

On the Palatal Transcription of *ւ* (ayb) in Armeno-Kipchak Texts: A Comparative Orthographic Study of Armeno-Kipchak and Modern Turkic Languages

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ABSTRACT

Not having a unanimous transcription model for Armeno-Kipchak texts has left the exactness of certain Armenian graphemes obscure, one of which is *ւ* (ayb). This letter is consistently utilised for back low vowel in Armenian. Given this, in early studies *ayb* occurring after palatal syllables was considered non-harmonic, and thus left as is. Some scholars have doubted whether it might have indicated a palatal vowel, yet have kept rendering it as a back vowel. In this paper, I will try to shed light on the issue, by making an orthographic comparison between Armeno-Kipchak texts and those modern Turkic languages whose orthographies distinguish *e* vowels.

KEY WORDS

transcription, orthography, Armenian alphabet, ayb, open e, vowel close-mid e, open-mid front unrounded vowel, near-open front unrounded vowel.

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0. INTRODUCTION

It has been over a century since F. von Kraelitz-Greifenhorst published the first study on Armeno-Kipchak (henceforth, AK) texts in 1912. Following his debut, M. Lewitski & R. Kohnowa, J. Deny, E. Tryjarski, T. Grunin, I. Vásáry, E. Schütz, Y. Dashkevich, I. A. Abdullin, A. Garkavets, N. Chirli have also produced publications on AK texts. Since these scholars belong to different schools, a unified Romanised transcription has yet to be proposed.

This paper aims to find out whether the Armenian letter **այբ** (*ayb*) can be rendered as *ä*, by comparing it to modern official Turkic languages that distinguish *e* vowels in orthography. The reason why I resort to modern Turkic languages is that in most cases official languages have more coherent orthographies than the languages of early or modern ages whose written documents solely depend on the preference of their authors or scribes. Nevertheless, I also took *Codex Cumanicus* (XIVth cc.), Karaim and Krymchak Turkic into consideration in order to see the orthographic proximity between AK and them. However, this is not an attempt to define the exact phonological correspondence between AK texts and the Turkic languages, which we will deal with below.

1. ARMENIAN ALPHABET AND TURKIC LANGUAGES

The use of Armenian alphabet to write a Turkic language was first introduced by the Armenians (or allegedly, Kipchaks converted to or adopting Gregorian Christianity) living in the Western part of Ukraine in cc. XVI.–XVII. As to meeting the phonemes of a given Turkic language, the Armenian alphabet is superior to the Arabic alphabet¹, which was the prevalent script throughout early written Turkic languages. Yet it lacks the characters for palatal labial vowels, a set of phonemes frequently used in Turkic languages. Even though the Armenian alphabet can combine letters to reflect any phoneme, scribes of AK texts apparently did not resort to letter combinations for front labial vowels.²

1.1. The letter **այբ** (*ayb*) and its phonological value

The Armenians have been using their own national 39 letter alphabet ever since it was invented by Mesrop Mashtots in 405 CE. Modern Armenian now has two different orthographies for West and East Armenian, in which the same graphemes (i.e. **ա**, **ի**, **ւ**, **ծ**, **ճ**, **բ**, **դ**, **գ**, **ձ**, **յ**) denote distinct phonemes (/b/ : /p/; /g/ : /k/; /d/ : /t/; /dz/ : /ts/; /j/ : /č/; /p^h/ : /b/; /t^h/ : /d/; /k^h/ : /g/; /ts/ : /dz/; /ts^h/ : /j/, respectively). Both orthographies, however, are consistent in using *ayb* for the vowel /a/.

¹ Whereas the Arabic alphabet has one letter, i.e. waw, for rounded vowels, Armenian alphabet has two letters, yet lacking front variants. The Armenian alphabet also possesses a letter for /i/, which is not available in the Arabic alphabet.

² Although Deny (1957: 19) claimed in his work *Ephemerides de Kameniec* that **իւ** was used to denote /ü/ in three words, i.e. *tügul* 'not', *yüarak* 'heart', *üzum* 'my face', and this was repeated by Pritsak (1959: 83), Schütz (1961: 150) remarked that this combination was not for /ü/, but for /yu/, and that had this combination stood for /ü/, it would have yielded forms like *üarak*, *üzlu*, *üz*. Deny's assertion is already weak on his own example *üzum* in that if it had been intended to be written with palatal vowels, we would expect the same combination to be used in the final syllable as well. Pritsak (1961: 83), however, informs that Armeno-Ottoman had combinations for palatal labial vowels.



In order for us to see whether *ayb*, which is consistent in Armenian, is used to represent any other sound than /a/ beyond AK texts, we can refer to Armeno-Ottoman texts and one Armeno-Azerbaijani text. In Armeno-Ottoman texts, *ayb* always provides /a/, yet for palatal a, which appears in copied words, a combination is utilised: *hau* [jea].³ The fact that Ottoman texts written in the Armenian alphabet lack a letter or combination for two different *e* vowels may be accounted for by the fact that Ottoman Turkish, like modern Turkish, does not have an opposition for *e* vowels or that it was not that strong enough to be shown in alphabet. On the other hand, one Armeno-Azerbaijani text in Armenian alphabet⁴ clearly displays that *ayb* was written with an acute mark over (*u'*) in order to indicate open e, just as *u'* and *u'* were used to indicate /ü/ and /ö/ (Dmitrijev 1934: 128). This text seems to shed light on a secondary use of *ayb* in AK texts.

1.2. Armenian letters for e vowels

During the Armenian alphabet's early history, two letters were used to represent the vowel *e*: *h* (ech/yech) *e* and *t* *e*⁵. Godel states that in time of Mesrop *t* (*t*) must have been employed for the closed e, while *yech* (*h*) was used for open e. These two eventually merged into one single vowel, however, with the exception of the initial position (1975: 6). Both letters had stood for real allophones in diachronic Armenian, but now they represent the open mid front vowel phoneme [ɛ] in modern Eastern Armenian (Dum-Tragut 2009: 14).

As for the status of these vowels in AK texts, Kraelitz-Greifenhorst assumes that 'e' (i.e. *h*) might have been more openly pronounced by the AK community, taking into consideration that Modern Armenian 't' (ɛ) is either a short or mid-open e (= ä) (1912: 309). Schütz underscores the phonotactics of *t*, saying that it does not occur in AK words after the first syllable, except for the word combinations where the second part of the combination remains independent as *jeber* (<* *iye ber*-), *joxedi*. He also states that *t* did not represent *e*, and in certain cases it may have had a lower articulation as *ä*, which in Slavic and Ottoman loan words with *e* or *ä* appears as a second syllable: Russian *seledets* *սէլէտէց* 'shed' (Clupea alosa), Ottoman *segben* *սէկպէն* 'segban', evet *էվէթ* 'yes!', *heseb* *հէսէպ* 'account, calculation' (1968: 96). On the other hand, Grunin interprets this *t* as 'more closed', and he thinks that Armenians distinguished it from wide variant [ä], which lacks a special sign and is reflected indirectly (1967: 346).

If we make an assumption concerning the phonetic value for *t* in AK, it may be [ɛ] or [e] when it precedes *ayb*. Thus, we should presume that *ayb* is [æ].

³ However, it should be noted that this only occurs in foreign words with long vowels, e.g. *էֆքիար* /efkja:r/, *քիաթիպ* /kja:tib/, *հաւիկիար* /ja:digja:r/ (Kraelitz-Greifenhorst 1912b: 18). To prevent confusion, I need to make it clear that Kraelitz-Greifenhorst does not mention a palatal vowel, but he exemplifies the palatal notation of the velar sounds /k/ and /g/ on Armeno-Ottoman orthography.

⁴ According to Dmitrijev (1934: 128), the manuscript involving twenty poems was found by Z. Zoljan in 1927 and put at the author's disposal.

⁵ Godel finds the transliteration of *t* as *ē* misleading, since presumably there was no contrast of short vs. long during Classical Armenian. He, however, believes that *t* must have once been a long vowel as a development of former diphthong *ey/ei* (1975: 6, 10–11). Nevertheless, Beekes does not consider it a long vowel, and defines its phonetic value as [ei] (2003: 146).



2. TRANSCRIPTIONS/TRANSLITERATIONS FOR AYB AFTER SYLLABLES WITH FRONT VOWELS

Those who have published AK texts put forward variable preferences on transcription. I. Vászary (1969: 140), who also published a part of *Kamenets chronicle*, expresses this situation as follows:

In spite of its richness the historical and strongly conservative character of the Armenian alphabet has offered and still offers a lot of difficulties in the transcription of Armeno-Kipchak texts. A uniform system of transcription has not yet been formed; there are merely different systems of single researchers. Kraelitz-Greifenhorst has chosen the transliteration, Grunin has tried to transcribe his texts. The publication of Lewicki and Kohnowa gives a transliteration which is not adequate to the Armeno-Kipchak, and sometimes disturbs the real evaluation of linguistic facts. The text of Deny and Tryjarski is transliterated. Among the publishers of Kamenets Chronicle Deny transcribes the texts. Schütz does the same, although in his latest book he turns again to transliteration at several points.

F. von Kraelitz-Greifenhorst (1912), M. Lewicki & R. Kohnowa (1957), J. Deny (1957), T. Grunin⁶ (1967), E. Schütz⁷ (1968), I. Vászary (1969), E. Tryjarski (1968, 1979), Y. Dashkevic & E. Tryjarski (1979), N. Chirli⁸ (2005) have preferred to transcribe *ayb* as *a* even if it follows a syllable including a palatal vowel or not, whereas A. Garkavets has consistently used *ä* for *ayb* (and *ə* in a publication of 1988) after palatal syllables (1979; 1987; 1993; 2002; 2007; 2010).

Omeljan Pritsak studied AK language too, despite never having formally published any AK text. In *Fundamenta*, he addressed the orthography of AK and remarked that the fact that vowel /ä/ (in the text “ē”) in non-first syllabic position is written with *a*, and might correspond to a consonant harmony as in North-western Karaim (Pritsak 1959: 83). When mentioning the words *ari*, *eya*, *teran*, *čeruv*, Kraelitz-Greifenhorst (1912: 310) states that word stems lack vowel harmony in AK, which implies that he interprets *ayb* only as a back vowel. Deny (1957: 20), not in a section for transcription, but in the section for phonetics, mentions /e/ > /a/ vowel development with the example *nogar*. Being the only study dedicated to the transcription of AK texts, Schütz’s paper (1961) primarily focuses on orthographic problems stemming from the writing tradition of Classical Armenian, which, unfortunately, lacks what we need for *ayb*’s palatal usage. Grunin (1967: 347–348), in *Dokumenty na Polovetskom Jazyke XVI v.*, inquires whether /ä/ exists in AK texts, and comes to the conclusion that this sound, which is, for him, a vowel somewhere between /a/ and /e/, was not rendered in AK texts, since the Armenian alphabet lacks letter to indicate it. And as it is closer to /a/ rather than /e/, scribes were inclined to write it down using the letter /a/. Garkavets, in his work *Kypchakskie Jazyki: Kumanskij i Armjano-Kypchakskij* (1987: 121–130), presents comprehensive schemes involving numerous orthographic forms observed in AK texts

⁶ In the introduction, however, he states that this letter may be rendered as /ä/ according to neighbouring consonants in a given word (Grunin 1967: 113).

⁷ Yet, he, in the transcription chart, raises a question for *ayb* that it might be *ä* or *ä* in second and subsequent syllables, then remarks that in certain cases it may have had a lower articulation as *ä* (Schütz 1968: 94–96).

⁸ Chirli (2005: 22) states that it is difficult whether /a/, /o/, /u/ also denote /ä/, /ö/, /ü/, since Armenian alphabet lacks the palatal variants of the former vowels or they originally reflect the exact pronunciation. Thus, despite the fact that she did not render *ayb* as /ä/ in her transcription she was aware of the second possibility of *ayb*.



within which alternative usages are also given (e.g., *e+a*⁹ for /ä/: *iuiimileap* /išittilär/ ‘they heard’, *ineam* /inām/ ‘faith’, *өтлеаш* /ötläš/ ‘through’) (1987: 121). Nevertheless, we cannot find further explanation for *ayb*’s palatal usage.

3. ORTHOGRAPHIC DISTINCTION OF E VOWELS IN EARLY TURKIC

Old Turkic period, which encompasses the time course from VIIIth to XIIIth centuries, can be deemed the most abundant period involving a myriad of writings such as Runic, Uygur, Soghdian, Manichaean, Tibetan, Brāhmī, Syriac and Arabic scripts.

Regarding the notation of distinct *e* vowels in Old Turkic, since open *e* was rendered relatively more systematically, much attention is paid to the lack of a character that signifies closed *e*. Yenisey inscriptions and Khotanese Brāhmī script, however, differ from the aforementioned writing systems on employing a separate character to distinguish the closed *e* from the open *e* (Róna-Tas 1998: 127; Erdal 2004: 42–43, 51–52). On the other hand, rendering the open *e* with a letter that primarily represents /a/ is also worth mentioning. Runic inscriptions primarily use a single character for /a/ and /ä/ (Róna-Tas 1998: 127; Erdal 2004: 42–43). In the Turkic-Khotanese word list written in Southern Brāhmī, while *e* sounds in first syllables are signified with an <e>, *e* sounds in non-first syllables are written with an <a> (Róna-Tas 1998: 133), which this notation is very close to that of AK.

Turkic texts in Arabic script, which make up the majority of early written heritage, do not provide rich materials regarding the distinction of *e* vowels. Yet, one Middle Turkic work, *Nahj al-Farādīs*, distinguishes /ä/ from /e/, which the latter is spelled with *yā* plus *fatha* (Doerfer 1994: 127; Erdal 2004: 51).

Codex Cumanicus (henceforth “Codex”), unlike the Old Turkic works and the contemporary works in Arabic alphabet, was written in Latin in XIVth century. As is well known, it consists of two parts written by two different groups, Italian merchants (or scribes or lay persons) and German Franciscan friars (Ligeti 1981: 13). Therefore, spelling in Codex is quite inconsistent, even in the same part. Some examples, however, give us a hint about the opposition of two *e*’s. Grønbech claims that in the hymn *Reminiscens beati sanguinis* open *e* and closed *e* seem to be distinguished (e.g. *ber-* ‘geben’, *beyginä* ‘Herr’, *Yezuz* ‘Jesus’, *-men* and *-sen* singular personal markers). However, he also presents contradictory examples: *ämgäk* ‘Leiden’ (cf. AK *emgäk*), *mängv* ‘ewig’ (1942: 15). Codex, unfortunately, does not provide us with accurate materials to establish the opposition. Nevertheless, the Italian part¹⁰ (and partly the German part) furnishes other lexemes whose spellings correspond to AK words: *bernalü* ‘schuldig’ (20, 15) ~ AK *berna* [bernä] ‘подарок’; *bestla-* ‘ernähren, füttern’ (36, 11–13) ~ AK *besla-* [beslä-] ‘кормить, питать, давать есть (...)’; *bizan* ‘Heu’ (110, 120) ~ AK *bičän* [bičän] ‘сено’; *birar* ‘je einer’ (59, 10) ~ AK *birar* [birär] ‘по одному’; *birga/birgä* ‘zusammen’ (64, 9) ~ AK *birga* [birgä] ‘вместе’; *birla/birlä* ‘mit’ (in many points) ~ AK *bilan* [bilän] ‘с, вместе, вместе с’; *zizac* ‘Blume’ (26, 1) ~ *čičäk* [čičäk] ‘цветок’; *çoura/zoura* ‘Umkreis;

⁹ Note that the first letter *e*, i.e. *h* (ech/yech), is actually employed as a glide before vowels as Schütz (1968: 96) states, and this spelling reminds us of the usage in Karaim.

¹⁰ Conversely, Grunin remarks that Italian scribes not properly rendered /ä/ either by an *a* or *e* letters. Germans, on the other hand, distinguished this vowel from /a/ or /e/ and they transferred it appropriately, i.e. by an *ä* (1969: 348). If one approaches spelling consistency of /ä/ in Codex, Italian parts, even if not accurate, seems to be more consistent than the German part.



umher, ringsum' (13, 19; 64, 4) ~ AK *čovra* [čövrä] 'круг, окружение'; *eyar* 'Sattel' (102, 28) ~ AK *eyarla-* [eyärlä-] 'седлать'; *elac* 'Sieb' (82, 17) ~ AK *elak* [eläk] 'сито, решето'; *emzac* 'Brustwarze' (95, 6); *emgan-* 'leiden' (113, 22) ~ AK *emgan-* [emgän-] 'трудиться; мучиться'; *erta* 'früh' (71, 18) ~ AK *erta* [ertä] 'утро, утром; and so on.

4. ORTHOGRAPHIC DISTINCTION OF E VOWELS IN MODERN TURKIC LANGUAGES

Some modern Turkic languages differentiate between *e* vowels in writing, whereas others either do not differentiate, or lack two separate *e* vowels altogether.¹¹ While Modern Azerbaijani perfectly reflects this distinction, Uzbek¹² indirectly does so in writing. Although, the letters *ə* and *e* (and *ә*) employed in Tatar and Bashkir seem to indicate an opposition, the latter is different from an /e/ (see Berta 1998: 283). Modern Kazakh, Karakalpak, Noghay and Turkmen orthography also include two letters for *e* vowels. Kirchner (1998: 319) asserts that the opposition /æ/ vs. /e/ in Kazakh and Karakalpak does not reflect the presumed distinction between open and closed *e* in Old Turkic. He also adds that the vowel /æ/, rendered with *ə*, is introduced in Kazakh (and Karakalpak) by fronting *a* in copied words and is restricted to the first syllable, whereas *e* may appear any position. Noghay corresponds to Kazakh and Karakalpak concerning the opposition /æ/ vs. /e/ (see Csató and Karakoç 1998: 333). Turkmen *ə* /æ/ differs from the Aralo-Caspian Kipchak languages by occurring not a result of fronting /a/ but rather descending from an earlier /e/, e.g. *əp* [æ:r] 'man', *həče* [næ:tʃe] 'what' (see Clark 1998: 29).

As much as having two letters for *e* vowels in a given Turkic language, it is also significant whether these two letters are utilised, in that particular language, according to a certain phonotactic rule. The letter *e* in Azerbaijani occurs in root morphemes of Turkic words, except for cases in which it precedes *y*¹³ (e.g., *küney*, *bilseydim* [Shiraliyev and Sevortjan 1971: 10]), whereas *ə* may occur in every position (Shiraliyev and Sevortjan 1971: 12). The letter *e* in Uzbek's Latin alphabet is exclusively used in first the syllable, except in the Western copies (see Mirtozhiev 2013: 67).

Even though Karaim Turkic has never been an official written language, and is now at the edge of extinction, it might shed light on the question dealt with in this paper, as it is already considered to be cognate (or successor?) of AK (Kowalski 1929: lix; Deny 1957: 10; Jankowski 2015: 273). First appearing in XVIth century (see Jankowski 2014), Karaim texts have been written in the

¹¹ I consider Cyrillic *ə* and *e*, widespread in orthographies of post-soviet countries or at present a member of Russian Federation, not distinct vowels. The latter is distinguished from the former just at initial position with palatalisation.

¹² According to Kononov (1960: 17), the vowel rendered with *ə* is pronounced in word-initial position just as in Russian words *əxo* or *əmo*, so this is [e], not a closed *e*. Kononov (1960: 17), however, remarks that the very same vowel realises narrower (more closed) after consonants, compared to Russian *e*. Thus, this vowel may be considered closed *e*. As for the letter of *a*, it is stated by Kononov (1960: 17–18) that this letter equates the stressed /ä/ of Russian between (or next to) voiced consonants. Sjöberg's explanations for the vowels in question are more elaborated. He illustrates that the phoneme /e/ realises in three forms: [e], [é], and [e]. And the phoneme /a/ realises in two forms: [a] and [ä] (Sjöberg 1997: 16–17).

¹³ Regressive assimilation triggered by /y/ in Trakai Karaim (see Csató and Johanson 1995: 533), seems to correspond to this phenomenon.



Hebrew, Cyrillic, and Latin alphabets. Although Karaim texts in Cyrillic¹⁴ and Latin¹⁵ bear inconsistency of spelling of non-initial syllabic *e*, two /e/ phonemes are differentiated to some extent (e.g., *értia* ‘morning’, *kiečia* ‘night’, *čiebiar* ‘pretty’ (Firkavičiūtė 1997)). Csátó and Johanson (1995: 333), for the Northwestern Karaim texts, describe this non-initial syllabic *e* as half-open [ɛ], very open and centralised [ä].¹⁶ This also holds true for Crimean Karaim (Jankowski 1997: 6) and for Lutsk-Halich Karaim varieties (Olach 2015: 187).¹⁷ In essence, Karaim gives us due indication to consider it among the modern Turkic languages that bear the distinction of *e* vowels.

In addition to Karaim Turkic, the extinct Krymchak language, an ethnolect of Crimean Tatar spoken by Rabbinic Jews, also had orthographic distinction of *e* vowels in texts written in Hebrew and Cyrillic alphabets.¹⁸ Phonologically, Polinsky (1991: 133) considers one *e* vowel for Krymchak. Rebi et al. consider one *e* phoneme represented with э. Yet, they also talk about a variant pronounced softer than the former and represented with *e* (1997: 310). Ianbay and Erdal (1998: 6), like Polinsky, presume one *e* vowel for Krymchak vowel stock. Regarding the orthography of this language, one can observe the notation of two distinct *e* vowels both in Hebrew and Cyrillic texts. As to the Krymchak translation of *Targum Šeni* of the Book of Ruth, written in Hebrew, Ianbay and Erdal (1998: 6) state that in the first open syllable *segol* and *tsere*, which they render with *e*, are employed interchangeably, yet in closed syllables *segol* is used as a rule.¹⁹ The same authors, in the book *Nissim ve-Niflaot* written in Hebrew script, transcribe *segol* as *ä* and *tsere* as *e*, remarking that notations of two *e*’s in the text is arbitrary (Erdal and Ianbay 2000: 41), e.g., *äkmäkci* ~ *äkmekci* ‘baker’, *älbet* ~ *älbät* ‘of course, certainly’, *ävlän-* ~ *ävlen-* ‘to marry’, *efändi* ~ *äfändi* ‘master’, *geräk* ~ *gerek* ‘necessary’, etc. (Erdal and Ianbay 2000). The only dictionary (and grammar) of Krymchak published by David Rebi is printed in Cyrillic letters. As mentioned above by the same author, two letters are used to distinguish ‘soft’ *e*’s from ‘hard’ ones through the Cyrillic characters *e* and э, respectively (see Rebi 2004). This work evidently shows that these two vowels are not subject to any syllabic restriction or system, e.g., *бенэк* ‘speck, spot’, *гөндэрмек* ‘to send’, *дэвлет* ‘government’, *дэгырмен* ‘mill’, *йэтэр* ‘enough’, *кенъеш* ‘advice’ etc.

5. LEXICAL COMPARISON METHOD

In order to avoid excessive documentation, I have restricted AK words to disyllabic (at most trisyllabic when necessary) words presumed to bear two distinctive *e* vowels (except for two Armenian letters, i.e. *հ* (ech/yeche) *e* and *է* (*ē*)²⁰, taking into consideration, for comparison, whether

¹⁴ Csátó 2012: 34. For text sample see Polkanov 1995.

¹⁵ Csátó 2012: 34. For text samples see Mardkiewicz 1932; Firkavičiūtė 1997.

¹⁶ Csátó later prefers to indicate the non-first syllabic *e* only with [ä] in Lithuanian Karaim (2012: 34)

¹⁷ However, in the same paper Olach (2015: 188) illustrates that in Lutsk-Halich texts in Hebrew alphabet [ä] is not reflected in spelling.

¹⁸ There are also a few texts in Latin alphabet which were written by Isaac Kaja as primer and reader (see Kaja 1928 and 1930). Since the Latin script adopted for Krymchak is the same script as the one adopted for Crimean Tatar and this script has a single letter for *e*, notation of two different *e* vowels was impossible.

¹⁹ Olach (2015b: 68) cites this publication and remarks that open *ä* is, in the Book of Ruth, written with the sign *segol*, while closed *e* is signified with *tsere*. This remark does not correspond to what the authors, i.e. Ianbay and Erdal, state, but it does to another publication published by the same authors in the book *Nissim ve-Niflaot* (Erdal and Ianbay 2000).

²⁰ While imposing this restriction, the words having *h* [i] in the initial syllable and *ayb* at non-first syllable could be included, yet they would not reflect the opposition of *e* vowels as clearly as the chosen words do.



they have a counterpart²¹ in the given languages. AK words' original forms²² written in the Armenian alphabet have either been reproduced according to the transliterations made in Deny 1957, Tryjarski 1968, or given as hypothetical forms when the sources lack the words in question. The transliterations of AK materials will not distinguish aspirated letters from non-aspirated ones. AK lexemes were taken from Garkavets 2010 as it is the latest and the most comprehensive dictionary of this language. Meanings of the words were translated into English and given in the shortest way to limit the space used.

For comparison, the Modern Turkic languages are limited to those whose alphabets possess different letters for *e* vowels, as mentioned above. Along with correspondence between AK and modern Turkic languages, we will also schematize discordance in order to display the entire situation for the opposition in question. Every modern Turkic word appearing in the tables are from pertinent dictionaries of those languages, which are indicated in references. Meanings, as we did for AK data, were briefly translated in English.

6. COMPARISON

I opted, firstly, to compare the orthographies of AK and Karaim in one go as they are closely related to each other. In terms of time period and territory, Karaim Turkic is the closest language to AK. The comparison between AK and Karaim (primarily Trakai, partly Crimean) illustrates convincing correspondence of Karaim to AK with regards to how they distinguish *e* vowels. Surprisingly, Halich-Lutsk Karaim does not provide the same correspondence, despite being spoken in the closest region to where AK texts were written, Lviv.

Table 1. Correspondence between AK and Karaim

Reproduction	Armeno-Kipchak		Trakai and Crimean Karaim
	Transliteration	Transcription	Transcription
պէքլա-	bekla-	beklä- 'to lock; to fasten'	beklä- 'to lock; to stuff'
պէրնա	berna	bernä 'gift'	bernä 'id.'
*պէզան-	bezan-	bezän- 'to dress up, adorn oneself'	bezän- 'id.'
չէպարլա-	čebarla-	čebärlä- 'to tide up; to clean'	čebärlän- 'to coquet, flirt'
չէթան	četan	četän 'fence; enclosure'	četän 'basket'
էրբաք	erkak	erkäk 'man; male'	erkäk/erkak 'id.'
էրդա	erta	ertä 'morning; early'	ertä/erta 'early'
քէշա/գէշա/քէշա	keča	kečä 'night; (late) evening'	kečä 'night'
քէնկաշ	kengaš	kenäš 'advice; conspiracy'	kenäš 'advice; plan'
քէրաք/քերաք	kerak/keryak	keräk 'necessary; necessity'	keräk 'necessary'

²¹ Equivalents may also be stem of AK words, if there is no exact equivalent.

²² Authors who published text editions did not prefer to repeat or reproduce words with Armenian letters. Since they almost always provided facsimiles of the texts they studied, one may think this is the right decision. However, AK dictionaries, such as Tryjarski 1968, Garkavets 2010, turn out to be inconvenient for readers who wish to confirm original forms in Armenian letters.



Reproduction	Armeno-Kipchak		Trakai and Crimean Karaim
	Transliteration	Transcription	Transcription
դէրաք/թէրաք	<i>terak</i>	<i>teräk</i> ‘tree; log, beam’	<i>teräk</i> ‘tree’
դէրան/թէրան	<i>teran</i>	<i>terän</i> ‘deep; depth; chasm’	<i>terän</i> ‘deep’
դէրկա-	<i>terga-</i>	<i>tergä-</i> ‘to explore; to contemplate’	<i>tergä-</i> ‘to explore’

Uzbek is one of the south-eastern Turkic languages. Even though AK (as an extinct language) and written Uzbek belong to different sub-branches of the Turkic language family, they perfectly match each other with respect to the opposition of two *e*’s, and also they employ one letter to denote /a/ and /ä/ (the latter, [æ] or [ɛ]). Nevertheless, one should keep in my mind that the Uzbek letter *a*, except when accompanied by *q* or *x*, is always pronounced as a front vowel.

Table 2. Correspondence between AK and Uzbek

Reproduction	Armeno-Kipchak		Uzbek (Latin)	
	Transliteration	Transcription	Original	Phonetic Form
*պէղան-	<i>bezan-</i>	<i>bezän-</i> ‘to dress up, adorn oneself’	<i>bezan-</i> ‘id.’	/bezän-/
չէպարկա- չէթան	<i>čebarla-</i> <i>četan</i>	<i>čebärlä-</i> ‘to tide up; to clean’ <i>četän</i> ‘fence; enclosure’	<i>chevar</i> ‘craftswoman’ <i>chetan</i> ‘hedge made of twigs’	/čevär/ /četän/
էրքաք	<i>erkak</i>	<i>erkäk</i> ‘man; male’	<i>erkak</i> ‘id.’	/erkäk/
էրդա	<i>erta</i>	<i>ertä</i> ‘morning; early’	<i>erta</i> ‘morning; early’	/ertä/
էսկա-	<i>esla-</i>	<i>eslä-</i> ‘to note; to recall’	<i>esla-</i> ‘to recall’	/eslä-/
էշաք	<i>ešak</i>	<i>ešäk</i> ‘donkey’	<i>eshak</i> ‘id.’	/ešäk/
քէշա/գէշա/քեշա	<i>keča</i>	<i>kečä</i> ‘night; (late) evening’	<i>kecha</i> ‘night; evening; yesterday’	/kečä/
քէնկաշ	<i>kengaš</i>	<i>kenäš</i> ‘advice; conspiracy’	<i>kengash</i> ‘advice; conference’	/kenäš/
քէրաք/քերաք	<i>kerak/kyerak</i>	<i>keräk</i> ‘necessary; necessity’	<i>kerak</i> ‘necessary’	/keräk/
քէսաք/քեսաք	<i>kesak/kyesak</i>	<i>kesäk</i> ‘bite, piece’	<i>kesak</i> ‘clod’	/kesäk/
սէսքան-	<i>seskan-</i>	<i>seskän-</i> ‘to shudder; to waver’	<i>seskan-</i> ‘to shudder’	/seskän-/
դէբրան-/ դէպրան-	<i>tepran-</i>	<i>teprän-</i> ‘to shudder, to stir’	<i>tebran-</i> ‘to sway back and forth’	/tebrän-/
դէրաք/թէրաք	<i>terak</i>	<i>teräk</i> ‘tree; log, beam’	<i>terak</i> ‘poplar’	/teräk/
դէրան/թէրան	<i>teran</i>	<i>terän</i> ‘deep; depth; chasm’	<i>teran</i> ‘deep’	/terän/
դէրկա-	<i>terga-</i>	<i>tergä-</i> ‘to explore; to contemplate’	<i>terga-</i> ‘to interrogate; to examine’	/tergä-/
*ելգան	<i>yelkan</i>	<i>yelkän</i> ‘sail’	<i>yelkan</i> ‘id.’	/yelkän/



Tatar is a member of the north-western Turkic languages, to which AK may be associated. While Crimean Tatar, orthographically-speaking, does not display any relation to AK, Tatar, for the given examples, furnishes consistent phonotactics as AK first-syllabic *e* ~ Tatar first-syllabic *u* [i]²³ and AK non-first-syllabic *ä* ~ Tatar non-first-syllabic *ə* [æ].²⁴ Alongside Karaim and Uzbek, Tatar also confirms AK *ayb*'s secondary palatal usage, after palatal syllables. As for Bashkir, which belongs to the same sub-group with Tatar, we cannot say that it shows a very similar syllabic sequence of *u* and *ə* as seen in Tatar.²⁵ Hence, we can speak of a limited correspondence between AK and Bashkir, which will be shown in the table 4.

Table 3. Correspondence between AK and Tatar

Armeno-Kipchak		Tatar	
Transliteration	Transcription	Original	Transcription
<i>bezan-</i>	<i>bezän-</i> 'to adorn oneself'	<i>бизэн-</i> 'id.'	<i>bizän-</i>
<i>čebarla-</i>	<i>čebärlä-</i> 'to tide up; to clean'	<i>чибәрлә-</i> 'to beautify'	<i>čibärlä-</i>
<i>četan</i>	<i>četän</i> 'fence; enclosure'	<i>читән</i> 'wicker-hurdle'	<i>čitän</i>
<i>erkak</i>	<i>erkäk</i> 'man; male'	<i>иркәк</i> 'id.'	<i>irkäk</i>
<i>erta</i>	<i>ertä</i> 'morning; early'	<i>иртә</i> 'id.'	<i>irtä</i>
<i>ešak</i>	<i>ešäk</i> 'donkey'	<i>ишәк</i> 'id.'	<i>išäk</i>
<i>keča</i>	<i>kečä</i> 'night; (late) evening'	<i>кичә</i> 'yesterday; evening'	<i>kičä</i>
<i>kengaš</i>	<i>keṇäš</i> 'advice; conspiracy'	<i>киңәш</i> 'advice; council'	<i>kiṇäš</i>
<i>kerak</i>	<i>keräk</i> 'necessary; necessity'	<i>кирәк</i> 'id.'	<i>kiräk</i>
<i>kesak</i>	<i>kesäk</i> 'bite, piece'	<i>кисәк</i> 'id.'	<i>kisäk</i>
<i>seskan-</i>	<i>seskän-</i> 'to shudder; to waver'	<i>сискән-</i> 'to shudder'	<i>siskän-</i>
<i>tepran-</i>	<i>teprän-</i> 'to shudder, to stir'	<i>тирбән-</i> 'id.'	<i>tirbän-</i>
<i>terak</i>	<i>teräk</i> 'tree; log, beam'	<i>тирәк</i> 'poplar'	<i>tiräk</i>
<i>teran</i>	<i>terän</i> 'deep; depth; chasm'	<i>тирән</i> 'deep'	<i>tirän</i>
<i>terga-</i>	<i>tergä-</i> 'to explore; to contemplate'	<i>тиргә-</i> 'to insult, curse'	<i>tirgä-</i>
<i>yelkan</i>	<i>yelkän</i> 'sail'	<i>әчилкән</i> 'sail'	<i>jilkän</i>

In contrast the Turkic languages examined above, the letter *ə* employed in Azerbaijani, Bashkir, Kazakh, Karakalpak, Noghay, and *ä* in Turkmen do not reflect the parallel employment to that of *ayb* in AK text as in the following table. Thus, the orthographies of these languages do not give us any insight into *ayb*'s secondary usage in AK texts.

²³ Hattori (1979: 386) assumes that this vowel evolved in Tatar and Bashkir as follows: *ä/*ā (Proto-Turkic) > ε > eĩ > eĩ > i.

²⁴ Tatar [æ] does not have any syllabic restrictions and it occurs even in the first syllables of Turkic words (see Tenishev et al. 1984: 141). [i], however, as *e* in AK, occurs only in first syllable in Turkic words (see Poppe 1961: 15), except for some words, such as *әти* [ætiy], *әни* [æniy], *әбу* [æbiy], *бәбу* [bæbiy].

²⁵ The discordance of syllabic sequence of *u* and *ə* between Tatar and Bashkir is discussed by Tenishev et al. (1984: 143) with a few examples.



Table 4. Discordance among AK texts and other Turkic languages

Armeno-Kipchak	Azerbaijani	Bashkir	Kazakh	Karakalpak	Noghay	Turkmen
<i>bezan</i> 'to adorn oneself'	≠ <i>bəzən</i> - 'to adorn oneself; to be adorned'	<i>бизән</i> - 'to dress up, adorn oneself'	≠ <i>безән</i> - 'id.'	≠ <i>безән</i> - 'id.'	≠ <i>безек</i> 'design; ornament'	≠ <i>bezen</i> - 'to adorn oneself'
<i>čebarla</i> - 'to tide up; to clean'	–	<i>сибәрлән</i> - 'to become pretty'	≠ <i>шебер</i> 'skilful, master'	≠ <i>шеберле</i> - 'to do sth. skilfully'	≠ <i>шебер</i> 'skilful, master'	≠ <i>çeper</i> 'skilful; artistic'
<i>četan</i> 'fence; enclosure'	–	<i>ситән</i> 'wattle'	≠ <i>шетен</i> 'fence, pen'	≠ <i>шетен</i> 'fence'	≠ <i>шетен</i> 'fence; wicker basket'	–
<i>erkak</i> 'man; male'	<i>erkək</i> 'id.'	<i>иркәк</i> 'id.'	≠ <i>еркек</i> 'id.'	≠ <i>еркек</i> 'id.'	≠ <i>эркек</i> 'id.'	≠ <i>erkek</i> 'id.'
<i>erta</i> 'morning; early'	<i>ertə</i> 'id.'	<i>иртə</i> 'id.'	≠ <i>ерте</i> 'early'	≠ <i>ерте</i> 'id.'	≠ <i>эрте</i> 'early; long-ago'	≠ <i>erte</i> 'tomorrow; morning'
<i>esla</i> - 'to note; to recall'	–	<i>ислә</i> - 'id.'	≠ <i>естен</i> - 'to recover consciousness'	≠ <i>есле</i> - 'to recall'	≠ <i>эсле</i> - 'to note; to realize; to recall'	–
<i>ešak</i> 'donkey'	<i>eşək</i> 'donkey; support'	<i>ишәк</i> 'donkey'	≠ <i>есек</i> 'id.'	≠ <i>ешек</i> 'id.'	≠ <i>эшек</i> 'id.'	≠ <i>eşek</i> 'id.'
<i>keča</i> 'night; (late) evening'	<i>gecə</i> 'night; party'	<i>кисə</i> 'yesterday; evening'	≠ <i>кеше</i> 'yesterday'	≠ <i>кеше</i> 'yesterday; evening'	≠ <i>кеше</i> 'night'	≠ <i>gije</i> 'night'
<i>kengaş</i> 'advice; conspiracy'	–	≠ <i>кәңәш</i> 'advice; council'	≠ <i>кеңес</i> 'id.'	≠ <i>кеңес</i> 'advice'	≠ <i>кенәс</i> 'id.'	≠ <i>geñeş</i> 'advice'
<i>kerak</i> 'necessary; necessity'	≠ <i>gərək</i> 'necessary'	≠ <i>кәрәк</i> 'id.'	≠ <i>керек</i> 'id.'	≠ <i>керек</i> 'id.'	≠ <i>керек</i> 'id.'	≠ <i>gerek</i> 'id.'
<i>kesak</i> 'bite, piece'	≠ <i>kasək</i> 'clod'	<i>қиçäk</i> 'piece; part'	≠ <i>кесек</i> 'adobe; piece'	≠ <i>кесек</i> 'piece; clod'	≠ <i>кесек</i> 'piece; part'	≠ <i>kesek</i> 'id.'
<i>seskan</i> - 'to shudder; to waver'	≠ <i>səksən</i> - 'to shudder'	<i>һиçкән</i> - 'id.'	≠ <i>сескен</i> - 'to shiver'	≠ <i>сескен</i> - 'to be frightened; to shudder'	≠ <i>сескен</i> - 'id.'	–
<i>tepran</i> - 'to shudder, to stir (intr.)'	≠ <i>tərpən</i> - 'to stir'	<i>тибрән</i> - 'id.'	≠ <i>тебірен-/</i> <i>тербен</i> - 'id.'	≠ <i>тербен</i> - 'id.'	≠ <i>тербел</i> - 'id.'	≠ <i>depren</i> - 'id.'
<i>terak</i> 'tree; log, beam'	–	<i>тирәк</i> 'poplar'	≠ <i>тереk</i> 'id.'	≠ <i>тереk</i> 'id.'	≠ <i>тереk</i> 'tree; woody'	≠ <i>derek</i> 'poplar'
<i>teran</i> 'deep; depth; chasm'	≠ <i>dərin</i> 'deep; endless'	≠ <i>təran</i> 'deep; depth'	≠ <i>терең</i> 'deep; profound'	≠ <i>терең</i> 'deep'	≠ <i>терен</i> 'id.'	–
<i>terga</i> - 'to explore; to contemplate'	–	<i>тиргə</i> - 'to scold'	≠ <i>терге</i> - 'to interrogate'	≠ <i>терге</i> - 'to explore; to interrogate'	≠ <i>терге</i> - 'id.'	–
<i>yelkan</i> 'sail'	<i>yelkən</i> 'id.'	<i>елкән</i> 'id.'	≠ <i>желкен</i> 'id.'	–	≠ <i>елкен</i> 'id.'	≠ <i>ýelken</i> 'id.'



The data shown in Tables 1, 2, and 3 reinforce the opinion that *ayb* may be transcribed as palatal, yet whether or not succeeding syllables after *ayb* include front vowel is also crucial to ascertain its palatal usage. The Armenian letters used for the two *e* vowels do not follow any syllable with *ayb* in Turkic words in AK texts (see Grunin 1967: 348). Moreover, since Armenian labial vowels do not have front pairs, **ի** /i/ and **լ** /l/ may be taken into account to find out the phonetic value of *ayb*. Thus, as Schütz states (1968: 99), **ի** /i/ following those syllables with *ayb* forces us to assume that they are a sign of vowel harmony (e.g. *biylarin* ‘(their) chiefs’ (Acc.) (EK 50a, 7), *biylari* ‘chiefs’ (Acc.) (EK 51a, 15), *šaharina* ‘to city (of)’ (EK 51b, 16), *olaḫ millati* ‘the nation of Vlachs’ (of (EK 52a, 7), *nečasın* ‘some of’ (Acc.) (EK 52b, 3-4), *gunašni* ‘the Sun’ (Acc.) (EK 55a, 13-14), *nedaki* ‘during what’ (EK 58b, 14), *tušmadi* ‘did not fall’ (PTW 129-24), *čovrasın* ‘its surroundings’ (PTW 131-14), *olularni* ‘the dead’ (Pl. Acc.) (PTW 130-11), *ozgalarin* ‘the others’ (Acc.) (PTW 134-16)). There are, however, spellings that contradict this vowel harmony, as in what follows: *ḫaysiki* ‘therefore’ (EK, *passim*), *burungi* ‘the one before’ (EK, 53b-8), *kimsalarnıng* ‘therefore’ (EK, 57b-18), *oyli* ‘(his/her) son’ (EK, 62a-12), *berdi* ‘(he/she) gave’ (DPY, 166), *etdi* ‘(he/she) did’ (DPY, 283), *ḫumašim* ‘(he/she) did’ (DPY, 95). Schütz emphasizes the fact that some suffixes only display palatal form (e.g. -či: *topči*, *buyruḫči*, *ḫaraḫči*, etc.) (1968: 99). Grunin interprets /i/ vowels in affixes after syllables with a front vowel or vice versa as the tendency of reduction in affixes (1967: 348–349). One may even note the /i/-/i/ fluctuation within the same text: *kečani* ‘night’ (Acc.) (PTW, 143-16), *kečani* ‘id.’ (PTW, 143-19). Thus, neither of these high non-labial vowels provides us any ground to establish the *ayb*’s phonetic value as much as preceding vowels, such as /e/ or /i/, do.

7. CONCLUSION

The diachronic orthographic comparison made in this paper between AK texts and modern Turkic languages corroborates the supposition that the Armenian letter *ayb* in AK texts was also employed to represent an *e* vowel opener than *yech* and *e*, alongside the back variant /a/ like the original. Karaim and Uzbek, partly Tatar languages play definitive roles for this judgement. Especially Trakai Karaim, out of three Karaim dialects, displays a very similar notation of two distinct *e* vowels. The letters *u* and *ə* in Tatar language appear to be subject to the same syllabic restriction of AK **ի**/**h** and **ւ**, respectively. Uzbek, though not a Kipchak language, turns out to have very close orthography to AK language with regard to use of two distinct *e* vowels in the same phonotactic environment, one of which is shown by a letter invented to notate /a/, i.e. Latin and Cyrillic *a*, and Armenian **ա**.

ABBREVIATIONS

Acc.	Accusative
DPY	Документы на половецком языке XVI века (Grunin 1967)
EK	Les «Ephémérides» de Kamieniec (Deny 1957)
Pl.	Plural
PTW	An Armeno-Kipchak chronicle on the Polish-Turkish wars in 1620-1621 (Schütz 1968)



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