To: Unicode Technical Committee

From: Debbie Anderson, SEI, UC Berkeley

Subject: Uppercase of U+0587 ARMENIAN SMALL LIGATURE ECH YIWN

Date: 13 May 2020

Markus Scherer relayed a bug report about the uppercase of ARMENIAN SMALL LIGATURE ECH YIWN. The following summarizes expert feedback.

The question posed to experts was: What is the uppercase of the following letter? 0587 L ARMENIAN SMALL LIGATURE ECH YIWN

Is it:

0535	\boldsymbol{b}	ARMENIAN CAPITAL LETTER ECH +
0552	þ	ARMENIAN CAPITAL LETTER YIWN

or

0535	\boldsymbol{b}	ARMENIAN CAPITAL LETTER ECH +
054E	ų	ARMENIAN CAPITAL LETTER VEW

(For comparison, lowercase forms are listed below)

0565 & ARMENIAN SMALL LETTER ECH

0582 🖌 ARMENIAN SMALL LETTER YIWN

057E 4 ARMENIAN SMALL LETTER VEW

The general answer, based on feedback below, is:

U+0587 uppercases to U+0535 + U+0552 in Western Armenia (and Eastern Armenian speakers in Iran) U+0587 uppercases to U+0535 + U+054E in Eastern Armenia ("Armenia" and those Armenians from former Soviet Union)

------ Forwarded message ------From: **Myrna Douzjian** <douzjian@berkeley.edu> Date: Thu, Apr 30, 2020 at 11:23 PM

WESTERN ARMENIAN (and E ARMENIAN IN IRAN AND DIASPORA)

In Western Armenian and in Eastern Armenian as it is used in Iran and in institutions throughout the diaspora, the all caps form is bh (ECH+YIWN). As a side note, Western Armenian and Eastern Armenian outside Armenia¹ do not use the ligature as frequently as publications from Armenia; oftentimes, even in the lower case form, they opt for the two distinct letters L^2

¹ Luc Baronian notes that Russian Armenians, Georgian Armenians, and other Armenians from the former Soviet Union generally use the reformed spelling (i.e., "Eastern Armenian" defined on page 3). This also applies to recent immigrants in California from Armenia and Russia. Primarily it is the Iranian Armenians who are Eastern speakers but don't use the reformed spelling.

² Luc Baronian agrees that the ligature is not used in Western Armenia as systematically as in Armenia (Eastern Armenia), though he thinks having the two letters spelled out in Western Armenian is rather rare.

1. For example, on the following dictionary page (p. 588), the fifth entry shows <code>th [ECH+ YIWN]</code> in all caps:

http://nayiri.com/imagedDictionaryBrowser.jsp?dictionaryId=8&dt=HY_HY&query=%D4%B5%D6%82

[Gnel Ark'eps. Chērēchean, P'aramaz K. Tōnikean. Hayots' lezui nor bararan. Arajin hator. A-H. (Pēyrut' : K. Tōnikean ew ordik' hratarakatun, 1992.) [Gnel Archbishop Chercherian and Paramaz K. Tonikian. A New Dictionary of the Armenian Language. Volume I. Letters A-H. Beirut: K. Tonikian and Sons Press, 1992.]

ԵՒ, 2. 1. համադասական շաղկապ՝ *որ* ասաքին մէջ Համադաս՝ նոյնօրինակ՝

The definitions of th continue in the second column (below), where the second word on the first line is the [ECH+ YIWN]. The dictionary doesn't use the ligature in the lower case and opts for the distinct letters instead.

կոյն եւ եթ՝ այսօ՛ր իսկ, ա՛յս

2. And here is another example, this time an image of the cover of a Western Armenian book:

https://www.aniarc.am/2016/11/17/new-publications-november-2016-gevork-yazijian/

다 [ECH+ YIWN] is in the middle of the all caps title.



EASTERN ARMENIAN (in Armenia)

In Eastern Armenian as it is used in Armenia, the all caps form is b + (ECH + VEW). This is because the Soviet orthographic reform eliminated the letter b + (YIWN), upper case and lower case) from the alphabet.³ (However, Eastern Armenian keyboards include b + b because the letter appears in the compound vowel nL in the reformed spelling. The compound vowel is treated as a single letter, similar to the ligature L.⁴)

3. For example, here is the same entry in a Soviet Armenian (Eastern Armenian) dictionary:

http://nayiri.com/imagedDictionaryBrowser.jsp?dictionaryId=29&query=%D5%A5%D5%BE

[Hrachya Acharyan Language Institute. Publishing House of the Academy of Sciences of the Armenian SSR, Yerevan, 1969]

The last entry in the left hand column (below) is ৮৭.

ԵՎ, 1. Միավորիչ շաղկապ. Գործածվում է կապակցելու համազոր նախադասություններ։ *Օդը մեղմ էր ու տաբուկ, եր-*

If you scan the definition, you will notice frequent use of the ligature \mathfrak{l} (circled). You will notice that in the first three cases it stands alone. In the fourth case, it is one of the letters in a word.

ԵՎ, 1. Միավորիչ շաղկապ. Գործածվում է կապակցելու համազու նախաղասություննեւ: Օդը մեղմ էր ու տաքուկ, երկինքը՝ պարզ և սստղաղարդ (Մ)։ Գնում էին կալանաքաղաք և չէին կարովոր նախարարների կողքով դեպի ղանում զսպել իրենց վիշտն ու ղերը... առկայծում են կարոտագին, ցասումը (ԴԴ)։ Աստ*երագուն*՝ Swdbndwբար իրար կապված (և) բաժան $(4S)_i$ 2. 4mmuhgnud b nrnůf նշանակում են գործողության կրկնվող բառերը, սևականություն, ուժեղացում, հատկանիշի, ուակի սաստկացում։ 3. Կապակցում է երկու այնպիսի puntr, nrn&f իմաստ են աբտանալտում, ու։ միասին մհ 4. 4wwwb-

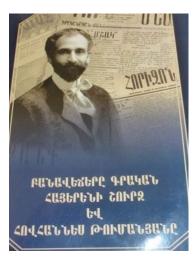
Next, if you look at the italicized sentence in definition number 4 (below) for this entry, you will notice that the sentence begins with tu = the need for a capital letter at the beginning of the sentence makes it impossible to use the ligature. Instead, we have the capital ECH and lower case VEW.

Եվ գնում են տրակտորները,

4. And here is build in all caps in the third line of the title on the cover of a book in Eastern Armenian: <u>https://aragatsotn.reglib.am/category/nor-grqer/</u>

³ Note that ECH + YIWN does appear in Eastern Armenian text before the 1940s (that is, before spelling reform).

⁴ Note: In the case of question words or other words requiring a question mark (for example $Π^{\circ}$ Lp, n^oLp, huչn^oL), the question mark in the examples goes on the vowel n.



5. Here another textbook lists (in section in red) לע ע , which have been added in a red font

(https://www.imdproc.am/p/mayreni/2-dasaran/aybuben-hnchyun-tar-14841/-aybuben-taranunner-14844/re-1e4336a1-c830-44d6-ad60-b7cc05186bd1)

6. You might find footnote number 4 on this page useful too:

PRINTED	WRITTEN	NAME	ROMANIZATION	PRONUNCIATION NUME	RIC VALUE
Π "	// n	vo	[vo] or [o] ²	as in vocal or for	600
Q 2	2 8	ch⁵a	[ch ^b]	as in ch air	700
П щ	11 uj	pe	[p]	as in copper	800
22	29	je	[j]	as in j ournal	900
ft n	ll n	ŕa	[ŕ]	trilled 'r'	1000
U "	ll u	se	[s]	as in s ay	2000
44	4 4	vev	[v]	as in vase	3000
S 111	ll1 in	tyun	[t]	as in rotten	4000
ſŗ	p p	re	[r]	liquid 'r'	5000
8 g	<i>Y y</i>	ts⁵ o	[ts ^b]	as in lo ts	6000
Пг пг	the ne	u	[u]	as in t oo l	7000
Φψ	ip ip	p ^b yur	[p ^b]	as in p aper	8000
\$ _€	R f	k ^h e	[k ^h]	as in kind	9000
0 •	0 0	0	[o] ³	as in a ll	
ቌ ቝ	3 J	fe	[f]	as in f ile ⁴	
			NOTES		
1 On the pro	nunciation of b	t saa n 61			
	nunciation of <i>n</i>				
3. The last two	o letters, 0 • an	d 3 \$, do not	have a numeric value, s	since they are later additions to	the alphabe
stitute an i It is prono In initial [yevropak	ntegral part of th unced: a) [b) [position of wor an] <i>European</i> .	e alphabet (se /ev] in initial p ev] in medial a ds, it is repl in word form	e pp. xix and 110). The position and after vowe and final position of we aced by b ₄ or b ₄ : b	dely used in East Armenian, c ligament & has no capital cc ls (cf. & [yev] and, but. [naye rds after consonants (cf. upt. upt. upt. [Yevropa] Europe, lso appear in medial positio	unterpart. ev] also). [arev] sun) hdpnaqualqui n of words

THE ARMENIAN ALPHABET (cont'ed)

Footnote 4 (enlarged):

4. There is an additional letter, the ligament *L* which, although widely used in East Armenian, does not constitute an integral part of the alphabet (see pp. xix and 110). The ligament *L* has no capital counterpart. It is pronounced:
a) [yev] in initial position and after vowels (cf. *L* [yev] and, *YuuL* [nayev] also).

b) [ev] in medial and final position of words after consonants (cf. upth [arev] sun) In initial position of words, it is replaced by by or by Correct or by Correct of the property of the pro ----- Forwarded message ------From: **Luc Baronian** <luc.baronian@gmail.com> Date: Thu, Apr 30, 2020 at 6:58 PM Subject: Re: Question on uppercase of ARMENIAN SMALL LIGATURE ECH YIWN.

[The following response addresses the question of the uppercase of ARMENIAN SMALL LIGATURE ECH YIWN in Eastern Armenian]

I got more information from Hrach Martirosyan, who is a linguist trained both in Armenia and Europe.

He confirmed...officially in the reformed spelling ৮৭ [ECH+VEW] is systematically the uppercase version of L.

This is why the word for 'Europe' is now spelled tupnut, because, or else, lowercase L would have to occur next to uppercase to. The letter F/L only appears next to Ω/n in the reformed spelling. The "ligature" L is considered a separate letter.

[Earlier emails from Luc Baronian]

I am attaching an old beer label where they use דף שעטן lowercase (middle), but דר שעטר uppercase (at the very top of the label), suggesting that ECH+VEW is their way to capitalize the ligature.



The beer label is a little dated, but the current Yerevan city arms use ECH+VEW in uppercase:

https://www.yerevan.am/am/symbols-of-yerevan/

The very beginning of the text on this webpage contains ECH+VEW in uppercase and the ligature in lowercase:

"ԵՐԵՎԱՆԻ ՉԻՆԱՆՇԱՆԸ

Երևանի խորհրդի 2004թ..."