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SABERES, PRÁTICAS E HORIZONTES DE INVESTIGAÇÃO

JESÚS RIVAS GUTIÉRREZ
MARÍA DOLORES CARLOS SÁNCHEZ
(ORGANIZADORES)

VOL V

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PRÓLOGO

Las ciencias socialmente aplicables y las humanidades ocupan un lugar central en la comprensión de los desafíos contemporáneos. En un escenario marcado por transformaciones jurídicas, tecnológicas, educativas, culturales, laborales, ambientales y subjetivas, pensar la vida social exige articular múltiples perspectivas de análisis, capaces de iluminar tanto las estructuras institucionales como las experiencias concretas de los sujetos y las comunidades.

El volumen ***Ciências Socialmente Aplicáveis e Humanidades: Saberes, Práticas e Horizontes de Investigação V*** reúne un conjunto plural de trabajos que expresan la amplitud de este campo de investigación. Las contribuciones aquí reunidas dialogan con problemas vinculados a la justicia, los derechos humanos, el constitucionalismo, la educación, la formación docente, la ética académica, la inteligencia artificial, el patrimonio, la cultura visual, el lenguaje, la migración, el liderazgo, el bienestar organizacional, el cuidado, la subjetividad, el ambiente , el deporte y el desempeño humano. Esta diversidad temática no constituye una dispersión, sino una muestra de la complejidad de los fenómenos sociales y humanos, que rara vez pueden ser comprendidos desde una única disciplina o perspectiva.

La organización de la obra fue pensada a partir de una lógica progresiva, estructurada en cinco ejes temáticos. El primer eje se orienta a los debates sobre justicia, derechos y constitucionalismo en sociedades plurales. En él se abordan cuestiones relacionadas con justicia distributiva, derechos fundamentales, inteligencia artificial aplicada al ámbito judicial y formas comunitarias de administración de justicia. Estos temas permiten reflexionar sobre las tensiones entre normatividad, equidad, acceso a derechos y reconocimiento de la diversidad jurídica y social.

El segundo eje se dedica a la educación, la ética académica y la innovación en la formación contemporánea. Los trabajos reunidos en esta sección evidencian que los procesos educativos no pueden desligarse de los debates éticos, tecnológicos, sociales e institucionales que atraviesan la formación de sujetos críticos. La educación aparece aquí como un espacio de transformación, pero también como un campo en constante renovación, donde convergen la inclusión, la enseñanza de las matemáticas, la formación y evaluación del profesorado, la integración de las tecnologías de la información y la inteligencia artificial en los procesos educativos, la escritura académica, las competencias socioemocionales, la innovación pedagógica, la corrupción en la educación superior y la responsabilidad institucional. En conjunto, estos estudios ponen de manifiesto la necesidad de fortalecer una educación capaz de responder críticamente a los desafíos contemporáneos.

El tercer eje reúne estudios vinculados a cultura, lenguaje, patrimonio y simbolismos sociales. Esta sección permite observar cómo las sociedades producen, preservan y comunican significados a través de signos, lenguajes, imágenes, arquitecturas, objetos patrimoniales y dispositivos visuales. Los capítulos dedicados a la intervención y conservación del patrimonio arquitectónico dialogan con investigaciones

sobre comunicación simbólica, identidad visual e imaginarios nacionales, mostrando que el patrimonio cultural y los sistemas de representación constituyen dimensiones fundamentales para comprender la memoria colectiva, la construcción de identidades y la relación entre pasado y presente. Desde esta perspectiva, la cultura se presenta no solo como memoria o representación, sino también como una forma de organización simbólica de la experiencia social, política e histórica.

El cuarto eje aborda temas relacionados con desarrollo, trabajo, liderazgo y transformaciones organizacionales. En este bloque, las investigaciones permiten pensar las dinámicas económicas y laborales contemporáneas a partir de fenómenos como la migración internacional, la innovación, la felicidad laboral, el liderazgo consciente, la neurocomunicación y los entornos híbridos y remotos. Estos temas evidencian la necesidad de comprender las organizaciones no solo como estructuras productivas, sino también como espacios de subjetividad, bienestar, comunicación y construcción de vínculos.

Finalmente, el quinto eje se aproxima a las subjetividades, el cuidado, el ambiente, el deporte y el desempeño humano. Los trabajos aquí reunidos permiten reflexionar sobre la relación entre conducta, crisis ambiental, maternidad, neurodivergencia, bioética, feminismo, cuerpo, entrenamiento, rendimiento y prácticas deportivas. El eje incorpora, además, una reflexión sobre el fútbol como espacio de expresión de valores, derechos, comportamientos e intereses sociales, a partir de una experiencia académica centrada en el Fair Play, los Derechos Humanos y la formación crítica de estudiantes de Comunicación Social. Este cierre pone de relieve la dimensión humana de los procesos sociales, recordando que toda investigación aplicada a la sociedad debe considerar las formas concretas en que las personas viven, cuidan, sienten, se relacionan, practican deportes, habitan el mundo y construyen sentido.

En conjunto, este volumen evidencia que las ciencias socialmente aplicables y las humanidades son fundamentales para interpretar las transformaciones de nuestro tiempo. Sus aportes permiten problematizar desigualdades, comprender instituciones, revisar prácticas, analizar discursos, acompañar procesos formativos, preservar el patrimonio cultural, repensar el trabajo, cuestionar modelos de desarrollo y ampliar las posibilidades de vida colectiva.

Esperamos que ***Ciências Socialmente Aplicáveis e Humanidades: Saberes, Práticas e Horizontes de Investigação V*** contribuya al diálogo académico entre investigadores, docentes, profesionales y estudiantes interesados en comprender las múltiples dimensiones de la vida social. Que los trabajos aquí reunidos sirvan como punto de partida para nuevas preguntas, nuevas prácticas y nuevos horizontes de investigación comprometidos con la justicia, la educación, la cultura, el cuidado, la reflexión crítica y la transformación social.

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OBSERVATORIO DE FAIR PLAY: EL FÚTBOL COMO REPOSITORIO DE DERECHOS Y VALORES. EL CASO DE LA COPA AMÉRICA USA 2024

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CAPÍTULO 11

A HISTORICAL VIEW OF SIGNS AND SIGN LANGUAGES AS A POTENTIAL FOR SECRET COMMUNICATION IN TWO WORLDS: IN OTTOMAN COURTS AND CATHOLIC RELIGIOUS ORDERS[1]

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ABSTRACT: The Duke August Library in Wolfenbüttel, Germany, preserves a 1679 French-Turkish manuscript with an intriguing (translated) title: "Silent Letters, or a Method of Making Love in Turkey without Knowing How to Read or Write." In an explanatory section the author details the Turkish system of sending so-called "Selam"-messages, encoded according to a well-defined system. This manuscript was used in the publication of a 1688 novelette, *Histoire Galante,* where such exchanges enabled two young lovers to rekindle a relationship in the harem where access was forbidden to men. They finally resort to the sign language that was in general use among the Sultans' deaf-mute servants. The episode leads to a discussion of the development of sign language at the Ottoman courts, which was also used for cryptological purposes. A contrasting overview shows the development of signs and sign languages in French and central European monasteries from the 11th/12th centuries onwards. Around 1600, these early sign languages led to the creation of signed communication with deaf-mute members of the Spanish nobility; such systems ultimately formed the core of modern instruction for the deaf-mute: A closed system of communication had become a method of exchange that opened up the world to men and women born without hearing.
KEYWORDS: Historical Cryptology; Sign Language; Ottoman Court; Selam Messages; Secret Communication.

UMA VISÃO HISTÓRICA DOS SINAIS E DAS LÍNGUAS DE SINAIS COMO POTENCIAL FORMA DE COMUNICAÇÃO SECRETA EM DOIS MUNDOS: NAS CORTES OTOMANAS E NAS ORDENS RELIGIOSAS CATÓLICAS

RESUMO: A Biblioteca Duque Augusto, em Wolfenbüttel, Alemanha, preserva um manuscrito franco-turco de 1679 com um título intrigante, em tradução livre: "Cartas silenciosas, ou um método de fazer amor na Turquia sem saber ler ou escrever". Em uma seção explicativa, o autor detalha o sistema

[1] An earlier version of this work was presented at the 5th International Conference on Historical Cryptology – HistoCrypt 2022, and published in its proceedings under the title "A Historical View of Signs and Sign Languages as a Potential for Secret Communication in Two Worlds: In Ottoman Courts and Catholic Religious Orders" (DOI: 10.3384/ecp188408).

turco de envio das chamadas mensagens “Selam”, codificadas segundo um sistema bem definido. Esse manuscrito foi utilizado na publicação de uma novela de 1688, Histoire Galante, na qual tais trocas permitiam que dois jovens amantes reatassem uma relação no harém, onde o acesso era proibido aos homens. Por fim, eles recorrem à língua de sinais que era de uso geral entre os criados surdos-mudos dos sultões. O episódio conduz a uma discussão sobre o desenvolvimento da língua de sinais nas cortes otomanas, onde também era utilizada para fins criptológicos. Uma visão contrastiva apresenta o desenvolvimento dos sinais e das línguas de sinais em mosteiros franceses e da Europa Central a partir dos séculos XI/XII. Por volta de 1600, essas primeiras línguas de sinais levaram à criação de formas de comunicação sinalizada com membros surdos-mudos da nobreza espanhola; tais sistemas acabaram formando a base da instrução moderna para surdos-mudos. Um sistema fechado de comunicação tornou-se, assim, um método de troca que abriu o mundo para homens e mulheres nascidos sem audição.
PALAVRAS-CHAVE: Criptologia histórica; Língua de sinais; Corte otomana; Mensagens Selam; Comunicação secreta.

1. PRELIMINARIES

In a historically intriguing expansion of marginal material originally presented at HistoCrypt 2020 in Budapest[2] I intend to juxtapose the manner in which deaf-mute servants at the Ottoman courts communicated amongst each other with the various means in which monks at European monasteries interacted in silence by using sign language. First off, however, an overview of this new analysis:

1. Preliminaries – The 1679 manuscript kept at the Herzog August Library in Wolfenbüttel with its description of the *Selam* greetings and their purpose, namely non-verbal communication
2. The practical application of such non-verbal communication in a 1688 *Histoire Galante* with an excursus describing the *Langage müet* or “Silent Language”, leading to a discussion of this language at the Sultans’ court
3. A historical overview of the development and significance of this sign language at the Ottoman courts
4. A contrasting overview of the development of signs and sign languages in French and Central European monasteries from the 11th/12th centuries onwards
5. The development of the modern communication for the deaf (mutes) from such sign languages
6. Closing analysis.

[2] The first part of this analysis draws on the publication of my 2020 material prepared for HistoCrypt 2020 at Budapest: “‘Encoded’ Communication with Ladies in a Turkish Harem, 17th-Century Style.” In: *Proceedings of the 3rd International Conference on Historical Cryptology - HistoCrypt 2020*, ed. Beáta Megyesi. Linköping Electronic Conference Proceedings 171:2 (2020), 1-17, URL: https://doi.org/10.3384/ecp2020171 (accessed 18/03/2022).

Let me now set the stage: In order to recall the source of the earlier analysis and its bearings on my new deliberations I shall briefly summarize the substance of the manuscript I unearthed some time ago in the holdings of the Duke August Library in Wolfenbüttel, Germany.

Figure 1: Dedicatory (top) part of *Lettres muettes* manuscript. Courtesy Herzog August Bibliothek, Wolfenbüttel, for all such illustrations.

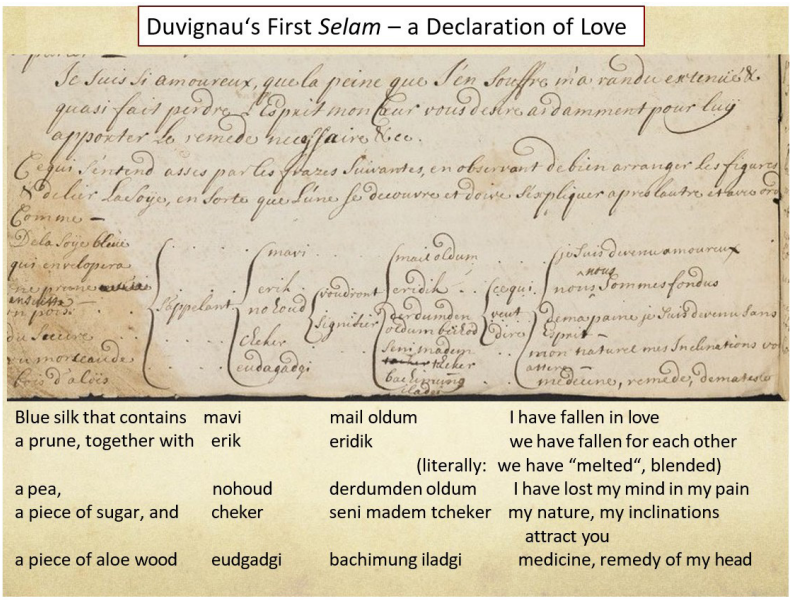


This document dates back to 1679 and bears the rather explicit title, *Lettres muettes, ou la manière de faire l'amour en Turquie / Sans Scavoir nÿ Lire nÿ Escrire* (Silent Letters, or the Manner of Making Love in Turkey / Without Knowing how to Read or Write) (**Fig. 1**) In its title this bilingual manuscript already alludes to a method of communication that establishes contacts without recourse to reading or writing. The manuscript proposes such conversations not primarily with the help of signs or a sign language – an intriguing offshoot of this material that will be the main object of this presentation – but with the help of a "language of symbols" virtually unknown in western Europe at the end of the 17th century. Nonetheless, ancient sources document the use of signs for communication among Egyptians, Romans, and Greek.[3] In Turkey such a "language of symbols" – closely related to the "language of flowers" that may have originated in India or Persia – consisted not of the spoken word but of a highly

[3] Robert Barakat: *The Cistercian Sign Language: A Study in Non-verbal Communication.* Spencer (Mass.): Cistercian Publications, 1975, 24, quoted in Agnes Villwock: "Monastische Gebärdensprache und Gebärdensprachanwendung im Kloster: Vom Schweigegebot christlicher Ordensgemeinschaften hin zur gebärdensprachlichen Kommunikation in der monastischen Gehörlosenbildung." In: *Das Zeichen* 91 (2012), 266-282, here pp. 266-267. URL: www.sign-lang.uni-hamburg.de/signum/zeichen/ (accessed 17/03/2022).

developed method of communicating by sending a few items (a lump of coal, a spice, a blade of grass, a comb...) neatly wrapped in a piece of silk to a correspondent. The very specific combination of such objects – and this is the overarching significance of such contacts – had a clearly encoded meaning. Such a message – *Selam* in Turkish, "welcome greetings" or "peace wishes", depended entirely on the mastery of this system of non-verbal exchanges by the participants in such an exchange. The author of the bilingual Wolfenbüttel manuscript gives an example of such a piece that he presented in four columns (**Fig. 2**): In the very left one the French item required to convey a particular meaning is lined up (translated into English in the printed text below), followed by their Turkish equivalent. Next to the Turkish name for each item (column 2) is the "encoded" Turkish meaning of each of these items, which in column 4 is followed by an elaboration of this meaning in French (translated again) . Below these 4 columns the author lists a rather poetic expansion of the concise statement in the fourth section that almost reads like a piece taken from *A Thousand and One Nights*:

Figure 2: Duvignau's first *Selam* with the transcription of the material in the four columns (the French in the first and last ones translated into English).



Je suis si amoureux que la peine que j'en souffre m'a randu [!] *extenué & quasi fait perdre l'esprit* [.] *mon Cœur vous desire ardamment pour luÿ apporter le remede necessaire*.[4]

[4] "I have fallen in love so much that the pain that I suffer [from that] has made me look emaciated and has made me lose my mind, so to speak[.] My heart desires you like a burning flame so that you can bring to it the necessary remedy." (Transl. G. F. St.)

It is evident that the Turkish *Selam*s go one major step beyond the customary language of flowers: The incorporation of a prune, a pea, a lump of sugar and a piece of aloe wood indicates the opening of this non-verbal system to a method in which all sorts of objects were added in, enlarging it to a "language of symbols," so to speak. This expansion seems to be a Turkish invention, and in the latter part of the 17th century the system was obviously well known. Not only in the realm of fiction, as we shall see, but among young persons of both sexes this was a favorite – and, to be sure, perfectly cryptologically encoded – means of communication. The Turkish names for each of these objects relied heavily on alliteration and association – an all-important feature that made memorization more feasible – for there are no listings or code books of such *Selam* meanings. In fact the 1679 manuscript and its associated publications in French contain the first and rare listings of this system.

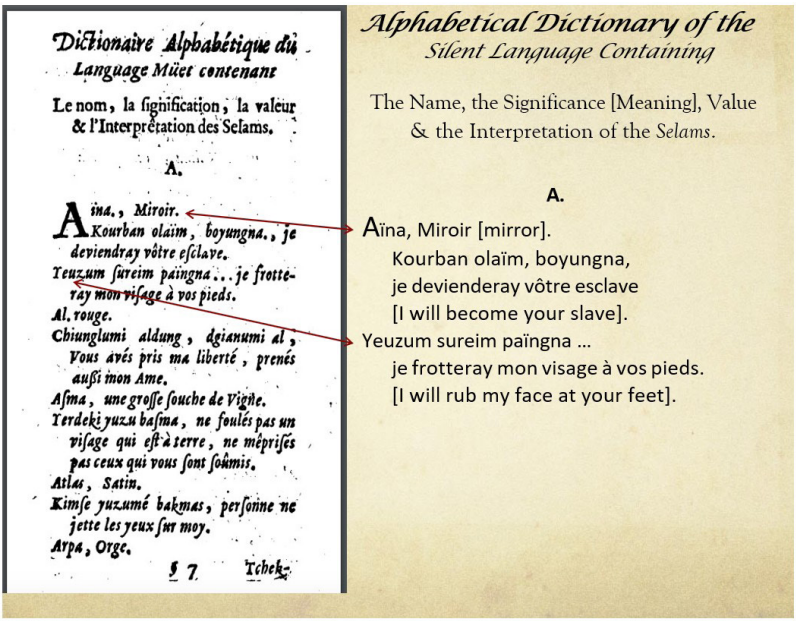
2. THE PRACTICAL APPLICATION OF SUCH NON-VERBAL COMMUNICATION IN A 1688 *HISTOIRE GALANTE*

2.1. *THE VEHICLE OF THE* HISTOIRE GALANTE *UP TO THE INTRODUCTION OF THE* LANGAGE MÜET

The Wolfenbüttel material, as the 2020 presentation documented in great detail, was used in two publications that appeared in Holland in 1688. One of them – of greater interest here – replicates the title of the manuscript almost to the letter.[5] Its author – using a pseudonym that has only recently been solved – opened the small *Lettres muettes* book with a detailed description of the "language of symbols" followed by an alphabetical dictionary of this "silent language" (**Fig. 3**) that is needed for the actual compositionand use of *Selam*s. After these preliminaries the author finally presented a novelette with the promising title, *Histoire Galante* – by 17th-century standards a rather intriguing story.

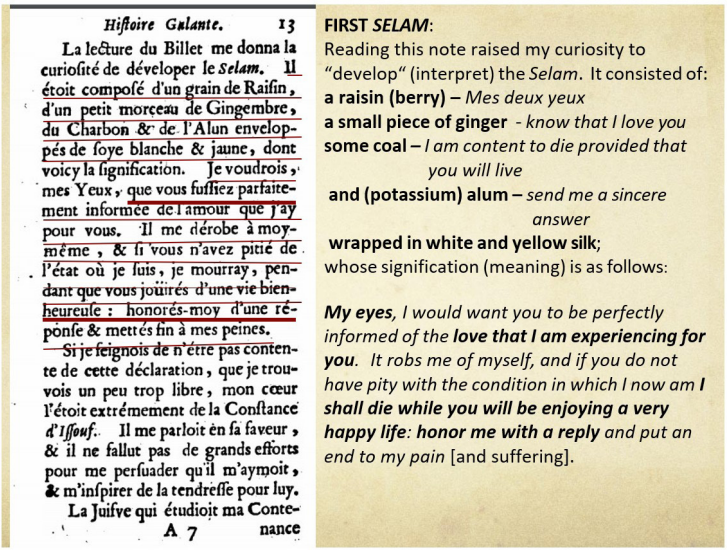
[5] Le Sieur D. L .C. (= Duvignau de Lissandre, Chevalier). *Le Language [sic] müet ou l'Art de faire l'Amour sans parler, sans écrire & sans se voir.* Middelbourg: Horthemels, 1688; Amsterdam, [1690?]. The "Histoire de Youssuf-Bey et de Gul-Beyaz" is featured as the opening segment in *Le Language müet*, pp. 1-44. The small book is available at URL: https://books.google.de/books?id=g-tmAAAAcAAJ&printsec=frontcover&hl=de&source=gbs_ge_summary_r&cad=0#v=onepage&q&f=false (accessed 17/03/2022).

Figure 3: Beginning of the "Alphabetical Dictionary of the Silent Language" in the 1688 imprint titled, *Le Language müet*.



This *Histoire* becomes the ideal vehicle for a goodly number of *Selam* exchanges between the two young protagonists, Issouf and Gulbeas ("White Rose"). They had gotten to know each other in a close-knit quarter of Istanbul and were enjoying their rather restricted company when suddenly Gulbeas was given by her master to the *Sultana Validé*, the mother of the reigning Sultan, and became virtually inaccessible in the *Harem*. Issouf – desperately longing for Gulbeas – finally managed to engage the services of one of the Jewish women who were catering to the needs of the ladies in the *Harem*, passing through the gates of the *Seraglio* more or less unchecked to bring them rare fruit, toiletries and other necessities. Boullaster suggested to Issouf that he prepare a *Selam* for Gulbeas that would express his overboarding feelings (**Fig. 4**); she would carry a box with the small items making up this and later *Selam* messages, and hopefully bring back Gulbeas' similar *Selam* responses.

Figure 4: The first *Selam*-message.



Hiſtoire Galante. 13

La lecture du Billet me donna la curioſité de développer le *Selam*. Il étoit compoſé d'un grain de Raiſin, d'un petit morceau de Gingembre, du Charbon & de l'Alun envelopés de ſoye blanche & jaune, dont voicy la ſignification. Je voudrois, mes Yeux, que vous fuſſiez parfaitement informée de l'amour que j'ay pour vous. Il me dérobe à moy-même, & ſi vous n'avez pitié de l'état où je ſuis, je mourray, pendant que vous joüirés d'une vie bienheureuſe : honorés-moy d'une réponſe & mettés fin à mes peines.

Si je feignois de n'être pas contente de cette déclaration, que je trouvois un peu trop libre, mon cœur l'étoit extrémement de la Conſtance d'*Iſſouf*. Il me parloit en ſa faveur, & il ne fallut pas de grands efforts pour me perſuader qu'il m'aymoit, & m'inſpirer de la tendreſſe pour luy.

La Juifve qui étudioit ma Conte-

A 7 nance

FIRST *SELAM*:
Reading this note raised my curiosity to "develop" (interpret) the *Selam*. It consisted of:
a raisin (berry) – *Mes deux yeux*
a small piece of ginger *- know that I love you*
some coal – *I am content to die provided that you will live*
and (potassium) alum – *send me a sincere answer*
wrapped in white and yellow silk;
whose signification (meaning) is as follows:

***My eyes**, I would want you to be perfectly informed of the **love that I am experiencing for you**. It robs me of myself, and if you do not have pity with the condition in which I now am **I shall die while you will be enjoying a very happy life**: **honor me with a reply** and put an end to my pain* [and suffering].

This non-verbal – and also not written – exchange (shown here in a 19th-century lithograph) (**Fig. 5**) opened lines of communication that culminated in a carefully engineered encounter of the two lovers, albeit at a distance: With the help of a palace gardener Issouf managed to tend to plants in the garden under a window that allowed Gulbeas to see him nearby.

Figure 5: 19th-century lithograph of a lover handing a *Selam*-message to his beloved.



2.2. *THE EXCURSUS WITHIN THE* HISTOIRE *DESCRIBING THE* LANGAGE MÜET *OR "SILENT LANGUAGE"*

Since the window was close to the *Validé's* apartment the lovers did not dare express their feelings in words, as would be expected, and they resorted to what the author called "*Langage müet*" or, in another context, "*langage par signes*" (sign language) (**Figs. 6+7**).[6] The novelette contains such a precise definition of this means of communication – hitherto completely unknown outside of Turkey – that its translation may serve as a concise explanation of this kind of non-verbal exchange, in particular since it will lead to the main concern of this presentation, the discussion of the *Langage muet* at the Sultans' court: "The eyes, the movements of the face, the signs of the fingers, and the gestures expressed more than what the most talkative speech could have accomplished [...]" (*Histoire Galante*, p. 26). This sign language, as it can be called (certainly in one way or another anticipating modern-day sign language used in communication with the hearing impaired), had been used and taught at the Ottoman courts long before its 1688 novelistic exemplification. As such this type of language as perfected by the "Mutes" – to use this shorter term instead of "deaf mutes" or, more recently, "deaf and mutes" – is totally different from the non-verbal exchanges by means of *Selam* messages presented in the Wolfenbüttel manuscript. And while Gulbeas' and Issouf's mastery of this complicated system might once more border on a miraculous coincidence, chances that they had learned the *Langage muet* are nonetheless quite plausible since the system had in fact been used and disseminated for quite some time by eunuchs inside the *Seraglio.*

[6] Wikipedia, "Ottoman Sign Language," URL: https://en.wikipedia.org/wiki/Ottoman_Sign_Language (accessed 30/03/2022). The original illustrations are taken from the National Library of Sweden, Rålamb Costume Book, fol. 94. http://ds.kb.se/?mapp=5&fil=draktbok/94. Reference in Kristina Richardson: "New Evidence for Early Modern Ottoman Arabic and Turkish Sign Systems." In: *Sign Language Studies*, vol. 17, no. 2 (Winter 2017), pp. 172-192, here p. 179, where the following historical overview is given.

Figures 6+7: Two of the Sultan's "Mutes" demonstrating (their) sign languages as shown in an 18th-century Italian manuscript.





3. A HISTORICAL OVERVIEW OF THE DEVELOPMENT AND SIGNIFICANCE OF THIS SIGN LANGUAGE AT THE OTTOMAN COURTS

Sign language at Ottoman courts has been associated with mutes – in other words, persons who were either born deaf or had lost their speech early in their lives – since at least the reign of Mehmed II (regn. 1451-1481).[7] Many of the elements manifested in court protocol go back to a system of seclusion that dates back to the eighth century, to the time of the Abbasid Caliphate. These rulers began to withdraw behind the palace walls, and during rare public audiences the caliph would sit behind a black curtain. Silence reigned supreme, and by elaborating on such a tradition of seclusion the Ottoman sultans may well have adopted such ceremonies to recall the grandeur of the caliphate. By the time of the reign of Sultan Süleyman I, "the Magnificent" (appr. 1495/1520–1566) a system of signing was certainly in use, necessitated by such highly valued silence, which led to the use of a noiseless communication system. By the 1580s, the court dwarves and *dilsiz* (Mutes) had their own living quarters in Topkapı Palace. In 1584 or 1585 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."[8] Based on this

[7] For the following see M. Miles: "Signing in the Seraglio: mutes, dwarfs and jestures [*sic*] at the Ottoman Court 1500-1700." In: *Independent Living Institute (ILI) "Library", 2000*: URL: www.independentliving.org/docs5/mmiles2.html (accessed 17/03/2022). For the historical reference and further documentation see Amelia Smith: "The Secret Sign Language of the Ottoman Court." In: *Jstor Daily Newsletter,* 13/12/2017. URL: https://daily.jstor.org/the-secret-sign-language-of-the-ottoman-court/ (accessed 17/03/2022).

[8] Johannes Leunclavius: *Annales Sultanorum Othmanidarum* [Annals of the Ottoman sultan]. Frankfurt: apud Andreae Wecheli heredes, Claudium Marnium & Ioannem Aubrium, 1588, 170. M. Miles' quotation is taken from Miles, "Signing" (see f.n. 5), p. 128.

testimony, M. Miles has determined in his exhaustive analyses that "[t]he mutes used a signing system that was already well developed in 1583," a conclusion that has generally been accepted.

At the same time there was a darker side to the employment of these Mutes: Early on they were used as the Sultans' henchmen or executioners since they would not be able to discuss such heinous actions. In 1554, the Habsburg diplomat Ogier Ghiselin de Busbecq reported the murder of Prince Mustapha in the presence of his father, Sultan Süleyman, when "certain mutes [...] – strong and sturdy fellows – [...] had been appointed as executioners."[9] Beyond that the rulers soon realized the advantage of the Mutes' deafness as they could not divulge any confidential matters of state brought up in their presence, which virtually assured them to become part of the innermost circle at Ottoman courts, especially in the 16th and 17th centuries. By the 1660s Paul Rycaut, secretary of the English ambassador at the Porte, characterized this sign language at the Sultan's court rather extensively:

Besides the Pages, there is a sort of Attendants to make up the *Ottoman* Court, called *Bizebani* or *Mutes*; men naturally born deaf, and so consequently for want of receiving the sound of words are dumb [...]. In the day time [...] they learn and perfect themselves in the language of the *Mutes*, which is made up of several signs in which by custom they can discourse and fully express themselves; not onely to signifie their sense in familiar questions, but to recount Stories [...], and what else may be capable of being expressed by the Tongue. [...] But this language of the *Mutes* is so much in fashion in the *Ottoman* Court, that none almost but can deliver his sense in it [= that virtuallyevery one of them can express himself well], and is of so much use to those who attend the Presence of the Grand Signior, before whom it is not reverent or seemly so much as to whisper (**Fig. 8**).[10]

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[9] C. T. Forster and F. H. B. Daniell, eds. and transl.: *The Life and Letters of Ogier Ghiselin de Busbecq*. London: Kegan Paul, 1881. 2 vols. Vol. 2, 117-118, quoted in Miles, "Signing" (see f.n. 5). – Mutes as executioners were sometimes at great risk themselves, as John Sanderson reported in a 1595 letter: "Sultan Mahemett [Mehmet III, regn. 1595-1603] [had] his 19 sonns [...] strangled in their brothers presence [...]. The 4 muti (though by commandement} which murthered them weare also strangled." John Sanderson: *The Travels of John Sanderson in the Levant 1584-1602* [...]. Sir William Foster, ed. London: Hakluyt Society, Series II, Vol. LXVII, 1931. Quoted in M. Miles: *Deaf People, Sign Language and Communication, in Ottoman and Modern Turkey: Observations and Excerpts from 1300 to 2009. [...] Independent Living Institute (ILI) "Library,"* rev. internet publication, July 2009. URL: www.independentliving.org/miles200907.html (accessed 17/03/2022). The quote is accessible under the years "1594-1600." Miles' extensive publication is still the authoritative collection of relevant sources for the time period under consideration here. Another important source for the position of Mutes at the Sultans' courts is Ayse Ezgi Dikici: *Imperfect Bodies, Perfect Companions? Dwarfs and mutes at the Ottoman court in the sixteenth and seventeenth centuries.* M.A. Thesis. Istanbul: Sabancı University 2006.

[10] Paul Rycaut: *The History of the Present State of the Ottoman Empire* [...]. London: J. D., 1667; reprint New York: Arno Press, 1971, 34-35. Quoted in Sara Scalenghe: *Disability in the Ottoman Arab World 1500-1800*. Cambridge: Cambridge Univ. Press, 2014, 21-22.

Figure 8: Two “Mutes” communicating – taken from Eberhard Werner Happel’s 1688 *Thesaurus Exoticorum.*



It goes without saying that any exchange in such a sign language automatically has the potential for secret exchanges as long as others do not master it – cryptologic communication was a feature of primary importance. As it turns out the *langage muet* became so prestigious since any use of speech was virtually forbidden in the presence of the Sultans that all courtiers and officials who needed to interact with the rulers asked for instruction in this sign language, as Rycaut suggested. Another diplomat, the Italian Ottaviano Bon – representative of the Republic of Venice from 1604 to 1607 who had contacts with women from Venetian territories in the Sultan’s *Harem* and gained some inside knowledge – reports that “discourse [...] by nods and signs [... was] also used amongst the Sultanaes [*sic*] and other the Kings Women: for with them likewise there are divers dumbe women, both old and young.”[11] At the same time, a French traveler gives perhaps the earliest comprehensive account of the *langage par signes* that is translated

[11] Ottaviano Bon: *A Description of the Grand Signor’s Seraglio* [misattributed to Robert Withers]. In: Samuel Purchas, ed. *Hakluytus Posthumus*, vol. IX. Glasgow: MacLehose, 1905. – The presence of deaf women in the Seraglio early on – albeit in this instance for questionable purposes – is documented by Domenico Hierosolimitano, between about 1578 and 1589 one of Sultan Murad’s III physicians, who reported that “in that section of the rooms where [the Grand Turk] is served by men, there are [...] the rooms for the mutes, thirty in number, all shut up in a court [...]. Often the Turk amuses himself alone with them, and sometimes he lets them walk through the great garden, and to some of them he gives the convenience of a room next to his (and) of a female mute for (their) use for a certain time” (my italics). Domenico’s Istanbul, ed. Geoffrey Lewis. Warminster: E. J. W. Gibb Memorial Trust 2001, 19, quoted in Miles: Deaf People (see f.n. 7), accessible under the years “1580s”.

here, and which mentions for the first time that there may have been a system of signs for use at night:

[...] they make convey to each other with signs of the body, the left and right hands, by spitting, and by other signs what they want, even to the members of the court, who use this silent language in order to communicate with them, and what is all the more admirable is that they not only make themselves understood during the day *but also at night, without any vocal noise, but simply by the touch of their hands and of other parts of the body* [...][12] (my italics).

The fact that a foreign diplomat – Cornelius Haga, the first envoy of the States General of the Netherlands – in the 1630s welcomed the Mutes to his residence accounts for the high esteem in which they were held:

[that he] did once invite all those Mutes to a Banquet [...] where though there was not a syllable heard yet they did exchange several discourses, as is usual at other Treats, which the Embassadour understood by an Interpreter on both sides by whose assistance he himself did discourse with the Mutes upon all subjects."[13]

These early – though rare – eyewitness accounts of western visitors to the Porte may suffice to highlight the importance of the Mutes at various Sultans' courts and the rulers' increasing reliance on their services in all but the highest matters of statecraft. By the end of the 17th century, when the *Histoire Galante* was published, it was not only the rule that women in the *Harem* – especially when they held an important position like Gulbeas, who had soon been appointed treasurer of the *Sultana*, but also well-educated young men with a projected need to use this *langage muet*—like Issouf – would try to acquaint themselves with this system. Despite all the poetic license that the author of the *Histoire Galante* has taken the interlude of the communication of the two lovers with the help of sign language half-way through the novelette is certainly plausible, as the numerous 16th- and 17th-century sources cited above have documented.

As intriguing as it might be to posit any connection of the fledgling development of sign languages in Spain around 1600 and their slow spread across central Europe by the end of the century, such influences are out of the question. The instruction of the deaf in Spain in the early 17th century has different roots, as we will see.

[12] "[...] ilz se font entendre par signe du corps des mains gauches & droictes, du crachat, & avec d'aultres signes l'un à l'aultre, ce qu'ils veulent, & mesme à ceux de la Cour, qui pour praticquer ordinairement avec eux, ont ce muet langage, ce qui est plus à admirer en cecy, c'est qu'ils ne se font *pas seulement entendre de iour, mais encor de nuict, sans bruit aulcun de voix, mais simplement par le toucher des mains, & aultres parties du corps* [...]" (my italics). Baron Henri de Beauvau: *Relation journalière du voyage du Levant* [...]. Toul: François Du Bois, 1608, 67-68, quoted in Miles: Deaf People (see f.n. 7), accessible under the year "1608."

[13] Anton Deusing: *Dissertatio de surdis, transl.* with some additions by George Sibscota as: *The Deaf and Dumb Man's Discourse* [...], 1670, rept. Menston: Scolar Press 1967, 48-49, quoted in Miles: *Deaf People* (see f.n. 7), accessible under the years "1612-1639."

4. A CONTRASTING OVERVIEW OF THE DEVELOPMENT OF SIGNS AND THEIR USE IN COMMUNICATION IN FRENCH AND CENTRAL EUROPEAN MONASTERIES FROM THE 9TH/10TH CENTURIES ONWARDS

When we contrast the sign language that the Mutes at the Ottoman courts had developed since at least the 15th century – which initially may not have been much more than self-defense as they needed to communicate amongst each other and, secondarily, with their surroundings – it is all the more significant that the signs that were created at central European monasteries had nothing in common with deafness: Around the 10th or 11th centuries, they were a *substitute* for the *spoken* language among the members of a congregation. These monks or nuns had never lost their hearing, but when they joined most religious orders as novices they had to take a vow of chastity – and of silence.[14] As early as the third century the founders of religious orders minimized the spoken word during meals at the refectory, and novices were encouraged to spend most of their days in quiet contemplation. In his collection of rules that became the governing principles of medieval orders St. Benedict of Nursia (480-547) recommended moderation in the use of speech, citing *Proverbs*: "In much talk thou shalt not escape sin" (Prov 10:19), and elsewhere: "Death and life are in the power of the tongue" (Prov 18:21). "Therefore," he continued, "because of the importance of silence, let permission to speak be seldom given to perfect disciples even for good and holy and edifying discourse."[15] Despite such admonitions Benedict thus does not enjoin strict silence, nor prohibit profitable or necessary conversation. And in the *Regulae Benedicti*, the set of 73 rules he proposed around 540 for the members of the monastery he founded on Monte Cassino in Central Italy, there was no initial mention of any gestures or hand signals during the extensive periods of silence in the daily routine of the cloisters. Nonetheless there are indications that Italian monks began using sign language at about the same time; finger alphabets – modern dactylology – were also in use early on. And at the turn of the 7th century the British Benedictine historian and theologian Bede (*Beda Venerabilis*, 672/73-735) described an early system for visual communication, but there is no convincing proof that it was used by religious communities where silence needed to be observed.[16]

[14] Villwock: " Gebärdensprache" (see f.n. 2), pp. 266-267.

[15] St. Benedict of Nursia: *The Holy Rule of St. Benedict. The 1949 Edition.* Transl. by Rev. Boniface Verheyen, OSB. Ch. 6, RB 6,4-5. URL: https://ccel.org/ccel/benedict/rule/rule (accessed 17/03/2022).

[16] See the analysis of Saint Bede's system by George Montgomery and Arthus Dimmock: *Venerable Legacy: Saint Bede and the Anglo-Celtic Contribution to Literary, Numerical, Manual Language.* Edinburgh: Scottish Workshop Publications, 1998, and the more recent article by Richardson: "New Evidence" (see f.n. 4), 173-174. She mentions "the next known finger alphabet" (after Bede), which was presented by Friar Cosma Rossellio in 1579, where he illustrated such an alphabet. However, it was not employed for the instruction of the deaf and was intended to be used as a mnemonic device instead: *Thesaurus artificiosae memoriae* [Treasury of Artificial Memory]. Venice: apud Antonium Paduanium, 1579, fols. 101v – 105r.

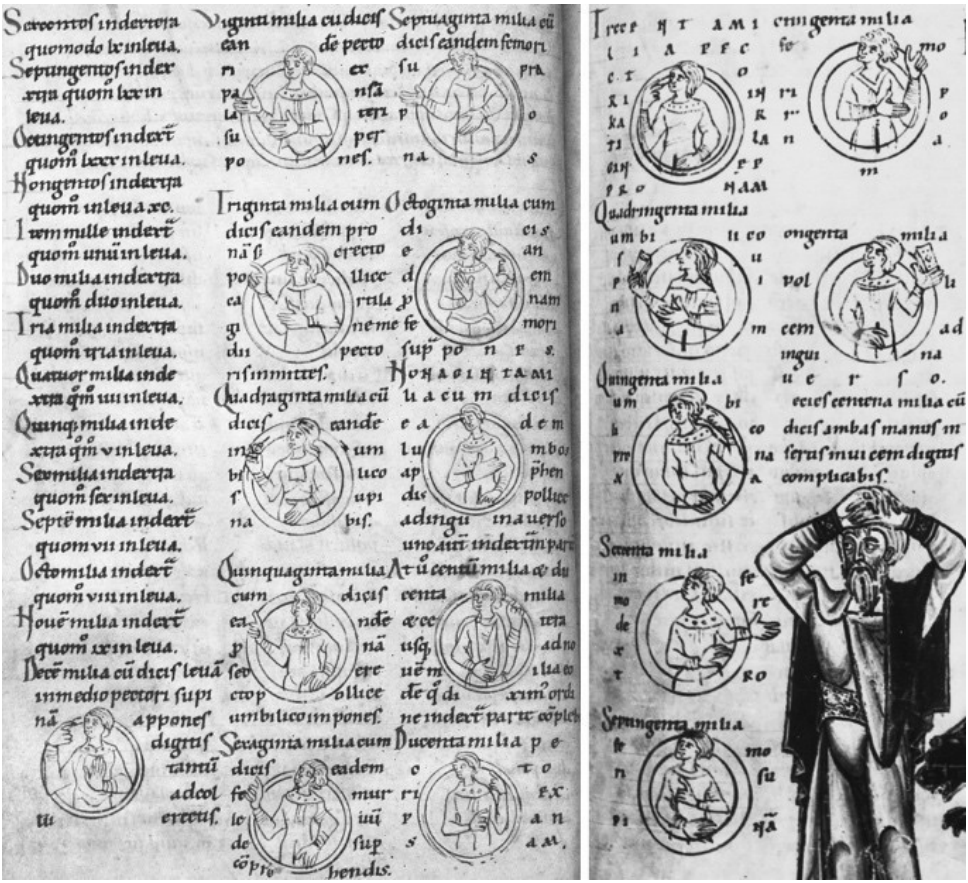
As some congregations were being reformed in response to the increasingly worldly behavior in the monasteries of the early Middle Ages the founders of such renewed orders – possibly aware of relevant writings such as Saint Bede's proposals for sign languages – recalled the great emphasis on silentness and quietude in the Old and New Testaments. The most important early reform originated in the French monastery of Cluny in Burgundy founded by Benedictine monks in 910. Its strict adherence to the *Regulae Benedicti* and its observance of St. Benedict's monastic motto of *ora et labora* – "pray and work" – may account for the *ora et labora* – "pray and work" – may account for the spread of Cluniastic reform ideas across parts of Central Europe within the next few hundred years. Along with this dissemination of monastic principles came a similar transmission of the first catalogs documenting signed communication amongst the Cluniastic monks; they are recorded as early as the second half of the 11th century.[17] Not all religious orders adopted this system: The Carthusian monks rejected the model from Cluny and developed their own method of signed communication that is still in use in the relatively few, extremely strict Carthusian monasteries where there is an almost total ban on any speech.

Other groups like the Francisan friars hardly ever used sign language;[18] such communities, often called mendicant or beggar orders, did not value silence as highly as the Benedictines or, in particular, the Cistercians. This order was named for St. Bernhard of Clairvaux (app. 1090-1153), who in 1113 entered the monastery of Citeaux near Troyes – and brought fame to the order of the "Cistercians" when he became abbot of Clairvaux a few years later. The Cistercians adhered to the Benedictine rules of Cluny even more rigorously and ascetically – and it is this strict observation that also entailed an expansion of the earlier Cluniastic catalog (**Fig. 9**), resulting in the most extensive list of signs of any religious order that is still in use to this day.

[17] For a critical edition of these early Cluniastic catalogs of communicative signs see Walter Jarecki, ed.: *Signa loquendi: die cluniacensischen Signa-Listen.* Baden-Baden: Koerner, 1981, zitiert in Radka Lomi^cková: "Zeichensprache in der Klausur im Wandel der Zeit (vom Mittelalter bis zur Gegenwart)." In: *Analecta Cisterciensia* 61 (2011), 100-121, here pp. 100-105.

[18] Richardson: "New Evidence" (see f.n. 4), p. 176, points out that while Franciscans had been in Istanbul since the 13th century and established a permanent mission in Aleppo in 1560, there is no evidence of Franciscans in the Ottoman Empire using sign language with their parishioners," referring to Paolo Girardelli: "Between Rome and Istanbul: Architecture and Material Culture of a Franciscan Convent in the Ottoman Capital." In: *Mediterranean Studies* 19, 1 (2010), 162–188.

Figure 9: An 11th-century Cistercian manuscript illustrating communication with hand signs.

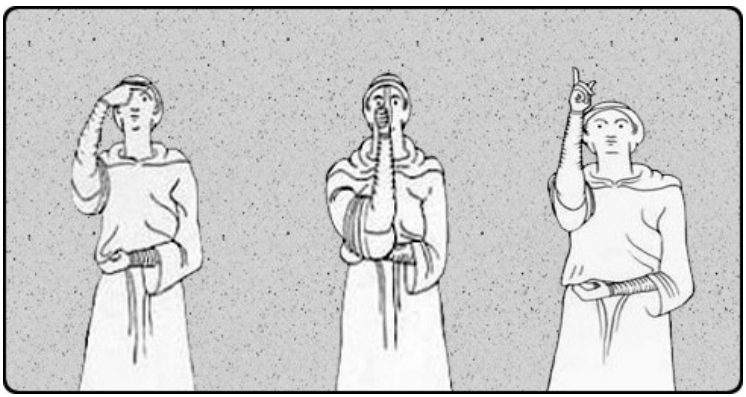


If we look back at the communication that the Mutes had created over the centuries at the Sultans' courts we can immediately see a fundamental difference between what might otherwise be potentially related systems: There is no extant catalog or even written account of individual signs used by the Mutes in the *Seraglio* – apart and beyond from the general and rather vague descriptions that have been quoted above there are hardly any specifics. Quite to the contrary, the Cistercian catalog – to refer to the documentation of the *Cistercian Sign Language*--is a listing of gestures with a short description of how such a sign is created and how it is presented – similar to a monolingual dictionary. To emphasize the high value of silentness the catalog begins with the following preface: "In the Cistercian order the art of sign language leads to the observation of silence that is required in the *Regulae Benedicti*."[19]

[19] "Ars 1-2: Artem signorum reperit cistericius ordo, ut monachi regula precepta silentia servent." Walter Jarecki: "Die ‚Ars signorum cisterciensium' im Rahmen der metrischen Signa-Listen." In: *Revue bénédictine* 98 (1988), 329-399, here p. 356, quoted in Lomi^cková: "Zeichensprache" (see f.n. 15), p. 101. The following example is taken from Lomi^cková, p. 101.

One example from this list may suffice: For “bread” (*panis*): “Make a circle with both thumbs and the two fingers next to them [index fingers] for we should not attribute 21st-century linguistic standards to such lists it is intriguing to note that over time monks or nuns not only modified signs to suit their local needs but also added new ones, depending on a monastery’s location, agriculture, and other parameters. Ultimately this accounts for the elimination of some signs and the surprisingly simplistic creation of new ones, such as the sign for “(air)plane,” namely METAL + WING, or even “bulldozer” made up of BULL and PUSH.[20] The *SCistercian sign Language*—like any living language, for that matter—shows an astounding flexibility and in some monasteries was supplemented with finger alphabets and number systems (**Fig. 10**).

Figure 10: A modern rendering of sign language using finger alphabets and number systems.



Nonetheless since the Protestant Reformation and, in particular, in the 20th century the various reforms in the Catholic church entailed greater tolerance of the spoken word in a wider array of monastic settings. This means that today solely the so-called Trappist order – the “Cistercian Order of the Strict Observance” similar to the Carthusian monks that we have already encountered – adheres to an elaborate sign language; Trappist lists may encompass up to 800 signs.

Before considering the influence of monastic sign languages on the instruction of the deaf toward the end of the 16th century two elements of such signed communication should be mentioned: Signs were used among monks in particular when they felt the need for information exchanges that had to be shielded from outsiders, especially from the numerous students in the Latin schools such monasteries offered to the local communities: At that point the signed language fulfilled a *cryptological* purpose similar

[20] Examples taken from Villwock: “Gebärdensprache“ (see f.n. 2), pp. 270-275. – The following illustration shows medieval monks using sign language. URL: http://www.weirduniverse.net/blog/comments/sign_language_a mong_medieval_monks_sworn_to_silence (accessed 17/03/2022).

to the Mutes' communication at the Ottoman Porte. And this need for secret exchanges may also account for the fact that the *Cistercian Sign Language* was never *taught* to the student population, which could further protect closed communication among the members of the religious order.

5. THE DEVELOPMENT OF THE COMMUNICATION FOR THE DEAF (MUTES) FROM SUCH MONASTIC SIGN LANGUAGES

5.1. HISTORICAL BACKGROUND OF THIS SUBJECT MATTER FROM ANCIENT TIMES TO THE 16TH CENTURY

It is tempting to preface this section with quotes from Plato's *Cratylus* where we find a perfect example of Greek philosophical thought on language and communication:

> And let me ask another question: if we had no faculty of speech, how should we communicate with one another? Should we not use signs, like the deaf and dumb? The elevation of our hands would mean lightness; heaviness would be expressed by letting them drop. The running of any animal would be described by a similar movement of our own frames [...].

Again, in a slightly different manner:

> Suppose that we had no voice or tongue, and wanted to communicate with one another, should we not, like the deaf and dumb, make signs with the hands and head and the rest of the body?"[21]

And while we may thus assume that the deaf used sign language as early as the 4th century B.C., Plato's *Cratylus* – and much of his thinking – was not accessible in translation until the collapse of the Byzantine empire in the 15th century. On the contrary the view of deafness held until the Protestant Reformation was that persons who could not speak or hear were uneducable according to the prevailing Aristotelian concept that dominated Catholic Scholastic thinking but was also reflected in the Jewish Talmud, where "a deaf-mute [was considered] not a responsible person, and, like a minor and an imbecile, he [could not] acquire property [...]."[22] The fate of deaf people was seen in the same vein in the Catholic church, which followed St. Augustine – and ultimately the Apostle Paul's rhetorical question: "How are they to believe in Him [God] of whom they have never heard?" *(Rom*. 10:14), or differently stated, "Faith comes by hearing" (*Rom.* 10:17). Accordingly, the deaf could not learn and, consequently, not be taught and were

[21] Plato: *Cratylus*. Transl. by Benjamin Jowett. Project Gutenberg E-texts. URL: www.gutenberg.net/etext99/crtls10.tx (accessed 24/03/2021), quoted in Robert B. Ruben: "Sign language: Its history and contribution to the understanding of the biological nature of language." In: *Acta Oto-Laryngologica* 125 (2005), 464-467.

[22] *Babylonian Talmud:* Tractate Baba Mezi'a Baba Mezi'a 8a, Footnote 11, taken from: www.come-and-hear.com/babamezia/babamezia_8.html, quoted in Ruben: "Sign language" (see f.n. 21), p. 465. Quotation from the Apostle Paul in Susan Plann: *A Silent Minority: Deaf Education in Spain, 1550-1835.* Berkeley, CA, *et al.*: Univ. of California Press, 1997.

thus excluded from eternal salvation. Nonetheless, this practice was beginning to be discussed for a broader audience: In a 1511 revised version of a 1487 manual of Catholic confessional practice we read: *Mutus per signa potest petere sacramenta et ei sunt danda* – "a deaf person may request the sacraments, and they are to be administered to him."[23]

Martin Luther approached such perceived disabilities forthright. He had no doubt that God could make Christians of deaf people as well as anyone else and asserted that he knew this from personal experience. "They deserve the same things that we do," he said; "we should leave to the Holy Spirit what is his work and not refuse him what he demands." (*LW* 35: 110; *WA* 6: 377). In fact he posited, "It may be that inwardly they [the deaf people] have a better understanding and faith than we" (*LW* 35: 110-111; *WA* 6: 377).

5.2. FIRST ATTEMPTS AT AN INSTRUCTION OF THE DEAF IN 16TH-CENTURY SPAIN

Although we have seen that the perception of the deaf may indeed have been changing at the turn of the 16th century, it was the personal tragedy of members of the Spanish nobility that had forced them to explore the education of such unfortunate persons even earlier. Finally a monk from the contemplative order of St. Jerome was entrusted with the instruction of a young nobleman, Juan Fernández Navarrete (1526-1579), whom he also introduced to the pictorial arts.[24] Navarrete, who had lost his hearing at age three, managed to communicate so well that he was able to travel to Italy to perfect his painting skills (**Fig. 11**)[25] – all the more since he never learned how to speak, which earned him the name "El Mudo" – the mute one. Some time upon his return he was appointed court painter by Philip II, who entrusted him with the decoration of his Escorial palace.

[23] Angelus (Carletus) De Clavasio: *Summa Angelica* [...], 1487; 1511 version as: *Summa Angelica: venerabilis in Christo patris fratris angeli de clauasio* [...]. Venice: Paganini, fol. CCLIII. See M. Miles: "Martin Luther and Childhood Disability in 16th Century Germany: What did he write? What did he say?" *Independent Living Institute (ILI) "Library*," 2005, rev. 2009, no pages. URL: www.independentliving.org/docs7/miles2005b.html (accessed 17/03/20221). The subsequent quotes from Martin Luther's editions are also taken from this article.

[24] For this account see Plann: *Silent Minority* (see f.n. 22), 19-21, and Susan Plann: "Pedro Ponce de León. Myth and Relality." In: John Vickrey van Cleve, ed.: *Deaf History Unveiled. Interpretations from the New Scholarship*. First International Conference on Deaf History, 1991. Washington, D.C.: Gallaudet Univ., 1993, 1-12, here pp. 9-10.

[25] Juan Fernández Navarrete, "Abraham and the three Angels," National Gallery of Ireland. Source: Wikimedia, File:Abraham i els tres àngels-Fernandez Navarrete.jpg (accessed 17/03/20221).

Figure 11: Juan Fernandez Navarrete, “Abraham and the Three Angels”.



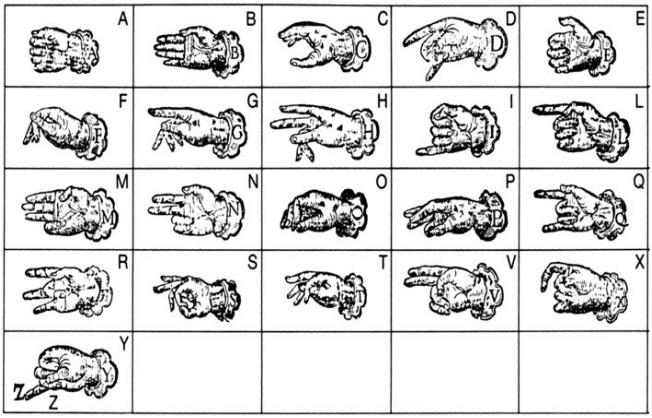
At about the same time Juan de Velasco, the lord of Oña – after the Reconquista a wealthy town in the north of the Province of Burgos – and Juana Enriquez de Rivera were consanguineous, in other words, were too closely related to be married – a common practice among the Spanish nobility at that time.[26] They had nine children, four of whom were born deaf. The two deaf brothers, Francisco and Pedro de Velasco, entered the monastery of San Salvador at Oña in 1547-1548. Although we may assume that the two came with a limited stock of “home-made signs” their parents decided to entrust an experienced Benedictine monk, Pedro Ponce de León, with their education. The Velascos assumed that De León would have recourse to the roughly 360 entries available in the monastery’s sign language catalog; he may have homogenized them with the Velasco family gestures, may have introduced a finger alphabet but did not yet include lip reading. Such digital alphabets were not illustrated until 1593 in a Spanish tract for the consolation of the sick although such hand communication may have been popularly used much earlier (**Fig. 12**).[27] De León’s instruction turned out to be so successful that Pedro de Velasco was

[26] For the following see Gerhard F. Strasser: “‘Der stumme Spanier’ oder Eberhard Werner Happels Berichte über die Taubstummen.“ In: Volker Bauer et al., eds.: *Frauen – Bücher- Höfe: Wissen und Sammeln vor 1800 / Women – Books – Courts: Knowledge and Collecting before 1800.* Essays in Honor of Jill Bepler. Wolfenbütteler Forschungen 151. Wiesbaden: Harrassowitz, 2018, 45-59, here pp. 48-55, and also Ruben: “Sign language“ (see f.n. 21), pp. 465-466.

[27] The book was published in Madrid by Melchior de Yebra in 1593: *Libro clamado Refugium Imfirmorum* [...]. Madrid: Luys Sanchez. Illustration and reference taken from Hans Werner: *Geschichte der Taubstummenprobleme bis ins 17. Jahrhundert*. Jena: Fischer, 1932, pp. 244-247 and 153-157.

ordained a priest a few years later. Francisco died young, but after the two boys had left the monastery De León took on the instruction of the deaf sisters, who reached a level of proficiency in sign language that enabled them to enter a nunnery.[28]

Figure 12: Earliest published hand alphabet from a 1593 book by Melchior de Yebra.



The success of Pedro Ponce de León was so well known in the Velasco family that two generations later the newly widowed Duchess of Frías engaged the services of Manuel Ramírez de Carrión (1579-1652) as an instructor of her son: From 1615 to 1619, Luis Fernández de Velasco, who had lost his hearing at age three, became so proficient with the help of Carrión's methods (which included the use of finger spelling and the teaching of the letters of the alphabet by their sounds and not their names) that he could take communion since, as Carrión wrote in his 1622 account, Luis "reads, writes, speaks and thinks so well that his only handicap is that he cannot hear, as he often says, 'I am not mute, only deaf'."[29] Taking the first communion was a prerequisite for Luis's classification as a "legal person" – we recall how for the longest time deafness had excluded such persons from any legal and financial responsibilities.[30] With her son's symbolic first communion his mother could become regent of the duchy until his coming of age.

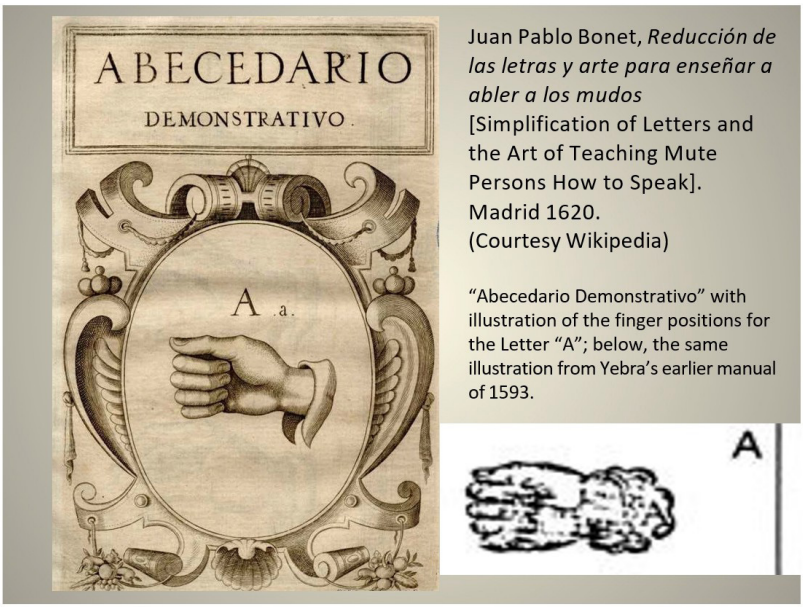
[28] After having educated other members of the Spanish nobility Pedro Ponce de León recorded his method in a manuscript entitled, *Doctrina para los mudos sordo.* It was known to exist until 1821 but is now lost. See Ruben: "Sign language" (see f.n. 21), 466.

[29] Manuel Ramírez de Carrión: *Maravillas de naturaleza.* Madrid 1622, Montilla: J. B. de Morales, 1629, fol. 89. Carrión gives an account of his success as an instructor of several deaf members of the nobility but does not divulge the methods he used, which he wanted to keep a secret – which were described in a 1623 book published by a friend of his. See Teresa L. Chaves and Jorge L. Soler: "Manuel Ramírez de Carrión (1579-1652) and his Secret Method of Teaching the Deaf." In: *Sign Language Studies* 8 (1975), 235-246, and Strasser: "'Der stumme Spanier'" (see f.n. 26), 48-50.

[30] The question of legal capacity of the deaf – discussed in the passage taken from Talmud quoted earlier (p. 10) – in 1550 was discussed in a treatise that did, however, not deal with the instruction of such persons: Álvaro López Núñez: *Tratado legal sobre los mudos por el Licenciado Lasso; con un estudio preliminar y notas* [...]. Madrid: Sobrinos de la Suc. de M. Minuesa de los Ríos; Alicante: Biblioteca Miguel de Cervantes, 1919. See M.ª del Carmen Gómez and Ana Belén Molina: "Maestros españoles pioneros en la educación específica de alumnos con pérdida auditiva." In: *Miscelánea Comillas: Revista de Ciencias Humanas y Sociales* vol. 76, no. 149 (2018), 555-566.

After Carrión was recalled to his former employer in Madrid, another tutor, Juan Pablo Bonet (1579-1633) continued the instruction of Luis. Bonet had been hired when Carrión arrived, and both had spent four years under the same roof. During this time Bonet had secretly observed the instruction of young Luis and had gained enough experience not only to continue this course but in 1620 also to publish the first handbook on the teaching of the deaf, *Reducción de las letras* [...][31] [Simplification of the Letters and the Art of Teaching Speech to the Deaf]. Despite Bonet's intellectual plagiarism the book became the first to disseminate the instruction of the deaf by means of finger spelling as illustrated in the famous *Abecedario Demonstrativo* (**Fig. 13**), all the while contradicting Carrión's use of signs.

Fig. 13: Bonet's 1620 illustration of finger spelling with the earlier example taken from Yebra's 1593 tract.



5.3. EARLY DISSEMINATION OF THE SPANISH ACCOMPLISHMENTS IN ENGLAND AND CENTRAL EUROPE

And while a friend of Carrións' finally published his methods in 1623[32] Bonet's book enjoyed priority. This is important since in 1623 Kenelm Digby (1603-1665) accompanied the Prince of Wales to Spain as a young courtier. In Madrid he met both the 13-year-old Don Luis, whose accomplishments astounded him when he saw how adept he was at

[31] Juan Pablo Bonet: *Reducción de las letras y arte para enseñar a abler los mudos.* Madrid: Abarca de Angulo, 1620. Illustration of the Abecedario Demonstrativo on pp. 130-131.

[32] Juan Batista de Morales: *Pronunciaciones generales de lenguas, ortografía, escuela de leer, escrivir y contar y significación de las letras en la mano*. Montilla, 1623. Das Imprimatur für Morales' Buch lag schon im August 1620 vor, so dass keineswegs davon ausgegangen werden könnte, dass Morales bzw. Carrión eventuell von Bonets Publikation profitiert hätten.

lip reading, and how capable in many ways. Digby also met Carrión, who had resumed the young man's education after Bonet's rather unsuccessful interlude. Twenty years later, in 1644 and 1645, Digby – now a successful diplomat and scientist – published his encounter with the Spanish instruction for the deaf, based in great part on his diaries: *Two Treatises: In the one of which, The Nature of Bodies; In the other, The Nature of Mans Soule is looked into* [...].[33] Just as much as Bonet's and Morales'/Carrión's books paved the way for a broader discussion of the plight of the deaf in Spain in the 1620s, Digby's mid-century Paris and London publications began to raise awareness of this physiological phenomenon in these countries and beyond.

Let me return to the much-neglected concern of this presentation – touched upon in several instances, though –, namely to the connection between the instruction for the deaf and cryptology. While we have seen that the approaches in Spain could be so successful that even the priesthood could become accessible, there is one – final – example of a Spaniard that absolutely stunned the Roman clergy in the 1650s. Pedro Bermudo (1610-1664) was deaf but had received such excellent instruction that he became the "General" (highest representative) of the Spanish Jesuits in Rome. In 1653 he published a broadsheet entitled, *Arithmeticus Nomenclator* [...] that proposed a mathematical-combinatorial system to be used both as a universal language and, in an inversion of his argumentation, for secret communication. The subtitle of this lost broadsheet needs to be quoted in translation: "The author of this language – *lo and behold* – is a certain Spaniard who (as a matter of fact) is reported *to be mute*" (my italics).[34]

Kaspar Schott, a Jesuit to whom we owe the detailed analysis of Bermudo's system of a universal language that – in reverse – could be used for cryptological purposes, confirmed the Spaniard's deaf-muteness and enlisted Kenelm Digby's book for further reference in the subject matter.[35] Bermudo's system divided the elements of

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[33] First published in Paris in English in 1644: Printed by Gilles Blaizot; London edition, 1645; Latin translation in Paris, 1651, and Frankfurt, 1654, 2nd, expanded edition Frankfurt, 1655.

[34] The extensive title is programmatic and worth quoting in full: *Arithmeticus Nomenclator, Mundi omnes nations ad linguarum & sermonis unitatem invitans. Auctore linguæ* (***quod mirêre***) *Hispano quodam, verè ut dicitur,* ***muto*** (my emphasis). The broadsheet is lost but was described in detail by another Jesuit, Kaspar Schott, in: *Technica Curiosa, sive, Mirabilia Artis libris XII comprehensa.* Nuremberg: Endter, 1664, 478-505. – Bermudo modified a linguistic system developed 120 years earlier by Jacobus de Silvestri: *Opvs novvm* [...] *pro cipharis* [...]. Rome, 1526. See Gerhard F. Strasser: "The Rise of Cryptology in the European Renaissance." In: Karl de Leeuw and Jan Bergstra, eds.: *The History of Information Security. A Comprehensive Handbook*. Amsterdam et al.: Elsevier, 2007, 277-325, here pp. 288-289 and 310-312.

[35] See above, p. 00/19. Schott used Digby's Latin translation: *Demonstratio Immortalitatis Animæ Rationalis* [...]. Paris: Villery; Iosse, 1651 and later editions. Several decades later, further, irrefutable proof of Bermudo's deafness was provided by Bishop Juan Caramuel y Lobkowitz – a linguist and cryptologist himself – who spoke of "P. Vermudus (hoc est vere Mutus) Hispanus, S.J." in: *Critica Philosophica* [.]. Vigevano: Konrad, 1681, 498. Cf. Gerhard F. Strasser: Lingua Universalis: *Kryptologie und Theorie der Universalsprachen im 16. und 17. Jahrhundert*. Wolfenbütteler Forschungen 38. Wiesbaden: Harrassowitz, 1988, 134-139.

the known world into 44 classes that may well have been influenced by arrangements from the instruction of the deaf. They ranged from "I. *Elementa*/Elements," "II. Heaven and Heavenly Bodies" all the way to "XLII. Prepositions," "XLIII. Persons" and "XLIV. Travels." The total vocabulary is limited to 1200 words and concepts. Within each of the 44 classes (shown in Latin numerals) a given word is identified in its place number with Roman numerals. Beyond that Bermudo indicated case, tense, and number with the help of a system of dots and accents, as the example quoted in Schott's analysis shows, namely the beginning of the Latin "Confession of Faith" (*Credo in unum Deum Patrem omnipotentem, factorem cæli et terræ* [...])):

XXXIX.$_{4}$ (*Credo*) XLII.$_{8}$ (*in*) III$_{1}$ .... (*Deum*
Patrem) XXXIII.$_{47}$ (*omni-*)
LX.$_{23}$ (*potentem*), XXXVI$_{17}$ (*creatorem*)
II$_{10}$ .., (*cæli*) XLI$_{15}$ (*et*) I.$_{21}$ (*telluris*) [...]

Even this brief example would show that the extremely limited vocabulary required recourse to synonyms (*creatorem* instead of *factorem*, *telluris* for *terræ*). Nonetheless the system – as invented in Bermudo's possible source and re-used in 1663 in a modification published in another Jesuit's mathematical-combinatorial work, Athanasius Kircher's *Polygraphia nova*[36] – permits the exchange of limited messages. It is obvious that the numerical codes transmitted could be used for the two diametrically opposed purposes that their authors implicitly suggested: The codes were conceived as a rudimentary exchange of messages, in Bermudo's example in Latin only, in the case of Athanasius Kircher's 1663 *Polygraphia nova* and its modified eight parallel word lists as a more universal communication in that many languages (**Fig. 14**). But these encoded messages could be cryptograms, as we shall see.

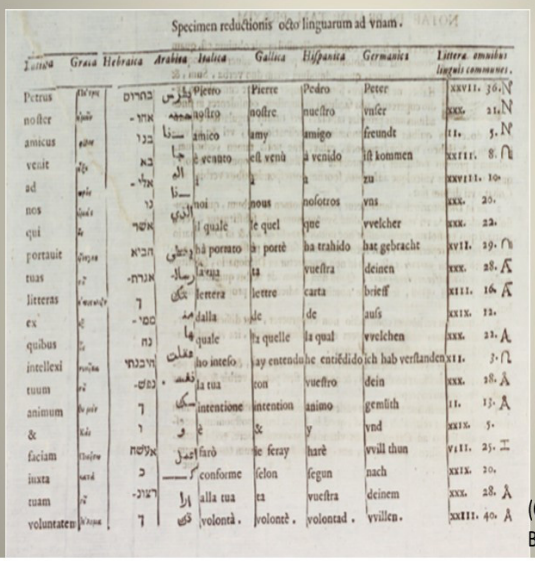
Such universal communication at a linguistically reduced level could only be assured, of course, if everybody had access to the necessary "codebook" – Bermudo's ephemeral broadsheet or a copy of Kircher's *Polygraphia nova*. A message encoded in any of the seven languages with the help of the signs and modifiers shown in the very right column could be sent to a recipient, who in turn could decode it – either in the original language or one of the other six. The mathematical-combinatorial code assured rudimentary universal linguistic exchanges.

[36] Athansius Kircher: *Polygraphia nova et vninversalis ex Combinatoria Arte Detecta.* Rome: Varesius, 1653. See also Strasser: "Rise of Cryptology" (see f.n. 34), 311-317.

Figure 14: Athansius Kircher's sample message encoded in seven different languages.

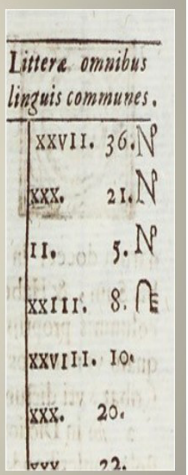
Athanasius Kircher, *Polygraphia nova et vniversalis* (1663).

The sample message, "Petrus noster amicus venit ad nos [...]" (Peter, our friend, came to [see] us) appears in seven additional languages. In the very last column (enlarged on the right) Kircher printed the transformation of each word into his universal character, replete with additional (grammatical/morphological) symbols when needed.



Specimen reductionis octo linguarum ad vnam.

Latina	Graeca	Hebraica	Arabica	Italica	Gallica	Hispanica	Germanica	Litera omnibus linguis communes.
Petrus		בחורים		Pietro	Pierre	Pedro	Peter	XXVII. 36.
noſter		אזו-		noſtro	noſtre	nueſtro	vnſer	XXX. 21.
amicus		בנו		amico	amy	amigo	freundt	II. 5.
venit		בא		è venuto	eſt venù	à venido	iſt kommen	XXIII. 8.
ad		אלי-		a	à	à	zu	XXVIII. 10.
nos		כו		noi	nous	noſotros	vns	XXX. 20.
qui		אשר		il quale	le quel	qué	vvelcher	XXX. 22.
portauit		הביא		ha portato	a porté	ha trahido	hat gebracht	XVII. 29.
tuas		אגרת-		tua	ta	vueſtra	deinen	XXX. 28.
litteras		ך		lettere	lettre	carta	brieff	XIII. 16.
ex		מסי-		dalla	de	de	auſs	XXIX. 12.
quibus		נח		quale	ta quelle	ta qual	vvelchen	XXX. 23.
intellexi		הרבנתי		ho intefo	ay entendu	he entédido	ich hab verſtanden	XII. 3.
tuum		כסי-		la tua	ton	vueſtro	dein	XXX. 28.
animum		ך		intentione	intention	animo	gemüth	II. 13.
&		ו		è	&	y	vnd	XXIX. 5.
faciam		אעשה		farò	je feray	harè	vvill thun	VIII. 25.
iuxta		כ		conforme	ſelon	ſegun	nach	XXIX. 20.
tuam		רצו-		alla tua	ta	vueſtra	deinem	XXX. 28.
voluntatem		ך		volontà.	volonté.	volontad.	vvillen.	XXIII. 40.



Littera omnibus linguis communes.

XXVII. 36.
XXX. 21.
II. 5.
XXIII. 8.
XXVIII. 10.
XXX. 20.
XXX. 22.

(Courtesy Herzog August Bibliothek, Fb 4° 52, S.

This same code could evidently be used for cryptographic communication, too – and Kircher specifically addressed this in Book II of his *Polygraphia nova*. Contrary to Book I, where he had prepared "a polyglot code in several languages," he re-used this system to create "a Trithemian cipher or open code," in other words, an open code following the suggestions first made by the German abbot Johannes Trithemius in the original *Polygraphia* of 1518.[37] While Kircher acknowledged the limited vocabulary available for such cryptologic exchanges he overlooked the fact that his additional symbols – just like Bermudo's dots and accents, for that matter – would facilitate the cryptanalysis of such an intercepted message. Still the advantage remains that such an encoded secret could be decoded in any of the languages shown.

6. CLOSING ARGUMENTS

In what certainly could be considered a *tour de force* we have seen the development of signed communication originally used by the Mutes at the Ottoman courts, a system that progressed over several centuries. While this sign language

[37] Johannes Trithemius: *Polygraphiæ libri sex* [...]. Basel: Haselberg [of Aia], 1518.

had initially been an utter necessity as far as these Mutes was concerned, who were born deaf and had no other way of communicating, its use expanded to a point that other members of the innermost circle of a Sultan's *Seraglio* acquired the sign language although they had never lost their hearing. After time an ever-widening group of court attendants, including female members of the *Harem*, became proficient in this means of communication – which, almost by definition, could also be used for cryptological purposes. In a somewhat unexpected development this intricate system even gained entrance into a charming late 17th-century novelette, where out of sheer necessity it assured perfect communication between two lovers in an otherwise rather compromising situation.

While the gradual development of a signed language in the Ottoman realm after the 15th century had initially been a necessity among persons who were born deaf or had lost their hearing at a very early age, a corresponding evolution in Central Europe occurred much earlier. Contrary to the increasing emphasis of Ottoman rulers on near-perfect silence in their presence the development of signed communication in western areas arose among cloistered groups solely for religious reasons: Monks – and later also nuns – who had never lost their auditory capacity observed Old and New Testament exhortations that suggested the godliness of silence, which was seen to enhance the union with God of such religious persons. This was the primary reason of various religious orders to develop sign languages in the Middle Ages. And, just like the Mutes at the Ottoman courts, monks used their closed communication systems to guard information from outsiders or third parties when necessary.

By the sixteenth century these well-developed communication systems became re-appropriated in ways that were very similar to the principles governing the sign languages of Ottoman Mutes: In 16th-century Spain intermarriages among closely related members of the nobility resulted in children born deaf, for whose instruction such parents sought the help of members of religious orders who were proficient in signed communication. In this way the instruction of the deaf became publicly known and for the first time was documented in a small treatise in 1620. Such knowledge spread to other parts of Europe at about the same time as travelers and diplomats returning from the Ottoman courts disseminated information on Mutes and their ways of communicating. The twain began to meet – persons born deaf received instruction both in Turkey and in the West albeit for very different reasons.

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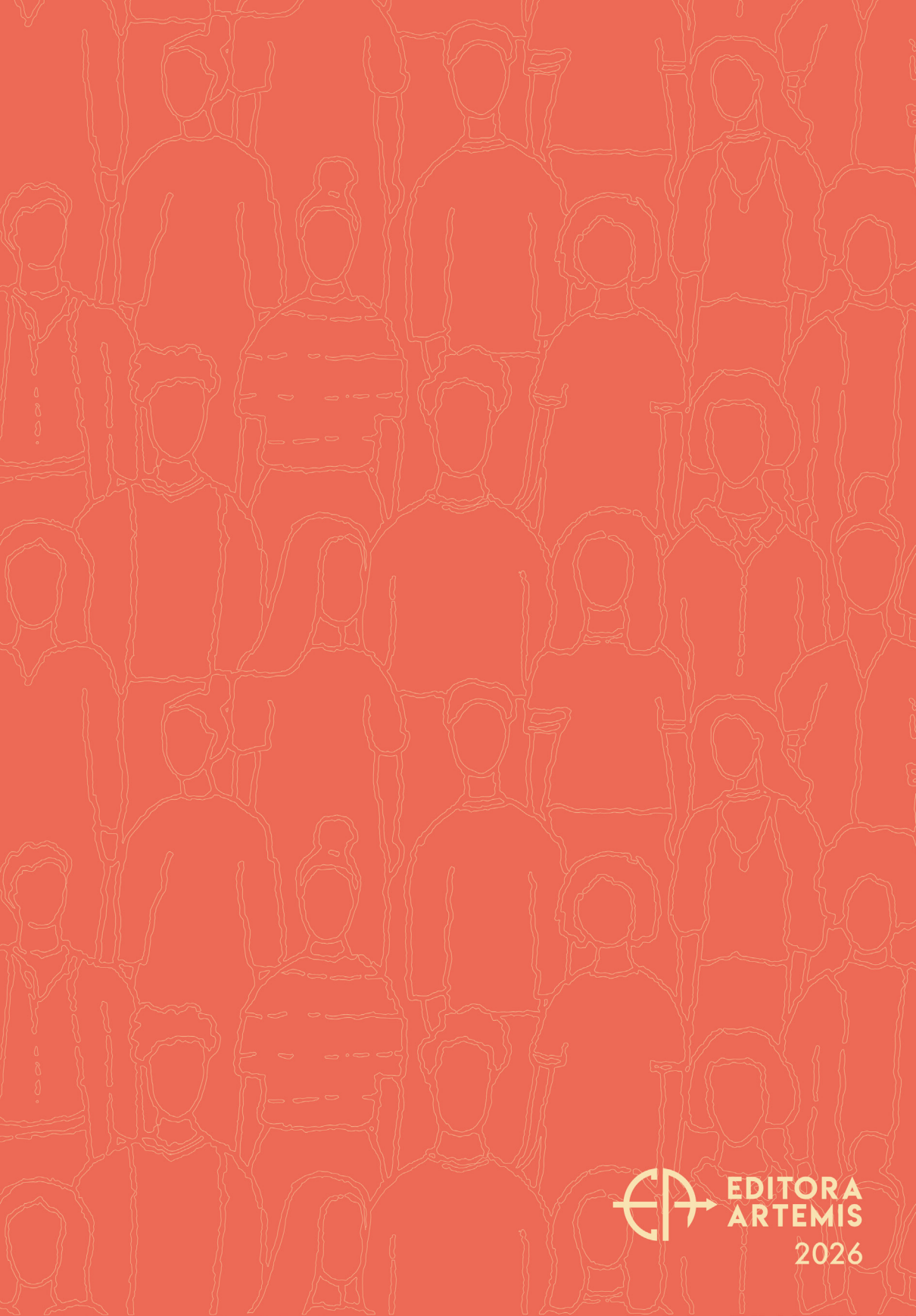
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