
12. *nu=war=aš=kan nepiši* [**haššuizna*]*nni *šarā paiddu*
13. *nu=wa=kan *kummiyan *happir*[*an šan*]*ezzin *katta tamašdu*
14. **Tarḫunan=ma=wa *walḫdu*
15. *nu=war=*[*an e*]*zzan *mahhan arḫa puššaeddu*

5. Cit: E. Rieken et al. (ed.), hethiter.net/: CTH 345.I.1 (TX 2009-08-31, TRde 2009-08-29). Here and further in the paper: syllable transliteration of the cuneiform is presented in *broad transcription*, the closest possible approach to what might be considered as a phonetic representation of the text. For the analysis of poetic meter we have to substitute all heterograms for their Hittite counterparts, if their Hittite reading is known. We also took off determinatives (markers of noun classes), as not sounding in oral representation. Substituted heterograms and missing determinatives are marked with *. Line count is based, mostly, on the copy A. Broken fragments, which cannot be restored according to context and other copies of the same text, are marked with square brackets ([]).

16.*lalakwešan=ma=war=an=*[*kan *mahhan*] **patit anda pašiḫaeddu*
17.**Tašmišun=ma=wa ḫaḫḫa*[*rin *nat*]*an mān arḫa zaḫreškeddu*
18.**šiuneš=ma=wa=kan ḫūmanduš* [*nepiš*]*az *katta *šuwaiš *mahhan išḫuwāu*
19.*nu=war=aš dannaruš* ^{DUG}ÚTUL$^{HI.A}$*-u*[*š*][**mahhan a*]*rḫa duwarneškeddu*

Irregularity of the lines is obvious, which can be due to not exactly irregularity of stress count in poetic lines, but simply to the fact that the end of a line not necessarily corresponds with the end of a clause. Güterbock himself, who suggested the idea in the first place, did not insist on it being exactly this way. He emphasised that it was only his suggestion, and specifically noted that real markers of Hittite poetic lines might never be found. “It will be noticed that the clauses or verses are of different length… it can be stated that there is a majority of verses that may be called of ‘normal’ length, with usually four stresses and about 12–17 syllables. Beside these, there are short verses with only 4–10 syllables and two to three stresses, and long clauses with around 22 syllables. Verses of different length appear rather freely mixed.” (Güterbock 1951:142). No study so far has shown any attempts to divide “Song of Ullikummi” into lines otherwise. I am going to offer a possible solution to the puzzle basing on stress count, estimation of links between the words, with attention to cuneiform edges, on the one hand, to repetitions and assonances, on the other hand, assuming for the start that we know nothing about line boundaries in Hittite verse, or stress placement.

2. *Probability of Line Breaks Inside the Clause*

What we have at the beginning is, therefore, a continuous text, supposedly poetic, supposedly having meter which is yet unknown. What can be done with it? Phoneticians deal with verse prosody in living languages, where one can physically measure pauses in oral representation. There are metrical systems, studied with the state-of-the-art linguistic methods (Skulacheva 2012 with references), mostly for Indo-European languages, but not limited to this group of languages. Statistical phonetic measurements show consistent grouping of words in verse — it is not yet properly understood but it can be intuitively felt and described in syntactic terms. The closest and most effective classification of these syntactic links was proposed by M.L. Gasparov and T.V. Skulacheva (see recently Kruglova, Smirnova, Skulacheva 2017), on the material of Russian and Spanish verse, with references). In poetic language, different parts of speech are linked in a clause, so that strength of the link determines probability of segmentation for poetic lines in a text. The phenomenon is further called *segmentation*, and its strength (or *tightness*) is further called *depth of segmentation*.

A group of linguists lead by T.V. Skulacheva[6] showed recently that depth of segmentation is different in different parts of poetic lines: a bigger depth and a longer pause are allowed in the middle of a line, but not closer to its edges (between the first and the second, and between the ultimate and penultimate words in a line). This means that quite a number of tight (strong) links appear in the beginning and in the end of a line; tight links are few in the middle. Notably, distribution of tight links *in poetry*, on the data of 4 living languages (Russian, English, French, Spanish), is opposite to the distribution of links *in prose*. The links on line boundaries are weak, as

6. The group is based in the Institute of Linguistics (Russian State University for the Humanities) and the Institute of Russian Language (Russian Academy of Sciences), Moscow.

verse has to be divided into lines, a weak link emphasizing this key segmentation. As mentioned in the paper cited above (Kruglova, Smirnova, Skulacheva 2017), "pauses at the line boundaries are the main feature of verse, because it marks segmentation into poetic lines — generic feature of verse as opposed to prose".

Gasparov—Skulacheva's classification distinguishes groups of syntactic links for their ability to yield a longer or a shorter pause: tight links, moderate links, and weak links. Skulacheva's group statistically proved for the first time correlation between the type of a link and the length of a pause, on the basis of phonetic experiments. Groups of links differ by their depth of segmentation. The grouping does not directly correlate with prevailing theories of clause structure (constituent structures or dependencies): experiments mentioned above, on the material of living languages, demonstrated that syntactic links, which are relevant for poetic text segmentation, cannot be directly described through constituent structures or dependencies.

Groups of syntactic links are determined for living languages in the following manner. *Tight links* are the links between nouns and noun modifiers, or adjectives (defining word), between verbs and objects/indirect objects, between verbs and adverbs. *Predicative link* (between verbs and subjects) is a link with a specific type of distribution, in poetry it is moderate. Another specific link is a link *between homogeneous parts of the sentence*. *Weak links* are the links between main and dependent clauses, isolated clauses in a sentence, clause boundaries marked by full stops, question or exclamation marks. The classification has been proven on a wide corpus of poetry — Russian, English, French and Spanish, — and considered to be the typical feature of verse as opposed to prose. See also earlier papers on the topic: Skulacheva 1989 on distribution of syntactic links in English, Russian, French metrical systems, including syllabo-tonic, syllabic, vers libre, distribution of syntactic links in Russian and English literature; Tarlinskaja 1984, Tarlinskaja 1987 — research of English verse. Review of recent linguistic studies of poetry has been published in Akimova 2017.

Thus, Gasparov—Skulacheva's classification of syntactic links in poetic texts has been tested on a large corpus of poetry in living languages, and yielded good results, well predicting line breaks in poetry in modern languages. It can, therefore, be applied to the Hittite material (assuming, it predicts similar things for verse in any language). This means that, to continue, one has to determine which links in Hittite should be considered tight or weak.

3. *Link Groups in the Hittite Verse*

3.1. *End of a Clause as a Line Break*

In the world's metrical systems where length of pauses was physically measured, the deepest segmentation is between simple sentences (clauses). This is why, obviously, H. Güterbock came out with the idea to divide the Hittite verse into lines by clauses. This is possibly why at least 30-40% of clauses in a Hittite poetic text demonstrate more or less even length in syllables and even count of stresses (Güterbock 1951:142). For example, the first paragraph of the first tablet of "Song of Ullikummi" has clauses almost perfectly equal in length (and, moreover, tied by grammatical rhyme!). It looks like the first paragraph of the poem is divided into lines by clauses, indeed:

(2) OH/NS (CTH 345, §1) KBo 26.58+ obv. i 1–8

(obv. i 1) […]-*x-zan i*[*šḫamiḫḫi*] (obv. i 2) […*kw*]*edani *ištanzani anda ḫattatar=*⌜*ma*?⌝ (obv. i 3) *k*[*wiš*?] ⌜**ištanzani*?*=kan*?⌝ [*a*]*ndan daškezzi ḫūmantaš *šiunaš addan* (obv. i 4) **Kumarbin išḫamiḫḫi* (obv. i 5) **Kumarbiš=za ḫattatar *ištanzani peran daškezzi* (obv. i 6) *nu=*idalun *šiwattan *idalun*

**antuḫšan šallanuškezzi* (obv. i 7) *nu=za *Tarḫuni menaḫḫanda idalawatar ša*[*nḫiškezzi*] (obv. i 8) *nu=*Tarḫuni menaḫḫanda :tarpanallin šallanuškezzi*

№ clause
1. […]*-x-zan i*[*šḫamiḫḫi*]
2. […*kw*]*edani *ištanzani anda*
3. *ḫattatar=*⌜*ma*$^{?}$⌝ *k*[*wiš*$^{?}$] ⌜**ištanzani*$^{?}$*=kan*$^{?}$⌝ [*a*]*ndan daškezzi*
4. *ḫūmantaš *šiunaš addan *Kumarbin išḫamiḫḫi*
5. **Kumarbiš=za ḫattatar *ištanzani peran daškezzi*
6. *nu=*idalun *šiwattan *idalun *antuḫšan šallanuškezzi*
7. *nu=za *Tarḫuni menaḫḫanda idalawatar ša*[*nḫiškezzi*]
8. *nu=*Tarḫuni menaḫḫanda :tarpanallin šallanuškezzi*

Unfortunately, other paragraphs of the same text rather force us to search for yet another points of possible poetic line breaks, different from the end of a clause.

3.2. *Stressability of Words in Hittite Poetic Texts*

In this chapter I am going to discuss accent in Hittite as applied to verse. If the metrical system is considered to be depending on stress count (as in Kloekhorst 2014 with references), we need to know what words can be stressed, and what words cannot. Some rules can be drawn from phonetic experiments on the material of living languages (mentioned above), concerning stressability of different parts of speech. For Hittite three types of stressability in verse can be postulated:

1. fully accented words; basing on phonetic experiments mentioned above (Skulacheva 2012 with references), it can be supposed with a big certainty that nouns, adjectives, verbs (but not auxiliaries or copulas) and adverbs (but not the pronominal ones) have accent in a verse. This means that they form an accentual group with unstressed words (like clitics, short pronouns, or preverbs), and it is the group that has an independent accent. To give an example, a pair like "preverb+verb" can indeed have stress as a group, with a preverb pulling over the stress and a verb being occasionally unstressed. For our purpose of counting stresses in a poetic line there is no difference if a stress is on a verb or on a preverb in such a group.

2. unstressed words — enclitics and proclitics; phrase connector *nu* is considered to be the only certain Hittite proclitic; as is well known, Hittite features long second position Wackernagel's enclitic chains, they are usually considered unstressed (Kloekhorst 2014, but see evidence for occasional stress on clitic chains hosted by *nu* in Sideltsev (forthcoming)).

3. ambiguous words — words that cannot be classified as stressed or unstressed in verse; this category includes all the words not covered by previous two sections. Empirical approach demonstrated that these words comprise a closed list of grammatical categories. This type of words reminds us of the group of *double-natured* words that can be stressed or unstressed in verse depending on metrical demands (see in detail Skulacheva 2012).

4. all the ambiguous words can be divided into three subgroups:
   a) conjunctions; *nu*+enclitics;
   b) personal pronouns, *wh*-words/ indefinite/ relative pronouns; auxiliaries, quantifiers;
   c) lovative adverbs (Hittite preverbs, postpositions and free locative adverbs).

It is a typological frequency that conjunctions in world's languages are prone to lose stress in verse (Skulacheva 2012, Skulacheva 2014). Still, words of two or more syllables can preserve it.

Conjunction *nu*+enclitics in Hittite and the idea of its possible stressability is being analyzed in detail in Sideltsev forthcoming — with a conclusion that it could sometimes become accented, but could be unstressed as well, for details see A. Sideltsev's paper. Thus, we might safely conclude that *nu*+enclitics and conjuctions (subgroup *a*) demonstrate classical behaviour of double-natured words in verse, meaning that they can be stressed or unstressed depending on meter.

Subgroup *b* — pronouns, auxiliaries, quantifiers — typologically can behave as double-natured words, but their semantic value is bigger, therefore, they are stressed more often than subgroup *a*. It might be proposed that if subgroup *a* and subgroup *b* meet in one poetic line, subgroup *a* would be unstressed while subgroup *b* would be stressed (if stress is demanded by poetic meter). Locative adverbs (subgroup *c*) — *katta*, *sēr*, *anda*, *parā* etc. — pose a bigger problem. In Hittite they serve as adverbs, preverbs or postpositions, having the same graphic form, but different functions and semantic value. I suggest that, if a word is verb dependent (in a verb phrase), it is most probably a preverb and is included in the same accentual group as a verb. A preverb in Hittite might possibly have a stress of its own (see Molina 2018 on preverbs in focus); therefore, one should be more careful here than in case of, say, *nu*+*enclitics*. Postpositions usually make up the same accentual group with a noun; typologically a postposition/preposition does not have a stress of its own in verse, if it has no more than 2 syllables (Skulacheva 2012). A free locative adverb, standardly positioned clause initially, typologically should be a stressed constituent being an adjunct in a verb phrase. Notion of word stressability is relevant for our Hittite verse analysis, as we need it to gain some understanding of link tightness between the words.

3.3. *Possible Points of Line Breaks in Hittite Verse*

"Song of Ullikummi", analyzed in the view of word stressability described above, lead me to the following understanding of Hittite clause structure in a verse. There are at least four parts in a clause, with tighter links between the words inside the parts, and weaker links on the borders of these parts. The positions of the weak links can be construed as:

1. The end of a clause (the deepest segmentation).
2. Borders of VP (verb and immediately preverbal constituents).
3. Middle group borders (phrase containing subject, phrase containing object/indirect object), which might correspond at the left edge with the upper border of TP.
4. Left periphery (first phonetic word if there are clitics in the clause), which is possibly everything upper than TP.

Full accented words (words with full semantic value, described above under p.1 in chapter 3.2) form a metrical unit being a centre attracting dependent words — clitics and ambiguous words. They form groups of segmentation and thus determine potential points of line breaks in poetry.

The Hittite clause structure here, in fact, might as well be described in terms of subjects, objects and verbs — groups of subject, of object and of verb have weaker links on the borders and tighter links inside; though, in this case we need an additional description of the groups in the left periphery (mostly, clitics and information structure elements) and postverbal elements.

4. *Principles of Determining Points for Possible Line Breaks in Hittite Poetry*

As mentioned above, the deepest segmentation can be found at the end of a clause. In Hittite there is no graphical marker of clause boundaries, but it is quite an easy task to separate clauses (discussion on which can be found in Molina, Sideltsev 2014). When clause boundaries are marked

up, a more complicated, not-so-obvious process of marking-up the tight and the weak links in the clause can be started — i.e., marking-up of the points of possible line breaks, according to our understanding of segmentation groups as presented in chapter 3.

In every clause there are several positions of deep segmentation.

I. first point of possible line break in a clause:

1. after the first phonetic word (including Wackernagel's enclitics), if there are no phrase connector *nu* or *kui*-pronouns (the latter behave somewhat similar to clitics, see Sideltsev 2017);

2. after the group {*nu* + next word} / {*nu* + enclitics + next word}, if there are no *kui*-pronouns;

3. after the group {first phonetic word, including *nu*, enclitics and *kui*-pronouns}.

II. second point of a possible line break in a clause:

1. after the group {adjective / noun / postposition}, any of the parts could be null;

2. after AdvP.

If there are more than one group in a clause, all of them have points of possible line break on the borders. The depth of segmentation between levels I and II is bigger than inside the levels.

III. third point of possible line break in a clause:

1. before the block of preverbal constituents (normally, the same point as II), i.e. before the low focus position, preverb, *kui*-pronouns in preverbal position.

IV. fourth point of possible line break in a clause:

1. after the verb, if postverbal position is filled.

It should be specifically mentioned that line breaks cannot really exist at *every* point of a possible line break; i.e. they are not *real* breaks, but only *theoretically* possible or impossible points of such a break. In further analysis I keep in mind the points where a verse cannot be divided into lines, as sort of limitation to multiple choice.

5. *Analysis of the 1st Tablet of "Song of Ullikummi" (CTH 345.I.1)*

Four best preserved paragraphs of the first tablet of "Ullikummi" (CTH 345.I.1.A, CTH 345.I.1.B, CTH 345.I.1.C) have been first marked up according to the principles described above (chapter 4). It is important that paragraphs are analysed as a whole, as semantically and syntactically complete blocks of text, with boundaries marked up by a graphical line on cuneiform tablet. The idea to study only non-broken fragments of the text, unfortunately, does not make sense in case of verse meter. Only those paragraphs could be included in the first part of the study, though, that have relatively few broken fragments. It is a Hittitological reality that there are no paragraphs without broken fragments (as in almost any other text in Hittite).

Thus, four paragraphs have been chosen for the current stage of our study (1, 5', 6', 8"), as best preserved and representative for the application of the method. *Broad transcription*, and not *syllable transliteration* (transliteration of every cuneiform sign, mostly as a syllable) is chosen as best possible representation of Hittite texts; see fn. 5 above for the principles of text preparation and meaning of terms mentioned here. Dictionaries HHW, HED, CHD were used for translating Sumerian and Akkadian heterograms into Hittite. In the Hittite text below clause boundaries are

marked with |. Points of possible line breaks are marked with °. Parts, where most of the clause is broken and cannot be restored with duplicates, were excluded from the study.

§1

(A obv. i 1) […]-*x-zan i*[*šḫamiḫḫi*] | (A obv. i 2) […*kw*]*edani *ištanzani anda* | *ḫattatar=*⌜*ma*?⌝ (A obv. i 3) *k*[*wiš*?] ° ⌜**ištanzani*?*=kan*?⌝ [*a*]*ndan* ° *daškezzi* | *ḫūmantaš *šiunaš addan* ° (A obv. i 4) **Kumarbin* ° *išḫamiḫḫi* | (A obv. i 5) **Kumarbiš=za* ° *ḫattatar* ° **ištanzani peran* ° *daškezzi* | (A obv. i 6) *nu *idalun *šiwattan* ° **idalun *antuḫšan* ° *šallanuškezzi* | (A obv. i 7) *nu=za *Tarḫuni menaḫḫanda* ° *idalawatar ša*[*nḫiškezzi*] | (A obv. i 8) *nu *Tarḫuni menaḫḫanda* ° *:tarpanallin šallanuškezzi* |

§5'

(A obv. ii 9) *nu *Impaluri*[*š*] ° **uddar aruni *āppa* ° (A obv. ii 10) *memiškiuw*[*an*] *dāiš* | **ḫaššuš=miš=mu=kan kwit* ° (A obv. ii 10) [...]-*at* | (A obv. ii 11) *nu=za=kan arunan tapuša* (A obv. ii 12) [...] | [...]*=kan šakuwayanun* | (A obv. ii 13) **Kumarbiš=wa=kan* ° [**k*]*išhi=šši* ° *ēšzi* ° **šiunaš addaš* | (A obv. ii 14) [*mān arunaš* ° **Impal*]*uriyaš *uddar* ° **ištamašta* | (A obv. ii 15) *nu arunaš* ° **Im*[*pal*]*uri *āppa* ° *memiškiuwan dāiš* | (A obv. ii 16) [**Impaluri ... udda*]*r=ta kwie* (A obv. ii 17) [*memiškemi*] | [...] **ištamanan parā* (A obv. ii 18) [...] | (B obv. ii 3) **Impaluri* ° *kē=mu uddār* ° *ištamaš* | (B obv. ii 4) *n=at īt* ° **Kumarbi peran* ° *daššanut* | (B obv. ii 5) *nu īt* ° **Kumarbi* ° *memi* | *kuwat=wa* (B obv. ii 6) ° **peri menaḫḫanda* ° *ka*[*rtimmiy*]*auwanza wet* | (B obv. ii 7) *nu=wa* ° **per* ° *katkattimaš ēpta* | SAG.GÉME.ARAD^{MEŠ}*=ya* (B obv. ii 8) ° *naḫšaraza ēpta* | (A obv. ii 23) [*amm*]*ukk=a=wa=kan* (A obv. ii 24) [...] | (B obv. ii 8) *tuk=wa *menaḫḫanda* ° (B obv. ii 9) **eripi* ° *karū duwarnan* | (B obv. ii 10) **paršur=ya=tta menaḫḫanda* ° *karū* (B obv. ii 11) *zanuwan* | *tuk=ma=wa *menaḫḫanda* ° **šiwatti *išpanti=ya* ° (B obv. ii 12) LÚ.MEŠNAR*=ma=wa* ° **zinar menaḫḫanda* ° (B obv. ii 13) *tiššan ḫarkanzi* | *šarā tīya* | (B obv. ii 14) *nu *parna=ma* ° *arḫa eḫu* | (B obv. ii 15) *n=aš* ° *šarā tīyat* ° **Kumarbiš* | (C obv. ii 18) *nu=šši *Impaluriš* ° *peran iyattari* | (C obv. ii 19) **Kumarbiš=ma* ° [**parnaz=saz*] ° *iyattari* | (C obv. ii 20) *n=aš* ° *iyanniya*[*t*] ° **Kumarbiš* | (C obv. ii 21) *n=aš=kan arunaš* ° **peri anda* ° *pait* |

§6'

(C obv. ii 22) *nu arunaš* ° **memišta* | **Kumarbi=wa* ° (C obv. ii 23) **ḫaššalli ašanna* ° *tiyandu* | (C obv. ii 24) GIŠBANŠUR-*un=ma=w*[*a*]*=šši* ° *peran tiyandu* | (C obv. ii 25) *adanna=wa=šš*[*i* ° *a*]*kuwanna udandu* | (C obv. ii 26) **šieššar=ma=wa=šši* ° *akuwanna udandu* | (C obv. ii 27) **ḫantipšuweš* ° **paršur uter* | LÚ.MEŠSAGI.A*=ma=šši* ° **maliddun *wiyanan* (C obv. ii 28) ° *akuwanna uter* | 1-*ŠU ekwer* | 2-*ŠU ekwer* | (C obv. ii 29) 3-*ŠU ekwer* | 4-*ŠU ekwer* | 5-*ŠU ekwer* | (C obv. ii 30) 6-*ŠU ekwer* | 7-*ŠU ekwer* | *nu *Kumarbiš* ° (C obv. ii 31) **Mukišanui* ° LÚSUKKAL*=ssi* ° *memiškiuwan d*[*āiš*] | (C obv. ii 32) **M*[*ukišanu* ° LÚSUKKA]L*=mis* ° *memiyan=da kwin* ° *memaḫḫi* | (C obv. ii 33) ⌜*nu=mu*⌝ **ištam*[*an* ° *parā*]*=ēp* | **keššarza* ° GIŠGIDRU-*an dā* | (C obv. ii 34) [*pataš=ttaš=ma=za* ° *šar*]*kuš šarkui* | *nu=ī*[*t*] | (C obv. ii 35) [...] | [*n*]*u=kan *witenaš and*[*a ...*] | (C obv. ii 36) [*nu=kan*? *kē ud*]*dār* ° **witenaš* ° *pera*[*n memi*] | (C obv. ii 37) [... **K*]*umarbi* [...] |

§8"

(A rev. iii 10) *ḫaššanuer=an* ° MUNUS^{M}[^{EŠ} ...] | (A rev. iii 11) *nu=*gulšuš* DINGIR.M[AḪ$^{HI.A}$*-uš* ° **pullan karper*] | [*n=an=kan *K*]*um*[*arbi* ° (A rev. iii 12) *g*]*inuwaš ḫalāe*[*r*] | [**Kumar*]*biš=*⌜*za*⌝ ° *a*[*ši* D]UMU.NITA-*a*[*n*] ° (A rev. iii 13) *duškiškiuwan dā*[*iš*] | [*n*]*=an kunkeškiuwan dā*[*iš*] | (A rev. iii 14) *nu=šanezzi *lamān* ° [... *(set / pulli)* ° *p*]*eškiuwan dāiš* | (A rev. iii 15) **Kumarbiš=za* ° [**ištanzani=šši* ° *memi*]*škiuwan dāiš* | (A rev. iii 16) *kwit=wa=šši=kan* ° **lamān* [*teḫḫi*?] | **gulšuš=wa=mu* DINGIR.MAḪ$^{HI.A}$*-uš* ° (A rev. iii 17) *kwin *pullan* ° **piyer* | *nu=war=*[*aš=kan*] ° **twekkaz arḫa* °

šiyatal (A rev. iii 18) *mān ° watkut | paidd[u=wa=ššan] ° *Ullikummi ° *laman ēšdu |* (A rev. iii 19) *nu=war=aš=kan ° nepiši [*haššuizna]nni ° *šarā paiddu |* (A rev. iii 20) *nu=wa=kan *Kummiyan ° *happir[an šan]ezzin ° *katta tamašdu |* (A rev. iii 21) **Tarḫunan=ma=wa ° *walḫdu | nu=war=[an e]zzan *mahhan ° arḫa puššaeddu* (A rev. iii 22) *lalakwešan=ma=war=an=[kan *maḫḫan] ° *patit anda ° pašiḫaeddu |* (A rev. iii 23) **Tašmišun=ma=wa ḫaḫḫa[rin ° *nat]an mān ° arḫa zaḫreškeddu |* (A rev. iii 24) **šiuneš=ma=wa=kan ḫūmanduš ° [nepiš]az *katta ° *šuwaiš *mahhan ° išḫuwāu |* (A rev. iii 25) *nu=war=aš dannaruš ° ^{DUG}ÚTUL$^{ḪI.A}$-u[š][*maḫḫan ° a]rḫa duwarneškeddu |*

Thus, on the first stage of analysis the result is text annotated in this way. Now we can try to theoretically predict possible segmentation for lines (strictly at points of possible line breaks). Clause boundaries cannot always coincide with line breaks, as there are clauses too long or too short in the text (as ii 13 *šarā tīya*). Obviously, in this case the end of a clause can occur inside a line; and yet, depth of segmentation should have been important and lead to frequent matching of clause endings and poetic line breaks.

6. *Segmentation into Poetic Lines Basing on Stress Count*

To divide text into lines, I propose: a) to keep in mind all possible line breaks, according to the principles described above; b) to check all possible variants of status "stressed/unstressed" for various grammatical categories; c) to check all reasonable meter patterns in Hittite verse — all possible options and scenarios: 3, 4, 5 and 6 stresses per line.[7] I am going to demonstrate the results only on one paragraph (§5'), to make my presentation less bulk, though the same has been done, in fact, to all the text of the 1st tablet of "Song of Ullikummi". Sign = marks all the cases of words joining into one accentual group. Sign ---------- marks fragments non eligible for the analysis. Text parts that show irregularities (i.e., 2 stresses per line in 3-stressed count) are marked bold.

§5', 3 stresses per line:
(A obv. ii 9) *nu=*Impaluri[š] ° *uddar aruni=*āppa °*
(A obv. ii 10) *memiškiuw[an]=dāiš | *ḫaššuš=miš=mu=kan kwit °*
---------- (A obv. ii 10) *[...]-at |* ----------
(A obv. ii 11) *nu=za=kan arunan ° tapuša °*
---------- (A obv. ii 12) *[...] | [...]=kan šakuwayanun |* ----------
(A obv. ii 13) **Kumarbiš=wa=kan ° [*k]išhi=šši ° ēšzi °*
****šiunaš addaš |***
(A obv. ii 14) *[mān=arunaš ° *Impal]uriyaš *uddar °*
---------- **ištamašta |* (A obv. ii 15) *nu=arunaš ° *Im[pal]uri=*āppa °*
memiškiuwan=dāiš | (A obv. ii 16) *[*Impaluri ... udda]r=ta kwie* (A obv. ii 17) *[memiškemi] |* [...] **ištamanan parā* (A obv. ii 18) [...] | ----------
(B obv. ii 3) ****Impaluri °***
kē=mu uddār ° ištamaš |
(B obv. ii 4) *n=at=īt ° *Kumarbi=peran ° daššanut |*

7. In this part of my analysis I deal with the hypothesis of accentual nature of the Hittite metrical system, i.e. based on stress count, as a most probable scenario, though Hittite metrical system can theoretically be anything. I leave it to future research to confirm or deflate the idea of accentual verse, considering my results as yielding data to prove one of the scenarios.

(B obv. ii 5) *nu=īt ° *Kumarbi ° memi |*
kuwat=wa (B obv. ii 6) *° *peri menaḫḫanda °*
ka[rtimmiy]auwanza wet | (B obv. ii 7) *nu=wa=*per °*
katkattimaš ēpta | SAG.GÉME.ARAD^{MEŠ}*=ya °*
(B obv. ii 8) *naḫšaraza ēpta |* (A obv. ii 23) *[amm]ukk=a=wa=kan °*
---------- (A obv. ii 24) [...] | ----------
(B obv. ii 8) *tuk=wa *menaḫḫanda °* (B obv. ii 9) ***eripi °***
karū duwarnan |
(B obv. ii 10) ***paršur=ya=tta menaḫḫanda °***
karū (B obv. ii 11) ***zanuwan |***
tuk=ma=wa *menaḫḫanda °
šiwatti *išpanti=ya °
(B obv. ii 12) LÚ.^{MEŠ}NAR*=ma=wa ° *zinar menaḫḫanda °*
(B obv. ii 13) *tiššan ḫarkanzi | šarā=tīya |*
(B obv. ii 14) *nu=*parna=ma ° arḫa eḫu |*
(B obv. ii 15) *n=aš ° šarā=tīyat ° *Kumarbiš |*
(C obv. ii 18) *nu=šši *Impaluriš ° peran=iyattari |*
(C obv. ii 19) **Kumarbiš=ma ° [*parnaz=saz] ° iyattari |*
(C obv. ii 20) *n=aš ° iyanniya[t] ° *Kumarbiš |*
(C obv. ii 21) *n=aš=kan=arunaš ° *peri=anda ° pait |*

Segmentation based on 3-stressed count yields 7 lines with irregularities (out of 28, i.e. 1/4) — they are lines of 2 stresses, or, better, of 4 stresses (2+2). Two of them are right dislocations (***šiunaš addaš, *Impaluri***), normally demanding pauses in speech, i.e. constituting a separate accentual block with deep segmentation on the borders. Other five irregular lines form a separate block of their own, and might be treated as having different meter (say, 4 stresses, 2 hemistichs, the same as in Akkadian verse). Additional evidence for this pattern is graphical: matching of the line start with the beginning of cuneiform line; most of regular lines start from the edge of the tablet; the exception are 4 lines (less than 1/5).

Next, the same paragraph is segmented into lines with 4 stresses, according to our rule of ambiguous words, and our mark-up of possible line breaks.

§5', 4 stresses per line:
(A obv. ii 9) *nu=*Impaluri[š] ° *uddar aruni *āppa °*
(A obv. ii 10) *memiškiuw[an] dāiš | *ḫaššuš=miš=mu=kan kwit °*
---------- (A obv. ii 10) [...]*-at* | ---------- (A obv. ii 11) *nu=za=kan arunan tapuša* (A obv. ii 12) [...] |
[...]=kan šakuwayanun | ----------
(A obv. ii 13) ***Kumarbiš=wa=kan ° [*k]išhi=šši ° ēšzi ° *šiunaš addaš |***
(A obv. ii 14) *[mān=arunaš ° *Impal]uriyaš *uddar ° *ištamašta |*
(A obv. ii 15) *nu=arunaš ° *Im[pal]uri=*āppa ° memiškiuwan dāiš |*
---------- (A obv. ii 16) [**Impaluri ... udda*]*r=ta kwie* (A obv. ii 17) [*memiškemi*] | [...] **ištamanan parā* (A obv. ii 18) [...] | ----------
(B obv. ii 3) **Impaluri ° kē=mu uddār ° ištamaš |*
(B obv. ii 4) *n=at=īt ° *Kumarbi peran ° daššanut |*
(B obv. ii 5) *nu=īt ° *Kumarbi ° memi | kuwat=wa °*

(B obv. ii 6) **peri menaḫḫanda ° ka[rtimmiy]auwanza wet |*
(B obv. ii 7) *nu=wa ° *per ° katkattimaš ēpta |*
SAG.GÉME.ARAD^{MEŠ}=ya (B obv. ii 8) ° *naḫšaraza ēpta |*
---------- (A obv. ii 23) *[amm]ukk=a=wa=kan* (A obv. ii 24) [...] | ----------
(B obv. ii 8) *tuk=wa *menaḫḫanda ° (B obv. ii 9) *eripi ° karū duwarnan |*
(B obv. ii 10) **paršur=ya=tta menaḫḫanda ° karū* (B obv. ii 11) *zanuwan |*
*tuk=ma=wa *menaḫḫanda ° *šiwatti *išpanti=ya °*
(B obv. ii 12) LÚ.MEŠNAR=*ma=wa ° *zinar menaḫḫanda ° (B obv. ii 13) tiššan ḫarkanzi |*
šarā tīya | (B obv. ii 14) *nu=*parna=ma ° arḫa=eḫu |*
(B obv. ii 15) *n=aš ° šarā tīyat ° *Kumarbiš |*
(C obv. ii 18) *nu=šši *Impaluriš ° peran iyattari |*
(C obv. ii 19) **Kumarbiš=ma ° [*parnaz=saz] ° iyattari |*
(C obv. ii 20) *n=aš ° iyanniya[t] ° *Kumarbiš |*
(C obv. ii 21) *n=aš=kan arunaš ° *peri=anda ° pait |*

Poetic lines are longer here, there are less lines, and even less of them are without broken fragments. There are 21 lines eligible for the analysis. Five of them have irregularities (again, around 1/4), but they are heterogeneous, they do not constitute one whole block of text, as in the previous pattern. In general, this pattern is much less consistent: say, preverbs can be consistently unstressed in the 3-stressed pattern (being a part of verb phrase), and in the 4-stressed pattern you need to make some of them stressed, which is somewhat inconsistent.

§5', 5 stresses per line:

(A obv. ii 9) *nu=*Impaluri[š] ° *uddar aruni *āppa °* (A obv. ii 10) *memiškiuw[an]=dāiš |*
---------- **ḫaššuš=miš=mu=kan kwit °* (A obv. ii 10) *[...]-at |* (A obv. ii 11) *nu=za=kan arunan tapuša* (A obv. ii 12) [...] | *[...]=kan šakuwayanun |* ----------
(A obv. ii 13) **Kumarbiš=wa=kan ° [*k]išhi=šši ° ēšzi ° *šiunaš addaš |*
(A obv. ii 14) *[mān arunaš ° *Impal]uriyaš *uddar ° *ištamašta |*
(A obv. ii 15) *nu=arunaš ° *Im[pal]uri *āppa ° memiškiuwan dāiš |*
---------- (A obv. ii 16) *[*Impaluri ... udda]r=ta kwie* (A obv. ii 17) *[memiškemi]* | *[...] *ištamanan parā* (A obv. ii 18) [...] | ----------
(B obv. ii 3) **Impaluri ° kē=mu uddār ° ištamaš |* (B obv. ii 4) *n=at=īt °*
**Kumarbi=peran ° daššanut |* (B obv. ii 5) *nu=īt ° *Kumarbi ° memi |*
kuwat=wa (B obv. ii 6) *° *peri menaḫḫanda ° ka[rtimmiy]auwanza wet |*
(B obv. ii 7) *nu=wa ° *per ° katkattimaš ēpta |* SAG.GÉME.ARAD^{MEŠ}*=ya*
---------- (B obv. ii 8) *° naḫšaraza ēpta |* (A obv. ii 23) *[amm]ukk=a=wa=kan* (A obv. ii 24) [...] | ----------
(B obv. ii 8) *tuk=wa *menaḫḫanda °* (B obv. ii 9) **eripi ° karū duwarnan |*
(B obv. ii 10) **paršur=ya=tta menaḫḫanda ° karū* (B obv. ii 11) *zanuwan |*
tuk=ma=wa *menaḫḫanda ° *šiwatti *išpanti=ya °
(B obv. ii 12) LÚ.MEŠNAR*=ma=wa ° *zinar menaḫḫanda °* (B obv. ii 13) *tiššan ḫarkanzi |*
šarā tīya | (B obv. ii 14) *nu=*parna=ma ° arḫa eḫu |*
(B obv. ii 15) *n=aš ° šarā=tīyat ° *Kumarbiš |* (C obv. ii 18) *nu=šši *Impaluriš °*
peran iyattari | (C obv. ii 19) **Kumarbiš=ma ° [*parnaz=saz] ° iyattari |*
(C obv. ii 20) *n=aš ° iyanniya[t] ° *Kumarbiš |*
(C obv. ii 21) *n=aš=kan arunaš ° *peri=anda ° pait |*

Choosing between different possible points of segmentation, I accounted for parallel syntactic constructions, repetitions and assonances as another means of poetic rhythm (on assonances in Hittite "Song of Release" see Francia 2012), as in lines obv. ii 7–11 (copy B):

SAG.GÉME.ARAD^{MEŠ}***=ya*** */ tuk=ma=wa *menaḫḫanda ° *šiwatti *išpanti****=ya;***
karū *duwarn****an*** */* ***karū*** *zanuw****an***

In B obv. ii 10–11 lines are 4-stressed, but it helps to even the next line (B obv. ii 12) as 5-stressed, with a break matching with one of possible line breaks (points of deep segmentation). Last clauses (obv. ii 20–21, copy C) cannot be divided into 5-stressed lines, and I think it reasonable to put line breaks at the ends of clauses, and the meter is there 3x3, if the clitic chain and the postposition are considered unstressed (as it normally is in the world's metrical systems).

5-stressed pattern yields, therefore, 17 poetic lines, where 4 lines are irregular, having 3 (or 4) stresses. Several lines have something that reminds us of a rhyme (same syllables in ultimate and penultimate positions). Five lines (less than 1/3) do not start at the beginning of cuneiform line in the tablet.

§5', 6 stresses per line:

(A obv. ii 9) *nu=*Impaluri[š] ° *uddar aruni *āppa ° (A obv. ii 10) memiškiuw[an] dāiš |*
*---------- *ḫaššuš=miš=mu=kan kwit ° (A obv. ii 10) [...]-at | (A obv. ii 11) nu=za=kan arunan tapuša (A obv. ii 12) [...] | [...]=kan šakuwayanun | ----------*
(A obv. ii 13) **Kumarbiš=wa=kan ° [*k]išhi=šši ° ēšzi ° *šiunaš addaš | (A obv. ii 14) [mān=arunaš ° *Impal]uriyaš *uddar ° *ištamašta | (A obv. ii 15) nu=arunaš ° *Im[pal]uri *āppa °*
memiškiuwan dāiš |
---------- (A obv. ii 16) *[*Impaluri ... udda]r=ta kwie* (A obv. ii 17) *[memiškemi] | [...] *ištamanan parā* (A obv. ii 18) *[...] | ----------*
(B obv. ii 3) **Impaluri ° kē=mu uddār ° ištamaš |* (B obv. ii 4) *n=at=īt ° *Kumarbi=peran °*
daššanut | **(B obv. ii 5)** ***nu=īt ° *Kumarbi ° memi | kuwat=wa °***
(B obv. ii 6) **peri menaḫḫanda ° ka[rtimmiy]auwanza wet |* (B obv. ii 7) *nu=wa ° *per °*
katkattimaš ēpta | **SAG.GÉME.ARAD^{MEŠ}*****=ya***
---------- (B obv. ii 8) *° naḫšaraza ēpta |* (A obv. ii 23) *[amm]ukk=a=wa=kan* (A obv. ii 24) *[...] | ----------*
(B obv. ii 8) ***tuk=wa *menaḫḫanda ° (B obv. ii 9) *eripi ° karū duwarnan |***
(B obv. ii 10) **paršur=ya=tta menaḫḫanda ° karū* (B obv. ii 11) *zanuwan | tuk=ma=wa *menaḫḫanda ° *šiwatti *išpanti=ya ° (B obv. ii 12) LÚ.MEŠNAR=ma=wa ° *zinar menaḫḫanda ° (B obv. ii 13) tiššan=ḫarkanzi | šarā=tīya |* (B obv. ii 14) *nu=*parna=ma ° arḫa=eḫu |* (B obv. ii 15) *n=aš ° šarā=tīyat ° *Kumarbiš |*
(C obv. ii 18) *nu=šši *Impaluriš ° peran=iyattari |* (C obv. ii 19) **Kumarbiš=ma ° [*parnaz=saz] ° iyattari |*
(C obv. ii 20) *n=aš ° iyanniya[t] ° *Kumarbiš |* (C obv. ii 21) *n=aš=kan arunaš ° *peri=anda ° pait |*

In this case there are 14 lines eligible for the analysis, yet, 3 of them are close to broken fragments, which is relevant for the current pattern, as it has longer lines. Seven lines (1/2 of all) start from inside a cuneiform line in the tablet. One of the pluses of the pattern — it matches well with meter 3x3, as in obv. ii 20–21 (copy C). Unfortunately, one should agree that 6-stressed pattern does not show much regularity, rather, it reminds us that 3-stressed pattern might yield 6-

stressed blocks of 2 hemistichs; 5-stressed pattern can be considered as 3+2. In general, patterns 3+3, 3+2, 2+2 stresses per line, in my opinion, agree with the material best.

7. *Syntax Irregularities, Repetitions and Assonances in "Ullikummi" as Pointing at Line Boundaries*

Our understanding of Hittite syntax, as well as repetitions and assonances gives us yet another means to choose from multiple possible variations of line breaks. In this chapter I am going to demonstrate powerful evidence of syntax and sound matches pointing at line boundaries in "Song of Ullikummi", paragraph 5', clauses 54–60.

Look at the following lines that have been deliberately separated according to one possible scenario (and some intuition involved):

(C obv. ii 10) ***tuk=wa *menaḫḫanda*** ° (C obv. ii 11) **eripi* ° ***karū duwarnan*** |
(C obv. ii 12) **paršur=**ya**=tta* ***menaḫḫanda*** ° ***karū zanuwan*** |
(C obv. ii 13) ***tuk=ma=wa *menaḫḫanda*** ° **šiwatti *išpan**ti=ya*** °
(C obv. ii 14) LÚ.MEŠNAR***=ma=wa*** ° **zinar* ***menaḫḫanda*** ° (C obv. ii 15) *tiššan=ḫarkanzi* | *šarā=**tīya*** |
(C obv. ii 16) *nu=*parna=**ma*** ° *arḫa=eḫu* | (C obv. ii 17) *n=aš šarā=**tīya**t* °
Kuma**rbiš* |
(C obv. ii 18) *nu=šši* ° **impaluriš* ° *peran* ° *iyattari* |

For the glossed text with syllabic transliteration and translation into English, separated into 12 lines (hemistichs), with marks of cuneiform edge, see below.

First, only 4 out of 12 lines do not start from the left edge of tablet (4, 6, 11, 12). First 2 lines can well be treated as hemistichs joining to lines 3 and 5, and the last 2 can be treated as one line, 2 hemistichs, not starting from the cuneiform edge (as a variant).

Second, one can see repeating words *menaḫḫanda* in the end of 1-3-5-7 lines.

Third, there is a chain of Wackernagel's enclitics *=ma=wa* in 5 and 7 lines. If in line 5 it stands in an ordinary second position after the first phonetic word (marking a strong phonetic barrier — *phase*[8]), in line 7 it occurs in the middle of the clause. This hints at a phase before the host of *=ma=wa*, which may well be the poetic line boundary, and offers a purely graphic, i.e. doubtless, argument for the existing of line boundaries inside a clause.

1.
(B obv. ii 8, C obv. ii 10)

tu-uk-wa IGI-anda
tuk=wa **menaḫḫanda* °
PRON.2SG.DAT=QUOT before
"For you"

2.
(B obv. ii 9, C obv. ii 11)

GIŠERIN-pí ka-ru-ú du-wa-ar-na-an

8. For detail on phases and prosody of the Hittite left periphery see Sideltsev, Molina 2015.

**eripi* ° *karū* *duwarnan* |
cedar.ACC.SG.N before.PRV break.PART.NOM.SG
"Cedar has already been broken"

3.
(B obv. ii 10, C obv. ii 12)

TU$_7$.ḪI.A-ya-at-ta me-na-aḫ-ḫa-an-da
**paršur=ya=tta* *menaḫḫanda* °
cooked.dish.ACC.SG.N=and=PRON.2SG.DAT before
"And a cooked dish (soup) for you"

4.
ka-ru-ú za-nu-wa-an
karū (B obv. ii 11) *zanuwan* |
earlier.PRV cook.PART.NOM.SG
"Already cooked"

5.
(C obv. ii 13)

tu-uk-ma-wa IGI-an-da
tuk=ma=wa **menaḫḫanda* °
PRON.2SG.DAT=but=QUOT before
"And for you"

6.
UD^{KAM}-ti GE$_6^{KAM}$-ti-ya
**šiwatti* **išpanti=ya* °
day.DAT.SG.C night.DAT.SG.C=and
"Day and night"

7.
(B obv. ii 12, C obv. ii 14)

$^{LÚ.MEŠ}$NAR-ma-wa! GIŠ ^{d}INANNA$^{ḪI.A}$ me-na-aḫ-ḫa-an-da
$^{LÚ.MEŠ}$NAR=*ma=wa* ° **zinar* *menaḫḫanda* °
singer.NOM.PL=but=QUOT lyre.ACC.PL before
"And singers before lyres"

8.
(B obv. ii 13, C obv. ii 15)

ti-iš-ša-an ḫar-kán-zi ša-ra-a ti-i-ya
tiššan=ḫarkanzi | *šarā=tīya* |
set.3PL.PERF up.PRV=step.up.2SG.IMP
"Have already set". Stand up!

9.
(B obv. ii 14, C obv. ii 16)

nu *I-NA* É-*YA* ar-ḫa e-ḫu
*nu=*parna=ma °* *arḫa=eḫu |*
conn=house.ALL.SG=my off.PRV=come.2SG.IMP
"Come to my house!"

10.
(B obv. ii 15, C obv. ii 17)

na-aš ša-ra-a ti-i-ya-at °
n=aš *šarā=tīyat °*
conn=PRON.3SG.C up.PRV=step.up.3SG.PST
"And he stood up!"

11.
^{d}ku-mar-bi-iš (B obv. ii 16, C obv. ii 18) nu-uš-ši ^{d}im-pa-lu-ri-iš
**Kumarbiš |* *nu=šši °* **impaluriš °*
Kumarbi.NOM.SG CONN=PRON.3SG.DAT Impaluri
"Kumarbi! And Impaluri"

12.
pé-ra-an i-ya-at-ta-ri
peran ° iyattari |
ahead go.3SG.PRS
"Goes before him"

8. *Conclusions*

Thus, two basic things are suggested in the paper, on the basis of "Song of Ullikummi", relevant for the meter analysis: 1) classification of the Hittite morphological categories for their stressability — stressed/unstressed/ambiguous words, based on previously done phonetic experiments with the poetic language; 2) method to determine places of possible poetic line breaks — based on tight/weak links between the words, again, based on previously done phonetic experiments in modern languages. I do not venture to assume that we do know the position of Hittite accent in a word, or if the word was indeed stressed/unstressed. The only assumption I make is that certain groups of words have to be accented anyway in an accentual type of verse. Taking this assumption as a foundation for further consideration, I assume that if (and only if!) the Hittite metrical system was accentual, we are able to count stresses per line (in four possible patterns) and draw conclusions about smoothness of the result. Then we can look at additional ways to make verse regular: coincidence of the cuneiform line beginning with the beginning of a poetic line; assonances, rhyme, and, more important, syntax irregularities that point out at possible line beginnings and help us to choose between multiple possible patterns of poetic line segmentation. The result yielded a piece of "Ullikummi" that indeed look like a verse — where a poetic line is not always a clause, though clause boundaries indeed can frequently mark poetic line boundaries. The method further should be applied to a bigger quantity of poetic texts (Kumarbi cycle, "Song of

Release", "Song of Nesa") and to prosaic texts of the same genre (say, "Myth of Telibinu"), which can lead us in the future to more or less final conclusions about the Hittite metrical system.

9. *References*

9.1. *Dictionaries*:

CHD. Chicago Hititte Dictionary. 1980–. Chicago: Oriental Institute.

HED. Puhvel, J. 1984–. Hittite Etymological Dictionary.

HHW. Tischler, J. 2001. Hethitisches Handwörterbuch.

9.2. *Literature in Russian*:

Akimova, M. 2017. *Approach to syntax analysis in Russian verse. (Podhody k analizu sintaksisa russkogo stiha.)* Trudy Instituta russkogo yazyka im. V.V. Vinogradova 14. Slavyanskiy stih. Moscow.

Kruglova, A., and A. Smirnova, T. Skulacheva. 2017. *Syntax and prosodic seams in lines of Spanish 11-syllabic verse. (Sintaksis i prosodicheskiye shvy v strokah ispanskogo odinnadtsatislozhnika.)* Trudy Instituta russkogo yazyka im. V.V. Vinogradova 14. Slavyanskiy stih. Moscow.

Molina, M. 2017. "Hittite poetic meter: half a century of research. (Hettskaya metrika: polveka issledovaniy.)" *Kritika i semiotika* 1. P. 206–219.

Molina, M. 2018. *Word order in Hittite: corpus methods and analysis in typological perspective.* (Poryadok slov v hettskom yazyke: korpusnye metody i analiz v tipologicheskoy perspektive.) PhD thesis. Institute of Linguistics, Russian Academy of Sciences. Moscow.

Molina, M., and A. Sideltsev. 2014. "Corpus analysis of information structure and clause boundaries in Hittite (on the basis of the Middle Hittite letters)." (Korpusnoye issledovaniye informatsionnoy struktury i granitsy klauzy v hettskom yazyke. Na materiale srednehettskih pisem.) N.N. Kazansky (ed.), *Indoyevropeyskoye yazykoznaniye i klassicheskaya filologiya* XVIII. St. Petersburg: Nauka. P. 657–666.

Skulacheva, T. 2014. "Methods of verse analysis in unknown metrical system." (Metody analiza stiha pri neizvestnoi sisteme stihoslozheniya.) *Vestnik Orenburgskogo gosuniversiteta* 11. P. 41–46.

Skulacheva, T. 2012. "Methods of determining type of meter in non-classical verse." (Metody opredelenija metra v neklassicheskom stihe.) *Izvestiya RAN. Seriya literatury i yazyka* 2. P. 42–55.

Skulacheva, T. 1989. *Interaction between rhythmical organization and syntactic structure in a verse. (Vzaimodeystviye ritmicheskoy organizatsii i sintaksicheskogo postroeniya stihotvornogo teksta.)* PhD thesis. Moscow: MSU.

9.3. *Other references*:

Bachvarova, M. 2011. "The Meter of Hurrian Narrative Song." *Altorientalische Forschungen* Bd. 38/2.

Durnford, S. P. B. 1971. "Some Evidence for Syntactic Stress in Hittite." *Anatolian Studies* 21. P. 69–75.

Francia, R. 2004. "Montagne Grandi (e) Piccole, (Sapete) Perche Sono Venuto? (In Margine a Due Recitative Del Rituale Di Iriya CTH 400–401)." *Orientalia* 73(4). P. 390–408.

Francia, R. 2012. "La struttura 'poetica' degli exempla ittiti nel 'canto della liberazione'." M. Marazzi, N. Bolatti Guzzo, S. Festuccia (eds.). *Centro mediterraneo preclassico. Studi e richerche*

3. Studi vari di egeistica, anatolistica e del mondo mediterraneo. Università degli Studi Suor Orsola Benincasa, Napoli. P. 77–107.

George, A.R. 2003. *The Babylonian Gilgamesh Epic*. Introduction, Critical Edition and Cuneiform Texts. Oxford: Oxford University Press: P. 162–165.

Guichard, M. 2014. *L'épopée de Zimrī-Lîm.* Florilegium Marianum 14. Paris: SEPOA: P. 88–89.

Güterbock, H. G. 1951. "The Song of Ullikummi Revised Text of the Hittite Version of a Hurrian Myth." *Journal of Cuneiform Studies* 5, no. 4. P. 135. https://doi.org/10.2307/1359008.

Hecker, K. 1974. *Untersuchungen zur akkadischen Epik*. Alter Orient und Altes Testament Sonderreihe 8. Neukirchen-Vluyn: Neukirchener Verlag: 113, P. 130–135.

Jiménez, E. 2017. *The Babylonian Disputation Poems: With Editions of the Series of the Poplar, Palm and Vine, the Series of the Spider, and the Story of the Poor, Forlorn Wren*. Culture and History of the Ancient Near East, v. 87. Leiden; Boston: Brill.

Lambert, W.G. 2013. *Babylonian Creation Myths*. Mesopotamian Civilizations 16. Winona Lake: Eisenbrauns: 21.

Kloekhorst, A. 2014. *Accent in Hittite. A Study in Plene Spelling, Consonant Gradation, Clitics, and Metrics*. StBoT 56. Wiesbaden: 602.

McNeill, I. 1963. "The Meter of the Hittite Epic." *Anatolian Studies* 13. P. 237–242.

Melchert, H. C. 1998. "Poetic Meter and Phrasal Stress in Hittite." J. Jasanoff, H.C. Melchert, L. Oliver (eds.), *Mir Curad — Studies in Honor of Calvert Watkins*. Innsbruck. P. 483–494.

Melchert, H. C. 2007. "New Light on Hittite Verse and Meter?" Jones-Bley, K., et al. (eds.) *Proceedings of the Eighteenth Annual UCLA, Indo-European Conference, November 3–4, 2006.*

Sideltsev, A. forthcoming. "Hittite Prosody: Unstressed proclitic nu vs stressed sequence nu + enclitics?" *Indogermanische Forschungen*.

Sideltsev, A. V. 2017. "Accented Clitics in Hittite?" *Trans Philologic Soc*, 115. P. 176-211. doi:10.1111/1467-968X.12097.

Sideltsev, A., M. Molina. 2015. "Enclitic -(m)a, clause architecture and the prosody of focus in Hittite." *Indogermanische Forschungen* 120. P. 209–254.

Skulacheva, T. 2014. "Verse and Prose: A Linguistic approach." *Poetry and Poetics: A Centennial Tribute to Kiril Taranovsky*. Bloomington, Slavica Publishers.

von Soden, W., 1981, "Untersuchungen zur babylonischen Metrik, Teil I." *Zeitschrift für Assyriologie* 71. P. 161–204.

Tarlinskaja, M. 1984. "Rhythm — Morphology — Syntax — Rhythm." *Style*. 1984. Vol. 18(1). P. 1–26.

Tarlinskaja, M. 1987. "Meter and Mode: English iambic Pentameter, Hexameter, and Septameter, and their Period Variations." *Style*. 1987. Vol. 21(3). P. 400–426.

Tropper, J. 2012. "Alternierende Metrik in der akkadischen Poesie." R. Hasselbach and N. Pat-El (eds.), *Language and Nature: Papers Presented to John Huehnergard on the Occasion of His 60th Birthday.* Studies in Ancient Oriental Civilization 67. Chicago: The Oriental Institute. P. 433–442.

Weeden, M. 2013. "Poetry and War among the Hittites." Kennedy, H. (ed.) *Warfare and Poetry in the Middle East*. London & New York. P. 73–98.

West, M.L. 1997. "Akkadian poetry: Metre and Performance." *Iraq* 59. P. 175–187.

Zimmern, H. 1893. "Ein vorläufiges Wort über babylonische Metrik." *Zeitschrift für Assyriologie* 8. P. 121–124.