Winter 2017

New Evidence for Early Modern Ottoman Arabic and Turkish Sign Systems

Kristina Richardson
CUNY Queens College

New Evidence for Early Modern Ottoman Arabic and Turkish Sign Systems

Kristina Richardson

Sign Language Studies, Volume 17, Number 2, Winter 2017, pp. 172-192 (Article)

Published by Gallaudet University Press
DOI: https://doi.org/10.1353/sls.2017.0001

KRISTINA RICHARDSON

New Evidence for Early Modern Ottoman Arabic and Turkish Sign Systems

Abstract

The earliest descriptions of Latin finger alphabets were recorded in southern Europe between 1579 and 1589. New literary and visual evidence for sixteenth-century Ottoman Arabic and Ottoman Turkish sign systems are presented and analyzed in this article.

Al-Jāḥiẓ (d. 869), a famous author of Arabic literature and theology in Abbasid-era Iraq, counted signs (in Arabic, *ishārāt*) among the five methods of expressing oneself, the other four being speech, writing, monumental architecture, and finger reckoning (*ḥisāb al-ʿaqd*) (Pellat 1997). We know much about "literacy, orality and aurality in pre-print Middle Eastern societies" and the attendant cultures of reading, speaking, and writing (Hirschler 2012, 7). There is even a robust body of premodern and modern scholarship on *ḥisāb al-ʿaqd*. Far less is known about *ishārāt,* a category that would have included sign languages and finger alphabets, as well as sublinguistic elements such as physical gestures, but sixteenth-century urban centers around the Mediterranean provide fascinating starting grounds for an investigation.[1]

In several Mediterranean cities at this time, observers started documenting the social uses of local sign systems and sometimes even describing individual signs. Two Franciscan friars—one in Madrid in 1579 and the other in Venice in 1593—published descriptions of complete Latin sign alphabets. Significantly, both of these alphabets differed

Kristina Richardson is assistant professor of history at Queens College and the Graduate Center, City University of New York.

from a finger alphabet recorded by the Venerable Bede (d. 735), an early medieval English scholar. Until now, historians considered these three European specimens the lone detailed descriptions of premodern signed alphabets.

Outside of Latin Christendom, we have more evidence of signing. At the Ottoman court in Istanbul, Sultan Süleyman I (r. 1520–66) popularized a sign language among his courtiers. Between the sixteenth and nineteenth centuries, European and Asian visitors to the Ottoman court marveled at the existence of this sign language, but not one of them produced drawings or textual descriptions of individual hand signs. Elsewhere in the Ottoman Empire, a partial description of an Arabic sign alphabet was recorded in Aleppo in 1589 or 1590, and in this article I transcribe and translate that document and discuss its historical and linguistic relevance in the broader context of the three aforementioned sixteenth-century sign systems.

Manual Signs in Medieval Christendom and Islamdom

The significance of studying the history of arithmetic is vastly underacknowledged, though counting coins and weighing foodstuffs were perhaps more fundamental to most premodern lives than reading or writing. Remarkably, the same system for representing numbers with hand signs was used in ancient Rome, the medieval Latin West, the Byzantine East, and all of medieval Islamdom (Pellat 1997, 119–31). This system was first described in the seventh-century *Romana computatio* and more clearly elaborated in 725 by the Venerable Bede in *De temporum ratione* (Williams and Williams 1995, 604–8). Essentially, signers would use the last three fingers of the left hand to form numbers one through nine. The thumb and index fingers of the left hand formed the tens (10, 20, 30, etc.). On the right hand, the last three fingers formed hundreds, and the thumb and index finger made thousands.

The ubiquity of this finger-number system is suggested by frequent, casual allusions to these signs in Roman, Greek, and classical Arabic sources. In the Arabic tradition, one can find references in the earliest Islamic sources. For example, one observer described Prophet Muhammad's right-handed prayer gesture thus: "When the Messenger of Allah sat for *tashahhud,* he placed his left hand on his left knee and placed his right hand on his right knee, and he formed a ring

like so and pointed with his finger of attestation" (*Ṣaḥīḥ Muslim*). The ambiguity of this statement and the importance of the Prophet's religious practice have invited much interpretation from jurists and theologians, all of whom suggested number signs to best represent the intended hand position. The Damascene legal scholar Ibn Ṭūlūn (d. 1543) argued that the handshape for fifty-nine more accurately captured the Prophet's gesture, and Ṭashköprüzāda (d. 1561) and Ḥājjī Khalīfa (d. 1657) both argued that the number indicated was fifty-five (Ibn Ṭūlūn, fol. 1b; Pellat 1997). Similar uses of number signs abound in medieval and early modern Arabic literature. Abū Zayd al-Sarūjī, the protagonist of a series of twelfth-century picaresque tales, fell deathly ill "when he neared the [number of years indicated by the] clenched fist [ninety-three]" (Al-Ḥarīrī 1898, vol. 2, 69). Similarly, the author of a fifteenth- or sixteenth-century Arabic archery treatise advised that making the handshape for the number thirty would form the best bow grip (*Arab Archery* 1945). Finally, in classical Arabic and Persian poetry the number ninety served as a euphemism for the anus, an allusion understandable only with knowledge of the handshape for ninety (Pellat 1997) (figure 1).

The dactylonomic system common in both Europe and the Middle East inspired a key linguistic development in Europe that appears not to have occurred in the Middle East. Bede converted the finger-numbers into a finger alphabet; the sign for "A," for example, was the sign for "1." The entire alphabet could be represented thus: B = 2, C = 3, D = 4, and so on, but there is no evidence that Bede's finger alphabet was ever used in medieval Europe. Stunningly, the next known description of a finger alphabet was given in Venice in 1579, when Friar Cosma Rossellio, an Italian Franciscan, published a book containing woodcut images of a finger alphabet, which he recommended using as a mnemonic device (Rossellio 1579, fols. 101v–105r).

The next known finger alphabet was published in Madrid in 1593. The author, a Spanish Franciscan friar named Melchor de Yebra, recorded a finger alphabet in his *Refugium infirmorum*. This work was published only posthumously, but one can give the *terminus ante quem* for this alphabet as the author's death date of 1586 (De Yebra 1593, fols. 172r–179v). De Yebra claimed that this alphabet had gained wide currency among the general Spanish population in his lifetime, though it

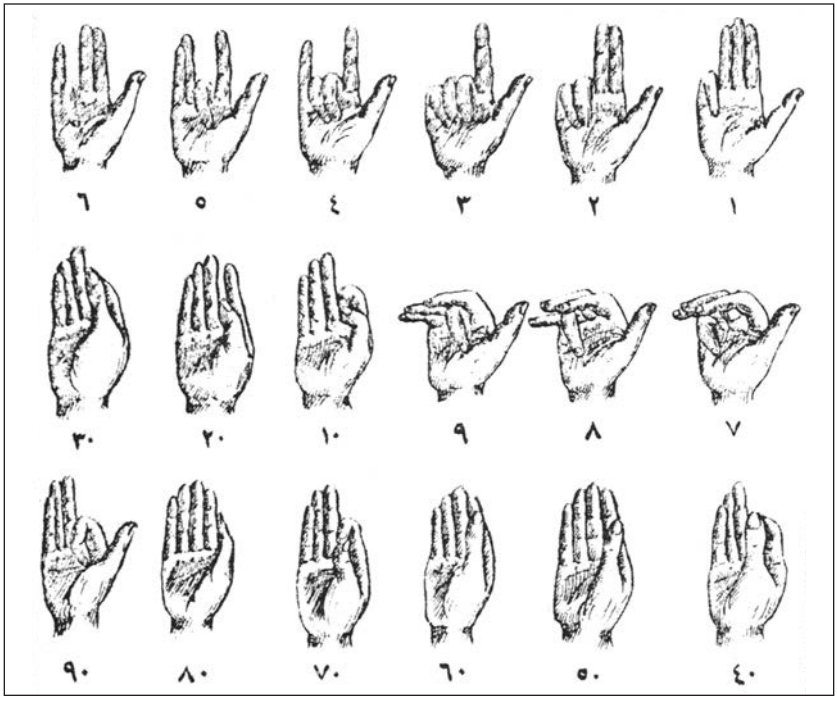

FIGURE 1. Arabic dactylonomic chart. Source: Pellat, *Textes arabes,* 35.

existed principally to enable the very ill to communicate with others and for deaf people to communicate with their Catholic confessors (Bragg 1996; Plann 1997). The finger signs were important for Catholic theology, as dying parishioners could thereby participate in last rites and deaf people could confess their sins and be saved (Plann 1997). Rossellio's claim of the alphabet's ubiquity may find confirmation in Lois Bragg's (1996) observation that, in various fifteenth-century portraits of Geoffrey Chaucer, his hands are unusually, but nearly identically, posed. These strange poses, she surmises, show Chaucer making the signs for the letters *G* and *C,* his initials. This visual evidence predates Rossellio's statement by at least eighty years, but the gap may be explained by the typical lapse between the use of a word and its documentation. One need only consider the time lag between the introduction of a slang word into English and its eventual inclusion in the *Oxford English Dictionary.* The centralization of language is a process.

Elsewhere in the sixteenth-century Mediterranean, namely in Ottoman Istanbul and Aleppo, the systematization and documentation of manual communications appear unconnected to Franciscan influence. Though Franciscans had been in Istanbul since the thirteenth century, and a permanent Franciscan mission was established in Aleppo in 1560, there is no evidence of Franciscans in the Ottoman Empire using sign language with their parishioners (Girardelli 2010; Sauvaget 1941, 207). The so-called palace mutes (Ottoman *dilsiz,* literally "tongueless") appeared on the court payrolls of Sultan Mehmet II (r. 1451–81) as early as the 1470s, and a system of signing was certainly in use at the court of Ottoman sultan Süleyman I (r. 1520–1566) (Miles 2000; Necipoğlu 1991). At court, sultans reportedly highly valued silence, which led to the use of a noiseless communication system. By the 1580s, the dwarves and *dilsiz* of the Ottoman court had their own living quarters in Topkapı Palace (Miles 2000). In 1583 or 1584 the German traveler Johannes Leunclavius heard from Turkish residents in Istanbul that the sultan's *dilsiz* "open the soul with signs and are mutually intelligible with signs" (Leunclavius 1588, 170). Based on this testimony, Miles has concluded that "[t]he mutes used a signing system that was already well developed in 1583" (2000, 128). Other reports seem to support this conclusion. As early as 1605, the French statesman Henry de Beauvau said that this sign language was known as *ixarette.* In Ottoman Turkish, the word for "sign" is *işaret*. Later testimonies confirm that older *dilsiz* taught the sign language to younger recruits and that sophisticated discussions could take place in this language (Miles 2000; Ögüt and Özcan 1994; Necipoğlu 1991; Lewis 1991). In addition to these literary testimonies, I would like to focus on another late sixteenth-century description of *dilsiz* that has been largely overlooked but may allow historians to identify these figures in period illustrations.

Iconography of the *Dilsiz* of Topkapı Palace

On September 25, 1599, Thomas Dallam, an English visitor, observed 400 courtiers at Topkapı Palace. Of these, he estimated, 200 were Christian-born servants, 100 were "dumb," and 100 were dwarves. His account reads as follows:

> The third hundredth were dumb men, that could neither hear nor speak and they were likewise in gowns of rich cloth of gold and

> Cordovan buskins; but their caps were of violet velvet, the crown of them made like a leather bottle, the brims divided into five peaked corners. Some of them had hawks in their fists. . . . I did most of all wonder at those dumb men, for they let me understand by their perfect signs all things that they had seen the present do by its motions.[2]

Dallam's description of the "Dumb men" reveals three crucial details. First, their garments were sumptuously woven with metal threads, and their headgear was distinctive (i.e., a purple velvet cap with a crown resembling a leather bag and with a brim of five sharp corners). Second, some men carried falcons on their hands, and third, they signed with both hearing and nonhearing persons. When historians have cited Dallam's description, they have removed the clothing details, perhaps finding them irrelevant for their purposes (Miles 2000; Scalenghe 2014). But reading this passage raises questions about Dallam as a witness to this scene. Is it possible that the crowd of attendants was more differentiated than Dallam could detect?

Reading his passage alongside period iconography, one wonders whether the men Dallam saw bearing falcons were simply falconers who wore the same clothing and headgear as the *dilsiz*. Late sixteenth-century Ottoman and European paintings and drawings depict male courtiers in caps with bulbous crowns and four drooping peaks of brim cloth. (Though Dallam mentioned five peaks, I know of no images of such a cap. Perhaps the fifth extends behind the head and is obscured from the painter's vantage point.) In these images some of the attendants carry falcons, some are dwarves, and others are adult men of ordinary height who stand alone.[3] These last may have represented the *dilsiz*. In a portrait of Sultan Selim II (r. 1566–74) dated 1570 or 1590, a beardless man in a red cap with a baggy crown and four peaks stands behind the ruler (figure 2). The man's gaze is fixed on his raised left hand, which appears to be gesturing. His right hand is hidden in the folds of his gown. Falconers are consistently shown in Lokman's 1588 *Hünernâme* miniatures wearing the same cap, though they also wear a leather glove on which a falcon sits. The social, though not sartorial, connection of falconers, dwarves, and the *dilsiz* also appears in the Englishman John Sanderson's 1594 informal census of Istanbul. He estimated that "in Constantinople ar[e] resident . . . Falconers, dwarfs, and dome men 300" (Sanderson 1931, 82). Were these groups trained

Figure 2. Portrait of Sultan Selim II. Source: Aga Khan Museum, AKM219, Istanbul, 1570 or 1590, 44.2 × 31.2 cm. https://www.agakhanmuseum.org/collection/artifact/portrait-sultan-selim-ii#.

together at the Palace School? If so, perhaps the baggy cap represented a certain status. The Rålamb Costume Book, acquired by a Swedish envoy in 1657, comprises 121 miniatures of Ottoman Turkish subjects. In these paintings a signing *dilsiz* and a falconer wear red caps that are similar in shape to the one depicted in the portrait of Selim II one hundred years earlier (figures 3 and 4).

If Ottoman historians can now begin to identify the *dilsiz* in Ottoman and European paintings, then the material sources can complement textual sources about *dilsiz*. That Selim II was painted with a *dilsiz* would suggest the prominence of this group at his court, as well as the prestige of sign language. Would Ottoman subjects in Anatolia,

FIGURE 3. Mute, seventeenth century. Source: National Library of Sweden, Rålamb Costume Book, fol. 94. http://ds.kb.se/?mapp=5&fil=draktbok/94.

Figure 4. Falconer, seventeenth century. Source: National Library of Sweden, Rålamb Costume Book, fol. 51 (http://ds.kb.se/?mapp=5&fil=draktbok/51).

the Balkans, and the Arab provinces have been aware of the Ottoman court sign language?

Gotha MS Orient. A114: An Aleppan Notebook

Sara Scalenghe, in her recent book on disability in Ottoman Syria, wondered whether one could speak of an Ottoman Syrian sign language. Though the question could not be answered definitively, she compiled numerous references to signed communications in biographical and juristic literature, which, taken together, suggest that deaf people had developed local signs to communicate among themselves and with hearing peers (Scalenghe 2014). Here I introduce a new

source, a silk weaver's notebook that includes a partial description of a signed alphabet in Ottoman Syria. The entry is undated but, based on its placement in the notebook, can be traced to early 1590, which would make it the earliest known description of an Arabic finger-spelling system.

Gotha MS orient. A114 is an untitled Arabic notebook comprising sixty-three folios written by a Muslim male silk weaver named Kamāl al-Dīn living in Aleppo.[4] The folios measure 15 × 11 centimeters. The number of lines per folio varies. The entries comprise accounts of current events, anecdotes, obituaries, poems, hadith, certificates of transmission, and so on. The manuscript is missing leaves at its beginning and end, which deprives us of crucial information. On both sides of the first folio, one finds a description of handshapes for nineteen Arabic letters, from *zāʾ* (ز) to *yāʾ* (ي), including the *lām-alif* (لا). Although *lām-alif* is a ligated combination of two Arabic letters, *lām* (ل) and *alif* (ا), it is often considered the twenty-ninth letter of the Arabic alphabet.

This alphabet is patently Arabic. It cannot represent an Ottoman Turkish or a Persian sign alphabet because it is missing the letters *žā* (ژ) and *gāf* (گ), which fall within the *zāʾ* (ز) to *yāʾ* (ي) sequence in Turkish and Persian. Descriptions of the signs for the alphabet's first ten letters—*alif* (ا), *bāʾ* (ب), *tāʾ* (ت), *thāʾ* (ث), *jīm* (ج), *ḥāʾ* (ح), *khāʾ* (خ), *dāl* (د), *dhāl* (ذ), and *rāʾ* (ر)—certainly appeared on the missing preceding folio. Perhaps contextualizing details, such as the precise date of transcription, the scribe's source of this alphabet, and its uses in Ottoman Aleppo, also appeared in the missing pages, which may allow later historians to revise some of the theories and analyses contained in this article.

Transcription and Translation of Gotha MS Orient. A114, fols. 1r–1v

See figure 5 for an image of the manuscript pages.

[fol. 1r]

al-zā: *tuqīm āl-bahām al-khinṣir wa-hiya farq bayn al-rā wa-l-zay* (?) *ka-annahā nuqṭah*

ز : Raise the thumb, which is the difference between a *rāʾ* and a *zāʾ*, just like a dot.

Figure 5. Ottoman Aleppan finger alphabet. Source: Gotha MS orient A114, fols. 1r–2r.

al-sīn: *tufarriq bayna sāʾir al-anāmil alladhīna hum ishārat al-rā maʿa ṭayy al-bihām taḥt*

س : Spread all the fingertips that make the sign of the *rāʾ* with the thumb folded underneath.

al-shīn: *tufarriq bayna sāʾir al-anāmil maʿa al-bihām fa-l-bihām fāriq sīmā mā qabluhu*

ش : Spread all the fingertips with the thumb, for the thumb differentiates this sign from what comes before.

al-ṣād: *waḍʿ baṭn al-bihām ʿalā baṭn al-sabbābah*

ص : Place the pad of the thumb against the pad of the index finger.

al-ḍād: *iqāmat al-sabbābah ʿalā ṭarf al-bihām*

ض : The index finger is positioned on the thumbnail.

al-ṭāʾ: *tuḥalliq al-sabbābah fī aṣl al-bihām min qibal ḥarfihi min nāḥiyatihā*

ط : Make a circle with the index finger on the base of the thumb on the palmar surface.

al-ẓāʾ: *iqāmat al-sabbābah ʿalā aṣl ẓahr al-bihām fī ishārat mā qabluhu*

ظ : Place the index finger on the back of the base of the thumb, in showing the front [of the hand].

al-ʿayn: *ishāratuhā ka-naʿl turīh mā bayna al-bihām wa-l-sabbābah aw ka-hilāl*

ع : Its sign is like a horseshoe that is visible between the thumb and the index finger, like a crescent.

al-ghayn: *radd ishārat al-ʿayn bi-ʿaks al-madhkūrah*

غ : Repeat the sign for ʿayn in the opposite direction.

al-fāʾ: *tukhrij ṭarf al-bihām min bayn al-sabbābah wa-l-khinṣir wa-l-wusṭā*

ف : Take out the side of the thumb from the space between the index and the middle fingers.

[fol. 1v]

al-qāf: *tukhrij al-bihām min bayna al-wusṭā wa-l-khinṣir*

ق : Take out the thumb from between the middle and the ring fingers.

al-kāf: *tumidd al-sabbābah wa-l-wusṭā ʿalā munḥarifāt wa-tuqīm al-bihām*

ك : Bend the index finger and the middle finger, and raise the thumb.

a[l-]lām: *tuqīm al-sabbābah ka-ʾannaka tashhad wa-tumidd al-bihām wa-l-bāqī maḍmūmīn*

ل : Raise the index finger as though you were reciting the profession of faith. Extend the thumb, and the rest of the fingers are clenched.

al-mīm: *taqbiḍ ṭarf ẓufur al-bihām taḥta sāʾir al-anāmil maḍmūmūn*

م : Take the side of the thumbnail under all the fingertips, which are clenched.

al-nūn: *tumidd baṭn al-anāmil wa-taksir al-bihām fū uṣūlihim min baṭn al-kaff*

ن : Extend the fronts of the fingertips, then bend the thumb into their bases, in the palm.

al-hāʾ: *taḍumm sāʾir al-anāmil qāʾimāt lam yabin ḍawʾ illā taḥta al-bihām*

ه : Join the raised fingertips, with light shining only under the thumb.

al-wāw: *tumidd al-sabbābah wa-l-wusṭā wa-l-bihām ʿalā munṭabiqatay al-khinṣir wa-l-binṣir bi-l-ḍ[idd]*

و : Extend the index finger, the middle finger, and the thumb perpendicular to the pinky and the ring finger, which are tucked under.

al-lām alif: *tuṣallib al-sabbābah wa-l-wusṭā ʿalayh*

لا : Cross the index and the middle fingers.

al-yāʾ: *tumidd al-anāmil sāʾiruhunna ka-ʾannaka tushīr li-ḍarb raqabah*

ي : Extend the remaining fingertips, as though you were indicating the striking of a neck.

Comparing Sign Systems

As mentioned earlier, using hand signs to represent numbers was a ubiquitous practice in the premodern Arab world, but this Ottoman alphabet does not appear related to the popular number signs. Unlike the finger alphabet imagined by the Venerable Bede, these do not correlate with their place in an alphabetical sequence. So, the sign for *ṣāḍ,* the fourteenth letter of the Arabic alphabet, does not correspond to the number sign for fourteen. This one-to-one correspondence does not appear to have been common in the Arab world. Rather, the assignment of numerical values to letters—a system known as *abjad*

Table 1. Western and Eastern *Abjad* Numerological Values

Arabic	Latin	Western	Eastern	Arabic	Latin	Western	Eastern
ا	alif	1	1	ض	ḍād	90	800
ب	bā’	2	2	ط	ṭā’	9	9
ت	tā’	400	400	ظ	ẓā’	800	900
ث	thā’	500	500	ع	‘ayn	70	70
ج	jīm	3	3	غ	ghayn	900	1,000
ح	ḥā’	8	8	ف	fā’	80	80
خ	khā’	600	600	ق	qāf	100	100
د	dāl	4	4	ك	kāf	20	20
ذ	dhāl	700	700	ل	lām	30	30
ر	rā’	200	200	م	mīm	40	40
ز	zā’	7	7	ن	nūn	50	50
س	sīn	300	60	ه \ ة	hā’	5	5
ش	shīn	1,000	300	و	wāw	6	6
ص	ṣāḍ	60	90	ي	yā’	10	10

numerology—was the more usual association (see table 1). In the sixteenth century two *abjad* systems existed—western and eastern—with slight differences between them, but no apparent relation exists between the Ottoman Aleppan finger alphabet and the number signs for their western or eastern *abjad* values. For example, the letter *wāw* (و) has the value of six in both *abjad* systems, but the sign described in the Aleppan notebook does not accord with the number sign for six.

In the same vein, there is no evidence of continuity between this sixteenth-century finger alphabet and the modern Arabic one. Today, many national and local Arabic sign languages exist, some based on European sign languages, as with Tunisian Sign Language, which derives from Italian Sign Language. There are “almost as many as Arabic-speaking countries, *yet with the same sign alphabets*” (Abdel-Fattah 2005, 212, emphasis mine) (figure 6). Some local Arabic sign languages, such as the Al-Sayyid Bedouin Sign Language, which developed spontaneously in southern Israel within the last century, show no clear connection to national alphabets. Our sixteenth-century finger alphabet appears similarly disconnected from modern fingerspelling systems.

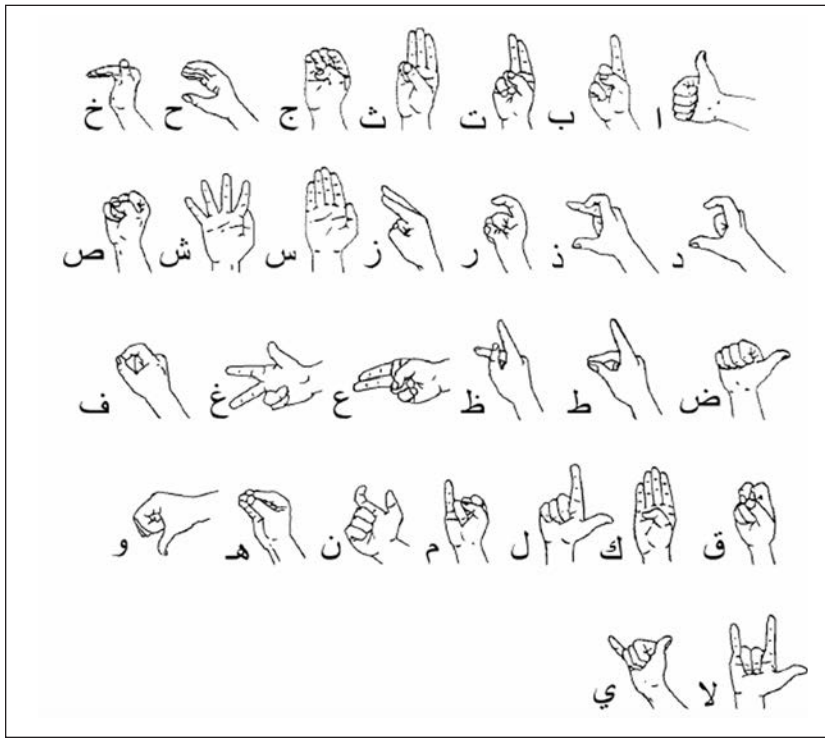

Figure 6. Modern Arabic finger alphabet. Source: Hendriks 2008, 15.

Comparing the modern Arabic and Ottoman Aleppan alphabets does not yield any obvious avenues of influences. Only the hand sign for *lām* (ل), which mimics the shape of the written letter, is the same in both alphabets.

Notes about the Alphabet

One detail suggests that all of these letters were intended to be signed with the right hand. Kamāl al-Dīn directed the reader to compose the sign for *lām* (ل) as though one were reciting the Islamic profession of faith. According to hadith, the prophet Muḥammad recited the profession of faith with his right index finger extended, and this gesture has been widely accepted among Muslims.

Many of the Aleppan letter signs derive from the shapes of their corresponding written alphabetical characters. The descriptions of the first three letters—*zāʾ* (ز), *sīn* (س), and *shīn* (ش)—are based on the sign for the letter *rāʾ* (ر), which is not available to us, so these three signs are not reproducible. However, certain letters, such as *lām* (ل) and *lām-alif* (لا), look like the independent form of the written Arabic letter. Other letters manually reproduce portions of the written letter. The signs for *ʿayn* (ع) and the *ghayn* (غ) reproduce the shape of the letter's upper or tail loop. The signs for *ṣād* (ص), *ḍād* (ض), and *ṭāʾ* (ط) reproduce the shape of the closed oval. Two involve movement: *fāʾ* (ف) and *qāf* (ق). These observations confirm that fingerspelling is a way of representing *the writing system* of an oral language, not a representation of the oral language.

Possible Uses of the Alphabet

Linguists of American Sign Language (ASL) fingerspelling have made many interesting interventions in the field of sign language linguistics, especially the conclusion that a hand sign for a single letter constitutes a morpheme. Moreover, signing several letters in sequence "may begin to act like one single morpheme, like a single sign. This is what we refer to as lexicalized fingerspelling" (Valli, Lucas, Mulrooney, and Villanueva 2010, 74). Fingerspelling in ASL shows sophisticated morphological developments that stem partly from the widespread institutionalized education of Deaf youth. It is precisely this investment in education that distinguishes the cultural milieu of ASL and Arabic sign languages and may make these conclusions less relevant to Arabic fingerspelling. No historical evidence has yet been found of congenitally Deaf individuals being taught to read Arabic, which is written from right to left and has optionally written symbols for short vowels, case endings, and redoubled consonants. (The name Muḥammad, for instance, would be written with four Arabic letters, *MḤMD*. The three short vowels, case endings, and the symbol for geminating the second *M* are indicated only by marks above the line of letters, not by individual letters.) That no hand signs exist for Arabic short vowels in the Ottoman Aleppan alphabet and in modern Arabic finger alphabets may indicate its use in representing the

consonantal written system and not oral Arabic, where vowels are certainly pronounced.

If the Ottoman Aleppan alphabet derives from written Arabic, what is its relationship to Deaf people of the period? As stated earlier, to date we have no evidence that Deaf individuals were taught to read Arabic in the Ottoman provinces. The sixteenth-century Egyptian Hanafi jurist Ibn al-Nujaym excused a deaf man from providing written consent to contracts, granting him permission to use his "customary signs," instead of written or spoken words (Scalenghe 2014). That a Deaf Arab had contact with the written language was not widely presumed. Even today, linguists of contemporary Arabic sign languages recognize that "[t]he lack of education for deaf people in the past has had an influence on the way sign language has developed in the Middle East. Extensive use of fingerspelling, as attested in American Sign Language (ASL) for example, is absent in LIU [Jordanian Sign Language]" (Hendriks 2008, 14). Even if the written word was rarely, if ever, taught to deaf Arabs, deaf people would have been educated in signing, essentially learning to sign from fellow signers, a method of knowledge transmission also used at the Ottoman court (Necipoğlu 1991; Miles 2000). It also parallels the premodern teaching of music. In fact, it was not until the seventeenth-century that the Polish musician Ali Ufuki transcribed Ottoman Turkish songs into Western staff notation. Before this moment, historians lack scores for Middle Eastern music.

Even if we can eliminate the possibility that this Ottoman Arabic finger alphabet originated among congenitally Deaf people, we can not preclude its use among hearing people and the adventitiously deaf, meaning those who acquired deafness after birth. All of the known recorders of sixteenth-century signed alphabets were hearing and preserved and transmitted this alphabet in ways that facilitated their dissemination among literate, hearing publics—through textual description, as in the case of the weaver Kamāl al-Dīn, or through text and images, as the Franciscan friars did.[5] I conclude that Kamāl al-Dīn's finger alphabet, like *ḥisāb al-ʿaqd,* probably originated in and served a primarily hearing population. Its uses must have paralleled those in medieval and early modern Europe, where "finger alphabets were used by ordinary hearing literates as mnemonic devices and

for amusement, as well as for privacy" (Bragg 1997, 22). This Aleppan finger alphabet, too, could have served mnemonic purposes, permitted coded communications, even facilitated discussions in loud, crowded spaces such as the Aleppan silk market, or even been used by literate Arabs who had gone deaf later in life.

Whether this alphabet became one that "deaf communities . . . adapted or even imported wholesale from those used by hearing people" (ibid., 15), as happened in the early modern European context, remains to be determined, though further research may yield links between this Arabic sign alphabet and premodern deaf education.

Acknowledgments

I would like to thank Judith Haug, Boris Liebrenz, Adam Talib, and Torsten Wollina for their helpful comments.

Notes

1. In premodern Arabic sources one finds mainly anecdotes about unsystematized, local signs. In the story of ʿAzīz and ʿAzīza in *1001 Nights,* the princess communicates with her lover through signs. He does not understand them, so they are interpreted by a third party. On this story see *The Arabian Nights Encyclopedia* (2004, vol. 1, 111–13). Further, a humorous anecdote appears in al-Shirbīnī's seventeenth-century work, *Hazz al-quḥūf* [Confounded brains], about a Persian and an Arab debating through mutually unintelligible hand signs (Greene 1966).

2. The original reads as follows: "The thirde hundrethe weare Dum men, that could nether heare nor speake and they weare likwyse in gouns of riche Clothe of gould and Cordivan buskins; bute theire Caps weare of violett velvett, the croune of them made like a lether bottell, the brims devided into five picked (peaked) corneres. Som of them had haukes in theire fistes. . . . I did moste of all wonder at those dumb men, for they lett me understande by theire perfitt sins (signs) all thinges that they had sene the presente dow by its motions" (Dallam 1893, 69–70).

3. A 1582 Ottoman Turkish miniature (*Cevāhirü'l-Ġarāib fī tercumet-i bahri'l-acā'ib,* Harvard Art Museum, Edwin Binney Collection, Third Collection of Turkish Art at the Harvard Art Museums 1985.219.2, fol. 217) depicts Sultan Murad III in his library. Four beardless dwarves stand before him, three of whom wear turbans, and one wears a red and gold cap with four visible peaks. The capped dwarf appears to be gesticulating with a tall, thin, beardless, turbaned attendant.

4. The most recent print catalogue of Gotha's Oriental manuscripts (Pertsch 1878, 197) lists sixty-two folios. However, a leaf between folios 8 and 9 was overlooked. I now include folio 8a in this leaf count.

5. Incidentally, Kamāl al-Dīn mentioned in Gotha MS orient. A114, fol. 15v, that on one Friday in Jumādā I 997 (April 1589) he had visited Maḥmūd al-Baylūnī, who must have been the scholar Maḥmūd b. al-Baylūnī (d. 1599), the father of Kamāl al-Dīn's friend Muḥammad Fatḥallāh b. al-Baylūnī. Scalenghe points out that the father, Maḥmūd, went deaf (uṭrūsh) later in life, but the notebook does not mention signing or deafness, so there are no clear connections between his friendship with Maḥmūd and the alphabet he recorded (Scalenghe 2014, 32–33).

Bibliography

Primary Sources

al-Ḥarīrī. 1898. *The Assemblies of al-Ḥarîri*. 2 vols. Trans. F. Steingass. London: Royal Asiatic Society.

al-Murādī, Muḥammad Khalīl b. ʿAlī. 1988. *Silk al-durar fī aʿyān al-qarn al-thānī ʿashir* [The string of pearls: On the notables of the twelfth century]. 4 vols. Beirut: Dār al-bashāʾir al-islāmiyya.

Arab Archery: An Arabic Manuscript of about A.D. 1500, "A Book on the Excellence of the Bow & Arrow" and the Description thereof. 1945. Trans. Nabih Amin Faris and Robert Potter Elmer. Princeton, NJ: Princeton University Press.

Dallam, Thomas. 1893. *Early Voyages and Travels in the Levant I: The Diary of Master Thomas Dallam, 1599–1600,* ed. J. Theodore Bent. London: Hakluyt Society.

de Yebra, Melchior. 1593. *Libro llamado Refugium Infirmorum* [A book titled *Refuge of the sick*]. Madrid: Luis Sáchez.

Ibn Ṭūlūn, Muḥammad. *Tashnīf al-sāmiʿ fī ʿilm ḥisāb al-aṣābiʿ* [The delight of the listener: On the science of finger calcuations]. Leiden Or. 2511. Fols. 1b–3a.

Kamāl al-Dīn. 1589–1590 CE. Untitled manuscript. Gotha MS orient. A114. 63 folios.

Leunclavius, Johannes. 1588. *Annales Sultanorum Othmanidarum* [Annals of the Ottoman sultan]. Frankfurt: apud Andreae Wecheli heredes, Claudium Marnium & Ioannem Aubrium.

Rossellio, Cosma. 1579. *Thesaurus artificiosae memoriae* [Treasury of Artificial Memory]. Venice: apud Antonium Paduanium.

Ṣaḥīḥ Muslim. Book 4, Hadith 1203.

Sanderson, John. 1931. *The Travels of John Sanderson in the Levant 1584–1602,* ed. Sir William Foster. London: Hakluyt Society.

Secondary Literature

Abdel-Fattah, M. A. 2005. Arabic Sign Language: A Perspective. *Journal of Deaf Studies and Deaf Education* 10(2): 212–21.

The Arabian Nights Encyclopedia. 2004. 2 vols. Ed. Ulrich Marzolph and Richard van Leeuwen. Santa Barbara, CA: ABC-CLIO.

Bragg, Lois. 1996. Chaucer's Monogram and the "Hoccleve Portrait" Tradition. *Word and Image* 12(1): 127–42.

———. 1997. Visual-Kinetic Communication in Europe before 1600: A Survey of Sign Lexicons and Finger Alphabets prior to the Rise of Deaf Education. *Journal of Deaf Studies and Deaf Education* 2(1): 1–25.

Girardelli, Paolo. 2010. Between Rome and Istanbul: Architecture and Material Culture of a Franciscan Convent in the Ottoman Capital. *Mediterranean Studies* 19(1): 162–88.

Greene, Daniel. 1966. An Egyptian Rabbi Trickster. *Journal of American Folklore* 79: 608–609.

Hendriks, Bernadet, and Ulrike Zeshan. 2009. Sign Languages. In *Encyclopedia of Arabic Language and Linguistics,* vol. 4, ed. Kees Versteegh, 222–35. Leiden: Brill.

Hendriks, Hermina Berndina. 2008. Jordanian Sign Language: Aspects of Grammar from a Cross-Linguistic Perspective. PhD diss., University of Amsterdam.

Hirschler, Konrad. 2012. *The Written Word in Medieval Arabic Lands: A Social and Cultural History of Reading Practices.* Edinburgh: Edinburgh University Press.

Lewis, Bernard. 1991. Dilsiz. In *Encyclopaedia of Islam,* 2nd ed., vol. 2, ed. Bernard Lewis, Charles Pellat and Josef Schacht, 277. Leiden: Brill.

Miles, M. 2000. Signing in the Seraglio: Mutes, Dwarfs and Jestures at the Ottoman Court, 1500–1700. *Disability & Society* 15(1): 115–34.

Necipoğlu, Gülru. 1991. *Architecture, Ceremonial, and Power: The Topkapı Palace in the Fifteenth and Sixteenth Centuries.* Cambridge, MA: MIT Press.

Ögüt, Salim, and Abdülkadir Özcan. 1994. Dilsiz. In *Türkiye Diyanet Vakfı* İslâm ansiklopedisi*,* vol. 9, ed. Bekir Topaloğlu, 303–305. Istanbul: Türkiye Diyanet Vakfı.

Pellat, Charles. 1997. *Textes arabes relatifs à la dactylonomie.* Paris: Maisonneuve et Larose.

Pertsch, Wilhelm. 1878. *Die orientalischen Handschriften der herzoglichen Bibliothek zu Gotha,* Teil 3.1. Vienna: Hof- und Staatsdruckerei.

Plann, Susan. 1997. *A Silent Minority: Deaf Education in Spain, 1550–1835.* Berkeley: University of California Press.

Sauvaget, Jean. 1941. *Alep: Essai sur le développement d'une grande ville syrienne des origines au milieu du XIXe siècle.* Paris: P. Geuthner.

Scalenghe, Sara. 2014. *Disability in the Ottoman Arab World, 1500–1800.* New York: Cambridge University Press.

Valli, Clayton, Ceil Lucas, Kristin J. Mulrooney, and Miako Villanueva, eds. 2010. *Linguistics of American Sign Language: An Introduction,* 5th ed. Washington, DC: Gallaudet University Press.

Williams, Burma P., and Richard S. Williams. 1995. Finger Numbers in the Greco-Roman World and the Early Middle Ages. *Isis* 86(4): 587–608.