The Vowels of Turkish Language in Transcription Texts

Çeviriyazılı Metinlerde Türkçenin Ünlüleri

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ÖZET

The Turkish alphabet with Arabic letters, through which Turkish texts were written in Ottoman period, was insufficient to represent Turkish speech sounds, especially vowels. Transcription texts refer to the works in which the language of Ottoman period was written with Latin alphabet. In these works, the vowels "a-e, 1-i, u-ü, 0-ö" are represented with different letters. However, there is no differentiation in Turkish alphabet with Arabic letters in terms of representation of vowels "a-e, 1-i, u-ü, 0-ö". At first sight, the transcription system of these works could be incomprehensible. In order to understand the Turkish words in transcription texts, orthography-pronunciation system of the languages in which these works were written must be known. In this article, the Italian, French, English and Latin transcription texts are examined in terms of representation of vowels, and the sound value of Turkish vowels in Ottoman texts was tried to be determined.

ANAHTAR KELİMELER

Ottoman Turkish, transcription texts, the relation between orthography and pronunciation, vowels

ABSTRACT

Osmanlı zamanında kullanılan Türkçenin kaydedildiği Arap kökenli Türk alfabesi Türkçedeki sesleri, özellikle de ünlüleri göstermekte yetersiz kalmıştır. Çeviriyazılı metinler (transkripsiyon metinleri), Osmanlı zamanındaki dilin genellikle Latin alfabesi ile yazıya geçirildiği metinlerdir. Bu metinlerde Arap harfli Türk alfabesinde ayırt edilemeyen a-e, ı-i, u-ü-o-ö gibi ünlüler ayrı ayrı harflerle işaretlenmiştir. Çeviriyazılı metinlerin transkripsiyon sistemi ilk bakışta anlaşılmaz görünür. Bu metinlerdeki Türkçe örnekleri anlayabilmek için metnin yazıldığı dilin imla-telaffuz sistemini bilmek gerekir. Bu makalede İtalyanca, Fransızca, İngilizce ve Latince yazılmış olan on altı çeviriyazılı metin ünlülerin yazımı bakımından incelenmiş, Osmanlıca metinlerdeki Türkçenin ünlülerinin ses değerleri tespit edilmeye çalışılmıştır.

KEY WORDS

Osmanlı Türkçesi, çeviriyazılı metinler, imla-telaffuz ilişkisi, ünlüler

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Introduction

When Turkish language was written with Arabic alphabet there were many consonants, but a few vowels used to represent sounds. This situation has some drawbacks for Turkish. One of them is that it is not possible to determine the sounds of Turkish just by examining texts written in Arabic alphabet (Duman 2008: 175). In Arabic orthography only long vowels are displayed. This tradition also influenced Turkish orthography. Vowel points or the letters of alif, waw, ye and he were used to show vowels, but they were insufficent to represent vowels of Turkish precisely. The vowels of Turkish when texts were written with Arabic alphabet were determinded only within the framework of general acceptances. How these vowels are pronounced is a more complicated issue.

Transcription texts refer to the Turkish grammars written by European linguists. In these works the speech sounds of Turkish language are represented with a different alphabet (Tulum 2007: 347) However, it was not easy to represent Turkish speech sounds with a different alphabet. The authors of these works sometimes hesitated, examined the alphabets of other nations and tried to understand how they pronounce Turkish words. In the end, some of them dared to use Latin alphabet, but some who didn't dare used Arabic alphabet to write their works. These works written with Latin alphabet substantially displays the sounds of Ottoman Turkish period when Turkish texts were written with Arabic letters. In these texts, the vowels a-e, o-ö, u-ü, 1-i, which are not diffirentiated in Arabic alphabet, are represented separately (Gümüşkılıç

In the 17th century, Parigi prepared a dictionary in which he hesitated to write Turkish words through Latin letters or Arabic letters. Finally, he prepared the dictionary through Arabic letters. Parigi explains this situation as following: many people tried to persuade me to use Latin alphabet, rather than Arabic one; however, our experiences taught us that it would be a very challenging deal, even though it was possible. Each nation has its own spelling and speech style. Ttherefore, using Latin alphabet only serves to nations adopting this alphabet. For instance, while the word سومش 'sevmiş" is spelled byItalians spelled as "seumiso"; by French as "seumich" and by Polish as "seumiz", Germans, British, Hungarians, Scandinavians and other nations spell it with different styles. Parigi also states that Turkish language has unique vowels like ش "ş" that cannot be translated into other languages. For instance, the word ' שְוֹשׁ "paṣa" is pronounced in French as "pacha"; in Italian as "passia" and in Turkish as "pacha". The same difficulties are experienced with other words. Using Latin letters in the dictionary satisfies an individual, but bothers a hundred individuals. For these reasons, respectable reader, please do not complain about using Arabic letters, instead of Latin letters, for using Latin letters in the dictionary satisfies an individual, but bothers a hundred individuals. Moreover, do not claim that using Latin letters could facilitate reading, as such complain would not be more than indifference, together with artificialness and trickery. Through such a method, people would have learnt only 28 characters instead of Turkish, Arabic, Persian languages (Parigi 1665: 9-10)

2000: 45). Although the authors whose native language are not Turkish may have reflected their own pronunciation², the significance of these texts in terms of representing phonologic development and changes of Turkish is unquestionable (Duman 2008: 175). The authors came to Ottoman State in person and learned Turkish. They also inform the readers in their works about how they learned Turkish. For instance, Argenti prepared his work by writing down the language he heard (Adamoviç 2009: 94), and Parigi compiled his work by studying with the best scholars in İstanbul (Parigi 1665: 2). These texts must be considered as tape recordings which were decoded and written down for the present day (Kartallıoğlu 2005: 20). Accordingly, the uppermost references of the synchronic studies on Ottoman Turkish must be the grammars written by the European linguists (Tulum 2007: 347).

The present study is prepared on the basis of the Italian, French, English and Latin grammars and dictionaries written with Latin and Arabic letters between 1533-1907. At first sight, the orthography style of Turkish words in these texts seems complicated. Moreover, it is incomprehensible in some of these works and there may be contradictions in the representation of some sounds (Tulum 2007: 347). It is hard to find the equivalents of Turkish words such as "ciair, kioi, iapaghi" written with Italian ortography, "tchibouq, qouchatmaq, odha" written with French ortography and "chey, tujar, aut" written with English orthography without knowing the orthography-pronunciation system of these languages. Dilaçar stated that the equivalent of "dunmez" which is found Megiser's work cannot be determined exactly as it can represent all "dunmez, dünmez, donmez or dönmez" (Dilaçar 1970: 203). However, these texts including Meninski's work which reval the phonology of Ottoman Turkish precisely (Develi 1995: 10) can be interpreted better if the transcription system used is decoded.

In the present study, which aims to determine the sounds of Ottoman Turkish in general, the transcription texts are put in chronological order regarding the languages in which they are written. As a result of this, whether the same letters represent the same sound in the texts of same language was revealed. At this stage, it should be pointed out that determining which Turkish sounds the letters or letter clusters represent is rather troublesome. Nevertheless, this drawback was overcome to a great extent through the

According to Adamovic, Argenti adapted some Italian rules into Turkish language in his work. The reason for this is that Italian Language does not allow the usage of some consonant groups together (Adamovic 2009: 104).

modern grammars of the aformentioned languages. There are two purposes of the present study:

- 1. To decode the vowel system of the transcription texts written in different languages and to render the Turkish words more comprehensible for the researchers.
 - 2. To determine the vowels of the period on the basis of these texts.

Study

In transcription texts, the title of the book with Ottoman or Turkish alphabet and the Latin correspondences of letters are presented to the readers at first. It is possible to learn the Latin correspondences of Arabic letters, without any need for sample words, by examining the table of letters. After this table is presented to the readers, vowels and consonants are explained with sample words in alphabetical order. In most of the texts, the authors explained the vowels of Turkish by comparing them with the vowels of their native or foreign language. For example, Vaughan states that "Turkish vowels should be used as they are in Italian and consonants should be used as they are in English" (Vaughan 1709: 24).

In this study, sixteen transcription texts written in Italian, French, English and Latin are analyzed in order to determine the vowels of Turkish in Ottoman period. If a vowel has more than one representant, they are all taken into consideration. The letters representing the same vowels are presented under a different entry. At least three sample words are given are for each vowel.

Followings are the transcription texts used in the study:

I. Italian texts

1. (Argenti) Milan Adamoviç, Filippo Argenti'nin Notlarına Göre (1533) 16. Yüzyıl Türkçesi, translated by Aziz Merhan, TDK, Ankara, 2009.

It is the first work dealing with Turkish Language systematically. The sounds of Turkish are represented with Italian letters. The transcription system of Argenti is impractical especially in terms of vowels (Adamoviç 2009: 94, 95). In addition, there is diversity in the representation of consonants.

2. (Molino) Giovanni Molino, Dittionario della lingua Italiana, Roma, 1641.

It is a Turkish-English dictionary in which Arabic letters were not used. There are some inconsistencies in the transcription system of the work.

3. (Meninski) Franciski Mesgnien Meninski, Linguarium Orientalium Turcice-Arabice-Persice Grammatica Turcica, Vienna, 1680.

It is the most reliable work of the seventeenth century and used as a reference for grammars and dictionaries written in the following centuries (Tulum 2007: 345). The Turkish, Arabic and Persian elements in Ottoman Turkish are covered to a large extent.

4. (Carbognano) C. C. Carbognano, Primi Principi della Gramatica Turca, Roma, 1794.

Carbognano gave a long explanation on the letters of Ottoman Turkish and their correspondences benefiting from languages such as French and Greek.

II. French texts

1. (Viguier) P. F. Viguier, Elemens de la Langue Turque, İstanbul, 1790.

Viguier described the letters and sounds of Ottoman Turkish in detail. In the page thirty-third, he presented the French letters to which Turkish sounds correspond. (Gümüşkılıç 2000: 45) In the eighth chapter, he revealed Turkish sounds and their representation with Arabic letters. He also explained the names of the letters, the sound value of these letters and their correspondences (Gümüşkılıç 2000: 45).

2. (Jaubert) A. Jaubert, Elements de la Grammaire Turke, Paris, 1833.

In the introduction, the alphabet used in Ottoman Period was given under the title of Turkish alphabet. There is information about letters and their Latin correspondences. In the subsequent chapters these letters are described through a comparison mainly with French and sometimes with Italian.

3. (Bianchi) T. X. Bianchi, Dictionnarie Français-Turc, Paris, 1843.

It is a French-Turkish dictionary. There is no information about the sounds of Turkish. However, the words were written with both Latin and Arabic letters, which provides an opportunity to make a comparison between two alphabet.

4. (Redhouse) James W. Redhouse, Grammaire Raisonnee de la Langue Ottomane, Paris, 1846.

In the phonology chapter, the letters of Ottoman Turkish are introduced through a comparison with French letters. The Turkish words were written in

Arabic letters, and for some of them correspondences with Latin letters are provided.

5. (Dieterici) Fr. Dieterici, Chrestomathie Ottomane Précédér de Tableaux Grammaticaux et suivie d'un Glossaire Turc-Français, Berlin, 1854.

In the introduction, the letters of Ottoman alphabet and their French correspondences are presented in a table. The author also made explanations on some of the letters.

III. English Texts

1. (Vaughan) Thomas Vaughan, A Grammar of the Turkish Language, London, 1709.

Vaughan described the sounds of Turkish by comparing them with English in the introduction of his work. He used Latin alphabet to write down Turkish words.

2. (Davids) A. L. Davids, A Grammar of the Turkish Language, London, 1832.

There is a short description of modern Turkish letters and a table presenting these letters in the introduction. Subsequently, how these sounds that the letters represent are pronounced is explained with the help of English words.

3. (Boyd) M. C. Boyd, The Turkish Interpreter or a New Grammar of the Turkish Language, Paris, London, 1842.

The alphabet of Ottoman Turkish is given in a table and the pronunciations of the letters are shown with the help of English sounds in the introduction.

4. (Edwin) Arnold Edwin, A Simple Transliteral Grammar of the Turkish Language, London, 1877.

Edwin presented the alphabet of Ottoman Turkish and provided Latin correspondences of the letters in the introduction of his work.

5. (Hagopian) V. H. Hagopian, Otoman-Turkish Conversation-Grammer, London, 1907.

There is table showing Arabic letters and their Latin correspondences in the introduction. Next, the pronunciations of the letters are described by means of English and German letters.

IV. Latin texts

- 1. (Megiser) H. Megisero, İnstitutionum Lingva Tvrcica, Leipzig, 1612.
- H. Stein studied on the transcription system of the work. He states that Megiser did not make a diffirenciaiton between the letters o-ö, u-ü, ı-i (Coşkun 2000). Arabic letters were not used to write down Turkish sample words.
- 2. (Harsany) Jakab Nagy de Harsany, Collaquia Familiaria Turcico-Latina, 1682.

Unlike the other works Harsany did not present an alphabet in his work. Hazai conducted a study on the work in which he gave Turkish-Latin text of the work and made a long grammatical analysis of the work.

The vowels of Turkish in transcription texts are as follows.

Italian texts

- a ad "name", agha "older brother", chal- "to stay" (Argenti 1533: 126, 127, 191)
- a rakam "number", agimak "to get hugry" (Molino 1641, (Tanış, 1989): 1, 57); augi "hunter", arka "back" (Siemieniec-Golaś 2005: 15)
- a at "horse", aw "hunt", awlarün- "of hunts", ana "mother" (Meninski 1680: 27, 39)
 - Meninski used a for the vowel /a/ in Turkish words. He also used /ā/ for borrowings: $\bar{a}dem$ (27), $gh\bar{a}jet$ (32). However, the usage of /ā/ in borrowings is not systematic: ædem (53). In addition, some Arabic and Persian words were presented with /æ/: æhmer (30), æhsen, kælem (33), mæzrib "madrip" (34) /æ/ is also used to show some suffixes: babajæ, aghajæ, (28), $\int u\check{g}ighæz$ (39), kyrkær (46).
- a *ajàghum* "my foot", *tatly* "sweet", *kardas*ⁱ "brother/sister" (Carbagnano 1794: 35, 493, 518)
 - Carbognano also displayed $/\bar{a}/$ in the borrowings *sultān*, *aslā*, *ikrām* (626), but the representation of long vowels in the borrowings is not systematic.

French texts

a qar "snow", ada "island", ana "mother", altchaq "low", qaboul "acceptance" (Viguier 1790: 11, 12, 42, 355)

Viguer states that /a/ is pronounced similar to /a/ in French words such as *anatomie and almanac* (Viguier 1790: 42).

a *agha* "older brother", *khatoun* "wife", *tañri* "God", *ara-* "to seek" (Jaubert 1833: 35, 44, 47, 186)

Jaubert also used $/\hat{a}/$ for some words such as $Ir\hat{a}n$, $iptid\hat{a}$, $asv\hat{a}b$, $H\hat{a}fiz$, $zi\hat{a}fet$, $r\hat{a}zi$. At first it may be thought that he used it to show long vowels in borrowings. Nevertheless, that he used $/\hat{a}/$ for some Turkish words such as $p\hat{a}cha$, $t\hat{a}ch$, $d\hat{a}gh$ $b\hat{a}ghlamaq$ means that tried to make a kind of transliteration. Besides, he does not use $/\hat{a}/$ for all words to show a which is written with alif.

- a achagha "down", aghyz "mouth", batāq "marsh" (Bianchi 1843: 1, 58, 162)
- a bakmak "to look", bach "head" (Redhouse 1846: 7, 8)

Redhouse states that this vowel is pronounced as /a/ in French (Redhouse 1846: 8). He shows long a in borrowings with \hat{a} : $b\hat{a}til$, $p\hat{a}$, $efz\hat{a}$ (Redhouse 1846: 8). He used \hat{a} for Turkish word $b\hat{a}b\hat{a}$, which proves that he does not use \hat{a} just for borrowings. That means he used \hat{a} randomly.

a ab "water", at "horse", atech "fire", ata "ancestor" (Dieterici 1854: 140)

English texts:

a anglamak "to understand", adam "man", ata "ancestor" (Vaughan 1709: 13, 19)

Vaughan states that the vowel of /a/ has the intonation of *ale* pronounced by an Englishman. On the other hand, *a* in the word of *all* is pronounced with Italian or Turkish intonation (Vaughan 1709: 23).

- a *élmas* "diamond", *adgemi* "novice", *bazar* "bazaar" (Davids 1832: 4, 119)

 Davids states that *alif* is pronounced like the English /a/ and corresponds various sounds such as *au*, *ï*, *é*, *ü* (Davids 1832: 4).
- a *adem* "man", *irak* "distant" (Boyd 1842: 4)

 Boyd declares that alif is pronounced as *a*, *e*, *i*, *u*, and alif with waw is pronounced as *o*, *oo*, *eu* (Boyd 1842: 4).
- a baba "father", almak "to take", ya "oh!" (Edwin 1877: 12, 15, 55)
- a bal "honey", Paris "Paris", avropa "Europe" (Hagopian 1907: 1, 15)
 In Hagopian's work long a is represented with a used in words like a meen, a bad, but it is almost impossible to encounter with this letter in any other words.

Latin texts

a andan "from him", alma "apple", ajak "foot", agi "bitter" (Megiser 1612: 84, 96, 249, 359)

Megiser used aa for the vowel /a/ in some examples: baaglamak (162).

- a aiak "foot", al "red", alt "below" (Harsany (Hazai), 1682: 202, 203)
- á kazán "couldron" (Harsany (Hazai), 1682: 239)

Hazai remarks that in Harnasy's work the vowel /a/ is frequently represented with a, but for some cases it is represented with \acute{a} : $d\acute{a}glarun$, $b\acute{a}g$, $k\acute{a}z\acute{a}nm\acute{a}kt\acute{a}d\imath r$. According to Hazai, this is an inconsistent usage, but \acute{a} used in $m\ddot{u}b\acute{a}rek$ must be taken into consideration (Hazai 1973: 320).

In transcription texts the vowel /a/ is represented with *a*.

English texts

- e egh- "to bend", elci "envoy", sen "you", seudá "love" (Argenti 1533: 164, 165, 232, 233)
- e *delmek* "to pierce", *ekmek* "bread", *ter* "sweat" (Molino 1641, (Tanış, 1989): 220, 232, 264)
- e er "man", ere "to the man", sew- "to love" (Meninski 1680: 26, 83)
- e et "meat", erit- "to melt", eji "good" (Carbognano 1794: 2, 67, 494)

French texts

- è sèvmèk "to like", bèslèmèk "to feed", dèvè "camel" (Viguier 1790: 42, 396)

 In order to show /e/ Viguier uses è and he points out that this vowel is pronounced like e in French words such as sève, bestial (Viguier 1790: 42).
- e ghuzel "beautiful", er "man", etmek "bread" (Jaubert 1833: 29, 49)
- e ev "home", ezdur- "to make comprass", egrî "curve" (Bianchi 1843: 3, 310, 384)
- e bédel "price", kurek "shovel" (Redhouse 1846: 28, 31)
- e etmek "bread", esna "moment", edjdad "ancestors" (Dieterici 1854: 140, 141)

English texts

e etmec "bread", esky "old" (Vaughan 1709: 14, 77)

Vaughan signifies that /e/ is proniunced like English *me* and Italian *many* (Vaughan 1709: 23).

- e gunesh "sun", eyam "days", shimshek "lightning", atesh "fire" (Davids 1832: 121, 122, 123, 124)
- e edeb "politeness", yek "one", besh "five" (Boyd 1842: 4, 33, 34)
- e etmek "bread", yer "place", essmer "brunette" (Edwin 1877: 16, 54, 64)
- è èt "meat", él "hand", ésir "hostage" (Hagopian 1907: 15, 468, 469)

Latin texts

- e gelene "to the comers", erleri "to the men", peltek "lisping", effendi "master" (Megiser 1612: 90, 102, 252, 375)
- e *eger* "if", *egri* "curve", *ejü* "*good*" (Harsany (Hazai), 1682: 217) In transcription texts vowel /e/ is represented with *e* and *è*.

ای = /1/

Italian texts

/1/ does not exist in Italian. As it is shorter than the other vowels in pronounciation, this vowel is not as marked as the others. As a result, vowel /1/ is not displayed in some Italian grammars. Argenti used \emptyset , e, i, j; Molino used \emptyset , i; Meninski and Carbogano used y to represent /1/.

- Ø chttibár "esteem", crár "confession", smarlá- "to order", chsá "short", jghén "pile", jl "year", jldrím "lightning" (Argenti 1533: 18, 186, 199)
- e eísch "love", cher ∫ ús "theif", cher "counryside" (Argenti 1533: 97, 186, 199)
- i sirá "line", sirích "pole", sirt "back", sislá- "to ache" (Argenti 1533: 234)
- j jliggiách "slightly warm", jrmách "river", jssí "heat" (Argenti 1533: 185, 186)
- Ø kszlar "girls", ksrak "mare", kda "food" (Molino 1641 (Tanış, 1989): 1, 48, 77); ghlagus "guide", chrsus "thief", kaldrim "pavement", srcia "glass", msrak "spear", sghr "cattle" (Siemieniec-Golaś 2005: 36, 37, 83, 90, 120)
- i irmak "river" (Molino 1641 (Tanış), 1989): 85); irghat "laborer", Taghri "God", fstik "nut", dogri "true" (Siemieniec-Golas 2005: 37, 141)
- y bakysⁱ "glance", onlyk "apron", kypkyzyl "crimson", alty "six", kylyğ "sword", ialdyzlamak "to brighten" (Meninski 1680: 29, 35, 39, 43, 52, 61)

Meninski states that the intonation of /1/ is between /e/ and /i/ and it can be produced easily without touching the lower teeths to the tongue and without closing the mouth, but with a stronger breath as if producin an /i/. He also asserts that /1/ which Polish people produce is similar to Turkish /1/ (Tulum 2007: 348). Meninski used y to represent /1/. Tulum indicates that Meninski used y to represent /1/ when it is preceded by consonants such as "kaf, gayın, ayın, zı, tı, dad, sad, ha, hı". (Tulum 2007: 348). Meninski might have been influenced by the Arabic alphabet and made a transliteration by representing /1/ with y: $\int ujy$ "suyu", öldürdy "öldürdü", itty "etti" (Meninski 1680: 25, 48, 49). He did not use y for /i/ when it is final in some words, which means that he made a diffirenciation when it is final.

Apart from /1/ represented with y, there is a short /1/ () represented with ij and a, long /1/ ($\bar{\imath}$) represented with in Meninski's work. / / has a low audibility and is used in phrases in Persian structure: mesh- cebin, feth- $mem\bar{a}lik$. / $\bar{\imath}$ / is used in Arabic and Persian words with letters which Meninski call fricatives: $lah\bar{\imath}s$, $m\bar{\imath}h$, $m\bar{\imath}z\bar{\imath}$, $tevk\bar{\imath}r$ (Tulum 2007: 355-356).

y oghlàny "to the boy", on alty "sixteen", kyrk "forty", altmysi "sixty", tasiy-"to carry" (Carbognano 1794: 1, 14, 71)

Carbognano indicates that /1/ which he represented with y is a guttural. (Carbognano 1794: 10).

French texts

/1/ does not exist in French, so this sound is represented with three different forms. Viguier represented /1/ with e which is pronounced as \ddot{o} in French (Lèvy 1985: II). Jaubert used e, i; Bianchi used e, i, y; Redhouse used i and Dieterici used i to represent /1/. It must be stressed that French i and y are prounounced like Turkish i, and /i/ is the closest sound to /1/.

- e *qape* "door", tanemaq "to know", setma "malaria", yardem "help", marte "seagull" (Viguier 1790: 13, 42, 356, 357)
 - Viguier points out that /1/ is pronounced as in the *me* and *ne* words, it has a low-level audibility and sometimes it is like a vague /i/ (Tulum 2007: 349).
- e *qerq* "forty", *alendeghi* "that it was taken", *qarendach* "brother" (Jaubert 1833: 57, 65, 82)
- i qiz "girl", arslani "to the lion", bâqich "glance", alti "six" (Jaubert 1833: 30, 38, 48, 56)

- e aghez "mouth" (Bianchi 1843: 157)
- i tchālichqān "hardworking", pirlānta "diamond" (Bianchi 1843: 92)
- y âry "bee", qyssa "short", qylidjum "my sword" (Bianchi 1843: 4, 7, 113)
- i altilik "a set of six" (Redhouse 1846: 31)
- y akhır "stable", ysmarlamaq "to bite", tchybuq "stick", khatyr "respect" (Dieterici 1854: 141, 144, 158, 163)

English texts

In some English words e is pronounced like ι (angel, camel, golden, moment...) (Gültekin 2005: 1). Davids used e, i; Vaughan, Boyd, Edwin used e, i, y; Hagopian used $\hat{\iota}$ to represent /1/.

- e emizghenmec "to doze" (Vaughan (Gilson), 1709: 170)
- i *kul-lik* "slavery", *ha* ∫ *talik* "illness" (Vaughan 1709: 15)
- y I∫ tanboly "from İstanbul", tangry "God"³, alty "six", kyz "girl" (Vaughan 1709: 15, 16, 17)
- e *yeldiz* "star" (Davids 1832: 122)
- i yarim "half", bazari "to the bazaar", kali "carpet", aghir "heavy", kizarmak "to go red" (Davids 1832: 121, 143, 144, 147, 149)
- e yel "year", yarem "half" (Boyd 1842: 182, 185)
- i *lazim* "required", *alti* "six", *kirk* "forty", *bichak* "knife", *irmac* "river" (Boyd 1842: 12, 34, 82, 186)
- y kız "girl", yary "half", aghadjy "to the tree" (Boyd 1842: 14, 189, 191)
- e *yarem* "half" (Edwin 1877: 18)
- i yazin "in the summer", ardindah "behind", yanlish "wrong" (Edwin 1877: 45, 48, 74)
- y kanghy "which" (Edwin 1877: 24)
- î *arî* "bee", *ajî* "bitter", *sandîq* "chest", *baqîr* "cooper" (Hagopian 1907: 468, 469, 471)

Vaghan transliterated the vowel /1/, which is symbolized with ye at the end of the word, by means of y. The word transforms to "tangrilik" through addition of the particle "-lik" Vaghan 1709.15). Vaghan transliterated the vowel I with y at the end of the word: Iky "two". This word turns into Ikingy "second" through particle addition.

Latin texts

/1/ does not exist in Latin (http://tr.wikipedia.org/wiki/Latince_okunu%C5%9F_kurallar %C4%B1). Accordigly, Stein points out that Megiser could not make a differenciation between /1/ and /i/ (Coşkun 2000). So /1/ is represented with $\hat{\imath}$ and i in Latin works.

- i katinde "on his part", irak "distant", alti "six", jarin "tomorrow" (Megiser 1612: 83, 96, 115, 384)
- i jaliniz "alone", lakerdi "rant", dogri "true" (Harsany (Hazai), 1682: 40, 56, 74)
- e lakerdi "rant" (Harsany (Hazai), 1682: 56)
- Ø brag/brak "leave" (Harsany (Hazai), 1682: 209)

Hazai states that Harsany is not familiar with /1/ and he represented this vowel mostly with i and sometimes with e (Harsany (Hazai), 1682: 320), but it is not common.

/1/ is peculiar to Turkish and it does not exist in Italian, French and Latin. /e/ is pronounced as /1/ in some English words. /1/ was not displayed in some words by Italian authors. In Italian works i, y, e and rarely j, in French and Italian works e, i, and y, in Latin works i and i are used to represent /1/. The authors of these works are not familiar with this sound. Tulum points out that /1/ is a weak and faint sound and its pronounciation is similar to /i/ so there is a transition space between /i/ and /1/ (Tulum 2007: 349). Therefore, these authors represented /1/ with i or e. Using i to repersent /1/ may cause from their inability to discriminate /1/ and /i/. The authors also used y to represent/i/, which means that they made transliteration rather than transcription.

ای = /i/

Italian works

- i *bitt* "louse", *gins* "breed", *icc* "inside", *idúm* "I was", *icchién* "while" (Argenti 1533: 143, 149, 187)
- j jdrách "percecption", jbrá "release", jp "rope", jsmí "name" (Argenti 1533: 187, 189)
- i inanmak "to believe", kira "rent" (Molino 1641 (Tanış, 1989): 13); dil "tongue", cigh "raw", sijah "black" (Siemieniec-Golaś 2005: 141, 161, 202)

- i iki'liki "duality", iki "two", pici "bastard" (Meninski 1680: 38)
 Meninski showed the long /i/ in borrowings with ī: āmīz (35), kienīzeki "a bondwoman" (40)
- i igirmi "twenty", elli "fifty", ikiisier "two by two" (Carbognano 1794: 14, 18)

French works

In French i and y letters are pronounced as /i/

- i divit "ink holder", inanmaq "to believe" (Viguier 1790: 43)
 Viguier states that /i/ corresponds to the /i/ in French words such as division, inianition (Viguier 1790: 43).
- i *istemek* "to want", *ighit* "brave", *iki* "two", *kim* "who" (Jaubert 1833: 28, 36, 57, 66)

Jaubert made a transliteration with \hat{i} in some words such as $um\hat{i}d$, $b\hat{i}$

- i kirāz "cherry", pichmich "cooked", bir "one" (Bianchi 1843: 228, 410, 430)
- i *itmek* "to do", *iki* "two" (Redhouse 1846: 12, 20)
- i istykhdam "employement", ishaq "İsaac", ism "name", deri "skin", dilek "wish" (Dieterici 1854: 143, 165, 166)

English texts

There is not a discrepancy in the representaion of /i/.

- i *bir* "one" (Vaughan 1709: 16)
- I *Iky* "two", *I* ∫ *hbu* "hereby", *Ip* "rope" (Vaughan 1709: 16, 22, 76)
- y *elly* "fifty", *di* ∫ *hy* "female", *byt* "louse" (Vaughan 1709: 16, 17, 82) /i/ is prononced as *y* which occurs in English word *my* and as /e/ which occurs in *me* in Italian and Turkish (Vaughan 1709: 23).
- i dakikah "minute", virmek "to give", millet "nation" (Davids 1832: 121, 150)
- i *biri* "someone" (Boyd 1842: 12)
- i biz "we", Inglizdjeh "English", keklik "grouse" (Edwin 1877: 19, 44, 69)
- i *it* "dog", *billor* "crystal", *iki* "two" (Hagopian 1907: 15, 471, 473)

Latin texts

i ischum "my job", iki "two", igne "needle", inek "cow" (Megiser 1612: 85, 95, 278, 386)

i *işit-* "to hear", *its* "inside", *kir* "dirt" (Harsany (Hazai), 1682: 234, 235, 241) Hazai discovered that Harsany used mostly *i* or scarsely *y* to represent /i/: *gyzli*, *symdi* (Harsany (Hazai), 1682: 320).

In transcription texts, /i/ is generally displayed with i. In addition, y and I are also used to represent /i/ for a few sample words. Argeti whose transcription system is possibly the most inconsistant used also j to represent /i/. He displayed /i/ with j, as well. This proves that Argeti and the other authors had difficulty in discriminating /i/ and /i/. The fact that Vaughan represents /i/ with y is a transliteration.

$l_0 = l_0$

Italian texts

- o odá "room", oghlán "boy", ográ- "to come around" (Argenti 1533: 219, 248)
- o *borgz* "debt", *koku* "smell" (Molino 1641 (Tanış, 1989): 156, 157); *toi* "feast", *oianuk* "awake" (Siemieniec-Golaś 2005: 191, 199)
- o jolği "passanger", odun "wood", dozdoghru "stright", on "ten" (Meninski 1680: 33, 36, 39, 42)
- o oghlàn "boy", ojun "game", boz- "to ruin", Ystambol "İstanbul" (Carbognano 1794: 1, 5, 77, 565)

French texts

In French au, eau letters are pronounced as /o/ (Lèvy 1985: II). In these texts au and o are used to represent Turkish /o/ letter.

- o ordou "army", ot "grass" (Viguier 1790: 12, 44)
 - Viguier expresses that Turkish /o/ is similar to /o/ used in French words such as *or* and *botte* (Viguier 1790: 44).
- o qorqou "fear", iol "way", dokouz "nine", otlat- " to graze" (Jaubert 1833:26, 50, 56, 186)
 - Apart from /o/ Jaubert used /ô/ for borrowings such as *khôch*, *khôb* and for Turkish words such as *sôrmaq*, *bôch*, *ôn*. Its usage is not systematic.
- o odoun "wood", gomaq "to put", otlouq "hayloft" (Bianchi, 1843: 2, 494, 759)
- koparmak "to pick", olmak "to be", dokouz "nine" (Redhouse, 1846: 14, 15, 31)

o ot "grass", otourmaq "to sit", otouz "thirty", orman "forest", oda "room" (Dieterici 1854: 146, 147)

English texts

- au aukumak "to read", aud "fire" (Vaughan 1709: 14, 79)
- o *on* "ten", *boga* "bull", *onung* "his/her", *bordg* "debt" (Vaughan 1709: 16, 17, 22, 82)
 - Vaughan points out that the pronounciation of o in English is the same as in other languages (Vaughan 1709: 23).
- o doksan "ninety", kol "arm", koshmak "to run", dokunmak "to touch" (Davids 1832: 18, 125, 148)
- ô ô "he/she" (Davids 1832: 120)
- o orman "forest" (Boyd 1842: 4)
- o okumak "to read", ot "grass", donooz "pig", orta "middle" (Edwin 1877: 26, 67, 68)
- o ot "grass", yol "way", memnoon "pleased" (Hagopian 1907: 15, 16)

Latin works

- o konukdur "he/she is a guest", dost "friend", oglak "goat", oda "room" (Megiser 1612: 89, 92, 396)
- o boj "height", dokus "nine", kojun "sheep", on "ten" (Harsany (Hazai), 1682: 209, 215, 242, 250)
 - In transcription texts /o/ is generally represented with o. Davids used \hat{o} for a single word, Vaughan used au for a few words to represent /o/.

Italian texts

/ö/ does not exist in Italian (Tanış 1981: 1). Argenti and Molino used o; Meninski and Carbognano used \ddot{o} to display / \ddot{o} /.

- o odúnci "borrow", ordéch "duck", son- "to fade", ∫os "word" (Argenti, 1533: 223, 237)
- o dort "four", oldurmek "to kill" (Molino 1641 (Tanış, 1989): 29, 36); oksus "orphan", borek "patty", doulet "state" (Siemieniec-Golaś 2005: 23, 74, 142)
- ö k'öpek' "dog", dört "four", örk'medük' "we were not frightened", ökielenmek "to get angry" (Meninski 1680: 39, 42, 84, 123)

ö *kiöpek* "dog", *dört* "four", *giömlekiliki* "shirting", *ör-* "to knit" (Carbognano 1794: 4, 13, 22, 77)

Carbognano declares that this letter is promounced like *ue* in French. (Carbognano 1794: 10). *eu* is pronounced as *ö* in French.

French texts

e, eu ve *œu* letters are pronounced as *ö* in French (Lèvy 1985: III). In Turkish texts written in French *uieu* and *eu* letters are used to represent /ö/ sound.

eu keuylu "peasant", seuz "word", eudunj "borrow", keur "blind" (Viguier 1790: 12, 42, 361)

Viguier used *eu* to represent /ö/ and stated that this vowel corresponds *eu* which occurs in the French word *heureux* (Viguier 1790: 42).

- **eu** *deurt* "four", *eudèh* "to pay", *eutèh* "beyond", *eul* "to die" (Jaubert 1833: 56, 186, 188, 211)
- eu eurs "anvil", keuchè "corner", gueure "according to" (Bianchi 1843: 599, 617)
- eu eufeurmek "to blow", eulmek "to die", eûteuri "damme", kieûmeur "coal" (Redhouse 1846: 14, 15, 18, 31)
- eu eupmek "to kiss", euturu "due to", eurtmek "to cover", eurtu "covering" (Dieterici 1854: 146, 147)

English texts

Vowel /ö/ doesn't exist in English. Vaughan used au and o, Davids used o and ou, Boyd and Edwin used eu and o and Hagopain used eo to represent /ö/. Vaughan represented /ö/ with au when it is initial. When it is an internal phonem Vaughan and Davids used o. They mostly represent /ö/ with o, but the other authors used ou, eu and eo, which means that the authors who wrote their works in English tried to make a discrimination between /ö/ and /o/ excep for Vaughan and Davids. Vaughan could not discriminate /ö/ when it is an internal phoneme and Davinds did not realize this vowel.

- au audemec "to pay", aurtmec "to cover" (Vaughan 1709: 79)
- o dort "four" (Vaughan 1709: 16); chozmec "to solve", gora "according to" (Vaughan 1709 (Gilson, 1987): 147, 162)
- o kopek "dog", boluk "squad", gioktchek "lovely", soilemek "to tell", gormek "to see" (Davids 1832: 133, 142, 148)

Davids displays /ö/ only in *ourdek*. However, *ou* may also represent /ü/. Davids did not make discrimination between /o/ and /ö/ *ôpmek*, *ôgrenmek*, *ôkumak*, *ôtehlenmek* (Davids 1832: 149).

- eu eulmek "to die", keupek "dog", tchieulmek "pot" (Boyd 1842: 4, 14, 210)
- o *thcol* "desert" (Boyd 1842: 12)
- eu euteh "beyond", euileyen "at noon", euldurmek "to kill", beudjeh "insect" (Edwin 1877: 46, 49, 67, 69)
- o boluk "squad" (Edwin 1877: 62)
- eo geor "see", geol "lake", keorféz "bay" (Hagopian 1907: 17, 475)

Latin works

- o oile "so", soilemek "to tell", okge "heel" (Megiser 1612: 191, 244, 285)
- ö ögüt "advice", söjle- "to tell", ön "front" (Harsany (Hazai), 1682: 251)

As /ö/ does not exist in Italian Argenti and Molino represented /ö/ with o. Meninski and Carbognano who wrote their works at a later period represented /ö/ with ö. In French, vowel /ö/ is represented with eu, so eu was used to display /ö/ in transcription texts. This vowel is represented with o, au, ou, eua and eo in English texts. That the authors displayed /ö/ generally with o means that they could not diffirenciate /ö/ and /o/. In fact, this situation must be valid for some words. That is, this may result from the fact that some authors could not hear and comprehend /ö/ in some words because the same authors used other signs apart from o to reprsent /ö/.

u/=0

Italian texts

The vowel u in Italian is pronounced as u (Gültekin 2005: 1). /u/ is represented with v and u in texts written in Italian.

- v vggí "end, point", vfách "small", vghúr "fortune" (Argenti 1533: 250)
- u sulch "peace", tutul- "to be stuck, to be in love with" (Argenti 1533: 101)
- v vn "flour", vrghan "rope" (Molino (Tanış), 1641: 85, 89)
- **u** *altun* "gold" (Molino (Tanış), 1641: 85)
- u kurd "wolf", bujuruk "order", kup kuru "too dry" (Meninsky 1680: 28, 33, 39)

Meninsky indicated the long vowels in borrowings with \bar{u} : $\bar{a}zm\bar{u}den$, $\bar{a}s\bar{u}den$ (35), \int udūr (62).

u *ojun* "game", *duj*- "to hear", *tuz* "salt", *vur*- "to hit"(Carbognano 1794: 5, 74, 75, 77)

Carbognano indicated the long /u/ in borrowings with \ddot{u} : $\ddot{h}\ddot{u}m\bar{a}j\bar{u}n$, $us\bar{u}l$ (626).

French texts

In French, the letters *ou* are pronounced as *u*. (Lèvy 1985: III). *Ou* represents *u* in texts written in French.

ou touz "salt", ordou "army", qambour "hump", mèktoub "letter", qoudurmak "to go mad, to rave" (Viguier 1790: 11, 12, 44, 356, 357)

Viguier states that the vowel /u/ is the correspondant of ou in French words such as tour, tambour (Viguier 1790: 44).

- ou qorqou "horror", humâïoun "imperial", qapou "door", bou "this, it" (Jaubert 1833: 26, 27, 37, 195)
- ou souvārmaq "to water", dhoghrou "correct", sou "water" (Bianchi 1843: 7, 517, 561)
- ou toutmak "to hold, to grab", ourmak "to hit", dokouz "nine", soultân "sultan" (Redhouse 1846: 14, 31)
- ou outanmaz "shameless", otourmaq "to sit, to live", ouzaq "far away", ouzoun "long", ousta "master" (Dieterici 1854: 146, 147)

English texts

In English, o, u, oo and ou are pronounced as u (Gültekin 2005: 1-3). The Turkish letter /u/ is represented with u,au,oo and ou in texts written in English.

- u kapu "door", hurús "rooster", bu "this, it" (Vaughan 1709: 14, 17, 82)
- au aujúz "itchy", aulác "messanger", aumak "to hope" (Vaughan (Gilson), 1709: 217)

According to Vaughan, /u/ is pronounced like a single o as in you, not like double o as in too, in which the vowel is uttered through lips (Vaughan 1709: 23). Vaughan uses au for /u/ when it is initial; for other positions, he prefers u.

- **u** *kushlik* "late morning", *bu* "this, it", *yaghmur* "rain", *kuvvet* "force, power", *mumdgi* "chandler" (Davids 1832: 6, 121, 122, 124, 130)
- oo oozac "far, away", boolmac "to find", yoomoortah "egg" (Boyd 1842: 4, 12)
- oo boo "this, it", shoo "that, it", oloordun "you would have been", coom "sand", kooyoo "well" (Edwin 1877: 21, 34, 70, 71)
- u oloordun "you would have been", muamele "treatment" (Edwin 1877: 34, 71)
- ou oulou "almighty", qoul "human being" (Hagopian 1907: 26)

Latin texts

- u kuru "dry", duvar "wall", tuna "danube" (Megiser 1612: 94, 284, 291)
- u otuz "thirty", sultan "sultan, sultana", uzun "long" (Harsany (Hazai), 1682: 251, 255, 263)

The vowel /u/ is represented generally with u, but rarely with v in the works written in Italian. In texts written in French, ou represents /u/. On the other hand, the vowel /u/ is indicated by u, ou, oo and au. This diversity results from the variety of equivalences of /u/. In texts written in Latin, /u/ is represented with u.

او = /ü/

Italian texts

/ü/ does not exist in Italian and it is represented by Argenti and Molino with v and u, as they did with /u/. There is no difference with /u/-/ü/ in these texts. However, the vowel /ü/ is clearly represented with \ddot{u} in Meninsky's and Carbognano's texts. Nevertheless, Meninsky used u instead of /ü/ for some words.

- v vccingi "third", $v \mid t$ "above" (Argenti, 1533: 251, 253)
- u supur- "to sweep", tucchiur- "to spit" (Argenti, 1533: 101)
- v vsum "grapes", vmis "hope" (Siemieniec-Golaś 2005: 115, 155)
- u iuksek "high", sulun "pheasent" (Molino 1641 (Tanış, 1989): 77, 80); kiomur "pastry", husin "fine-good", ghius "fall" (Siemieniec-Golaś 2005: 106, 145, 163)
- ü büjüki "big", kiüciüki "small", mufti "müfti", ü ∫ tümdeki "what I have on", olyjür "it's coming out", türkicie "Turkish" (Meninsky 1680: 27, 28, 52, 61, 84)

- Meninsky also used *u*to represent/ü/: *eju* "good" (27), *mufti* "müfti" (28), butün "whole" (39).
- **ü** *bulbul* "bulbul", *sümük*ⁱ "bogey, mucus", *dün* "yesterday", *mek*ⁱtübü "letter of", *tekiür* "feudal landlord" (Carbognano 1794: 5, 506, 565, 577)

Carbognano states that this vowel is pronounced as u in French (Carbognano 1794: 10). u sounds like $/\ddot{u}/$ in French.

French texts

The letter u in French is pronounced like \ddot{u} in Turkish (Lèvy 1985: IV). eu and u is used to represent $/\ddot{u}/$ in texts written in French. In these texts eu is used generally for $/\ddot{u}/$ when it is initial and u is used for $/\ddot{u}/$ when it is final and internal phoneme

- u guiul "rose", utchundju "third", guiun "day", dukkian "shop", tchuruk "rotten" (Viguier 1790: 11, 14, 43, 45, 365)
- eu deurtu "stimulation" (Viguier 1790: 357)
 - Viguier states that $/\ddot{u}/$ is pronounced as u like in duc, tutie in French (Viguier 1790: 45).
- **u** butun "whole entire", uturu "due to, because of", ustun "superior", mufti "müfti", dun "yesterday" (Jaubert 1833: 28, 41, 195)
- **u** duchmek "to fall", mumkin "possible", supruntu "dregs, brushing" (Bianchi 1843: 3, 6, 119)
- eu eurmek "to knot" (Bianchi 1843: 7)
- u duzguiun "smooth", uzum "grapes", kurek "paddle" (Redhouse 1846: 15, 31)
- eu eûteu "iron", eûleum "death" (Redhouse 1846: 31)
- **u** *uzum* "grapes", *ust* "above, over", *utch* "three", *eulu* "dead" (Dieterici 1854: 147, 148)

English texts

- /ü/ does no exist in English. u, \acute{u} and $\^{u}$ are used to represent /ü/ in texts written in English. The first and second of these signs are also used for the sound /u/. The fact that /ü/ does not exist in English implies that the authors could not notice /ü/ or they could not seperate /u/ from /ü/.
- **u** guzel "beautiful", buyuc "big", Turk "Turk", gul- "to smile, to laugh" (Vaughan 1709: 17, 19, 28, 31)

- **ú** *yúz* "face" (Vaughan 1709: 16)
- u dunia "world", giun "day", dun "yesterday", gunesh "sun" (Davids 1832: 120, 121)
- u buyuk "big", śuluķ "blood sucker", sudjook "soudjouk", sud "milk", dukian "shop" (Boyd 1842: 14, 206, 209, 213)
- u gunduz "daytime", dun "yesterday", gul "rose", dunia "world" (Edwin 1877: 48, 49, 70, 71)
- û *kûl* "ash", *eolû* "dead" (Hagopian 1907: 17, 26)

Latin texts

/ü/ does not exist in Latin, as well. The letters eu are pronounced as /ö/ in Latin as the language of science (http://tr.wikipedia.org/wiki/Latince_okunu%C5%9F_kurallar%C4%B1). In Megiser's Dictionary /ü/ is represented with u. In Harsany's text, however, /ü/ is represented with both u and \ddot{u} .

- u benum "my", up "kiss", dunmes "steadfast", ulu "dead" (Megiser 1612: 83, 95, 96, 108)
- u ucs "three", user "upsetting" (Harsany (Hazai), 1682: 263)
- **ü** *üleştir-* "to share", *üsen-* "to be lazy to do something", *üzüm* "grapes" (Harsany (Hazai), 1682: 263, 264)

The vowel $/\ddot{u}/$ is represented with u and v in texts written in Italian, since $/\ddot{u}/$ does not exist in Italian. However, Meninsky and Carbognano used \ddot{u} , as they did with $/\ddot{v}/$ is represented with u in French texts, in which $/\ddot{u}/$ is represented in some examples with eu when it is initial. As $/\ddot{u}/$ does not exist in English, this vowel is represented with /u/. The signs u and u represent the vowel $/\ddot{u}/$ in texts written in Latin.

/é/ = (?)

The issue of the closed vowel e (/é/) is still on debate. Musa Duman dealt with this issue with in his article "Issue of i/e in the Classical Ottoman Turkish". In this article, Duman analyzed texts with Arabic letters and transcription texts, and observed a transmission from /i/ to /e/, rather than the closed vowel /e/ (Duman 2008:73). In his book namely "Introduction to the Ottoman Turkish", Mertol Tulum does not note such a vowel (Tulum 2009). Timur Kocaoğlu states in his article on the vowel /e/

that "Through a comparative analysis on transcription texts, we can observe that the vowel /é/ in Turkey Turkish was hidden in the daily language until recent centuries." (Kocaoğlu 2003: 71). Kocaoğlu claims that the word gece "night" was witten as "gice" with Arabic letters, and as "gece" (g'éğe. vulgarization) by Meninsky. On the basis of this, he alleges that the closed vowel /é/ exists in the language (Kocaoğlu 2003:271). Kocaoğlu's claim which bases on a single example is very assertive. There is no evidence of the vowel /é/ in the example excerpted from Meninsky. Meninsky just shows the pronunciation through "gece (g'ége)". The vowel in the first syllable is /e/. Meninsky states that when the verb "de-" "to tell" is written without "&", it sounds like the vowel /é/ in French.4

In the transcription texts analyzed, there is no evidence of the existence of the vowel $/\acute{e}/$. In these texts, the vowel shown with -ye is pronounced with /e/. As Duman mentioned before, a transmission can be observed from /i/ to /e/ in these texts.

Argenti: bel, beş, de-, el, ertté, et-, ghieggié "night", ye-, jedí, yel, jer (Argenti, 1533)

Molino: bel, beş, de-, el, erte, et-, ye-, yedi, yel, yer (Duman 2008: 54)

Meninski: bel, beş, de-, erte (irte vulg. erte), et- (it- vulg. et-) gece (gice vulg. gece), ye-, yedi, yel, yer (yir) (Duman 2008: 56-57).

Carbognano: beş, de-, et-, gece, ye-, yedi, yer (Duman 2008: 58-59)

Viguier: *bel, beş, de- (di-), et-, gece, ye-, yedi, yel, yer* (Duman 2008: 59)

Jaubert: bech, et-, ghedjeh, ïedi, ïe- (Jaubert 1933)

Bianchi: di-, el, guidjé, it-, vir-, ïe-, ïedi, ïel, ïer (Bianchi 1843)

Dieterici: bech, di-, guidjé, il, vir-, ïedi, ïel, ïe-, ïer (Dieterici 1854)

Vaughan: it-, vir-, yel, ye-, yer (Vaughan 1709)

Davids: besh, di-, it-, gidgeh, vir-, yedi, yi- (Davids 1832)

Boyd: besh, yèdi, yel, yè- (Boyd 1842)

Boyd does not use \acute{e} systematically. He uses this vowel in Turkish words and borrowings: $\grave{e}yam$, $keust\grave{e}bek$, $m\grave{e}idan$, $deniz\grave{e}$.

Edwin: besh, et-, erte, ye-, yedi (Edwin 1877)

Hagopian: bésh, dé-, érté, ét-, vér-, yédi, yér (Hagopian 1907)

⁴ This information is taken from his unpublished work called "Thesaurus of Meninsky and The Istanbul Turkish, prepared by Mertol Tulum.

Hagopian used é to represent /e/.

Megiser: besch, et-, iedi, iel, je- (Megiser 1612)

Harsany: bes, de-, et-/it-, getse "gece", vir-/ver-, iedi, jer (Harsany 1682)

Conclusion

1. The vowel /a/ is represented with a in Turkish words. The letters \bar{a} , α , \hat{a} , $a^{\tilde{a}}$ and \hat{a} are used in borrowings. However, this is not systematical.

- 2. The vowel /e/ is represented with e, but in some texts, /e/ is represented with \grave{e} .
- 3. The vowel /1/ is a sound with which authors are not familiar and have difficulty in realizing. The fact that /1/ is shown mostly by i implies that two vowels are cluttered. Authors, such as Argenti, Molino and Harsany did not use this vowel in some syllables, as they did not hear. Authors showing only y for /1/ are the ones who can separate /1/ and /i/. Some of these authors are Meninsky and Carbognana, who make explanations about the pronunciation of the vowel /1/. The reason for using y instead of /1/ can be indication of this vowel through transliteration. The symbol being used is the letter ye in the Arabic alphabet.

Some researchers came up with different approaches for the vowel e considered to represent /1/ in texts written in English, French, Italian and Latin. Johanson notes that this vowel shows a neuter, reified and lax articulation (Johanson 1981: 152-153). According to Johanson, this neuter vowel represents a phase before the development of labial harmony (Johanson 1979: 99). However, this letter could be observed in transcription texts after the 18th century, in which the labial harmony is considered to be completed. Therefore, it is highly possible that the vowel noted by e in translated texts is not a neuter vowel, but /i/.5

4. /i/ is also represented with *i*. Vaughan transliterated this vowel with *y* in some words.

This neuter vowel issue was approached gingerly and some questions were asked: was this sound with neuter, reified and lax articulation common in the 17th century and in some periods of 16-18th centuries in Ottoman Turkish Language? Did people pronounce this sound? (Kartallioglu 2005: 82). An important study on this issue was the article "The Vowel /1/ in 17th century Istanbul Turkish according to Meninsky" prepared by Mertol Tulum. In this study, it is considered that some researchers misunderstand the vowel noted down by *e* in translated-written texts (Tulum 2007).

- 5. /o/ is represented with *o*. Vaughan displayed this vowel with *au* when it is initial in some words.
- 6. $/\ddot{o}/$ is shown in transcription texts in various forms. It is represented with o and \ddot{o} in Italian, which does not have this vowel; eu in texts written in French; and a u, o, eu, eo in texts written in English. Davids did not separate this vowel from /o/, while Voughan represented this vowel with o when it is an internal phoneme. This vowel is represented with /o/ and $/\ddot{o}/$ in texts written in Latin.
- 7. /u/ is represented with u and v in texts written Italian; ou in texts written in French; u, au, oo and ou in texts written in English and u in texts written in Latin.
- 8. The vowel /ü/ is represented with u and v by Italian authors Argenti and Molino as they did with /u/. At this point one can imply that these authors could not separate /u/ and /ü/. On the other hand, Meninsky and Carbognano represented this vowel with \ddot{u} to show the difference between /ü/ and /u/. In French, u, sometimes eu and \hat{u} , represent this vowel. Megiser having written in Latin represented /ü/ with u. However, Harsany confuses the vowel /ü/ with /u/ in some examples.
- 9. In order to comprehend the transcirption texts, the relationship between letter and pronunciation of the source text should be learnt. If this relationship is ignored, then the texts cannot be comprehended and the authors can be viewed as ignorant of Turkish Language. Authors of transcription texts showed the Turkish sounds through symbols in their languages. The challenging point for these aouthors is the representation of vowels which does not exist in their natine language. For example, French authors did not encounter problems in separating /ö/ and /ü/, as these vowels exist in their languages, while English authors had difficulties in reflecting these vowels in writing, as they do not exist in their languages, and confused them with each other. French authors, detecting /ö/ and /ü/ easily had difficulties in noting down the vowel /1/ like English and Italian authors. In trancription texts, the most challenging vowels are /1/, /ö/ and /ü/. Authors, such as Meninsky, Carbognano, Viguier and Hagopian, noted the Turkish vowels clearly.
- 10. In the transcription texts, there is no letter showing the vowel /e/ (closed e), Meninsky regards, in terms of pronunciation, the vowel /e/ in the first syllable as /e/ in French. However, this vowel is shown with e in his work. Words including this vowel are shown with /i/ or /e/. ©

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Finally, please check the table of vowels used in translated texts:

	Italian texts				French texts					English texts					Latin texts	
V o w e l s	Argenti 1533	Molino 1641	Meninski 1680	Carbognano 1794	Viguier 1790	Jaubert 1833	Bianchi 1843	Redhouse 1846	Dieterici 1854	Vaughan 1709	Davids 1832	Boyd 1842	Edwin 1855	Hagopian 1907	Megiser 1612	Harsany 1682
A	a	a	a ā æ	a ā	a	a â	a	a â	a	a	a	a	a	a a~	a	a á
E	e	e	e	e	è	e	e	e è	e	e	e	e	e	è	e	e
I	Ø e i j	Ø i	у ӯ ў	у	е	e i	e i y	i	у	e i y	e i	e i y	e i y	î	i	e i Ø
İ	i i	i	i	i	i	i	i	i	i	i V	i	i	i	i	i	i
О	0	О	0	0	О	О	0	0	0	o a u	o ô	0	0	0	0	О
Ö	О	0 e 0	ö	ö	e u	e u	e u	e u	e u	a u o	0 u 0	e u o	e u o	e o	О	ö
U	v u	v u	u ū	u ū	o u	o u	o u	o u	o u	u a u	u o u	0	0 0 u	o u	u	u
Ü	v u	v u	ü	ü	u e u	u	u	u e u	u	u ú	u	u	u	û	u	ü
É	1	-	é (?)	-	-	-	-	-	-	-	-	-	-	-	-	-

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