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## Notes on Hurro-Urartian Phonology and Morphology

### Abstract

Based on the correspondences between Hurrian and Urartian obstruents and affricates the author presents her view on the proto-Hurro-Urartian phonological system and its transformation and further evolution in Hurrian and Urartian.

In the second paragraph the author discusses the different reflexes of the Hurrian labial spirant and sonorant phonemes in Urartian and proposes her interpretation of the Urartian genitive/dative plural marker *-ave* against its singular counterpart *-(i)y* (gen.)/*-ye* (dat.).

In the last paragraph she postulates, that the vowel *-i-* in the imperfective/present tense ergative forms in both Hurrian and Urartian go back to the Hurro-Urartian valency marker *-i/-ia*.

Keywords: Phonological System, Labial Sonorant, Valency-marker

### 1. Obstruents and affricates

#### 1.1. Urartian

The phonological system of Urartian is characterized by three sets of obstruents and affricates denoted by cuneiform signs for voiced (b, d, g, z), voiceless (p, t, k, s) and emphatic (ṭ, q, ṣ) consonants of Akkadian.

Of certain help for establishing the phonological character of these phonemes are the Urartian loans in Armenian, as well as the foreign renderings of the geographical names attested in the Urartian corpus<sup>1</sup>.

Urartian	Armenian
1. ṣu-e “lake, sea”	<i>cov</i> “sea”
2. ṣa-ri “orchard”	<i>car</i> “tree”
3. ul-ṭu “camel”	<i>ult</i> , ditto
4. a-bi-li-a-ni-ḫi	<i>Abelean-k</i> <sup>‘</sup>
5. al-zi-	<i>Ałzni-</i>
6. ga-u-ra-ḫi	<i>Gawre-k</i> <sup>‘</sup>
7. ṣu(-ú)-pa-	<i>Cop</i> <sup>‘</sup> -

<sup>1</sup> Especially revealing are the Armenian renderings, as, in all likelihood, they are direct, with no intermediate phonological system.

8. ʃu-lu-qu	<i>Čluk</i>
9. qu-ṭu-me-e	<i>Kotom</i>
10. ṭu-uš-pa-	<i>Tosp</i>

From the correspondences cited above it follows that the Urartian obstruents and affricates denoted by signs for voiced consonants were rendered as voiced in Armenian (cf. ## 4–6), those denoted by voiceless graphemes corresponded to Armenian voiceless aspirates (cf. 7), whereas the graphically emphatic phonemes were reflected in Armenian as voiceless ones (cf. ## 1–3, 7–10)<sup>2</sup>.

Thus, we may conclude that the representatives of the first set of Urartian consonants were phonetically voiced, those of the second set were voiceless aspirates and those of the third set were phonetically unvoiced, with a certain feature, unknown in Armenian, perhaps, glottalized/abruptive (I. M. Diakonoff (1971), 45, 52–53).

### 1.2. Hurrian

The consonantal system of Hurrian consisted of two sets of phonemes, correlated on the basis of tenseness, according to H.-J. Thiel (1975), 117. The “tense” phonemes, as a rule, were denoted by double consonants in the Mitanni Letter and the texts from Boghazköy and by voiceless consonants in Ugaritic script (*Kulitta* = klt, *Ninatta* = nnt, *attanni* = atn). The latter fact attests of their being phonetically voiceless.

The simple “non-tense” correlates of the “tense” phonemes were denoted by single consonants. The use of the latter was indifferent to the feature of voicing (ar-di//ar-te, e-ni-da//e-ni-ta, ka-ti-ik-ki//ga-ti-ik-ki, pí-te-in-ḫi-//bi-di-en-ḫi- etc). However, the texts written in Ugaritic script indicate that they were voiceless in word-initial position and in contact with other consonants, voiced in intervocalic position, in contact with sonants and in final position (*Kubaba* = kbb, *Nubadig* = nbdg, *arde* = ard, *aštuḫḫe* = ašth). This gives us reason to assume that the opposition by voicing was not relevant in Hurrian, yet the Hurrian evidence is not sufficient for establishing the differentiating feature by which the two sets of the obstruents and affricates were distinguished.

### 1.3. Hurro-Urartian phonological correspondences

Some light on the character of Hurrian phonemes may spread the phonetic correspondences between Hurrian and Urartian.

<b>Hurrian</b>	<b>Urartian</b>
1. a-g/k(V-) “to lead, to bring”	a-g(V-) “to lead, to build (a canal)”
2. at-ta-i(-) “father”	a-te(-), ditto
3. d/tu-ru-(u-)bi(-) “enemy”	du-ur-ba-i- “rebellious, hostile”

<sup>2</sup> For lack of a special sign for emphatic labial stop in cuneiform, the p-signs denoted two different phonemes, reflected as voiceless *p* and voiceless aspirate *p*<sup>\*</sup> in Armenian, cf. Urart. ṭu-uš-**pa**- ~ Arm. *Tosp*, Urart. ʃu(-ú)-**pa**- ~ *Cop*<sup>\*</sup>-.

4. e-t/di(-) “body”, postposition “for, with respect to”	e-di-, the same postposition
5. ḫu-d/ta-an-ni “destiny”	ḫu-ṭu-tú-ḫi “luck, success”
6. pí-sa-an-d(V-) “to rejoice”	pi-za(or ṣa?)-d(i-), ditto
7. -uz-zi, adjectival suffix	-(C)u-si, ditto
8. -(C)i-t/dV(-), verbal suffix of plurality	-(C)i-tú(-), ditto
9. -Vš-t(V-), verbal suffix	-Vš-t(V-), ditto

The comparison of the common Hurro-Urartian vocabulary and grammatical affixes reveals the following correspondences:

Hurr. non-tense (single writing)	Uart. graph. voiced (cf. ##1, 3, 4, 6 <sup>3</sup> ), voiceless (cf. ##8, 9), emphatic (cf. ##5, 6 <sup>4</sup> );
Hurr. “tense” (double writing)	Uart. graph. voiceless (cf. ##2, 7)

As the graphemes for voiceless obstruents and affricates in Urartian, apparently, denoted voiceless aspirates (cf. 1.1), the correspondence of the Hurrian “tense” obstruents and affricates to those denoted by signs for voiceless consonants in Urartian allows us to assume that the Hurrian “tense” phonemes were aspirated as opposed to the “non-tense” ones and that the double writing in Hurrian marked aspiration<sup>5</sup>.

The correspondence of the Urartian abruptive phonemes (graph. emphatic) to the Hurrian “non-tense” ones attests of the deglottalization of the abruptives and their merge with the set of the “non-tense” (simple) phonemes in proto-Hurrian.

And, finally, from the correspondence of the Hurrian “non-tense” phonemes to either voiced, or voiceless graphemes without visible regularity (cf. ##1, 3, 4, 6, 8, 9) we may infer, that against the Hurrian “non-tense” phonemes we had two sets of simple phonemes in Urartian: voiced and voiceless. This may mean:

- either that along with voiced, voiceless aspirates and abruptives, Urartian possessed a fourth set, that of simple (unaspirated) voiceless phonemes, cf. Table 1, Urartian (1),
- or that the Urartian voiceless phonemes, which correlated with Hurrian simple phonemes belonged to the same set, as the voiceless aspirates, cf. Table 1, Urartian (2)

<sup>3</sup> In case the sign ZA stood in this word for za.

<sup>4</sup> In case the sign ZA stood for ṣa.

<sup>5</sup> The phonological system of Hurrian, with two sets of obstruents and affricates correlated on the basis of aspiration, as well as their graphical realization (single writing for non-aspirates vs. double writing for aspirates) is comparable to that of Hittite, cf. (Th. V. Gamkrelidze (1982), 78–79). This similarity may have resulted from mutual contacts of these languages.

Table 1. Hurro-Urartian phonological correspondences

Hurrian	Simple (“non-tense”)			“Tense” (voiceless aspirates)
	$P, T, K, C (TS)^1$			$p^{\text{‘}}, t^{\text{‘}}, k^{\text{‘}}, c^{\text{‘}} (ts^{\text{‘}})^2$
Urarian (1)	Abruptive	Voiced	Voiceless	Voiceless aspirates
	$p^{\text{‘}}, t^{\text{‘}}, k^{\text{‘}}, c^{\text{‘}} (ts^{\text{‘}})^3$	$b, d, g, z (dz)^4$	$p, t, k, c (ts)^5$	$p^{\text{‘}}, t^{\text{‘}}, k^{\text{‘}}, c^{\text{‘}} (ts^{\text{‘}})^6$
Urtarian (2)	Abruptive	Voiced	Voiceless aspirates	
	$p^{\text{‘}}, t^{\text{‘}}, k^{\text{‘}}, c^{\text{‘}} (ts^{\text{‘}})^3$	$b, d, g, z (dz)^4$	$p^{\text{‘}}, t^{\text{‘}}, k^{\text{‘}}, c^{\text{‘}} (ts^{\text{‘}})^6$	

**Notes to Table 1:** **1.** Graph. b/p, d/t, g/k, z/s. **2.** Graph. pp/bb, tt/dd, kk/gg, ss/zz. **3.** Graph. p, t, q, š. **4.** Graph. b, d, g, z. **5.** Graph. p, t, k, s. **6.** Graph. p, t, k, s.

1.4. Proto-Hurro-Urartian

I. M. Diakonoff (1971), 53, based on the correlation of graphically single and double phonemes in Hurrian and the opposition of voiced, voiceless and emphatic signs in Urartian suggested for proto-Hurro-Urartian a six-set phonological system, with single and reduplicated variants of voiced, voiceless and abruptive obstruents and affricates.

This reconstruction, repeated in (M. L. Khachikyan (1985), 43), was recently revised by the author: we suggested a three-set system, consisted of non-tense (with voiced and voiceless allophones), tense and abruptive phonemes (M. L. Khachikyan (2009)). The further evolution of this system, in our opinion, resulted in

- deglottalization of the abruptive phonemes and their merge with the simple (non-tense) phonemes in proto-Hurrian;
- deintensification of the tense phonemes, on the one hand, and phonologization of the voiced and voiceless allophones of the non-tense phonemes, on the other, in proto-Urartian.

The observations given above, however, provide some correctives to this view. We fully realize, though, that the reconstruction presented below cannot be final and is liable to revision.

Given the fact, that the Hurrian “tense” obstruents and affricates are likely to be voiceless aspirates, we may assume that the corresponding proto-Hurro-Urartian phonemes were articulated with marked aspiration.

The Hurrian system was formed in result of deglottalization of the abruptives and their merge with simple (“non-tense”) phonemes. The phonemes of this set were denoted by single writing as opposed to the aspirates, denoted by double writing, cf. Table 2.

Table 2. Formation of the Hurrian phonological system

PHU	Simple (“non-tense”)	Abruptives	“Tense” (aspirated)
Hurrian	“Non-tense” (non-aspirated)		“Tense” (voiceless aspirated)

The Urartian phonological system arose in consequence of phonologization of the voiced and voiceless allophones of the simple phonemes and the ensuing split of this set into those of voiced and voiceless phonemes, cf. Table 3, Step 1.

In case Urartian possessed only 3 sets, those of voiced, voiceless aspirates and abruptives, another step in the development of the proto-Urartian phonological system may be assumed, i.e. merge of the sets of voiceless (“non-tense”) and voiceless aspirated (“tense”) phonemes, cf. Table 3, Step 2.

Table 3. Formation of the Urartian phonological system

PHU	“Non-tense”		“Tense” (aspirated)	Abruptives
Urartian (step 1)	Voiced	Voiceless	(Voiceless) aspirates	Abruptives
Urartian (step2)	Voiced	Voiceless aspirates		Abruptives

## 2. The labial spirant *v/f* and sonant *w* in Hurrian and Urartian

The cuneiform script having no special graphemes for denoting labial fricatives, these phonemes were rendered by means of either *b/-p*-signs, or by *u/ú*. The alternation of these graphemes in identical morphemes reveals the fricative character of the corresponding phonemes. Though there is no explicit evidence of the existence of both *\*v/f* and *\*w* in Hurro-Urartian, the different reflexes of the Hurrian labial spirants in Urartian indicate to the existence of two different phonemes. In Urartian, in a number of cases we have a labial spirant against the Hurrian intervocalic labial spirant (cf. below, ##1 and 2), in others – *y* (##3–6).

### Hurrian

1. –ab/-a-ú(-), 1<sup>st</sup> p. sg. ergative affix
2. pa-(a-)ba-an-/wa-(a-)wa-(a-)an-  
/wa-(a-)pa-an- “mountain”
3. a-b/wi(-), interrogative/  
indefinite pronominal stem
4. –pa/-wa/-ú-a(-), dative marker
5. –bi/-be/-we/-ú-e(-), genitive marker
6. -(C)i-(e-)wa(-), conditional/subjunctive marker

### Urartian

- bi/-ú-<sup>6</sup>, ditto
- ba-ba-ni(-), ditto
- a-i-, ditto
- (C)i-(i-)e, ditto
- (C)i-i(-), ditto
- (C)i-e, -(C)i-a-, ditto

From this fact it follows, that in Urartian one of these two phonemes, apparently, the labial sonant *\*w*, was transformed into *y* in intervocalic position (I. M. Diakonoff (1971), 54, note 55). Yet the fact, that against the genitive and dative case markers –(i)y(-) and –ye in singular we have –a-ú-e in plural seems to call in question this rule. This contradiction,

<sup>6</sup> The identity of this morph to the Hurrian 1 p. sg. ergative affix was shrewdly revealed by I. M. Diakonoff, cf., in particular (1971), 124.

however, may be solved if we consider the genitive/dative plural marker -a-ú-e in the context of other plural case markers: directive -*ašte* (DINGIR-*ašte* *Vyay-n(e)-ašte* “to the gods of Vyaynele”, KUKN 173 II<sub>9</sub> et al.), directive-ablative (*Ĥati(y)-n(e)-aštane aptine* “from the side of Ĥati(y)nele”, *ibid.*, 44 obv.<sub>7</sub>), comitative -*arane* (*taršuan(e)-arane* “with people”, *ibid.* 173 II<sub>45</sub>). The presence of the plural marker -*aš-* in directive and directive-ablative and its absence in genitive, dative and comitative allow us to infer, that the final -*š-* of the plural marker was assimilated to the following sonant: \**šw*>\**ww*>*vv* (with desonorization of the sonant *w*), \**šr*>*rr*<sup>7</sup>. That we deal here with assimilation rather than loss of -*š-*, follows from the genitive/dative marker: in case it were simply lost, we would have the form -*\*aye*, according to the rule of transformation of the intervocalic *w* into *y*.

From the aforesaid it follows, that the Hurrian intervocalic labial spirant should be preferably transcribed as *v*, if it corresponds to the Urartian labial spirant and as *w*, if we have *y* against it in the corresponding Urartian forms: -*av*, *favane*, but: *awe(-)*, -*wa*, -*we*, -*ewa*.

### 3. The verbal suffix -*i(a)*- in Hurro-Urartian

#### 1.1. Hurrian

The thematic vowel -*i-* has been defined as a marker of transitivity<sup>8</sup>, of neutral aspect (i.e. of ergative present tense conjugation) and transitivity<sup>9</sup>, transitive and antipassive<sup>10</sup>, transitive non-ergative<sup>11</sup>, of middle and antipassive forms<sup>12</sup>.

All these interpretations are based on the semantics of the forms containing the morph in question. It is present<sup>13</sup>

- a) in antipassive constructions: *ela ... tand-i-b ... Allane* “Allane...arranged...a feast”, KBo XXXII 13 I<sub>12-13</sub>;
- b) in forms of middle/reflexive semantics: *pisandož-i-tta-* “I rejoiced”, Mit. IV<sub>9</sub>;
- c) in some forms (2<sup>nd</sup> p. sg., 3<sup>rd</sup> p. sg., 3<sup>rd</sup> p. pl.) of the ergative imperfective/present tense conjugation: *pali(y)o* “you know”, ChS I/1 3 Vs. 32,3 et al.; *pali(y)a* “he knows”, Mit. III<sub>46</sub>; *itki(y)až* “they purify”, ChS I/1 5 III 31, 39 et al.

The vowel -*i-* in the imperfective/present tense ergative forms was recently viewed by the author as a constituent element of the ergative subject marker, not a separate morph (M. L. Khachikyan (2005), 244). However, this suggestion does not stand up to criticism. As it was

<sup>7</sup> Double writing being alien to Urartian orthography, this phenomenon had no graphical expression.

<sup>8</sup> E. A. Speiser (1941), 148; F. W. Bush (1964), 206; J. Friedrich (1968), 18; I. M. Diakonoff (1971), 118; I. Wegner (2007), 90–91.

<sup>9</sup> M. L. Khachikyan (1985), 90.

<sup>10</sup> Ch. Girbal (1992), 171–172; J. Hazenbos (2005), 147–148.

<sup>11</sup> M. Giorgieri (2000), 232; G. Wilhelm (2004), 111.

<sup>12</sup> M. L. Khachikyan (1999), 260.

<sup>13</sup> I'll confine myself to the affirmative forms of the indicative mood.

shown by E. A. Speiser (1941), 161, the ergative markers are related to possessive suffixes, yet the vocalic element of the first person possessive suffix does not coincide with that of the ergative marker, cf. poss. *-iffV(-) ~ erg. -av*. Moreover, in negative forms the vowel *-i* precedes the negative suffix *-wa-*, not the ergative marker, cf. 1<sup>st</sup> p. sg. *-i/yoffV* (<\*-i-w(a-a)ffV), 1<sup>st</sup> p. pl. *-i/yoffuž* (<\*-i-w(a-a)ffuž), 2<sup>nd</sup> p. pl. *-i/yoššo* (<\*-i-w(a-a)ššo).

Hence, in spite of the absence of the vowel *-i-* in the 1<sup>st</sup> p. affirmative forms, it is more preferable to separate this vowel from the ergative suffix and identify it with the morph under discussion.

### 3.2. Urartian

The Urartian counterpart of the morph at issue, *-ia-/-i-* (in the 3<sup>rd</sup> p. sg.), appears in non-ergative forms of mediopassive and reflexive semantics (*haš-ia-l(e)-* “they listened, lent ear to”, KUKN 176<sub>12</sub> et al.; *kuluarš-i-be* “he fled, escaped”, ibid. 241 F<sub>27</sub>; *sulušt-i-be* “he prostrated himself”, ibid. 53<sub>14</sub> et al.; *hišan-i-be* “it was cultivated (??)”, ibid. 148<sub>27</sub>, 149<sub>27</sub>; *naḥ-i-be* “it was planted (?)”, ibid. 148<sub>28</sub>, 149<sub>28</sub>)<sup>14</sup> and in the poorly attested ergative imperfective conjugation (*uye ... paliave* “I do not ... know (?)”, KUKN 520 rev.<sub>2</sub><sup>15</sup>; *w/vešīavle*<sup>16</sup> “I rule (?) over-them”, ibid. 406 obv.<sub>20, 29</sub>, 407 obv.<sub>16, 22</sub>; *al-i-(i)e* “he says”, ibid., passim; *uye ... ar-i-(i)a-ne* “he does not ... give her/it (?)”, ibid. 446<sub>8</sub>; *tiy-i-(i)a-ne* “he says-it”, ibid. 125<sub>3</sub>, 143<sub>2</sub>; *w/veši(i)e*<sup>16</sup> “he rules (?)”, Gövelek obv. 7;

<sup>14</sup> In Urartian texts no examples of antipassive construction are attested or, at least, have been revealed.

<sup>15</sup> The form *pa-li-a-bi* attested in a Karmir-blur letter isn't likely to be a 3<sup>rd</sup> p. sg. non-ergative form with the morph *-i(a)-*, because the 3<sup>rd</sup> p. sg. absolute subject marker *-be* is usually preceded by the allomorph *-i-*, not *-ia-*, cf. the above cited *kuluarš-i-be*, *hišan-i-be*, *naḥ-i-be*, *sulušt-i-be*. Neither can it be interpreted as a form of the subjunctive/conditional mood with the suffix *-eya/-eye* (graph. *-i-a/-i-e-*), as the subject marker *-be* does not appear after this suffix, cf. *aluše paḥanele ištine šul-eya-le ... aluše nir'be ištine ḥaul-eye ... turine Haldiše Teyšebaše Šiviniše mane* “whoever steals the cattle from here ... whoever takes away the property (?) from here ... may H.T., Š. annihilate him” (KUKN 80<sub>6-13</sub>). If I. Yakubovich's interpretation of the forms *pa-li-a-bi* and *a-ri-a-ni* as negative ones with the affix *\*-ya*, parallel to the Hurrian negative morph *-wa* (oral communication), proves to be correct, they should be analysed as *\*ar-i-ya(neg.)-a* (3<sup>rd</sup> p. erg.)-*ne*, *\*pal-i-ya(neg.)-ave* (1<sup>st</sup> p. erg.).

<sup>16</sup> In the forms *w/vešīavle* and *w/veši(i)e* (graph. *ú-e-ši-i-gi*) the vowel *i* that follows the root consonant *š* was ascribed to the verbal root by the author (*w/vešy-*) (M. L. Khachikyan (2005), 246–247). This assumption was based on the fact, that the vowel *i* is also present in *ú-e-ši-ú-a-li* (KUKN 38 I<sub>9</sub>, II<sub>14</sub>), evidently, a perfective form (with 3<sup>rd</sup> p. sg. subject marker *-a* and 3<sup>rd</sup> p. pl. object marker *-le*), where the morph *-i(a)-* seems to be out of place. Note, however, the absence of *i* in the related substantive *ú-e-še-la-(a)-še* “rule(?)” (E. Grekian (2004), 231), as well as the alternation *-i-/Ø* in the forms *te-ši-ú-ni* “he built/made (the fountain)” in KUKN 158A<sub>7</sub>, B<sub>4</sub>, C<sub>7</sub>, D<sub>7</sub> (on the interpretation of this verb cf. M. Salvini (1981), 71), and *te-šú-li-e* “(when an orchard) is laid out...” (KUKN 82<sub>24</sub>), *me-ši-ú-li-ni* (ibid., 38 I<sub>31</sub>, II<sub>63</sub>) and *me-šú-li* (ibid., 38 I<sub>30</sub>, II<sub>62</sub>, 122<sub>4</sub>, 124), meaning unknown. The alternation of forms with grammatically not motivated *i* with those without this vowel, gives reason to presume, that the vowel in question had no grammatical meaning. It was, perhaps, used to render a certain phonetical feature (palatality?) of the preceding consonant.

### 3.3. The function of the morph *-i(a)-* in ergative forms

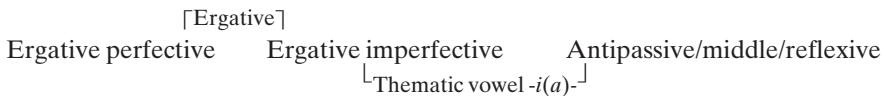
From the aforesaid it follows, that the morph *-i(a)-* was used in non-ergative forms of middle/reflexive semantics, on the one hand, and in ergative forms, on the other.

The opposition of *-i(a)-* to the marker of transitivity *-o-* in both languages, as well as the middle semantics of the non-ergative forms containing this morph, attest unambiguously of its being a non-transitive marker, apparently, a marker of non-centrifugal version.

Given the fact, that the antipassive (transitive non-ergative) constructions are characterized by low degree of transitivity (P. J. Hopper – S. A. Thomson (1980), 268 ff.), the use of the morph *-i-* in antipassive forms in Hurrian is quite explicable.

As to the presence of this non-transitive morph in ergative forms, transitive by definition, this incongruence may be reconciled, if we take into consideration that *-i(a)-* is only present in the forms of the imperfective/present tense conjugation, which signal lower degree of transitivity as compared with the perfective/past tense forms.

Thus, in the Hurro-Urartian ergative perfective forms, which display the highest degree of transitivity, the ergative subject markers appear in combination with the transitivity marker *-o-*. The ergative imperfective forms share with the former the feature of ergativity, but differ from them by the thematic vowel (*-o-* vs. *-i-*). On the axis of transitivity these forms are followed by antipassive forms, which coincide with the medial/reflexive ones. Having in common with the imperfective forms the thematic vowel *i(a)-*, they differ from the latter in the way of subject marking (ergative vs. absolutive), see Figure below.



It should be noted, that unlike the forms of the non-ergative (absolutive) conjugation, in which the thematic vowel in question was used in its original function of valency marker, in ergative forms both the transitivity marker of the perfective conjugation *-o-* in old Hurrian<sup>17</sup> and Urartian, as well as the non-transitive vowel *-i(a)-* of the imperfective conjugation had obtained a new function, that of perfectivity vs. imperfectivity markers.

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<sup>17</sup> Despite the fact, that in old Hurrian the 1<sup>st</sup> and 2<sup>nd</sup> person perfective forms are not attested, while the 3<sup>rd</sup> person forms are not built according to the ergative pattern (they contain the non-ergative morph(s) *-b* and/or *-m*), the conjugation of the old Hurrian imperfective forms according to the ergative pattern (*kad-i-(y)a* “he says”, KBo XXXII 15 IV<sub>13</sub>; *talašt-av* “I will take away”, ibid. 19 I<sub>35</sub>) implies, that the perfective conjugation was also ergative, while the 3<sup>rd</sup> person forms are relics of a previous, pre-ergative stage of Hurro-Urartian, cf. M. L. Khachikyan (2005), 243.



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