Branka Ivušić

Developing Consistency in the Absence of Standards – A Manuscript as a Melting-Pot of Languages, Religions and Writing Systems

Abstract: This chapter deals with a late 16th-century multilingual Ottoman manuscript. It is a study of the anonymous scribe's attempt to write European languages in Arabic script and it tries to answer questions about possible orthographic models, the transfer of writing conventions from one language to another or from one script to another. The paper also looks at the scribe's own innovations and the consistency of the spelling system employed in this manuscript.

1 Introduction

1.1 An 'Oriental' manuscript and its 'European' texts

In the collection of Oriental manuscripts preserved in the Austrian National Library (Österreichische Nationalbibliothek, ÖNB) in Vienna we find a rather puzzling Ottoman multiple-text manuscript. A small, but not miniature volume of 162 folios[1], written in Arabic *naskhī* script and apparently by one hand only, it contains more than 300 texts in Ottoman Turkish, Persian and Arabic, but also in Croatian (a variety of Central Southern Slavonic that might be termed Croatian), Hungarian, German and Latin. The manuscript is assumed to be the work of an anonymous compiler, and, judging from its very regular appearance and the remarkably low number of corrections, it is likely to be a fair copy.

The number of languages found in the manuscript creates a hybrid impression which is only enhanced when we look at the contents. Most of the texts are

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1 Except for the last ten folios, which were left blank, and folio 107, which has only a catchword, all folios are covered by writing on both sides. The average page displays one justified block of 15 lines and, if it is a verso-page, a catchword in the left lower margin.

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Ottoman Turkish. They range from a language guide to Persian, instructions in Islamic faith, astrology and mathematics to love poetry. The few Arabic texts are exclusively religious, mostly collections of *aḥādīṯ* while the Persian sample consists only of a few poems along with bits of Persian in the language guide. Such texts and this kind of content-specific 'division of labour' among the three most important languages of the empire are by no means uncommon for an Ottoman multiple-text manuscript, a so-called *mecmua*. The "European" samples on the other hand are not only remarkable because they show the use of Arabic script – and to some degree Ottoman writing conventions – for languages usually written in Latin characters (alongside Cyrillic and Glagolitic, in the case of Croatian) but also because of the content of their texts. All four languages appear first in a penta-lingual section of the manuscript introduced by a heading and a narrative paratext – both in Turkish – stating that what follows are the essentials of Christian and Jewish beliefs. These essentials turn out to be the Ten Commandments, The Lord's Prayer, and the Apostolic Creed in their Lutheran versions, split into smaller parts, which are usually numbered and presented first in Turkish, then in Croatian, Hungarian, German, and finally in Latin. The penta-lingual section is followed by one without any introductory paratexts comprising songs in all the European languages except Latin. With fourteen Christian religious songs, some of them composed by Martin Luther and by other prominent German reformers, as well as five secular songs, the German sample is by far the largest. Hungarian comes second with five Christian religious songs, one love song and one mixed text, Ottoman-Turkish with Hungarian insertions, which was also considered a love song by most previous researchers but which might be a *ṣufī* poem, describing the longing for knowledge rather than for another person (Sudár 2005, 75). The last text of this section is the only Croatian song in the manuscript. It has also traditionally been regarded as a love song – some authors even attributed Petrarcian features to it (Nametak 1981, 10) – but in fact it might also be a mystical religious song. The three texts mentioned last are important for the understanding of the whole manuscript because none of them could be identified in any other source and they might be works composed by the compiler. The only "European" text to be found outside these two sections is a German distich at the very end of an anthology of Turkish and Persian distiches.

1.2 The history of the manuscript

As mentioned above, the manuscript is among the holdings of the ÖNB (currently under the shelfmark Cod. A.F. 437, Fig. 1). It is not explicitly dated in a colophon or chronogram or the like, but folio 2r contains a note in the Latin language and

script: 'Miscellanea varia. Colloquium Persico Turcicum. Professio fidei Turcicae.' [Various miscellanies. Persian-Turkish phrase book. Profession of Turkish faith.], a rather understated and incomplete list of contents, but nevertheless useful, as it can clearly be attributed to Sebastian Tengnagel (Mittwoch and Mordtmann 1927, 76) who worked in the Imperial Court Library (later the Austrian National Library) from the 1590's until his death in 1636. Unfortunately, his handwriting did not change during this time (Unterkircher 1968, 133) and does not permit further dating, therefore the year of his death must serve as a *terminus ante quem*. Later cataloguers claimed that the manuscript once belonged to Tengnagel's own collection which he left to the library upon his death. Tengnagel elaborated two catalogues of this collection, one in 1612 (ÖNB Cod. 9539), the other (ÖNB Cod. 12650) at an unknown later date. No manuscript that could be identified with the one discussed here is mentioned in the first catalogue, and the second is not accessible for reasons of conservation. Thus, at present, it is not possible to determine whether Tengnagel wrote the note as owner or as custodian.

Obviously, the librarian, who was very learned and interested in Oriental languages, was not the first "European" to lay his hands on the manuscript. Someone who had no experience with Oriental books made a first foliation, starting at the end of the manuscript. The damage to this foliation on nearly every folio shows that the manuscript was trimmed, probably at the time it was rebound.

A *terminus post quem* is provided by a list of Ottoman Sultans (fols 69v–70r), which ends with Murad III, whose reign started in the year 1574 and ended in 1595. Moreover it was written on watermarked European paper. Curiously, there are eleven different watermarks.[2] Two of them are a so-called watermark pair, which means that they were produced with two different moulds in the same paper mill. All watermarks are located in the fold of the presently rather tightly bound codex, hence only a few fragments are visible, so that any identification with dated reference examples would be very tentative. Nevertheless, the watermark pair appears by shape, size and placement of the chain lines to be identical to one used in Vienna in 1587. Despite differences in detail some others also show great similarities to watermarks in manuscripts written in Austria from 1584 to 1604.

As with the other conditions of its production, there is no mention in the manuscript of its place of origin. The language samples found in the manuscript

2 Despite this high number of watermarks nothing in the manuscript suggests that it was written in more than one production process: Some quires indeed show just one watermark, and some watermarks can be found in one quire only, but, on the other hand, there are also quires with two watermarks and identical watermarks in different quires all over the manuscript.

indicate that it was most likely produced in the Kingdom of Hungary, large parts of which were occupied by Ottoman troops by the end of the 16th century.

The idea of the manuscript's having been produced by a European convert was proposed very early and is still maintained by some authors (Krstić 2011, 88f.; Römer 2014). The first cataloguer to describe the manuscript in more than a few words, Josef von Hammer, suggested this idea. Moreover he thought the compiler was an imprisoned crypto-protestant, who wrote Christian religious texts in Arabic characters in order to conceal them from his Muslim guards (Hammer 1812, 34 No. 281). The compiler's Hungarian origin was first promoted by Antal Gévay. Based on the colophon of the first Hungarian song – a Christian religious captive's lament – he believed he had discovered the compiler's identity even by name. The colophon says: '*ezer öt száz és hetven | esztendőben ‹ csonkatoronnak erős temlecében | palaszki györgy igen bízik istenben ‹ hogy nem || hadja sokáig az büntetésben*' [In the year one thousand five hundred and seventy, in the strong dungeon of Csonka tower, Palaszki György indeed trusts in God, so that He doesn't leave him in punishment for long] (fol. 60v, 13 – fol. 61r, 1). Gévay concluded that it was György Palatics (György Palaszki, according to the manuscript) who had compiled all the texts and written the manuscript. He even believed he could trace Palatics' alleged gradual estrangement from his Christian Hungarian origins and native tongue in the sequence of texts in the manuscript (Rexa 1901, 109). Later, most of his assumptions about György Palatics turned out to be wrong. The Hungarian nobleman was indeed the composer of the song – which can be found in Hungarian hymn books of that time – as well as a captive of the Ottomans for three years, but he never converted to Islam, nor did he die in captivity, as Gévay supposed, but held important positions thereafter. Although Hungarian researchers dismissed Gévay's idea about Palatics as being the compiler[3] as early as the late 19th century, the manuscript is still referred to as *Palatics-kódex* in Hungarian publications.

Later researchers had many intuitively appealing theories about the compiler's origin, religious affiliation and motives, but most of them relied more on impressions than on firm evidence. Thus we still know little about the person who produced the manuscript. The aim of the present paper is to show how he adapted the Arabic script when writing in Croatian, Hungarian, German and Latin, and, possibly, to shed some light on his identity; for example, his degree of familiarity with writing conventions in other writing systems might tell us something about his education.

3 See Sudár (2006, 9–12) for a more extensive overview of the discussion.

2 Arabic script in the European territories of the Ottoman Empire

Islam and Arabic script had been introduced into South Eastern Europe before the area was conquered by Ottoman troops and integrated into the Ottoman Empire. The process began in the late 14th century and was at its peak by the middle of the 16th century, and only then did Islam and Arabic script have any impact on the local population. In the late 16th century, Ottoman troops held fortresses located as far as today's borders between Hungary, Slovakia and Austria.

2.1 Writing the languages of the local populations in Arabic script

Although sporadic use of Arabic script is documented for a few languages in the region[4], only Albania and Bosnia, where large parts of the population converted to Islam, would develop a real manuscript culture in Arabic script in their respective local languages. In Bosnia such a manuscript culture can be traced back to the 17th century. First prints in Arabic characters appeared in the 19th century and continued into the 1940s. In the Bosnian research tradition, the phenomenon is known as *alhamijado književnost* 'aljamiado literature', a term which probably originated in an influential encyclopedia entry (Hadžijahić 1955, 144) where it was borrowed from Ibero-Romance studies. Bosnian researchers use the term *arebica* or *arabica* to refer to the Arabic script when used to write Central South Slavonic (CSS) varieties (the term is analogous to *ćirilica* 'Cyrillic' and *latinica* 'Latin script') that were (later) regarded as one language: Serbo-Croatian or Croato-Serbian (currently fragmented into the four national standards: Bosnian, Croatian, Montenegrin and Serbian). Manuscripts recording such varieties were produced in considerably smaller quantities outside of Bosnia and Hercegovina, respectively not by Bosnians or Hercegovinians. Perhaps the best known of these is one of two manuscripts containing a multilingual phrase book, probably from late 15th century Istanbul, with translations of Arabic sentences into Persian, Greek and a Serbian dialect (Aya-Sofya kütüphanesi 4750, see Lehfeldt 1989).

4 For more information on the spread of Arabic script in the Balkans see Zakhos-Papazahariou 1972 and Hegyi 1979, though e.g. the information they give on the existence of Arabic script manuscripts in Bulgarian / Macedonian could not be confirmed (Ivušić 2014, 94 n. 25).

Unfortunately most of the manuscripts in *arebica* were – if at all – studied only as texts, not as material objects in their own right; reliable editions are scarce. The only comparative study of writing conventions based on the manuscripts was published in 1969 by the German scholar Werner Lehfeldt (1969), although both earlier (Muftić 1964) and more recently (Drkić and Kalajdžija 2010), attempts were made to explore their graphematics.

Despite the fact that some Hungarian converts played important roles in Ottoman intellectual life, like the 16th century interpreter Murad or the 18th century printer İbrahim Müteferrika, there were never any mass conversions of native speakers of Hungarian. Thus Arabic script literacy and proficiency in Hungarian has never been a frequent combination. In fact the only known instances of Hungarian in Arabic script, except for the manuscript discussed here, are both attributed to Murad the interpreter (*Murad tercüman*), one of which is the only other known manuscript containing Latin in Arabic characters; the latter is an autograph of Murad's Islamic religious treatise in Ottoman Turkish and in Latin and Hungarian, all three languages being written in Arabic script with an interlinear Latin transcript (MS Marsh 179 in the Bodleian Library). The other consists of some marginal notes in the famous *Chronicon pictum* (Zsinka 1923), a 14th century illuminated chronicle. Pál Ács (2000, 312f.) assumed that these notes were also written by Murad's hand.

The only other known sample of German in Arabic script consists of a few words, idiomatic expressions and parts of a prayer in Evliya Çelebi's *Seyâhatnâme* (Kißling 1938; Römer 2009).

3 Adapting Arabic script for the European samples in the manuscript

Phonologically all four European languages (Croatian, Hungarian, German and Latin) differ substantially from Arabic. Whoever recorded them in the manuscript used the Persian and Ottoman Turkish varieties of writing, and did not have to adapt the Arabic script as used for Arabic. Thus he had additional graphemes at his disposal, and was familiar with the writing habits and conventions of Persian and Turkish. Nevertheless the writing system was inadequate for representing any of these European languages and our scribe was confronted with many problems especially in vowel transcription.

Evidently, the samples of the European languages in the manuscript are not mere transcriptions of a Latin script, or in the case of the Croatian sample, a Glagolitic or Cyrillic model. Each of them shows features absent in the non-Arabic

script written sources of that time. One such example is the use of *zayn* and *sīn* for a regular differentiation of voiced [z] and voiceless [s] in German (Ger.) and Latin (Lat.), in examples like Ger. اوُنسْ <ʾwʔuns^{0}> [ʔʊns] 'us' vs. اوُنْزَرْ <ʾwun^{0}zar^{0}> [ʔʊnzɐ] 'our' (fol. 34r, 6) or Lat. رَه زُوْرَّقْسيِتْ <rah zuwʔr^{2}aq^{0}syit^{0}> [rezu'r:e͡ksit] 'he arose' (fol. 37v, 15). This is a sub-phonemic distinction never found in the Latin script, in either manuscripts or in prints of the early modern period. Nevertheless, the scribe's attempts at representing spoken language does not mean that he based his notation solely on the phonetic principle; some morphological spellings are also found (cf. Section 3.3.2).

3.1 Consonants

Most of the consonant phonemes of these European languages are a subset of the Arabic phoneme inventory, hence their graphical representation was no challenge. The same holds for phonemes which are absent from Arabic but present in Persian and Turkish, and for which graphemes already existed. Nevertheless, each of the European languages has some consonants not found in the three Oriental languages. Table 1 shows what solutions the scribe found for their graphic representation. All the characters he used when writing consonants in the European samples are listed. Since, on the one hand, some of the encoded sounds are not phonemes, such as [ʤ] in German, and on the other hand ك <k> for instance cannot be regarded as a grapheme, not even in Ottoman Turkish, if we define *grapheme* as the smallest distinctive unit of written language, the two terms are not used in the table, although most of the character-sound correspondences displayed are also grapheme-phoneme correspondences.

Table 1: Consonants in the European samples

Character	Cro. sound	Hun. sound	Ger. sound	Lat. sound
ب <b>[5]	/b/	/b/	/b/	/b/
پ <b$_1$>	/p/	/p/	/p/	/p/
ت <t>	/t/	/t/	/t/	/t/
ج <ǧ>	-	-	[ʤ][6]	-
چ <ǧ$_1$>	/ʧ/, /ʦ/	/ʧ/, /ʦ/	/ʦ/	/ʧ/?, /ʦ/?
ح <ḥ>	/x/	/h/	/h/, /x/=[x]+[ç]	/h/
خ <ḫ>	/x/	-	/x/=[x]+[ç], /h/	/x/
د <d>	/d/	/d/	/d/	/d/
ر <r>	/r/	/r/	/r/	/r/
ز <z>	/z/	/z/	/z/	[z]
ژ <z$_2$>	/ʒ/	/ʒ/	-	[ʒ]
س <s>	/s/	/s/	/s/	/s/
ش <š>	/ʃ/	/ʃ/	/ʃ/	[ʃ]
ص <ṣ>	-	/s/	-	-
ط <ṭ>	/t/, /d/	/t/	/t/, /d/	-
غ <ġ>	/g/	/g/	/g/	/g/
ف <f>	/f/	/f/	/f/	/f/
ق <q>	/k/	/k/	/k/	/k/
ك <k>	/ʨ/, /ʥ/, /ɲ/	/c/, /ɟ/, /ɲ/	-	[ʥ]?, [ɟ]?
ڭ <k$_3$>	-	/ɟ/, /ɲ/	-	-
ل <l>	/l/	/l/	/l/	/l/
م <m>	/m/	/m/	/m/	/m/
ن <n>	/n/	/n/	/n/	/n/
ه <h>	([h])?	/h/	/h/, /x/ [ç]	-
ي <y>	/j/, [+pal]	/j/, [+pal]	/j/	/j/
و <w>	/v/	/v/	(/v/)	/v/

Even a cursory glance at the table reveals some important aspects of the scribe's adaption strategy: 1. Although the Arabic script is especially suited for adding characters through alternations of the number and position of dots – a method frequently employed when adapting it for other languages (Daniels 2014) – the scribe did not create any additional characters. 2. Arabic characters encoding sounds that are not present in European languages or which are not regularly used as a substitute, such as غ <ġ> for /g/, were not used. The scribe omitted the

5 The transliteration follows the proposal of Mumin and Versteegh 2014, 11–21.

6 The grapheme ج <ǧ> in the German sample appears in wordforms where the sound [ʤ] was realised due to regressive assimilation. There is no evidence for [ʤ] being phonemic in the sample, hence it is put in phonetic brackets in the table.

graphemes ث <t̲>, ذ <d̲>, ض <ḍ>, ظ <ḏ>, ع <ᶜ> for /θ/, /ð/, /dˤ/, /ðˤ/, /ʕ/ rather than linking them arbitrarily to sounds of the European samples regardless of phonetic proximity. Instead he chose the graphic representation of the Ottoman Turkish sound, which he perceived as phonetically closest even if that created new ambiguities. A closer look at some cases in which there is no obvious one-to-one character-sound correspondence will clarify further aspects of the adaption strategy.

3.1.1 ڒ <ğ$_1$>

The use of ڒ <ğ$_1$> for the affricate /ʦ/ is a good example of how a sound in the European languages is represented by the character encoding its closest match in Ottoman Turkish. The consonant ڒ <ğ$_1$> is not an original character of the Arabic script, it is a Persian innovation adopted in Ottoman Turkish writing. Both Persian and Turkish have a voiceless post-alveolar affricate /ʧ/, but lack an alveolar affricate /ʦ/. In Central South Slavonic, Hungarian and German both sounds are phonemic, while they are absent from Classical Latin. The Latin found in the sample contained in the manuscript is of course not Classical Latin, neither is it scholarly Neo-Latin, although the latter had some influence on the variety that clearly shows features of Medieval Latin. Therefore, it is unlikely that the ڒ <ğ$_1$> in words like تَرْڒِيَا <tar^{0}ğ$_1$iyʾa>, cf. Class. Lat. *tertia* 'third', represents a dental or alveolar stop /t/, or a velar stop /k/ in a word like اَنْڒِيلّاَمْ <ʾªn^{0}ğ$_1$yil^{2}ʾam^0>, cf. Class. Lat. *ancillam* 'maidservant (acc.)'. It is more probable that ڒ <ğ$_1$> represents /ʦ/ in تَرْڒِيَا <tar^{0}ğ$_1$iyʾa>, and /ʧ/ in in اَنْڒِيلّاَمْ <ʾªn^{0}ğ$_1$yil^{2}ʾam^0>. When ڒ <ğ$_1$> is written where Class. Lat. *ti* would appear, there is no reason to assume any other sound but /ʦ/, as the assibilation from /ti/_V to /ʦ/ was a sound change already documented in 2nd or 3rd century Latin; it was well established in Medieval Latin, and was believed to have been classical even by humanists (Stotz 1996, 219). The interpretation of those cases where ڒ <ğ$_1$> encodes a sound corresponding to Class. Lat. /k/_/i,e/ is much harder to justify. What can safely be ruled out is that ڒ <ğ$_1$> represents the velar /k/, as all attestations of /k/ followed by a back vowel or a consonant are encoded by ق <q> (see Section 3.1.2). In Romance languages, except Sardinian and Dalmatian, /k/ before front vowels was palatalised to /ʦ/ or /ʧ/ (a change which often continued to develop), and in Medieval Latin, it was also pronounced either as an affricate or as a sibilant (Stotz 1996, 183–185; Bonioli 1962, 73–78). The velar pronunciation was retained in Ireland, and Irish influenced parts of northern England well into the 12th century. As the character ڒ <ğ$_1$> is used to represent both sounds, /ʦ/ and /ʧ/, in the other language samples, and both pronunciations existed in Medieval Latin as well, we cannot decide which one to assume for the Latin variety.

3.1.2 ق <q>, ك <k> in Croatian, Hungarian, German and Latin

The employment of the graphemes *qāf* ق <q> and *kāf* ك <k> shows that, occasionally, a shared prominent distinctive feature like palatal articulation was enough to establish phonetic proximity for the scribe. Moreover it shows that he aimed at a unified transcription system for all four European languages. Like Ottoman Turkish, all of them have a voiceless velar stop /k/. In Ottoman Turkish both ق <q> and ك <k> are used to write /k/. As with the graphemes for the other pairs of emphatic and non-emphatic sounds in the Arabic source orthography, ق <q> and ك <k> serve to encode vowels in Ottoman Turkish: ق <q> is used in inherited words with back vowels as in *kurak* 'dry' written as قوراق <qūrāq>, and ك <k> for those with front vowels as in *kürek* 'oar' written as كورك <kūrk> (Weil 1917, 24; Buğday 1999, 13–15). As Ottoman Turkish is a language with vowel harmony based on the contrast front/back (front/not-front), such a system of vowel notation is quite effective. In the European samples, /k/ is represented by *qāf* only, both with back and front vowels, as can be seen in the examples in Table 2.

Table 2: ق <q> in the European samples

	Croatian	**Hungarian**	**German**	**Latin**
/k/ before back vowels	قوُ <qwu> *ko* 'who'	پُوقُولْرَاَ <b$_1$uwquwl^{0}r^a'a> *pokolra* 'to hell'	قوُمْ <qwum^0> *komm* 'come'	قوُنْترَآ <qwun^{0}tr'^{a}> *contra* 'against'
/k/ before and after front vowels	وَه قَه <wah qah> *veke* 'age'	قِيِوُولُمْ <qiywuwlam^0> *kivülem* 'besides me'	قِينْدَرْ <qyin^{0}dar^0> *kinder* 'children'	نَقْ <naq^0> *nec* 'neither'

Kāf, on the other hand, is used for different palatal sounds in Croatian and Hungarian, and very likely also in Latin. In the Croatian sample, ك <k> represents the voiceless palatal affricate /tɕ/ (<ć> in modern orthography) as in وَه كَه <wah kah> *veće* 'bigger', but also the voiced /dʑ/ (<đ>) as in سيكَه <sykah> *siđe* 'he descended' and the nasal /ɲ/ (<nj>) as in كَغُووُو <kaġuwwuw> *njegovo* 'his'.

In Ottoman Turkish, *kāf* also had various functions. It was employed for the stops /k/ and /g/, for the approximant /ɰ/, and for the velar nasal /ŋ/. In the Western Rumelian dialects (a group of present-day Turkish dialects in the Balkans), /k/ and /g/ before front vowels are not only articulated in pre-velar position, as in Standard Turkish (Stand. Trk.), but have been palatalised to palato-velars, palatal affricates or palatal stops (Friedman 2002, 613). We cannot say when this process took place, but already in early Turkish loanwords in

Serbo-Croatian, or loanwords transmitted via Turkish, /k/ and /g/ before front vowels are frequently, although not regularly (Németh 1970, 91), substituted by /ʦ/ and /ʤ/ respectively. Famous examples are *ćùprija* 'bridge', cf. Stand. Trk. *köprü* (Škaljić 1966, 200) or *đồn* 'sole of a shoe', cf. Stand. Trk. *gön* 'worked leather' (Škaljić 1966, 252). In Bosnian *alhamijado* manuscripts, *kāf* is regularly used for /ʦ/ and frequently for /ʤ/ as well (Lehfeldt 1968, 141–154). When Ottoman clerks wrote down Serbo-Croatian names in registers and other administrative documents, they rendered /ʦ/ by *kāf* (Aličić 2000, xxiii). In such registers *kāf* can occasionally represent the palatal nasal /ɲ/ and even an alveolar nasal /n/.

In the case of /ʦ/, there might also be another reason for using *kāf*. All writing systems employed to write CSS varieties in early modern times had difficulties representing this sound. In Latin script manuscripts and prints of the 16th century, various solutions, usually based on Italian orthography, can be observed. Typically <ch> is used, but <c> and <cch> occur as well, and none of them is satisfying as they often simultaneously represent the affricates /ʧ/ and /ʦ/. The two Slavonic scripts Glagolitic and Cyrillic were created to put Old Church Slavonic (OCS) into writing. Despite being closely related to CSS varieties, OCS has a rather different phoneme inventory. Since /ʦ/ is not part of it, a grapheme encoding the sound does not exist in either of the Slavonic scripts. In both, the sound /ʦ/ is usually represented by a character which was used for the OCS sound sequence /ʃt/, since OCS /ʃt/ and CSS /ʦ/ are corresponding reflexes of the same Proto-Slavonic sound. But as Trunte (2012, 186) points out, in Cyrillic manuscripts the grapheme к <k> for the velar stop /k/ is frequently used for /ʦ/. Moreover he found such a spelling, if only in one instance, in a Glagolitic print, a historiography published in 1531 in Rijeka (Ital. Fiume). It cannot be excluded that whoever wrote our manuscript, knew about these spellings in the Slavonic scripts.

Encoding the nasal /ɲ/ by *kāf* is almost unparalleled in Arabic script CSS. With one exception, and in only one instance, Bosnian *alhamijado* manuscripts do not have this spelling (Lehfeldt 1969, 156). In the Serbian sample of the mentioned multilingual phrase-book, /ɲ/ is represented by a Digraph نيـ <ny>, sometimes adding *hamza* above *yā'* (Lehfeldt 1989, 49). The rendering might be motivated by the Ottoman Turkish use of *kāf* for a nasal, although in Ottoman Turkish it is a velar nasal, and not palatal. But as we have seen so far, in the scribe's reanalysis of the character it was disassociated from the feature 'velar' and linked to the feature 'palatal'. Initially, this reanalysis was probably triggered by the phonetics of the sounds which corresponded to /k/ and /g/ before front vowels in Standard Turkish. But then the scribe took a further step: the nasal encoded by *kāf* in the Ottoman Turkish variety which served him as a source language for the script might not have been velar anymore but was certainly not palatal either, so when the scribe chose to encode /ɲ/ by *kāf* he picked the most logical

representation in the systematics of the writing system he devised, regardless of a phonetic justification, and thereby he emancipated the graphic representation from phonology.

3.1.2.1 Three-dotted *kāf* ڴ <k$_3$> and *kāf* ك <k>

In Ottoman manuscripts the alternative for encoding the velar nasal is the three-dotted *kāf* ڴ <k$_3$>. This character is also used in the manuscript for the palatal nasal, but only in the Hungarian sample, not in the Croatian one. In Hungarian, the three-dotted *kāf* encodes /ɲ/ as in آرڴق <ʾaʳ⁰k$_3$aq> [‘a:rɲe:k] *árnyék* ‘shadow’, but also the voiced palatal stop or affricate[7] /ɟ/ as in نَلَڴْ <nalak$_3$⁰> [‘nɛle:ɟ] *ne légy* ‘don’t be’. Both Hungarian sounds can be represented by *kāf* without dots as well, as in كيتوُمْ <kyitwum⁰> [‘ɲitom] *nyitom* ‘I open’ and نَاكْ <nʾak⁰> [nɒɟ] *nagy* ‘big’. *Kāf* without dots is also used for the voiceless palatal stop or affricate /c/ in آكا <ʾaʾa> [‘ɒcɒ] *atya* ‘father’. But the spelling of Hungarian palatals is even more variable, because all of them can be represented by digraphs with *yā’*. Table 3 summarises the various graphic representations of Hungarian palatals, listing them in order of frequency.

Table 3: Graphic representations of Hungarian palatals

/c/	تي <ty>, ك <k>
/ɟ/	ك <k>, ڴ <k$_3$>, كي <ky>, ڴي <k$_3$y>, دي <dy>
/ɲ/	ك <k>, ڴ <k$_3$>, ني <ny>

There are two possible explanations for these spelling variations and, perhaps, both have played a part. Firstly, they might have been motivated by phonetic features of the Hungarian sounds. Unlike the Hungarian /c/ and /ɟ/, Central South Slavonic /tɕ/ and /dʑ/ are always realised as affricates, not as palatal stops. Palatal stops cannot be distinguished from palatalised velars regarding their distinctive features (Hall 1997, 70–76). If Hungarian /c/ and /ɟ/ are identical to /kʲ/ and /gʲ/, it is not surprising that the scribe used *yā’* as a marker of palatalisation to represent

7 There is an ongoing debate in Hungarian phonological theory as to whether /ɟ/ and /c/ should be classified as stops or affricates at the phonological level (Szende 1992, 119). Although it is not disputed that they are realised as affricates in certain contexts – and as stops in others – they pattern with stops in two important respects: First they can be realised by their unreleased allophones before stops, and second when they appear on both sides of a word boundary, they are merged into a geminate (Siptár and Törkenczy 2000, 83).

them. Central South Slavonic (CSS) /tɕ/ and /dʑ/, on the other hand, differ from /kʲ/ and /gʲ/ as they are [+strident]. The sounds /tɕ/, /dʑ/, /c/ and /ɟ/ are palatal but only the latter two show realisations which are not distinguishable from palatalised sounds. The presence of the digraph spellings with *yā'* for /c/ and /ɟ/, and the absence of that spelling for /tɕ/ and /dʑ/ might reflect the phonetic distance between these two sets of sounds. Secondly, the writing conventions of the Hungarian Latin script might have been a model for the digraph writings. As can be seen in the Hungarian examples quoted, digraphs are used in modern Hungarian orthography to represent each of the three sounds: <ty> encodes /c/, <gy> /ɟ/ and <ny> /ɲ/; these conventions were already well established in the late 16th century (Kniezsa 1959, 17f.). What remains unclear is why the three-dotted *kāf* does not appear in Central South Slavonic (CSS) at least as an allograph for /ɲ/. Today /ɲ/ is basically the same sound in all known varieties of Hungarian and Central South Slavonic but this may not have been the case when the manuscript was written.

The Latin sample shows only one instance of *kāf*, in وِيرْكِنَه <viyr^{o}kinah> *virgine* 'virgin (abl.)'. This is also the only attestation of what would be /g/ followed by a front vowel in Classical Latin. So instead of assuming that *kāf* represents a velar /g/, rendered by *ġayn* in all other attestations of the sound in the European samples, it seems much more likely that *kāf* represents a palatal, close to /ɟ/ or /dʑ/. That the sound in question might have been /ʤ/, the pronunciation of Latin /g/ followed by *i* or *e* in Italy (Bonioli 1962, 81f.), also seems unlikely. In that case the scribe would have used ڜ <ǧ>, as he did when rendering the sound in Arabic, Turkish, Persian and German, where it is not phonemic but a product of assimilation.

German lacks this kind of palatal phoneme. Palato-velars, palatal affricates, stops and nasals, the domains of *kāf* in the other European samples, are all absent from the German phoneme inventory, consequently *kāf* does not occur in the German sample at all. We may assume that the scribe did not want to spoil the disambiguation he had devised for the other languages.

3.1.3 ڑ <ḥ>, څ <ḫ> and ه <h>

One case seems to contradict the idea that the scribe omitted Arabic graphemes representing sounds that are not part of the phoneme inventory of the European languages or their closest match: this is the use of Arabic characters for velar, pharyngeal and glottal fricatives. Although none of the European languages has a pharyngeal fricative /ħ/, all of the European language samples show the use of ڑ <ḥ>, the character which represents the sound in Arabic orthography. The explanation of this seeming exception lies in the use of such characters in Ottoman

Turkish, which served as a transmitter for the Arabic writing system. In Ottoman Turkish only the glottal fricative /h/ was phonemic, and yet the Arabic fricative graphemes which encode the velar and pharyngeal fricatives were used in Ottoman writing conventions. Their use was almost exclusively limited to words of Arabic origin but they are occasionally found in Persian and Turkish words. In most instances, however, the pronunciation was simply [h].

3.1.3.1 Croatian

In the Croatian sample ح <ḥ> is used alongside خ <ḫ> to represent the velar fricative /x/, but there seems to be a positional distribution: ح <ḥ> represents the sound in syllable onset only, as in حِيزُوْ <ḥyiz$_2$uwʔ> *hižu* 'house (acc.)', خ <ḫ> on the other hand is used in syllable coda (with one exception), as in ژيوْيخ <z$_2$yiw^{0}yiḫ > *živih* 'the living (gen.pl.)'. The only occurrence of ه <h> as a consonant spelling in the Croatian sample is in the interjection آهْ <ʾāh^0> *ah* 'oh', and here it is impossible to tell whether the encoded sound was velar or glottal. Curiously, in Bosnian *aljamiado* manuscripts, خ <ḫ>, the original Arabic grapheme encoding /x/, is exceedingly rare and does not appear in the observed distribution (Lehfeldt 1969, 166–172). In the Serbian parts of the phrase book, ه <h> is written for /x/ in all positions, ح <ḥ> and خ <ḫ> appear only in one instance each, both in Oriental names: خُوَرَزمِسْقي <ḫuwarazmis^{0}qy> (Aya-Sofya kütüphanesi 4750, fol. 11r) 'Chorasmian' and حَسَنْ <ḥasan^0> (Aya-Sofya kütüphanesi 4750, fol. 14v) 'Hasan'. These examples of CSS in Arabic script seem to show that the transmission of the script via Turkish, as suggested above, obscured the function of خ <ḫ> in Arabic, so that the character could not simply be adopted for writing CSS /x/. Apparently the character ح <ḥ> became the default spelling for post-palatal fricatives in CSS written in Arabic script.

3.1.3.2 Hungarian and Latin

Hungarian has only one post-palatal fricative, traditionally assumed to be /h/, but in syllable final position the realisation is either [x] or zero.[8] However, in syllable initial position, the Hungarian sample shows 132 instances in which ح <ḥ> is used, as in حَازَاتْ <ḥaʾzaʾt> *házát* 'his house (acc.)', and there are four attestations

8 Siptár (1994, 213 and 265–268) still assumes /h/ to be the basic underlying phoneme of which the other realisations are derived. Siptár and Törkenczy (2000, 274–277) later stated that, at least in today's pronunciation of educated non-language-conservative speakers from the Budapest area (Educated Colloquial Hungarian), /x/ is the basic phoneme while [h] and zero have to be regarded as derived allophones.

of ه <h> (cf. Section 3.3.1). In the Latin sample the glottal fricative is also encoded by ح <ḥ>; the only use of خ <ḫ> appears in مَخَابَرِيسْ <maḫʾabaryis⁰> *mechaberis* 'you will commit adultery' and it reflects a velar fricative in the Greek loanword.

3.1.3.3 German

In German the situation is more complicated. The consonant phonemes of German include a glottal fricative and a velar fricative with two complementary variants: velar fricative [x] after back vowels and palatal fricative [ç] after front vowels and consonants. As can be seen in Table 1, ح <ḥ> is used for all three sounds; nevertheless, there is a definite preference. Of the 283 attestations of ح <ḥ> in the German sample only four represent the palatal fricative [ç], 22 represent the velar fricative [x] but 19 of the latter are instances of the same lexeme. Seven are special cases, because they represent various spelling pronunciations (cf. Section 3.3.3). The remaining 250 instances of ح <ḥ> indicate the glottal fricative. But the same sound is frequently encoded by ه <h>. However, the use of ه <h> seems to depend on position: 81 of 89 attestations of ه <h> (when used as a consonant character) in the German sample are syllable initial. Moreover, 53 of these spellings occur in words with the sound sequence *her*, most of them being forms or derivations of German *Herr* 'lord'. This spelling might have been influenced by the spelling of the frequent Ottoman Turkish هَر *her* 'every'. The other instances of the character ه <h> twice represent a syllable final fricative in the interjections *oh* and *ah*, which might be glottal as well as velar; in a further two examples, ه <h> reflects spelling pronunciations (cf. Section 3.3.3) and there are four instances of the palatal fricative, but the latter is always found in derivations of *mächtig* 'mighty'.

The default choice for representing both the velar and the palatal fricative was خ <ḫ>. Only eight out of 377 attestations render the glottal fricative and all eight are either instances of the word خُوخ <ḫuwḫ⁰> *hoch* 'high, up' or compounds with *hoch*, where the representation of the first fricative was probably influenced by the last.

3.2 Vowels

All European languages in the manuscript have more vowel phonemes than Arabic. The German and Hungarian vocalic systems are especially rich and, like Ottoman Turkish, they include rounded front vowels. Vowel quantity is phonemic in all of these European languages, and accent is also phonemic in both Central South Slavonic (pitch accent) and in German (stress accent), but neither quantity nor accent are encoded in the European samples. In each of them, the graphemes

representing long vowels in Arabic, *ʾalif* ا <ʾ>, *yāʾ* ي <y>, and *wāw* و <w> as well as the diacritics representing short vowels, *fatḥa* ◌َ <a>, *kasra* ◌ِ <i>, *ḍamma* ◌ُ <u>, are used regardless of quantity or of any feature other than vowel quality; this mirrors Ottoman Turkish writing habits. The same holds for the different representations of a vowel sound depending on its position in the word. It is impossible to display all the manifold vowel representations in all the languages (some of the polygraphic combinations occur in one instance only), but Table 4 (cf. Appendix II) shows the most frequent representations for each of them.

Some of the assumed vowel phonemes in Table 4 are questionable. For instance the diphthong /ɪɛ̯/ is the most plausible interpretation of the graphic sequence يَ◌ِ<iya> in Croatian تِيَلْوُ <tiyalwu> *tijelo* 'body', but this would be the only attestation in which Proto Slavonic **ě* (the sound known as *jat'*) is reflected as /ɪɛ̯/.

3.2.1 Implementing a marker of distinction

There is no simple one-to-one correspondence between graphemes and vowel phonemes. Nevertheless /i/ (/iː/, /ʏ/) can be distinguished from any other vowel. In most cases it is also possible to distinguish between renderings of /a/ (/aː/, /ɒ/) and those of /e/ (/eː/, /ɛ/, /ɛː/, /ə/). However, the graphic representation of rounded vowels is ambiguous in all the European languages. In the first commandment, which is also the first instance of the European languages in the manuscript, the Croatian, German and Hungarian texts contain three different rounded vowels, as shown in (1).

(1) Cro.	yʾa	sʾam^{0}	twuy^{0}	buwġ^{0}	dʾātyi		
	Ja	*sam*	*tv**o**j*	*b**o**g*	*da=ti*		
	I	am	your	god	COMP=2.SG.DAT		
	nabwudah			wah kah |		buwz$_{2}$yi	ʾyiʔ
	*ne=b**u**d-e*			*već-e*	|	*b**o**ž-i*	*i*
	NEG=be.PRS.PFV-3SG			greater-ACC.PL		god-?	and
	wyišah			ʾwud^{0}	manah		
	više (*viš-e*)			***o**d*	*mene*		
	more (greater-ACC.PL)			from	me		

'I am thy God, do not have greater and more/higher gods than me'.

Hun.	ʾan^{0} | wʾ^{ä}kwuq^{0}	ʾ^{ä}z^{0}	tah	ʾwurʾad^{0}	ʾyiš^{0}tanad^{0}
	*Én | vagy-**o**k*	*az*	*te*	***u**r-ad*	*isten-ed*
	I be.PRS -1SG	DET	you	lord-POSS.SG.-2SG	god-POSS.SG.2SG
	nalakanaq^{0} |	ʾan^{0}	qyiwuwlam^{0}	ʾiydah ġan^{0}	ʾyiš^{0}tanyid^{0}
	ne=legyenek |	*én*	*kív**ü**l-em*	*idegen*	*isten-id*
	NEG=be.IMP.3PL	I	except- POSS.SG.1SG	foreign god-	POSS.PL.2SG

'I am thy Lord, thy God, thou shalt not have foreign gods except me'.

Ger.	dwu suwl^{0}t	nyit^{0} ʾ^{ä}n^{0}dah rah	ġat^{2}ar^{0}	naban^{0}	| my$_{I}$ ^{0}r	
	*D**u** s**o**l-t*	*nit ander-e*	*gett-er*	*neben*	| *mir*	
	you shall-2SG.PRS	NEG other-ACC.PL	god/PL-ACC.PL	beside	me	
	ḥʾaban					
	haben					
	have.INF					

'Thou shalt not have other gods beside me'.

All rounded vowels are represented by the combination of *wāw* و <w> and *ḍamma* ُ <u> (in word initial position preceded by *ʾalif* ا <ʾ>). But already in the second commandment, the first attempts at disambiguation can be observed: a new combination involving *hamza* ء <ʔ> is introduced. The distinctive function of *hamza* is established most consistently in Latin: all instances of back mid /ɔ/ and /oː/ show *wāw+ḍamma* وُ <wu>, while *wāw+hamza+ḍamma* وُء <wʔu> renders back high (close) /ʊ/ and /uː/ only. In the second commandment in Croatian وُء <wʔu> occurs once representing a word final /u/ while the /u/ in mid-position in the same word is again written without *hamza*. In the Hungarian and German texts of the second commandment وُ <wu> remains the graphic representation of both back vowels, but *hamza* is used twice in the German text, representing /yː/ and /ʏ/. The fourth commandment shows the first use of *hamza* in Hungarian; as in German it was, originally, not used to differentiate the back vowels but to mark the rounded front vowels /y/ and /yː/ (or /øː/)[9]. Since the German sample is mainly Central Bavarian (Bichlmeier and Ivušić 2013), and because one feature of Central Bavarian is the delabialisation of Middle High German rounded front vowels, these vowels are present in a few instances only and *hamza* develops the same function of marking back high (close) vowels in German as in Latin and Croatian. The further the scribe

9 The spelling اوُدْنَپْرِوُلْ <ʾwʔud^{0}nab$_{I}$ ^{0}rwʔul^{0}> can be interpreted as *üdnepről* or as *üdneprűl* 'of the holiday'. The allomorph of the Modern Standard Hungarian delative ending, *-ről* is *-rűl* in various dialects; in late 16th century written Hungarian, both variants were used (Papp 1961, 44f. and 168).

proceeded in writing the manuscript, the more regular the use of *hamza* became. It spread to words which were written only with وُ in earlier attestations in the manuscript, and then to all positions in the word. In one of the songs following the penta-lingual section (fol. 42v, 10, Fig. 1) *hamza* has been added to represent the /u:/ in the German word نوُْنْ <nwʔun[0]> *nun* 'now'.[10] This gradual increase of consistency in the use of *hamza* can be observed in the Hungarian sample as well, but here it never becomes associated with one vowel only, rather it is used for both /u/ and /u:/ and for the rounded front vowels /ø/, /ø:/, /y/ and /y:/ as well as for /o/ and /o:/. Interestingly, no development in disambiguating back mid and back high vowels takes place in the Latin sample. Thus we find two distinct spellings in the first instances of the respective phonemes. As already mentioned, the manuscript is assumed to be a fair copy. It is possible that the first version of the Latin sample was written somewhat later than the samples of the other European languages, when the *hamza* spelling for *u* was already fixed.

3.3 Peculiarities of the graphic representation

3.3.1 Use of characters for Arabic emphatic consonants

As mentioned, no systematic use of the characters for Arabic emphatic consonants in vowel notation, as it existed in Ottoman Turkish, can be observed in any of the European samples. Nevertheless, a few traces of that use are present in each of the samples except for Latin. Croatian, Hungarian and German show some (Cro. 4, Hun. 3, Ger. 8) instances of the character ط <ṭ> representing /t/ and /d/ (only in Croatian and Hungarian) in words with back vowels. If the words are not *hapax legomena*, as three of the Croatian word forms are, they are attested with <t> and <d> spellings as well. In the case of Hungarian, adopting the Ottoman writing habit would have been possible without much effort since Hungarian has a type of vowel harmony close to Ottoman Turkish (front/back), and indeed the Hungarian sample shows more instances of the emphatic consonants compared to the other European samples. Thus, (a) it is the only European sample using ص

10 This spelling can be identified as a correction because the *hamza* is added in red ink. Red ink is used in the manuscript for certain elements as verse separators, ciphers (if part of an enumeration) and headings. In very rare cases diacritic vowels, dots and other script elements are written in red. Sometimes this was simply done for ornamental reasons, in which case, all diacritics in a verse would be red; more often, one of them was simply forgotten and added later, when the scribe had already switched to red ink, as is the case in the example cited.

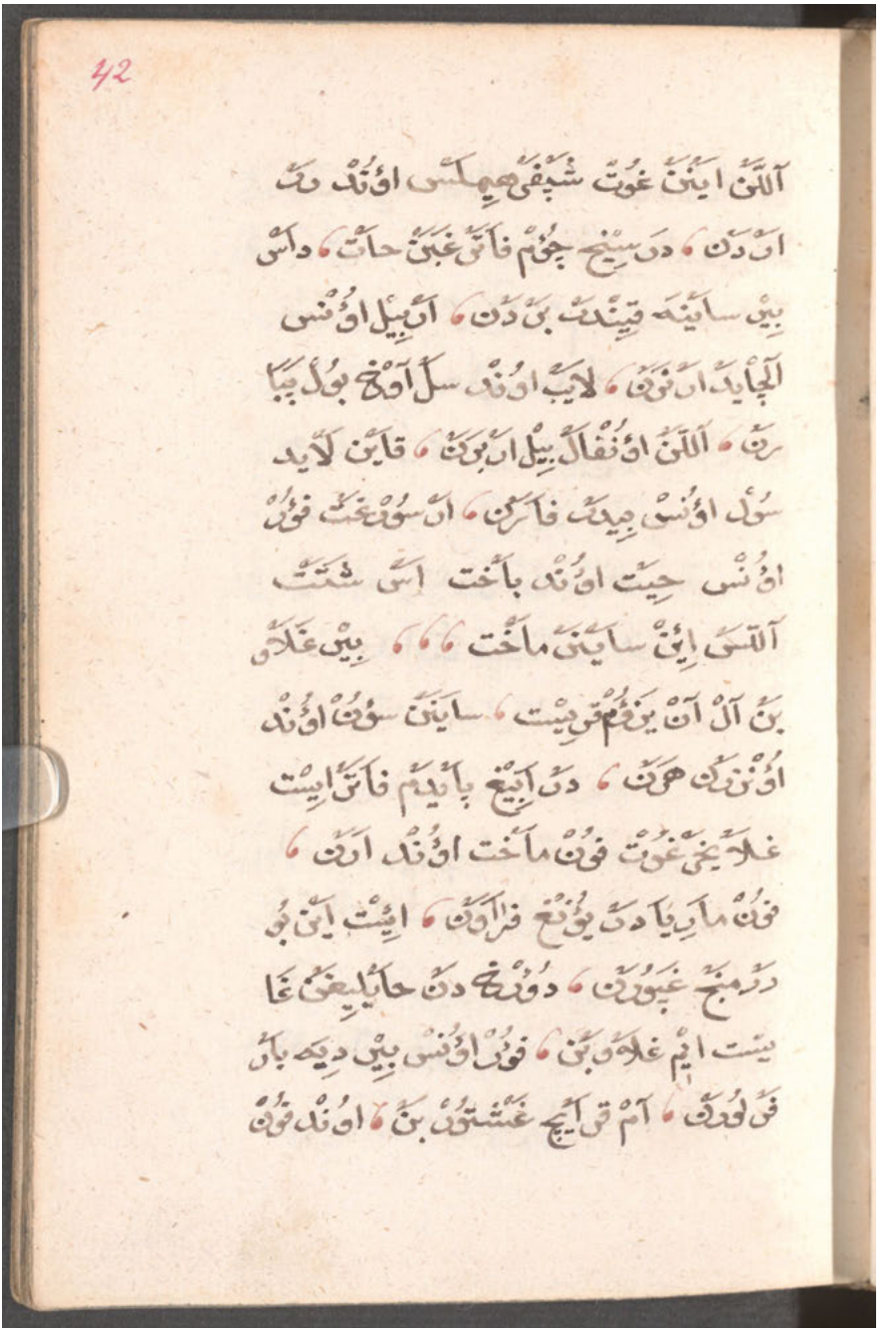

Fig. 1: Cod. A.F. 437, fol 42v. © Österreichische Nationalbibliothek Wien.

<ṣ> in three attestations, all in words with back vowels; (b) there are four word-forms which deviate from the usual encoding of fricative /h/ with ح <ḥ>, using ه <h> instead. All four words contain front vowels, three are instances of the palatal allomorph of the marker of situational possibility *-het* (denoting a meaning close to 'can'), which also appears with the usual ح <ḥ> spelling, but these three attestations with ه <h> are part of an enumeration, in which they stand in contrast with word-forms containing the velar allomorph of the marker *-hat* written with ح <ḥ>, as illustrated below (inverted commas are verse separators).

(2)

šah	ʾal^{0}hatam^{0} šah	ḥʾal^{0}ḥaʾtuwm^{0} ،	šah ʾuwʔl^{0}|hatam^{0} šah	
se	él-het-em se	hal-hat-om ،	se ül|-het-em	se
neither live-can-1SG neither		die-can-1SG neither	sit-can-1SG neither	
yʾar^{0}ḥʾatwum^{0} ،	šah	ʾahatam^{0}	šah ʾyiḫʾatuwm^{0} ، |	
jár-hat-om ،	*se*	*ehet-em*	*se ihat-om*[11] ،	
walk-can-1SG	neither	eat.can-1SG	neither	drink.can.-1SG

'Neither can I live nor can I die, neither can I sit nor can I walk, neither can I eat nor can I drink'.

And finally, there is one exception to the general rule that the velar /k/ is represented by ق <q> in the European samples (cf. Section 3.1.2): In the mixed Hungarian/Turkish text, the final consonant of the Hungarian lexeme *lélek* 'soul' is rendered by ك <k> in all nine attestations. In other texts of the Hungarian sample, the same word is written with the usual ق <q>. It might be that in this mostly Turkish text Turkish writing habits spread to the Hungarian parts as well. However, it is not clear why only instances of one lexeme are affected, since the three other words in the text which have /k/ in the front vowel environment (*kegyelmed* 'Your Grace', *kegyelmes* 'gracious' and *szeretőmnek* 'to my beloved') show the ق <q> representation.

3.3.2 Morphological spellings

As has been argued so far, the notation of the European samples in the manuscript aims at representing spoken language and is not a transcript of a model in another

11 The initial /i/ of the verb *inni* 'to drink' is palatal in Modern Hungarian but it developed from a velar vowel /ɯ/ which merged with palatal /i/ in the first centuries of the Old Hungarian period, 896–1526, (Abaffy 2003, 320f.). Reflexes of the original velar quality can still be seen in Modern Hungarian, as the verb demands the velar allomorphs of endings and suffixes.

writing system. Nevertheless, the phonetic principle was not the only one employed in the writing of the European languages.

In Hungarian, the palatal stops or affricates /ɟ/ and /c/ (already discussed) are often created in a morphophonemic process when roots and stems ending in /d/ and /t/ merge with suffixes and endings with initial /j/. In the manuscript the resulting word-forms are usually written in a way that represents their morphological structure at the expense of their phonetics, as can be seen in examples like ويغاديۇنق <wyġʾdywʔnq> [‘vigɒ/aɟunk] *vigadjunk* ‘we shall celebrate’ (*vigad* + 1.pl. prs.imp.indf.).

In the German sample, final devoicing, a very prominent phonological process in most dialects since the Middle High German period and in Modern Standard German, is not represented graphically. The devoicing affects stops and fricatives in syllable final position, thereby obscuring paradigmatic relations, as in *Tag* [ta:k] ‘day’ vs. *Tage* [‘ta:gə] ‘days’. As in Modern German orthography, the graphic representation in the manuscript does not reflect devoicing. In the case of the manuscript, one might rather speak of *hardening*, since the consonants in question do not differ in voice but stand in a fortis-lenis opposition in Bavarian, but the same character is employed for both fortis and lenis as in تَاَغْ <tʾaġ⁰> *Tag* and in تَاَغَه <tʾaġah> *Tage*.

Both instances of morphological spellings were writing habits which, in the late 16th century, were developing into conventions in the Latin script orthographies of the respective languages; but since both reflect the analysis of rather transparent morphological processes, there is no need to assume an influence of Latin script writing.

3.3.3 Latin script convention or spelling pronunciation?

There is one further phenomenon in the German sample that, at first sight, is an adoption of a Latin script spelling convention. Several attestations in the German sample contain something that is termed *stummes h* ‘silent h’. The term refers to the character <h> when it is not pronounced as a fricative. In some words the spelling reflects a historical fricative pronunciation but in most cases *silent h* is a purely orthographical element, marking either vowel length or the syllable boundary. However, the presence of such spellings in word-forms like غَحَتْ <ġaḥat> *gehet* ‘goes’ in the manuscript is not necessarily an imitation of Latin script writing conventions. The realisation of the *silent h* as a fricative is a typical spelling pronunciation in German and as such often encountered in the speech of religious services and in many church songs. The distribution of the *silent h*

spellings in the manuscript suggests that, in fact, they might well be renderings of the spelling pronunciation as they occur in religious texts only.

3.3.4 Gemination and double characters

As in Arabic, but not in Ottoman Turkish, gemination is phonemic in Hungarian and Latin. In both languages it is indicated by doubling the consonant grapheme in Latin script writing. In Hungarian complex consonant graphemes, such as <sz> /s/ or <cs> /ʧ/, only the first component is written twice, hence /s:/ is represented by <ssz>. In Latin-script German, the doubling of consonant graphemes also exists, but, in contrast to Latin and Hungarian, it does not encode the quantity of consonants, which is not phonemic in German, but indicates that the vowel preceding the doubled consonant grapheme is short. In all three language samples, the Arabic diacritic *šadda* ّ <²> indicating gemination in Arabic is used, but all of them also show doubling of the consonant grapheme, sometimes even a combination of both is found, i.e., superscription of one of the two identical consonant graphemes with *šadda*.

Unsurprisingly, the last mentioned spelling is most frequently encountered with /l/ and /l:/, as for these consonants a prominent model, الله *allah*, existed. Writing the consonant grapheme twice occurs in Latin with /r:/, in Hungarian with /b:/, /l:/, /t:/ and /z:/, and in German, the following characters are doubled: لا <ll>, تت <tt> and سس <ss>. At morpheme boundaries, where the final consonant of the preceding morpheme and the initial consonant of the following morpheme are the same, the doubling of consonant graphemes seems natural and can be encountered in Ottoman Turkish as well. One might argue that the double spellings in Hungarian and Latin are due to a misconception of the morpheme boundaries by the scribe (although nothing in the Hungarian and Latin samples supports such an assumption), but in the German sample, where neither *šadda* nor the double graphemes can be phonetically motivated, the influence of Latin script writing habits seems to be the only explanation.

4 Conclusion

The inclusion of texts in four languages, not usually written in Arabic characters, into an Ottoman multiple-text manuscript, was an ambitious endeavour. The scribe had to adapt a single writing system for languages which differ substantially from each other and from those whose Arabic script writing habits

and conventions he knew. As shown, his adaption remained rather conservative, he did not devise any new characters nor did he use those which were part of the Ottoman Turkish inventory independently of their use in that language. Nevertheless, he developed original solutions for the graphic representation of phonemes which are not part of the phoneme inventories of Ottoman Turkish, Persian or Arabic; these solutions can be seen in his use of *kāf* ك <k> and *hamza* ء <ʔ>. His system was able to represent most of the consonant phonemes of the European languages, but the representation of vowels, especially rounded vowels, was very ambiguous and can be interpreted only by readers well familiar with the respective languages. The vowel phoneme inventory of Ottoman Turkish is also underspecified by vowel graphemes of Arabic script, but some of the shortcomings could be resolved by the Ottoman system of indicating the backness of the vowel by the graphemes for the uvular or pharingealised consonants in the environment of the vowel. In the European samples there is no systematic use of the Ottoman Turkish writing conventions, although some traces can be found.

This paper claims that the graphic representation of the European samples renders spoken rather than written language; nevertheless, these representations are not based only on phonetics. A few instances of morphological spellings which were also features of the respective Latin script orthographies can be observed. Some peculiarities of spelling could be influenced by writing conventions in other writing systems, but the only phenomenon where Latin script orthography is the most probable explanation is the use of *šadda* ˝<ʲ> and double graphemes in Hungarian, Latin and German. The fact that the scribe must have been familiar with German Latin script writing, at least to some extent, can be clearly seen in the German sample where *šadda* ˝<ʲ> and double graphemes are not used to represent gemination.

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Appendices

Appendix I: List of abbreviations

Languages

Class. Lat.	Classical Latin
Cro.	Croatian
CSS	Central South Slavonic
Ger.	German
Hun.	Hungarian
Lat.	Latin
OCS	Old Church Slavonic
Stand. Trk.	Standard Turkish

Other abbreviations

1.	first person
2.	second person
3.	third person
abl.	ablative
acc.	accusative
comp.	complementizer
dat.	dative
det.	determiner
gen.	genitive
imp.	imperative
indf.	indefinite
inf.	infinitive
neg.	negation
ÖNB	Österreichische Nationalbibliothek
pfv.	perfective
pl.	plural
poss.	possessive
prs.	present
r	recto
sg.	singular
v	verso

Appendix II:

Table 4: Most frequent graphic representations of vowel phonemes

Vowel	Position	Graphic representation	Language
	Initial	ا <ʾā>	Cro., Hun., Ger.
		ا <ʾa>	Hun.?[12]
a	Mid	ا <ʾa>	Cro., Hun.?, Ger., Lat.
		ا <ʾā>	Cro., Ger., Lat.
	Final	ا <ʾa>	Cro., Hun.?, Ger., Lat.
		ا <ʾā>	Cro., Hun.?, Lat.
a:	Initial	ا <ʾª>	Hun., Lat.
		ا <ʾa>	Lat.
	Mid	ا <ʾa>	Cro., Hun., Ger., Lat.
		ا <ʾª>	Cro., Hun., Ger., Lat.
	Final	ا <ʾa>	Hun., Ger.
		ا <ʾª>	Hun., Ger.
ɒ	Initial	ا <ʾª>	Hun.?
		ا <ʾa>	Hun.?
	Mid	ا <ʾa>	Hun.?
		وُ <wu>	Ger.
	Final	ا <ʾa>	Hun.?
		ا <ʾª>	Hun.?
ɒ:	Initial	-	
	Mid	وُ <wu>	Ger.
	Final	-	
e, ɛ, ə	Initial	ا <ʾa>	Hun., Ger., Lat.
	Mid	ـَ <a>	Cro., Hun., Ger., Lat.
		ه ـَ <ah>	Cro., Hun., Ger., Lat.
	Final	ه ـَ <ah>	Cro., Hun., Ger., Lat.
		ـَة <aẗ>	Ger.
		ـَ <a>	Ger.

12 In Standard Hungarian and most Hungarian dialects, a short phoneme /ɒ/ contrasts with long /a:/. In the German sample, which is mainly Central Bavarian, words containing the vowels /ɒ/ and /ɒ:/ in Central Bavarian but /a/ and /a:/ in Standard German and other dialects show وُ <wu> spellings, suggesting that the sounds in question are /ɒ/ and /ɒ:/, not /a/ and /a:/. In the Hungarian sample, however, words with an assumed /ɒ/ are not written in a way that suggests any other sound but /a/. A short /a/ phoneme is known in northern Hungarian dialects (Palóc dialects) but there the correspondent of /a:/ in Standard Hungarian and the other dialects is /ɒ:/ (Kálmán 1966, 40), of which no traces can be found in the Hungarian sample.

eː, ɛː	Initial	اَ <ʾa>	Hun., Ger., Lat.
	Mid	ـَ <a>	Cro., Hun., Ger., Lat.
		ـَه <ah>	Cro., Hun., Ger., Lat.
	Final	ـَه <ah>	Hun., Lat.
i, ɪ	Initial	اِي <ʾyi>	Cro., Hun., Ger., Lat.
		اِئ <ʾyʔi>	Ger.
	Mid	ـِي <yi>	Cro., Hun., Ger., Lat.
		ـِ <i>	Cro., Hun., Ger., Lat.
	Final	ـِي <yi>	Cro., Hun., Lat.
		ـِ <i>	Cro.
iː	Initial	اِي <ʾyi>	Hun., Ger., Lat.
		اِئ <ʾyʔi>	Ger.
	Mid	ـِي <yi>	Cro., Hun., Ger.
		ـِ <i>	Cro., Ger.
	Final	ـِي <yi>	Ger.
o, ɔ	Initial	اُو <ʾwu>	Cro., Hun., Ger., Lat.
	Mid	ـُو <wu>	Cro., Hun., Ger., Lat.
		ـُ <u>	Cro.
	Final	ـُو <wu>	Cro.
oː	Initial	اُو <ʾwu>	Hun.
	Mid	ـُو <wu>	Cro., Hun., Ger., Lat.
		ـُ <u>	Cro.
	Final	ـُو <wu>	Hun., Ger., Lat.
ø	Initial	اُؤ <ʾwʔu>	Hun.
		اُو <ʾwu>	Hun.
	Mid	ـُؤ <wʔu>	Hun.
		ـُو <wu>	Hun.
	Final	-	
øː	Initial	اُؤ <ʾwʔu>	Hun.
	Mid	ـُؤ <wʔu>	Hun.
		ـُو <wu>	Hun., Ger.
		ـُ <u>	Ger.
	Final	ـُؤ <wʔu>	Hun.
u, ʊ	Initial	اُؤ <ʾwʔu>	Cro., Hun., Ger., Lat.
		اُو <ʾwu>	Cro., Hun., Ger.
	Mid	ـُؤ <wʔu>	Cro., Hun., Ger., Lat.
		ـُو <wu>	Cro., Hun.
	Final	ـُؤ <wʔu>	Cro., Lat.
		ـُو <wu>	Cro.
uː	Initial	اُؤ <ʾwʔu>	Hun.
	Mid	ـُؤ <wʔu>	Cro., Hun., Ger.
		ـُو <wu>	Cro., Hun., Ger.
	Final	ـُؤ <wʔu>	Hun., Ger.
		ـُو <wu>	Ger.

y, ʏ	Initial	اوُ <ʾwʔu>	Hun.
		اوُ <ʾwu>	Hun.
	Mid	وُ <wʔu>	Hun., Ger.
		وُ <wu>	Hun.
	Final	-	
yː	Initial	-	
	Mid	وُ <wʔu>	Hun., Ger.
	Final	وُ <wʔu>	Hun.
ɾ̥	Initial	-	
	Mid	ـِر <yir>	Cro.
		ـَر <ar>	Cro.
	Final	-	
a͡ɪ	Initial	آي <ʾªy>	Ger.
		اَي <ʾay>	Ger.
	Mid	اَي <ʾay>	Ger.
		ـَي <ay>	Ger.
	Final	اَي <ʾay>	Ger.
a͡ʊ	Initial	آو <ʾªw>	Ger.
		اَو <ʾaw>	Ger.
	Mid	آو <ʾªw>	Ger.
		اَو <ʾaw>	Ger.
	Final	اَو <ʾaw>	Ger.
ɪ͡ə	Initial	-	
	Mid	ـِيَ<iya>	Ger.
	Final	ـِيَه<iyah>	Ger.
		ـِيَة<iyaẗ>	Ger.
ɪ͡ɛ	-		
	Mid.	ـِيَ<iya>	Cro.
	-		
ɔ͡ʏ	Initial	اُوي <ʾuwy>	Ger.
	Mid	وُي <wuy>	Ger.
	Final	وُي <wuy>	Ger.
ʏ͡ə	Initial	-	
	Mid	وَ <wa>	Ger.
	Final	-	