

Visual-Kinetic Communication in Europe Before 1600: A Survey of Sign Lexicons and Finger Alphabets Prior to the Rise of Deaf Education

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Visual-kinetic communication systems—ancient finger numbers, medieval and Renaissance finger alphabets, conventionalized “coverbal” gesture systems for oratory and the theater, the Roman pantomime, monastic sign lexicons, and the elusive possibility of natural sign languages—have all received the scholarly attention that has turned up the few surviving primary texts from the period before 1600. The extant documentation indicates that many visual-kinetic systems were sporadically in use among the general (i.e., hearing) population to a degree almost unimaginable to post-Renaissance societies such as ours that popularly associate “gesture languages” with the deaf. In detail, however, the texts are often difficult to interpret, not only because of their scarcity and generally highly allusive nature, but also because of modern historians’ often unproductive or misproductive approaches to them. This survey is meant to provide an overview of the textual evidence and a foundation for both sign language linguists and historians of the deaf and of deaf education to analyze and interpret more accurately and usefully the extant evidence for visual-kinetic communication systems before the rise of Deaf Education.

Visual-kinetic communication systems are mentioned in a wide variety of texts up through the early Renais-

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sance, but not often described in any detail. What seems to us such a strange and frustrating omission results from the very different nature and purpose of scholarly writing in premodern times. Before the invention of the printing press (ca. 1450), it was not common practice to dedicate the many man-hours required for transcription and the even more expensive parchment to recording information that was widely known and available informally. For example, the finger numbers would have been taught to children face-to-face, like cookery, carpentry, home cloth manufacture, and other life skills. When we do find a visual-kinetic system described in some detail (though without much information on function or context) in a manuscript book, the most common reasons for recording it were that the writer believed it to be arcane or, in the case of monastic sign lexicons, liable to unwanted change if it were not “fixed” in written, prescriptive form. Dictionaries and grammars of vernacular languages such as English were not attempted until after the Renaissance and not common until the eighteenth century. Why then would anyone have thought of recording a visual-kinetic system unless it were exotic, obsolete, newly invented or introduced, or changing too rapidly? The other reason that visual-kinetic systems are so rarely described is that describing such systems in writing was, and still is, very tedious, when it can be done at all. Any accompanying pictures would be prohibitively expensive to reproduce in manuscript books unless the customer paid extra for the services of an artist (all manuscript books were made “to order”), and even then accuracy was un-

likely. What customer would pay for a manuscript book with pictures of finger alphabets that were, as I intend to show, common knowledge in some premodern communities? The first appearance of what is now known as the International Finger Alphabet, in its entirety, was in a 1592 book printed on paper with a movable-type press and, for the finger letters themselves, woodcuts. Such a project would have been impractical before the late fifteenth century, when the technology for massproducing books spread throughout Europe.

While the natural dearth of texts describing visual-kinetic communication systems makes speculation about such systems difficult, additional barriers to our understanding are (inadvertently) introduced by modern scholarship. With a few stellar exceptions, twentieth-century scholarship on the history of premodern visual-kinetic communication has developed in two separate disciplines among two distinct sets of scholars: (1) scholars of classical and medieval Europe (who, more accurately, are two distinct groups with little overlap), hereafter called mainstream scholars, and (2) a diverse group of both amateur and professional historians (the professionals being mostly modernists) doing research on deaf history. It is easy to see how this gulf developed, but not so easy to bridge it. The education of historians and philologists of classical and medieval societies today naturally does not include any segments on signed languages or deaf cultures, and indeed there is no reason that it should since, as I intend to show, no genuine sign languages (as defined below) or deaf communities (groups consisting of at least several households and persisting over generations) seems to have existed in those times. But Renaissance scholars' lack in knowledge of deaf history is less defensible, considering the remarkable interest that the Renaissance culture had in deafness, an interest that derived in part from Renaissance fascination with the origins of language and in part from a drive to hegemony over "primitive" peoples, both external (e.g., Native Americans) and internal (e.g., the deaf).

Perhaps the most significant source of confusion in modern scholarship about premodern visual-kinetic communication is the lack of agreement on what is meant by "language." In this survey, the word "language" is reserved for natural communication systems that (1) have both a lexicon and a grammar, (2) are ca-

pable of expressing any thought on any subject, (3) are learned by at least some infants during the normal language-acquisition-threshold age, and (4) are living, growing, changing systems. These points will be expanded below, as various premodern visual-kinetic systems are examined and judged likely sublinguistic (e.g., gestures, mime, artificial and semantically restricted lexicons), protolinguistic (e.g., short-lived "home signs"), or merely encoding systems for a spoken language.

In any case, this lack of a clear definition of language often leads mainstream scholars to confuse the natural sign languages used by modern deaf communities with artificial sign lexicons such as have been used in Benedictine monasteries from the tenth century to the present, with "home sign" lexicons such as must have arisen in households with deaf members, and even with fingerspelling. For example, in an important 1989 article on monastic signing that includes an English translation of the Canterbury sign list, David Sherlock refers to "the sign language of the deaf-mute where each letter of the alphabet is represented by a single sign with some signs for the more common words and phrases" (p. 1). Although Sherlock conducts serious research on monastic sign lexicons, he appears to be relying on an ABC card (one of those small cards depicting the finger alphabet commonly sold by "deaf peddlers") for his knowledge of deaf sign lexicons, and in this his work is not atypical of mainstream scholarship. The popular use of the term "sign language" to refer to medieval monastic sign lexicons that are heavily context-dependent and for which there is no accompanying grammar has added to the confusion, though careful scholars such as Susan Plann (1993), writing on Spanish deaf history (p. 11, n. 17), and Robert Barakat (1975), writing on Cistercian signs (p. 55), have cautioned their readers on the difference.

It is not at all uncommon to find that mainstream medievalists also misapply the technical terminology of modern linguistics so that, for example, sign languages are regularly termed "gestures" or "nonverbal communication." Gestures are, of course, sublinguistic, so this misnomer encourages or reinforces a reductive view of natural sign languages. In the discussion that follows, the word "gesture" means any communication not fully decontextualized, or, in other words, not (yet) lan-

guage. As for the reductive label “nonverbal,” in a natural sign language the signs are in fact items of the language’s lexicon, which are grammatically inflected and modified by affixes just as are the lexemes of spoken languages. For this reason, we should avoid the word “verbal” (from Latin *verbum*, “word”) to distinguish spoken languages from sign languages, since the latter are “verbal,” too; that is, they have words (Stokoe, 1978, p. 182).

Also, from time to time one finds in mainstream scholarship (unacknowledged) negative stereotypes of the deaf that mislead both the scholars and their readers into assuming that deaf people do not share the “language instinct,” as Steven Pinker (1994) has called it, and therefore have had to be taught both language in its broadest sense and a specific sign language invented for them by hearing people. If the scholarly Internet discussion groups are any guide, it is a common misapprehension among mainstream scholars that the present-day deaf use artificial sign systems evolved (or devolved) from those invented by medieval monks. It requires a good deal of care—and sangfroid—to read most of this scholarship and mentally correct the mistaken apprehensions as we read.

Writers on deaf history often have done little better, however, and in many cases worse. One of the basic problems with the study of early deaf history is access to the primary texts. Some of the primary medieval and Renaissance texts have been translated, but many major early medieval texts of encyclopedic scope, such as Bede’s *De temporum ratione* and Isidore’s *Etymologiae*, remain without English translation. Available translations often are unreliable. If we recall that the mainstream scholars doing the editing and translating often have no practical knowledge of visual-kinetic communication or natural sign languages, it is easy to understand why mistranslations occur. Scholars of deaf history relying on such translations and on secondary paraphrases or brief references to translated passages lifted out of their context are not likely to produce very accurate scholarship.

A related barrier is the fact that much of the editing and the secondary material, especially that on the Church Fathers and on monastic signing, is published in languages other than English. For example, two major texts of monastic sign lists (in Latin) are edited in

French and Portuguese, whereas a seminal article on the finger calculus (the primary text of which is also in Latin) is in Italian. Additionally, scholars of deaf history often attempt to interpret texts produced by societies that feature vastly different value systems and social institutions than our own. For example, it is very common in deaf history to find confusion or conflation of religious orders that used manual encoding systems for various purposes, such as the peripatetic Franciscans, who seem to have used finger alphabets, perhaps as memory aids for preaching, or the cloistered Benedictine monks, who in some times and places used a limited sign lexicon for minimal communication during the daily hours of silence. References to a “vow of silence” by medieval monks (e.g., Werner, n.d., p. 364) are egregious, and erroneous. There was no such vow. The *Rule* of St. Benedict established certain areas of the monastery and certain hours of the day in which conversation was disallowed. Observance of the Rule varied widely, but the use of sign lexicons is unknown until the tenth-century Benedictine Reform, and after that time monastic sign lexicons varied widely in both form and function. Despite frequent but unsupported claims to the contrary (e.g., Hodgson, 1953, p. 83 and Carmel, 1982, p. xi), the use of a finger alphabet in a monastic setting is undocumented until modern times. Since monasteries were the “publishing houses” of the Middle Ages, monastic life is relatively well documented, and total silence on sign lexicons until the tenth century and on finger alphabets until the nineteenth therefore strongly suggests the absence of these systems. I examine some explanations for this phenomenon, below.

Additionally, both mainstream and deaf history tend to retroject modern assumptions about deaf people and sign languages onto antiquity and the Middle Ages. In mainstream scholarship, the modern assumptions applied to premodern societies include negative stereotypes of the deaf as defective: pitiable objects of charity or pathological specimens for medical intervention. Mainstream scholarship seems largely unaware that the medical model of deafness (and disability, too) is a modern and culture-specific construct, not a scientific fact. Oddly, histories of deaf education sometimes exhibit the same negative stereotypes as mainstream scholarship, but with a distinctive twist:

the myth that the deaf were mercilessly persecuted as defectives in the “Dark Past” until the rise of Deaf Education rescued them from this “Dread and Despair” (Winzer, 1993, Part 1 and Chapter 1 titles). Of course, the opposite is far more likely: until the Renaissance encouraged pedagogical and medical experimentation on deaf people, premodern societies seem generally to have ignored deaf members and left them to get along in their families and isolated rural communities as best they could. Although there may have been isolated instances in the past, only since the Renaissance have deaf people been *systematically* exploited by self-described professionals seeking fame and fortune as miracle working teachers and doctors.

In histories of the deaf, on the other hand, the retrojections we often find are natural but unsubstantiated assumptions that deaf communities, natural sign languages, and the distinctive subculture that grows up within these language communities have existed in all times and places. Deaf history often seems insufficiently skeptical about such claims concerning societies where low population density and rigid social structures kept people relatively isolated. When the general population is resident in such small, isolated, static groups that people from neighboring villages have difficulty understanding one another’s dialect, as was universally the case during late antiquity and the Middle Ages, the modern historian must assume the burden of proof for the existence of a natural sign language in a deaf community. Without evidence of any genetic streak that would raise the deaf population to over its normal fraction of a percentage point (3% would be “very high” according to Johnson, 1994, p. 104), the assumption must be that the general population density never reached the critical threshold for the formation of deaf communities until the eighteenth century. Communication among the deaf and between the deaf and the hearing would have been, of necessity, sublinguistic or protolinguistic, consisting, that is, of gesture, mime, and context-dependent protolanguage.

Although the dearth of primary texts concerning premodern visual-kinetic communication systems cannot be rectified, some of the gaps in the scholarship can be closed, and this is the purpose of this essay. It surveys the extant documentation of visual-kinetic communication from antiquity through the watershed year

of 1600, with an emphasis on the early Middle Ages that reflects my field of expertise. Since the history of finger alphabets and the history of signs do not merge until after the Renaissance when both come into use for the instruction of deaf children, this survey treats them separately.

Sign Lexicons

This section is entitled “Sign Lexicons” rather than “Sign Languages” because only sign lexicons—without grammars—have been recovered from premodern times, and furthermore, as I intend to show, because no convincing evidence proves that a visual-kinetic *language* (as defined above) ever existed in Europe until the rise of deaf communities in the modern era. Documentation of sign lexicons used in Benedictine monasteries in Western Europe from Portugal to England from the tenth century on is relatively extensive and reliable and will be taken up below. For now, I note that these lexicons appear in officially compiled, prescriptive (not descriptive) sign lists (which suggests that the lists likely did not reflect actual signing) and that they include directions for articulation and, occasionally, rationales or etymologies, but no grammar (which suggests that the signs were used, or designed to be used, with the syntax of a spoken language, either Latin or the local vernacular, if utterances more complex than a single nominal concept are imagined).

Before taking up the monastic sign lexicons, however, we need to examine the few oblique references to gesturing “deaf-mutes” and to ancient theatrical gesture systems cited frequently in deaf histories. On close inspection, they prove to tell us little and certainly do not document the existence of any sign language. Since the period we are investigating covers two thousand years and since there are no comprehensive lists of references to sign languages for this period, an anecdotal procedure accords with the sparse and incidental nature of the evidence. The discussion that follows, therefore, analyzes only illustrative passages, which cannot strictly represent a larger and largely unknown reality.

The Greek philosopher Plato (428–348 B.C.E.) makes one mention of gesturing deaf people in some 1,600 pages of his collected work, and that is in the

Cratylus, a little-read dialogue concerning the origins of Greek words, not one of Plato's strong points. Socrates was in real life Plato's teacher, but he appears in the latter's writings as a fictional character and mouthpiece for Plato. In the *Cratylus*, Socrates discusses the origin of language and introduces the distinction between "secondary names," which we would call compounds and derivatives, and "primary names," which we would call roots (sec. 422). If secondary names come from primary names, then where, he asks, do primary names come from? Do they show, or imitate, the nature of the things they name? (422d) "And here I will ask you a question," he says to his young friend in the dialogue:

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? . . . We should imitate the nature of the thing; the elevation of our hands to heaven would mean lightness and upwardness; heaviness and downwardness would be expressed by letting them drop to the ground; if we were describing the running of a horse, or any other animal, we should make our bodies and their gestures as like as we could to them. (422e–423a)

After getting his young friend to agree that the signs they would make if they were "deaf and dumb" would be "bodily imitation" (423a), what we would call iconic, Socrates pulls the rug out from under the argument by asking if a spoken name is likewise "a vocal imitation of that which the vocal imitator names or imitates?" (423b) Of course it is not, as Socrates' young friend has to admit. It is very amusing, especially for aficionados of Plato's Socrates, but what does it tell us of the possibility of a sign language in use among the deaf in pre-Hellenistic Athens?

The Socratic method of teaching, which we see illustrated here, involves proposing a series of thought experiments to lead the student toward the answers to his own questions. Plato's Socrates often proposes quite improbable, even fantastic, scenarios, such as (in *The Republic*) a person raised in a cave and unable to turn and look out the cave mouth, who thus can see only the shadows of real life on the cave wall. Such fantastic thought experiments as were common to Socra-

tes' method may be compared to the thought experiments used in more recent years by theoretical physicists, such as Einstein's train traveling at the speed of light, which explains Relativity Theory, or Schrödinger's cat, which is both alive and dead at the same time until observed to be one or the other, a thought experiment that contributed to establishing one of the basic principles of quantum physics. No one would imagine that Einstein had really seen a train traveling at the speed of light or that Schrödinger knew of a cat that was both alive and dead at the same time, and the thought experiment in the present Platonic passage is no different; nothing in it suggests that Plato was familiar with any signing deaf community. The fact that Plato's thought experiment produces details that happen to match the reality of modern sign languages should not be surprising since all languages create lexemes (words or signs) metaphorically, associating the abstract concept of lightness with the direction up and heaviness with down, something even Plato, who was not very good with linguistics, would have noticed in the gestures complementing the spoken language and been able to predict in sign formation. For the historical Socrates, who conducted an oral school in Athens and was vehemently opposed to using literacy in place of oral recitation and argument for instruction, to imagine being "deaf and dumb" must have been as fantastic as imagining living on the moon.

Almost 800 years later, St. Augustine (354–430 C.E.), Bishop of the North African city of Hippo, wrote a Socratic-style dialogue that also used the deaf for a thought experiment. This dialogue, called *The Magnitude of the Soul* (*De quantitate animae*), addresses the question of whether the soul has physical size and can grow. In the dialogue, Augustine's interlocutor suggests that a child's acquisition of language implies that its soul has grown. Augustine, who takes the position that the soul does not change size, eventually proves the other's suggestion wrong by demonstrating that language is a "learned art," what we would call an acquired skill, and thus, like tight-rope walking (to use Augustine's own analogy), does not make the soul grow. In the process of this argument, Augustine proposes a thought experiment in which a hearing child is raised in isolation by "deaf-mute" parents. Both Augustine and his young friend agree that the child will commu-

nicate with its parents by learning the signs the parents use, and that such signs are a “learned art.” After some discussion about whether only second languages are learned arts while first languages enlarge the soul, they agree that all languages, including native, spoken languages, are learned arts. (Today, we know that the capacity for language is inborn whereas particular languages are acquired, but this simple distinction between the “language instinct”—the innate capacity for language—and the acquisition of a specific language was not understood until the present century. It is interesting to watch major thinkers like Augustine grope toward a resolution of this apparent contradiction between the innate and the acquired that, unbeknownst to them, lies many centuries in the future.) The key to Augustine’s argument is seeing that, for an infant learning language from its parents, visual-kinetic language and aural-oral language are acquired in identical fashion. This is a fairly sophisticated observation, and Augustine takes it quite in earnest. Whereas Plato has Socrates use the *differences* between spoken words and signs to lead his young friend into an amusing mental trap, Augustine uses the *similarity* of spoken and signed language to lead his friend into an understanding about the nature of human language. Both, however, use deafness and visual-kinetic communication as imaginary test cases for their real arguments, which have nothing to do with deafness or sign languages.

Although there is every reason to believe that Augustine, like Plato, was creating a thought experiment rather than relying on observation of any deaf signing, there is some possibility that Augustine had in fact seen deaf sign:

Augustine: But surely, did you not see at Milan a young man of excellent physique and refined manners, yet so mute and deaf that he understood others only by means of signs and that only in the same way could he express what he wished? This man is very well known. I also knew a farmer and his wife who could speak, yet they had four sons and daughters, or perhaps more (I do not recall exactly how many), who were deaf and dumb: dumb, because they couldn’t speak; deaf, because they could take in signs only through their eyes.

Evodius: I knew the first man, also, but the second I did not; yet I believe you.

While the young man in Milan “of excellent physique and refined manners” clearly has been observed pantomiming with hearing people rather than signing with other deaf people, the set of four or more deaf siblings would just as clearly have been using embryonic but real *language*, and Augustine might have seen it. He does not appear to distinguish, however, between sublinguistic communication between people who do not share a language (the man in Milan and his hearing associates) and linguistic or protolinguistic communication as must have taken place among the farm siblings.

Augustine’s failure to recognize this important distinction, however, is entirely unsurprising because the distinction was unknown until after the Renaissance. Unfortunately, these early references often mislead modern readers, as happens frequently with the well-known advice that Leonardo da Vinci (1452–1519) gives students in his *Treatise on Painting*,

The forms of men must have attitudes appropriate to the activities that they engage in, so that when you see them you will understand what they think or say. This can be done by copying the motions of the dumb, who speak with movements of their hands and eyes and eyebrows and their whole person, in the desire to express the idea that is in their minds. . . . Do not despise such advice, for these men [i.e., “the dumb”] are the masters of gesture and *understand from afar that which one says, when he fits the motions of this hands to the words he would speak.* (sec. 250, emphasis added)

It has been tempting to many modern readers to see a reference to a natural sign language in this passage, particularly in the details about eyes and eyebrows, but the end of the passage (in italics here) suggests that what Leonardo has in mind is not a deaf sign language but rather the sort of pantomiming with hearing people that Augustine would have seen the deaf Milanese man doing. (I note in passing Leonardo’s naive reference to the long-lived myth that deaf people can read posture and gesticulation for semantic specifics that in reality

can be expressed only in a language.) One of Leonardo's students was the son of a deaf manuscript illuminator, a man Leonardo may have known, but it would be far-fetched to imagine a thriving and signing deaf community in fifteenth-century Milan, the total population of which could have been no more than 100,000 people separated by rigid social categories, not large enough, without the benefit of a school for the deaf, to produce a deaf community that could support a natural sign language.

Aside from scattered references to deaf people observed or imagined to be gesturing and "reading" gestures, there is a substantial body of references to conventional gestures in use by hearing people. Modern linguistics, especially the seminal work of Adam Kendon, has provided us with the vocabulary and taxonomies with which to discuss various kinds of gestures, but ancient and medieval writers did not refer to gestures with any sort of precise language, nor do modern students of their texts always take advantage of Kendon's work to make sense of the premodern evidence. For example, the proceedings of an international conference on gesture held in Utrecht, Holland, in 1989, published by a major American university press as *A Cultural History of Gesture* (Bremmer & Roodenburg, 1992), suggest an inchoate discipline weighted with some familiar prejudices and misconceptions. Reliable scholarship is available—by far the best is the 1990 book-length survey of premodern gesture in French by Jean-Claude Schmitt (Schmitt, 1992 is an English synopsis)—but all too often work lacking methodological rigor (e.g., Barasch, 1976, 1987) is accepted as definitive by art historians and other nonlinguists interested in gesture.

To get an idea of what premodern, conventional gestures were like, we need to bypass most of this work in favor of consulting both modern linguistics research on gesture and the primary texts. This material indicates that many of the premodern references to gesture are to what we now call coverbal gesture, the manual and facial gestures that complement spoken-language expression to a widely varying degree depending on the society and the speaker's age and status. David McNeill (1992), using Kendon's taxonomy, defines them as "follow[ing] general principles . . . but in no

sense are they elements of a fixed repertoire. There is no separate 'gesture language' alongside of spoken language" (p. 1). Among other features (to simplify McNeill's discussion grossly), coverbal gestures are noncombinatory and have no standards of well-formedness (pp. 19–23). For example, the gesture accompanying the fisherman's statement that "the one that got away was *this* long" can be made with any one of several different handshapes without altering the meaning (thus without a requirement of well-formedness) and cannot be combined with any other gesture such as girth or distance from the fishing boat (this is the noncombinatory feature of coverbal gesture). To coverbal gesticulation we may oppose pantomime and "emblems," both of which were apparently in common use throughout the Classical period. Pantomime was immensely popular in late antiquity. Reputed to have been invented by two professional dancers in 22 B.C.E. and based on well-known plots from myth and legend (a prerequisite that must not be underestimated), pantomime employed a single actor playing many roles with elaborate costumes and music as part of the entertainment (Lawler, 1964, p. 138). In pantomime, gestures can be combinatory (the length of a fish could be shown at the same time as its girth, as it could in a natural sign language but not in coverbal gestures), but there is no standard of well-formedness; one can use a variety of handshapes and movements to indicate, for example, a big fish, a bear, or a king in pantomime. As for emblems, these are gestures like the modern "OK" sign (thumb and index touching at tips to form a circle, an emblem that dates to the Roman Empire), "thumbs up," or "the finger." Emblems have standards of well-formedness (and a community of users and historical tradition), but cannot be combined meaningfully (McNeill, 1992, pp. 37–38).

This is all clear enough to users of a sign language and was probably fairly clear to the ancients, too. Cicero, for example, distinguishes between theatrical and oratorical gestures in terms that suggest the distinction between pantomime units and emotive gesticulation (cited in Graf, 1992, p. 43). Earlier, Plato had speculated that dance, which in the Athens of his day was a religious activity that included a set of conventional gestures, was derived from the coverbal gesticulating

that all human beings make (*Laws* 7:816a); he certainly thus distinguished between coverbal gesticulation and conventional gestures. But modern scholarship on ancient theater and oratory seems often to confuse these very different kinds of expression and to take, for example, breathless ancient references to miraculously transparent pantomime to be references to sign language. Reading these confused analyses, one often gets the impression that actors were using some kind of universally known, or, at the minimum, communally recognized, sign language. In fact, nothing could be farther from the truth, according to Augustine.

In *Of Christian Doctrine* (*De doctrina christiana*), Chapter 25, Augustine discusses human institutions and what aspects of them might be conventions, that is, “arrangements that are in force among men, because they have agreed among themselves that they should be in force.” As an illustration, he argues that “those signs which actors make in dancing” must be conventional rather than natural. This is demonstrated by the facts that in past times public criers were employed in Carthage to announce the meaning of the pantomime to the audience and that, in his own time, one could not understand theatrical gestures simply by watching without an explanation. Even though the actors strive to make the gestures iconic, “like the things they signify” is how Augustine puts it, the gestures will not always have the same meaning for all without explicit and mutual agreement. Like many Christian thinkers of all eras, Augustine exhibits a strong streak of asceticism that makes theater, among other pleasures, anathema, and actors even more suspect, but by his own account of his profligate youth he must surely have had plenty of firsthand experience with the theater, among other pleasures, and we may therefore well believe him that pantomime did not constitute anything like a language. In order to understand it, one had to have both a linguistic explanation and some prior knowledge of the setting, characters, and plot.

Augustine’s remarks are important in light of the kind of exaggeration about the expressive powers of gesture in which other writers of late antiquity engage. As an example, we have a letter by Cassiodorus (c. 490–c. 585), who was a high-ranking civil servant for the Ostrogothic kings of Italy before retiring to his hometown in southern Italy to found a monastery and

write religious tracts. His *Variae*, published in installments ending in 538, is a collection of official letters he wrote to a wide variety of recipients (hence the title) in the names of the Ostrogothic kings; most notably Theoderic. The collection was intended to be used by other civil servants and students as “formulae,” sample letters to be copied or imitated, but its chief interest for us today is not its turgid “officialese” but rather the incidental information it contains about life in sixth-century Italy under the Goths. Cassiodorus’s one mention of theatrical gestures comes in an undated letter (Bk 4: letter 51; all the letters are undated) to another high-level civil servant, Symmachus, best known today for his pleas for religious tolerance and his support for his more famous son-in-law, Boethius. The purpose of the letter from Theoderic to Symmachus is ostensibly to praise the latter’s work in directing the rebuilding of public edifices, most specifically the theater at Pompeii, but it is really outright flattery in an attempt to placate Symmachus and his followers. As Theoderic likely could neither read nor write Latin, Cassiodorus does his best to make letters in the king’s name exhibit “culture,” and in this letter such assigned culture appears in the form of a digression on the history of drama from the Attic playwrights to the present. The letter has not been translated into English previously in its entirety (the only English translation omits the digression!). Cassiodorus begins with the usual fanciful etymology:

Comedy is named after the country districts: that is to say, a village district where country people laugh at human gestures on stage, accompanied by the most joyful songs. To these are added the most eloquent hands of the dance, the tongue-like fingers, the clamorous silence, the mute narration that the Muse Polymnia [the Muse of Dance] is reported to have invented, showing men both able and willing to make their point without their mouths.

I have detailed the background of this one passage to demonstrate how oblique the allusions to gestures are and how very little they tell us. Cassiodorus has no interest in theater nor any thought in the world about gesture systems, and, despite the brief rhetorical expansion, says virtually nothing about either.

The fate of popular, conventional gestures of ancient dance and pantomime is unknown. Because of vastly reduced travel and other communication after the breakdown of centrally administered Roman institutions in late antiquity, there is little chance that any of these had any effect on the invention of medieval cloistral signing. Nor should we imagine that there is anything universal about these gestures, or that they indicate any “gestural” origin of language, a hypothesis that was popular in the Renaissance, when it was outlined by (among others) John Bulwer in his 1644 *Chirologia*, a treatise on “the naturall Language of the Hand.” For the English Renaissance, Bulwer’s theories were unexceptionable. He believed that manual gestures were “an *universall character of Reason*” (Bulwer’s emphasis) and as such were comprehensible to all peoples “without teaching” because they were “the onely speech that is naturall to Man” (p. 3). By calling hand gestures natural, he meant not only that they were universal but also that they were essentially and necessarily signifying in a way that spoken languages, which he saw as more tenuously connected with their meanings, were not. Note that Bulwer’s description of gesture (in his Early Modern English, followed by a modernization) is somewhat similar to C. S. Peirce’s definition of an “index”:

As smoke which in darke vapours expires from incensed fuell is a certaine signe of fire; or as rich smells by whose aromatique breath the ayer’s perfum’d, does sweetly declare the presence of the ascended odour; and as blushes of *Aurora* bewray the early approach of the bright Emperour of the day: So that in these [i.e., gestures] Art hath no *Hand*, since they proceed from the meere instinct of Nature . . . (p. 2) (Just as smoke, released from burning fuel in dark fumes, is a certain sign of fire; or just as rich smells that perfume the air with their aromatic breath sweetly declare the presence of the rising odor; and just as the glow of dawn reveals the imminent approach of the sun, so, too, do gestures, in which artifice has no hand, proceed from the simple instinct of nature.)

As fascinating as such speculation was for the Renaissance, however, the hypothesis of the visual-kinetic origin of language is unlikely to have any bearing on his-

torical sign lexicons or sign languages, considering the millennia that have intervened.

The earliest records of actual sign lexicons are the sign lists of cloistered monks, and these date from the tenth century. There are no bona fide references to real monastic sign lexicons before that date. An episode in *The Voyage of St. Brendan* is sometimes cited for its reference to monastic signing in the era of the Irish monk and abbot Brendan (ca. 486–580), but this biography could not possibly contain accurate details because it was not written until at least the end of the ninth century, and furthermore the monastery in question is full of “wonders” such as loaves of “extraordinary whiteness” that appear as if by magic in the larder (double on Sundays!), candles that never burn down, and, in a Shangri-La touch, the perpetual youth of all the monks. In fact, upon being explained in more detail by the mysterious abbot, what looked to the newcomers like monks “indicating” with their hands turns out to be mind-reading; the monks need only think of what they want and the abbot understands them and responds in writing!

Since there have been so very many misunderstandings of cloistral signing, I begin with what it was not. Signing was not even mentioned, let alone stipulated, in the fourth-century *Rule* of St. Benedict, or any other Rule that may have been a precursor of that of Benedict, who was a contemporary of Cassiodorus and a monk at Monte Cassino, a monastery outside of Rome, nor was there any “vow” of silence, as explained above. The *Rule* stipulates merely periods of the day and places in the monastery where silence should prevail and could be broken only by “some *audible sign* rather than speech” if necessary (Ch. 38, emphasis added). For the Benedictines, silence was a positive value. It was only with the later Trappists, members of the Order of the Reformed Cistercians of the Strict Observance, which was founded in the seventeenth century, that silence became absolute and came to be seen as a kind of penance, a hardship like others in the austere Trappist monastery such as lack of ordinary chairs and palatable food. In the United States, Trappists and Cistercians (an order founded by reform-minded Benedictines in the eleventh century) are better known than the far less austere Benedictines and perhaps that is how modern historians of the deaf came

to attribute modern Trappist practice to the medieval Benedictines.

In any case, there is no reason to suppose that signs were used until the tenth-century Benedictine Reform, the object of which was to return to strict observance of the *Rule*, about which monasteries had become quite lax by this time. The sign lexicons that came into use with the Benedictine Reform were not intended to replace speech. They were not conceived of as a language, nor were they intended to facilitate communication. Instead, they were to be used only when strictly necessary to avoid annoying fellow monks by breaking the periods of silence. Although modern medievalists generally refer to these sign lexicons as “sign languages,” Nigel F. Barley (1974) correctly notes that “the narrowed context of a monastery” permitted the lexical items to remain gestures, not fully symbolic or “conventional” (pp. 234–35). In other words, the artificially narrow semantic field within the monastery precludes full decontextualization, one mark of a true language. More importantly, as we shall see in the discussion below, monastic sign lexicons had no visual-kinetic grammar. Any tendency of the signs to develop grammar and thus evolve into language would have been suppressed, since such a development would defeat the rationale of the *Rule*. And, remember, monastic signing had no native signers.

The earliest sign lists date from the first years of the Benedictine reform, which began in what is now France with the founding of Cluny in 910 and reached England during the reign of Edgar, 959–975. All but one are written in Latin. The earliest lists come from Cluny (ca. 1075 and again ca. 1083) and Hirsau (late eleventh century) in what is now Germany, while the latest are the English lists of the fourteenth and fifteenth centuries (Banham, 1991, pp. 7–12, gives a fuller discussion) and a Portuguese list from the sixteenth (Martins, 1960). The number of signs listed varied from a low of 52 items to a high of 472, with the average at 178 and the mean at 145, as computed from list sizes given by van Rijnberk (1954, p. 11). As van Rijnberk correctly points out, the rationale for keeping the number of signs limited is to make idle conversation impossible, and the lexicons were periodically purged “ab otiosis signis” (p. 11), “of superfluous signs.” Van Rijnberk does not take into account the lack of grammar, which, if allowed to develop, would have made conver-

sation possible even with such a small lexicon. There was also the usual monastic tendency to conservatism at work here. He cites an example of the Spanish Cistercians who kept the same number of signs (though not the same signs) for more than three centuries (pp. 11–12). All lists order the signs by semantic field, a further example of the stance of prescription and containment.

The first thing one notices about the lists is the semantic range. Forming by far the largest part of any list are nouns, words for the people, places, and things of medieval monastic daily life but for virtually nothing outside. In addition to many signs for foods, articles of monastic clothing, rooms and buildings in the cloister, and ritual objects associated with the mass, we find a large number of signs for various offices in the monastery and many for various degrees of the clergy both cloistered and secular, but usually only one sign for “woman.” Barley (1974, pp. 232–34) notes that the Anglo-Saxon lists designate “people” (actually, the office rather than the person) by the “most distinctive function.” For example, “bursar” is designated by miming the opening of a lock and “deacon” by swinging a bell. Such signs are metonymic, as Barley points out, in that they extract one aspect of the office and use it to stand for the whole, but metonymy seems to be a universal aspect of sign-lexicon formation, not a specifically Anglo-Saxon feature as Barley assumes. Compare, for example, the Anglo-Saxon and American Sign Language (ASL) signs for “monk”; both signs metonymically reference the hood. Another example is the Anglo-Saxon monastic sign for “woman,” like ASL BLACK but higher on the forehead, which is derived on the same principle as the ASL sign GIRL; whereas ASL GIRL refers to the string of the bonnet, the female headwear of eighteenth-century France, the Anglo-Saxon monastic sign refers to the headband that was the distinctive feature of headwear of females in that society. An interesting example of an association chain that starts with a metonymy is the sign for “psalm” in the Portuguese lists: an open hand with spread and slightly bent fingers, placed on the top of the head. As Martins (1960) has deduced from the iconicity of this sign with the action of crowning, the sign must have the base meaning “king” and reference King David, who was thought until recent times to have been the author of the Psalms.

Verbs are in short supply, compared with the lexicons of natural sign languages where they dominate, and include usually only “sit,” “stand up,” “kneel,” “confess,” etc. (see van Rijnberk, 1954, p. 12, for further discussion). As the French monk Dom Louis Gougaud (1930) observes, the lexicons are sufficient only for designating all necessary things (p. 17), not for making any statements about them. Indeed, with these lexicons there is virtually no way to form a sentence, or a complete thought, that can be reliably understood by anyone else. Even in the Cistercian signing recorded in the twentieth century, we see the simplest of statements formed with very great difficulty and ambiguity (Barakat, 1975, pp. 55–80). There is no way of handling predicate nouns or predicate adjectives, for example. Neither are there interrogatives, relatives, subordinating or coordinating conjunctions, or alternative ways of handling these items. It is dangerous to assume that medieval monastic signing must have been just like modern monastic signing (and we know that this is not true in some aspects, such as the existence of a modern Cistercian finger alphabet), yet it seems that medieval monks must have had similar difficulties with syntax. In the Anglo-Saxon list, virtually all noun signs are glossed with the addition of “I want a . . .” implied. Banham (1991) is misleading when she says, of the Anglo-Saxon sign list, that “the absence of most of the Cluny signs standing for verbs rather than nouns or adjectives must mean that sign language possessed a less complex syntax in England than on the continent” (p. 13). Surely the absence of verbs indicates the (intentional) absence of grammar rather than the presence of a simple syntax.

To make themselves understood with these sign lexicons, medieval monks must have employed the word order of a spoken language, either their vernacular (Plann, 1993, p. 11, n. 17) or vulgar Latin, though in the latter case word order is not as great a help in locating subject and predicate. Modern Cistercian monks use a word order derived “heavily, but not exclusively,” from English (Baron 1981, p. 238). As Barakat (1975) explains it,

Just how these signs are patterned into meaningful messages is dependent upon the spoken language of the monks and the monastery in which they live. Thus, monks in the United States and in England

model the syntax of their silent messages after English, while in France, French syntax is observed. However, this does not necessarily mean that all utterances must follow English or French word-order since the formation of derived signs often forces the signer to invent new structures [T]he monks use this language on a “dialect” and “idiolect” level as represented by these invented structures for which there is no formal set of rules. (p. 55)

It sounds a good deal like the syntax of the visible component of sign-supported speech (simultaneous communication) and various types of contact signing. Again, it seems safe to speculate that the medieval situation must have been quite similar.

The second thing one notices about these lists is their iconicity. In the Hirsau list (*Constitutiones Hirsau-gienses*), the Latin word *simula* “imitation” appears again and again to show how the sign imitates the thing. As is the case with the concrete nouns of natural sign languages, the iconicity may relate to the (1) physical appearance, e.g., “bread” is signed as a round shape, (2) movement of the object, e.g., “fish” is signed as the movement of the fish tail (identical to ASL FISH), or (3) iconicity of the human actor on the object, e.g., cheese is signed by imitating a hand-held cheese press (identical to ASL CHEESE). In the Anglo-Saxon list, many of the signs include rationales in case the iconicity is not clear enough. For example, the gloss for the sign “sloe,” a plum-like fruit that grows on the blackthorn shrub, reads, “If you want sloes, then put your thumb the same way [as in the sign for cherries] and poke with your index finger into your left hand *as a sign of the thorn that they grow on*” (Banham, 1991, no. 77; emphasis added). In analyzing the roles of iconicity and convention in this list, Barley (1977) makes the astute observation that “[a]lthough convention plays a part, it is limited to restricting the field of application of a perfectly motivated mime” (p. 327) (i.e., iconic representation).

One of the Portuguese lists includes a mnemonic feature not found elsewhere to my knowledge, and this is a short “verse” or alliterative jingle. The entry for “cheese” will illustrate. Note that the sign happens to be identical to ASL CHEESE:

CASEUS: Signum casei est complodere palmas manuum ad invicem ac si caseum premere velles.

Unde versus: *Complosis manibus monstratur caseus esse* (Martins, 1960, p. 297). (CHEESE: The sign for “cheese” is to compress the palms of the hands against one another as if you wanted to press cheese. Whence the verse: *By compressing the hands it is shown to be cheese.*)

My English translation misses not only the brevity but also the chiasmic alliteration of the Latin jingle in which the initial phonemes of the first four words (the fifth word is “to be”) are /k/, /m/, /m/, /k/. Martins, the editor of this list, unfortunately does not comment on the mnemonic verses, but it would be interesting to speculate on their function in enlisting auditory memory to learn signs!

The iconicity of the signs has misled some into believing that no sign lexicon can express abstractions. Gougau (1930), for example, writes, “with abstract ideas, it was naturally a great deal more difficult to come up with appropriate signs than for concrete things” (p. 22, my translation), but the same is true for spoken languages, which must coin words for abstract ideas metaphorically, just as natural sign languages do. Behind every English noun for an abstract idea is a concrete etymology. The reason for the paucity of abstract nouns in cloistral signing is not that the visual-kinetic channel cannot handle them, of course, but rather the fact that monastic signing is not a language. Instead, it is a system whose *raison d'être* is to limit, not enhance, communication. Descriptions of this system have little bearing on natural sign languages except as they provide *comparata* for lexeme formation and phonology.

A third general observation about the medieval monastic sign lists is their extremely methodical nature. The internal logic of the lists is so strong that modern scholars (like Barley, 1977) are able to correct scribal errors simply by observing the pattern apparent in any given sign list, comparing the sign with others with which it will always be consistent. In other words, we can understand the signs from their place in the pattern better than we can understand some of the sloppy copying of the written language. The Anglo-Saxon list, for example, features two operative modifiers, “big” and “little,” formed with the thumb and the little finger respectively, that quite methodically distinguish every-

thing from big and little bowls and big and little candles, to big and little books. In other lists, we can observe how a given sign serves as a generic sign and then is modified in various ways to indicate other specific things. For example, the sign for vegetable in general is the same as the sign for leek, and that for fruit is that for apple. (Notice that here we see the concrete, “apple,” metonymically standing for the abstract, “fruit,” as it does in ASL but not in artificial sign encoding systems for English.) The sign for “quince,” then, is “apple” + “stone” with the concrete noun “stone” used for the abstract adjective “hard”; “sage” (an herb) is “leek” + “salt,” but here the generic “leek,” i.e., “vegetable,” is modified not by a descriptive morpheme but rather by one that makes a phonetic pun with spoken Latin: “sage” in Latin is *salvia*, while the Latin word for “salt” is *sal*. Thus “leek” + “salt” means the vegetable whose name sounds like *sal* and, perhaps, which is, like salt, a condiment. (These two examples are from Meyvaert, 1986, p. 36, n. 52). Yet another method of word formation in monastic lexicons is illustrated by the word for “trout,” which, in the Cluniac lists, is “fish” + “woman” because Medieval Latin *truita* “trout” is grammatically of the feminine gender. This explanation, at any rate, is proffered in the lists themselves, three of which state “quia truita semper femineo genere pronunciatum” (Gougau, 1930, pp. 20–21), though we may suspect some unstated “off-color” punning in this case. Clelia Hutt’s claims for lack of logical rigor in the formation of monastic signs (Hutt, 1968) is at odds with the evidence, then, though it is true that sign formation proceeds with a somewhat different logic than does word formation in French, the language she is using as a basis for comparison.

We might ask how well these prescriptive, official lists represented the lexicons in actual use in various monasteries. The probable answer is that correspondence varied widely, with some communities conforming to the official lists and others freely coining and using sign neologisms that were officially ignored. Likely the actual lexicons were sometimes larger than the official lists and many signs were not recorded because they lacked official sanction. Also, the approved lists probably included some signs not in use at all. Why would this happen? For one thing, there was pressure

to keep the list at a consistent size and to keep the semantic range in the area of persons and objects familiar to the monastery and the liturgy. If the number of signs for these items was smaller than the list was supposed to be, then some signs would be invented to make up the prescribed number or to cover the prescribed semantic fields. Also, the signs were so artificially consistent that some signs in actual use were likely purposely misrecorded in order to make them conform to the logic of the list. Therefore, Banham (1991) is surely mistaken when she writes that “the monks would not have bothered to devise or record signs that they were not actually going to use” (p. 15), and we may suppose that indeed many signs in the lists fell into this category.

While the official sign lists give us all the phonological and lexical information we are likely ever to retrieve, another kind of evidence tells us how secular medievals perceived the signing of the monks, and this is the large body of antimonastic satire. There is no question that laxity and outright abuse of the monastic life occurred, since that is the nature of human beings and institutions, yet it is interesting to observe how often signing is singled out as an object of ridicule. Anecdotal evidence suggests that throughout Western history, signing (as opposed to the more discreet and demure fingerspelling) has been seen as inherently risible. In late antiquity, as we have seen in Cassiodorus, it was associated with comedy rather than the higher genres; in the Middle Ages, with licentious monks and supposedly amoral wandering entertainers; and in modern times, of course, with the “deaf and dumb” and the much ridiculed street mime. All these associations contrast rather starkly with, for example, the dignity with which the Plains Indians—and the Deaf community—have regarded their sign language. Reading antimonastic satire that focuses on signing as a prime element for ridicule, we therefore need to realize that not only did monastic abuses bring everything associated with monks into disrepute, but also that the signing itself likely diminished the reputation of otherwise pious and observant monks and made all their activities suspicious in the eyes of the locals who no doubt envied them.

Much of the antimonastic satire is to be found in goliardic songs, lyrics composed and sung in the twelfth and thirteenth centuries by an apparently

rather large class of what we would call today “professional students.” These young men, as the contemporary stereotype had it, traveled from university to university to study under different professors without ever taking a degree or clerical orders and living a life of debauchery on the funds their families provided for their educations. The large body of extant goliardic songs shows them to have been satiric, ribald, and sacrilegious, taking as subject matter topics such as the impregnation of village maidens by unscrupulous priests. How far antimonastic satire from this class of persons can have been representative of any general feeling is unclear, but ridicule of monastic signing is so widespread that in this, at least, the goliardic songs must be typical. Félix Lecoy (1938) cites two such Latin verses (the goliards, being an international group, composed exclusively in Latin), one of which lampoons monks who “restrain their tongues” but “make loud crying with the fingers,” and another that uses “speaking with signs or nods” to describe the “dissolute and unbridled monk” (p. 168, n. 1; my translations). Clearly, the goliards are associating signing with carnality. Another, and slightly more oblique, sort of ridicule was to associate signing monks with actors and jugglers and so, in a two-step smear, with the stereotypical amoral entertainer (Werner, n.d., p. 367). When the satire is missed, the modern scholar can radically misinterpret this material. The twelfth-century French song about a *jongleur* (a traveling entertainer who sang, mimed, juggled, etc.) conversing in sign with the monks of Clairvaux must be an anticlerical joke, not a bit of evidence for the existence of a widely known sign language (van Rijnberk, 1954, p. 10).

Perhaps the best known satire of monastic signing is the so-called parable of the Greeks and Romans in *El Libro de buen amor* by the early fourteenth century Spanish “Archpriest of Hita,” Juan Ruiz. This very long poem includes several statements of the author’s intentions and his direct addresses to the reader, one of which, near the beginning, uses this parable as an ironic warning not to misunderstand him. In this story, the Greeks and the Romans agree to a debate in sign language (since they do not understand each other’s spoken language) and the Romans are worried that they will be defeated by the far more learned Greeks. They therefore hire a “hoodlum” to do their debating for

them and tell him to use whatever gestures God inspires him to make, that is, whatever comes into his mind, since he knows no signs. They dress the hoodlum as a doctor of philosophy and the debate begins with the Greek sage holding out one finger, to which the Roman hoodlum responds with three fingers. In the second round, the Greek holds out an open palm and the Roman a clenched fist, at which the Greek concedes defeat. As he explains, "I said that there is one God: the Roman said He was One in Three Persons, and made a sign to that effect. Next I said that all was by the will of God; he answered that God held everything in his power, and he spoke truly" (stanzas 59 and 60). But what the hoodlum has understood by the one finger is that the Greek "would smash my eye" (stanza 61) so his three-finger gesture was a threat to smash both eyes and teeth. By the Greek's open-palm gesture, the hoodlum has understood a threat to slap his ears, so his clinched-fist rejoinder was meant to suggest "such a punch that in all his life he would never get even for it" (stanza 63).

The substantial body of analysis of this parable attempts to locate the moral of the story, especially the ridicule of the Greek doctor who, for all his learning, lacks basic common sense—he cannot read character or even emotions. The story itself first appeared in an early thirteenth-century legal gloss (Lecoy, 1938, p. 164) and then again in the late thirteenth century. After Juan Ruiz, it appeared in Rabelais and in various forms in other works, where the Greeks and the Romans sometimes become Christians and Jews (p. 165). The story is universally funny because of the incongruity between the simple hoodlum and the sophisticated task he is set to, and between the august doctor and his patent stupidity. But, I think the root of the humor here lies in what Western culture has seen as the inherent silliness of signing and its putative inability to maintain conventional semantic value. The parable ridicules a communication mode that has such a tenuous hold on meaning, a "language" in which "God is One" is articulated identically to "I'm going to poke out your eye," and Benedictine monks are obliquely the target.

The final question for this segment of the survey covering monastic sign lexicons must be whether modern, natural sign languages derive from cloistral sign-

ing. The answer, certainly not. One can point, it is true, to many items in the medieval lists identical to those of ASL. For example, the Anglo-Saxon list includes signs identical to ASL CHEESE, BUTTER, HONEY, FISH, MEAT, BED, and NUN: all iconic and concrete and therefore such as would have grown up, and probably did grow up, in many independent communities using a sign lexicon or language. But there is no possible chain of influence between the Anglo-Saxon monasteries and ASL, and, as it happens, an American cloistral sign lexicon recorded by Barakat (1975) at the Cistercian community in Kentucky includes no lexical items in common with ASL, not a single one. If it is difficult to imagine Deaf Kentuckians mingling with the residents of this Cistercian monastery today, then it is even more difficult to imagine such mingling in medieval Europe.

We should recall in this connection that the first known instance of deaf children being taught in a monastery yields no certain evidence that the pupils knew any signs; certainly, Pedro Ponce de León, their teacher, never made any such claims. Although I find it impossible to imagine that the youths would, or indeed could, have been kept from learning the sign lexicon in use at that monastery, they would scarcely have found it very useful, limited as it must have been to monastic offices and items around the monastery, few of which would have been present in the homes to which they returned. Stokoe (1978) is surely correct in positing an "impassable gulf" between the vast majority of the deaf and the small number of deaf children of the nobility who were sent to Oña (p. 183), or, indeed, to any monastery at any time since the introduction of cloistral lexicons. In other words, even if a handful of elite deaf youths emerged from monasteries knowledgeable in a cloistral lexicon, and even if they subsequently had any contact with deaf people of other social classes (which is unlikely), they would hardly have had the opportunity to use their sign lexicon in the outside world. Scholars who are tempted to believe that cloistral signing must somehow have influenced the natural sign languages of the various deaf communities in Europe should recall to what extent these lexicons were based on speech, both in reliance on spoken-language syntax and even in lexical formation, as we have seen (e.g., "trout," "sage," etc.). And they should recall that mon-

asteries are not schools, and, Oña notwithstanding, few would have accepted deaf youths for instruction (*pace* Presneau 1993, p. 415). Our conclusion can only be that none of the sign lexicons or sets of conventional gestures known to the ancient and medieval world had much, if any, influence on the sign languages of the deaf communities, which grew out of different needs, specifically the biological imperative for a first language, and were socially isolated (by the fact of deafness) from sign communication systems used by hearing people. The finger alphabets in present use by deaf communities, on the contrary, were certainly adapted or even imported wholesale from those used by hearing people, finger alphabets having had a long and distinguished history before their late adoption by deaf communities.

Finger Alphabets

Finger alphabets were inarguably first derived from the finger calculus, a sophisticated system for representing numbers from 0 to 10,000 with place values and for performing arithmetic. Whereas, before the introduction of arabic numerals, the awkward and bulky Roman numerals were used for writing, actual calculation was performed on the fingers in this easy place-value system. Units (the numbers 1–9) were formed on the last three fingers of the left hand, tens (10, 20, 30 . . . 90) on the thumb and index of the left hand, hundreds on the last three fingers of the right hand, and thousands on the thumb and index of the right hand. With the advent of Christianity, the finger calculus acquired a religious value in at least two ways: numerology, which was used to uncover the mysteries thought to be resident in Biblical passages (Quacquarelli, 1970, p. 199), and finger-number symbolism, such as the finger number 30 standing for a chaste spouse, 60 for widowhood, 100 for virginity, etc. (p. 204). Often misrepresented in deaf histories (e.g., de Saint-Loup, 1993, pp. 396–98 and ill. 16), the finger calculus was a standard “part of the heritage of classical antiquity, and was very commonly used during the Middle Ages” (Menninger, 1969, p. 201). It still exists today in parts of the Middle East.

Since there are many references to the practice but no descriptions of the system that have survived from

Roman times, Menninger (1969) concludes that the technique was “passed on mostly by word of mouth,” by which he must mean that the finger calculus was passed on from person to person by demonstration on the hands, rather than by oral description, and that “this very fact may be evidence of its widespread use among common or illiterate people, for things which do not require special teachers or schools are generally not written down” (p. 201). Any assumption that there must have been “ancient school books with illustrations” (Alföldi-Rosenbaum, 1971, p. 8) seems unwarranted as school books were quite uncommon everywhere until the late nineteenth century, instruction of children proceeding almost invariably by recitation. As pointed out above, very little “common knowledge” was ever recorded, expensive manuscript books being reserved for the unusual and erudite. The lack of descriptions of the finger calculus from Roman times, therefore, indicates general familiarity with the system, as do the scattered mentions of the method without explanatory details among Roman authors. (See Menninger, 1969, pp. 208–12 and Alföldi-Rosenbaum, 1971, for references to classical finger counting, and Jones’s notes in Bede, 1943, p. 329, for a list of classical commentators on it.)

The earliest known text of the finger calculus, and the only complete record to have come down to us, was written by the prolific eighth-century English scholar known today as the Venerable Bede (672/673–735). This is “*De computo vel loquela digitorum*” (“Of counting or speaking with the fingers”), the first section of Bede’s *De temporum ratione*, a work on chronology to which “*De computo*” serves as a kind of preface; as Bede explains, you have to know how to do arithmetic before you can do chronology. *De temporum ratione* became the standard text on chronology during the Middle Ages and was widely employed for calculating the date of Easter, a matter of acrimonious controversy during the early Middle Ages. The large number of extant fragments attests to both its popularity and the hard use to which copies were put; they were literally worn to shreds. “*De computo*” is actually one of “three distinct versions” of the finger calculus, all of which originated in the British Isles, the other two being the anonymous *Romano Computatio*, which Bede’s “*De computo*” paraphrases, and the tabular form that ap-

pears frequently in other works (Jones in Bede, 1943, pp. 330–31). Later manuscripts of “De computo” include full-length pictures of men forming the numbers on their hands, but Bede’s written description in Latin is, remarkably, more accurate than the pictures.

In this treatise Bede incidentally includes the first description of a finger alphabet, one that uses finger numbers to stand for letters. Gematria, the substitution of letters for numbers and vice versa, was well known in the classical world, especially as embodied in one particular system with the Greek alphabet, which Bede reproduces with application to finger numbers. In this gematria, the first nine Greek letters stand for 1–9, the next nine for 10–90, and the final nine for 100–900. (The Greek alphabet normally had only 24 letters, but this system inserts three otherwise unused letters to make up the 27 needed to represent numbers up to 999.) Using this gematria system with the finger calculus would produce a two-handed alphabet with the first 20 letters on the left hand and the last 10 on the right, mirror images of the first 10. As a finger alphabet, it would not have been very efficient, but there is no evidence that it was ever used. For the Roman letters, used to spell Latin, the system is simpler, for the letters are represented by the numbers 1–23 (no < j >, < u >, or < w > in the Latin alphabet). To take Bede’s illustration: In order to fingerspell “Watch out!” (in Latin, *caute age*), one would use the finger numbers 3–1–20–19–5 1–7–5. Since in the finger calculus all numbers below 100 are made on the left hand, this gematria finger system would produce a one-handed alphabet that would have been simple to articulate and read once the transposition values were memorized.

Bede was a monk who lived his entire adult life in northern England, which, at that time, formed a single monastic cultural unit with Ireland (the importance of this point will become apparent below) and a prolific and highly respected theologian in his day. Why would such a man be interested in a finger alphabet? Not for communication during periods of silence, for while the Benedictine *Rule* prescribed such periods, the *Rule* was not in effect at Bede’s monastery, or indeed anywhere in the British Isles during his time. Irish monks valued silence and Bede may have known about or even shared this value, but if so, he makes no mention of it in connection with his finger alphabet. Instead, he makes the

highly improbable claim that possible uses for the finger alphabet include deluding the ignorant and gullible into thinking that one has second sight. What can we understand by Bede’s statement?

Intriguing claims have been made concerning the prevalence of fingerspelling in the early Middle Ages and the various uses to which it was put, but unfortunately none of them holds up well under scrutiny. For example, Thomas Arnold and Abraham Farrar (1923) have claimed that “[t]here is evidence that these manual alphabets were in common use in the Middle Ages for purposes of secret or silent intercourse” (39), but they offer no such evidence. Eva Sanford (1928) more specifically has claimed that the seventh-century Spanish archbishop and encyclopedist Isidore of Seville (ca. 560–636) discusses a finger alphabet in his *Etymologiae*, that he suggests courting and military uses for it, and that this has some connection with Bede. In all of this Sanford is mistaken. Aside from the fact that Bede did not value Isidore’s scholarship and cited him only when correcting him, Isidore’s alleged discussion of a finger alphabet is nonexistent. The section in his *Etymologiae* entitled “De notis digitorum,” which is where the discussion is said to be, is actually about coverbal gesticulation. (Latin *nota* can mean “letter of the alphabet” but often is used for numerals and various other kinds of nonalphabetic marks or tokens, including syllabic characters in shorthand, etc.; *digitis* is “finger.”) Far from documenting the use of a finger alphabet for courting and for military communication (which could only occur in a world of literate girls and soldiers, a highly unlikely proposition anywhere in premodern times), the discussion merely states that *notae digitorum* are similar to military hand signals and sword movements (which we would call emblems) and analogous to a seducer making gestures to several women at the same time with various parts of his body (which we would call gesticulation). For Isidore, *notae digitorum* are only (egregiously misnamed) gesticulations, not an encoding system for language.

In light of the lack of evidence either for early medieval use of a finger alphabet or for any special need for one at Bede’s monastery, and considering how doubtful it is that the monks actually played tricks on the local peasants with secret hand signals, Bede’s interest in finger gematria systems apparently would have

been purely intellectual and should be seen in the context of medieval monastic interest in alphabet lore. Tables of exotic alphabets and cryptographic systems were common filler for blank pages in manuscripts from English and continental monastic scriptoria, and indeed such tables occur in manuscripts also containing Bede's "De computo vel loquela digitorum." Among the cryptographic systems that appear in such tables are letter-substitution systems ($a=b$, $b=c$, etc.), dot substitution systems ($a=.$, $b=:$, $c=::$, etc.), and chironomies (sets of aural-kinetic symbols like modern Morse code), as well as other kinds of gematria, and along with the Greek and Hebrew alphabets, runes, crypto-runes, and invented alphabets. Alphabet lore was the kind of exotic yet bookish knowledge that scholar-monks seemed to enjoy copying out. There is no documentation of fingerspelling being used for anything practical at this period, though the late-deafened monk may indeed have benefited from it, and it seems to have been only a bookish game.

Irish provenance for Bede's scholarship has been mentioned and, before leaving the early Middle Ages, we should take a look at the hypothesis that the native Irish alphabet, Ogham or Ogam, has been thought by some to have been derived from a gematria finger alphabet. Bede's editor, Charles W. Jones, who is an expert on Hiberno-Northumbrian learning, believes that "Finger calculation was probably standard Irish teaching" (Bede, 1943, p. 329). Bede is unlikely to have learned it from any other source. And where there is both finger calculation and gematria, there is likely to be a finger alphabet. Ogham was an alphabet used for inscriptions on memorial stones from the fifth through the seventh centuries and lived on in Irish schools until modern times. It is described by Damian McManus:

The script . . . is made up of twenty tally-like symbols divided into four groups of five. The symbols of the first three groups, all representing consonants, appear as one to five scores cut to the right, left, and diagonally across the arris [the sharp, vertical edge] of the stone respectively. Those of the fourth group, which represent vowels, generally appear as notches cut on the arris itself, but also as horizontal short scores across it. (McManus, 1996, p. 340)

Users of finger alphabets will find it easy to imagine a system in which one moves the hand to the right, to the left, diagonally, or outward with one, two, three, four, or five fingers extended. Such a system would be easy to learn, use, and read, unlike epigraphic Ogham, which is space- and time-consuming to produce and difficult to decode. In short, it is hard to imagine any useful purpose for a script like this save that it represents a (now extinct) finger alphabet. This hypothetical alphabet would have considerably predated Bede, of course, since, while it could not have been invented earlier than the introduction of the Roman alphabet (with Christianity) in the fifth century, it would have to have predated, by a generation or so, the earliest, fifth-century Ogham inscriptions.

The scholarly controversy now in progress on this point is interesting in part for what it says about views of deafness in modern Ireland, as well as for what it tells us about the role of deaf history in mainstream scholarship, and therefore merits a brief digression. The Irish scholar R. A. S. Macalister (1937) was the first to suggest that the Ogham was derived from a finger alphabet, and he cited Irish deaf communities, approvingly, as evidence that such alphabets are functional. Although parts of Macalister's hypothesis, such as his fanciful early dates (500 B.C.E.) and theory of Druidic transmission, no longer merit serious consideration, his basic idea that Ogham derives from a finger alphabet remains sound, whereas the chief argument against his hypothesis, put forward most vigorously by McManus (1991), is unconvincing. McManus, an undisputed expert on Ogham, correctly points out that the finger alphabet now in use among the Irish deaf is not a descendant of the type that allegedly produced the Ogham; that is, it is not a gematria system. (In fact, the modern Irish finger alphabet is an adaptation of the International Finger Alphabet, imported from the continent because the British two-handed alphabet was shunned by the Irish.) But since this fact pertains to the modern history of deaf education and not to the prehistory of Irish literacy, one cannot therefore conclude from modern history that the Ogham did not derive in ancient times from a gematria finger system, as McManus does. The question of the finger-alphabet origins of Ogham remains open.

In any case, Bede's monastery in Northumbria was

founded by Irish missionaries, and, as mentioned above, it has been shown, by another Irish scholar, Dáibhí Ó Cróinín (1983), that much of Bede's *Opera de Temporibus*, including *De temporum ratione* with its section on fingerspelling, has an Irish provenance. The evidence suggests that Bede was probably the first to combine the classical finger calculus with classical gematria systems to produce two gematria finger alphabets, one for Greek and one for Latin. But since Bede's cultural environment was so highly derivative of Irish learning, it is not at all far-fetched to suggest a (now lost) Irish source, and the Irish may well have been the first to combine these systems. Bede's finger alphabet, which simply numbers the letters in their normal, Latin order (A,B,C), is crude by comparison with the hypothetical finger alphabet behind the Ogham, which separates letters into families based on phonetic values. Even though we will never likely uncover any direct evidence linking the Ogham to a finger alphabet or linking Bede's gematria alphabet with the Irish, mainstream scholars of the early Middle Ages should be aware of the possibility so that they do not continue to misinterpret the evidence that we may have. As with Bede's alphabet, communication with the deaf would not have played any decisive part in the formation of this hypothetical alphabet, since it was profoundly phonetic in concept.

The next known works on finger alphabets did not appear until the latter half of the sixteenth century. The 800 years that separate Bede from the Renaissance constitute the largest gap in the history of finger alphabets. There is no reason to suppose that they did not exist, however, and the silence of the records may suggest merely the neglect to record a bit of common knowledge that was terribly difficult to describe in writing but very easy to transmit face-to-face. A posthumous picture of the English poet Geoffrey Chaucer, painted ca. 1410 in London, shows him displaying his initials, GC, in a finger alphabet not otherwise known to have existed until its first publication in 1592 (Bragg, 1996), but we have no clues as to how this alphabet was developed or transmitted over the intervening centuries. There is likely to be more evidence overlooked or misinterpreted by scholars of the Middle Ages and Renaissance who are not familiar with finger alphabets and would not recognize a depiction of a finger letter.

The first finger alphabet known to have been published after Bede, then, was in 1563, when a certain Giovanni Battista della Porta (Eriksson, 1993) published an alphabet in a book called *De furtivis literarum notis* (*Of secret letters of the alphabet*), in which each letter is indicated by touching a part of the body that in Latin begins with that letter. In this system, A is articulated by touching the ear (Latin *auris*), B by touching the beard (*barba*), C by the head (*caput*), D by the teeth (*dentes*), and so on. Per Eriksson (1993) calls this alphabet "primitivt" ("primitive," p. 26), but it is ingenious as well—in fact, too ingenious to be useful for private conversation, and certainly not conducive to secrecy! Although it would have been fast and easy to learn, it would have been very awkward, perhaps even comical, to use.

What this alphabet may have been used for, beside parlor games, is suggested by the second Italian publication of a finger alphabet, the 1579 *Thesaurus artificiosae memoriae* (*A Treasury of Artificial Memory Techniques*) by the Franciscan friar Cosmas Rosselius. This book, as the title implies, is devoted to the use of artificial memory techniques for rhetoric and, to this end, provides not only the alphabet of body parts previously described in *De furtivis literarum notis* but also a set of one-handed letters, up to three for each letter of the alphabet. Many of these finger letters make evident, but not consistent, attempts to model the Roman alphabet, and many are similar to those of the one-handed finger alphabet in use in North America today; a few are even identical. It is unlikely that Rosselius would have invented any of these himself, though quite likely that he selected, adjusted, or improved on the variant forms that he saw in use. We may infer that by the end of the sixteenth century there were many finger alphabets in Western Europe and that one of their uses was as a memory technique. The tactile, visual, and kinetic cluing that a finger alphabet provides would naturally be a better aid to the memory than the more conceptual memory techniques then in common use for public speaking, such as architectural memory, which involved imagining a house and placing each of one's main points into a specific room. With the kinetic memory provided by forming letters of the finger alphabet, one could retain a string of letters representing the initials of one's several themes, for example. Renaissance illustrations showing themes placed on vari-

ous parts of the hand are common and demonstrate a mnemonic technique intermediate between architectural and kinetic mnemonics. These pictures are imaginary and do not suggest that preachers actually inked their sermon outlines on their palms (*pace* de Saint-Loup, 1993, p. 398 and ill. 17). Since the advent of universal adult literacy in the West, we no longer make use of any of the ancient memory techniques because we rely on written notes (or teleprompters!) instead. But in the late sixteenth century, we see that this was yet another use for finger alphabets by ordinary people, one that Bede had not mentioned. Cloistered monks ordinarily do no public speaking and thus had little need for artificial memory techniques.

Since this point will become important below, I note that Rosellius was a Franciscan friar. This mendicant order was founded by St. Francis of Assisi in Italy in the early thirteenth century and immediately attracted an extraordinary number of followers throughout Europe to submit to its Rule of the imitation of the life of Christ, which featured prominently the rule of poverty. Because the Franciscan friars could not own property, they were a mendicant, that is, “begging,” order; each friar lived from day to day on the food he could beg in return for spiritual ministrations. The Franciscans, therefore, early distinguished themselves as spellbinding preachers and dedicated caretakers of the sick and dying, who would reward them with food and other gifts in the hope of recovery. In this capacity the Franciscans came into conflict with parish priests, who found their duties and their livelihoods reduced by the friars, and, of course, there was extensive abuse of Church power on all sides, with some individual friars and some Franciscan chapter houses acquiring vast wealth. But for our purposes here, it is necessary to be sensitive only to the critical primacy of “social-work” duties for the Franciscans. Franciscan friars are not, and never were, “monks,” which is to say that they were not cloistered, were not resident in monasteries closed to contact with the world, and were not under any monastic rule such as that of St. Benedict that stipulated periods of silence, for example. Nor did they use any sort of sign language or sign encoding system to communicate during periods of silence, since they observed no such periods. Quite the contrary, they lived by their speech.

In 1592, we find the first known mention of “deaf” people in connection with a finger alphabet in *Libro llamado Refugium infirmorum* (Ivars, 1920), which in English is *The book entitled the Refuge of the sick*, subtitled “very useful and suitable for all kinds of people, in which is contained much spiritual advice for the succor of those afflicted with illness, and for aiding a good death for those who are at the ends of their lives; with an Alphabet of St. Bonaventure for speaking with the hand.—Put together by the Father [i.e., priest] Brother Melchor de Yebra, of the Order of the seraphistic Father Saint Francis.” (This book is known through the lengthy quotations that appear in a bibliography compiled in 1899 by Catalina Garcia, which is in turn cited by Ivars, and all scholars cite this bibliography rather than Melchor de Yebra’s book itself, which seems never to have been edited or fully translated. An English translation of the complete introduction appears in Bragg, 1996.)

Before looking into the *Refugium infirmorum* for the finger alphabet and its suggested uses, we should ascertain that we understand the subtitle, which was also the author’s statement of topic and purpose. This is a handbook composed by a Franciscan friar for other Franciscan friars to use at sickbed and deathbed attendance, which, as mentioned above, was a major source of their livelihood. This book is said to contain an “alfabeto,” which is, in the medieval sense, a poem or collection of maxims in which each stanza or section begins with a letter of the alphabet from A to Z, and which English medievals called an “ABC” and modern medievalists call an *abecedarium*. This particular *abecedarium* is the one composed by St. Bonaventure, one of the great philosophers of the Middle Ages and a prominent second-generation Franciscan (who headed the order in the later thirteenth century), and is in fact a set of maxims on living and dying well as a Christian. In Fray Melchor’s text, the *abecedarium* is accompanied with woodcuts of a one-handed finger alphabet, one letter for each maxim from A to Z. This particular finger alphabet is so similar to the one used by deaf North Americans in conjunction with ASL that there is no doubt of its being a direct ancestor.

Fray Melchor does not mention the origin of the woodcuts or the finger alphabet, but we know that this finger alphabet was not invented by St. Bonaventure

himself since it appears in no other copies of his *abecedarium*. Nor is it likely to have been invented by Fray Melchor, for several reasons. First, it functions so smoothly as to indicate having been “fine-tuned” by use for many years (as opposed to the astonishing awkwardness of most of the other Renaissance finger alphabets, especially the two-handed and the body alphabets, described above). Second, the woodcuts indicate that other people knew the handshapes since it is unlikely that Fray Melchor would have modelled them for the artist (see Ivars, 1920, p. 387, citing Catalina Garcia to the effect that Fray Melchor did not have the book published in his lifetime). Third, correspondences with some of the handshapes given by Rosellius suggest many similar one-handed alphabets. Fourth, Fray Melchor states explicitly that “hablar por las letras de la mano . . . es comun saberlo muchos;” that is, speaking with the hand letters is common knowledge for many people (Ivars, 1920, p. 391). Fifth, his silence on the origin of this finger alphabet suggests rather strongly that it was in fairly common use. Rosellius, who was a contemporary of Fray Melchor, did not know this particular version, however, which may indicate that it was regional (therefore unknown in Italy) or that it was proper to the secular literate class and had not previously been used by religious, who knew other finger alphabets. Fray Melchor’s argument is that friars should learn it because other people use it.

As for the purpose of adding woodcuts of a finger alphabet to a religious *abecedarium*, we may suppose that it was both a gimmick and, as Rosellius would undoubtedly have pointed out, a memory device both for the friar who was reciting the poem to the sick person and for the sick person to recall the maxims to mind. Fray Melchor, however, provides quite another explanation in his book: that those who attend to the dying should learn the finger alphabet, because once a priest was called to attend a dying man who had lost the use of his tongue and other senses and who tried to speak with his hands but was not understood and thus deprived of the chance to confess before his death. This little cautionary tale goes a long way toward demonstrating how widely known the finger alphabet was, though there is probably a political motivation here in the reference to the priest as a “priessa” only, that is, not a friar, who was unable to help this illustrative dy-

ing man. Members of mendicant orders such as the Franciscans or of cloistered orders such as the Benedictines could be ordained priests, or they could be “lay brothers,” that is, not priests. (St. Francis himself was a lay brother with little formal education, while St. Bonaventure, who headed the order in its second generation, was not only a priest but, before entering the order, had earned a master of arts degree from the University of Paris.) In this anecdote, Fray Melchor refers to an unnamed “priessa” with no other identification, suggesting that his readers would understand this ignorant priest to be a parish priest, not a Franciscan. In other words, this anecdote appears to concern the shortcomings of the Franciscans’ rivals for livelihood, the parish priests. The message is that, if friars learn the finger alphabet, they can serve as confessors to the dying where parish priests have failed. From this anecdote, Fray Melchor continues with other possible, perhaps even hypothetical, uses of the finger alphabet: “in responding to and speaking with some very hard of hearing penitents [“penitentes muy sordos”] who are versed in letters of the hand . . . [and] for consoling the other deaf [“otros sordos”] who, compelled by necessity, make use of the hand to enable themselves to associate and communicate with people” (Bragg, 1996, p. 139). The Spanish word *sordo*, literally “deaf,” in the expression “penitentes muy sordos” clearly means “hard of hearing”: “The very hard of hearing penitents.” The born deaf and those who were deafened as young children are almost invariably called, in these years, *sordomudos*, “deaf mutes,” or simply *mudos*, “mutes,” with the word *sordo* reserved for the adult-deafened and the hard of hearing. (This usage parallels the historical usage of English “deaf” and “mute” until very recent times.) A few of any friar’s regular penitents will be a bit hard of hearing and will appreciate being able to confess to a friar who need not shout their penance for all to hear. As for the other group, “los otros sordos,” or “the other deaf,” Fray Melchor must be referring to those who were deafened long enough ago for their speech to have become inarticulate and who therefore habitually rely on the finger alphabet not only for “hearing” but for “speaking” as well. This latter group seems quite unlikely and cannot have been large since people who are old enough to have learned to read before they are deafened almost invariably re-

tain understandable speech. But as unlikely as this interpretation seems, it is scarcely possible that Fray Melchor refers to the born deaf, since these people would not have been literate, there being no notion at this time that the born deaf could learn to read, let alone any method in place for teaching them, as remarked above. Assertions that Fray Melchor refers to the born deaf in this passage disregard the context, which make that reading highly unlikely.

Fray Melchor was active from 1546, when he took the habit of the Friars Minor (Franciscans), until his death in 1586, and there is no evidence that he ever had any special association with people who were born deaf, let alone that he served as a teacher of deaf children. Franciscans were not teachers. Nor is it likely that he ever met or heard of his better known contemporary, Pedro Ponce de León (ca. 1520–1584), the Benedictine monk (not a friar, *pace* Bender, 1970, p. 43) of the monastery of San Salvador at Oña who taught deaf boys to speak. Very little is known about Ponce since, if he left any written account of his work, it did not survive a fire that later destroyed the monastery archives (Arnold & Farrar, 1923, p. 9) and we have only a few clues (and many misinterpretations of them) with which to reconstruct his method. In this place, we are concerned primarily with whether he may have used a finger alphabet. If he did in fact use a finger alphabet, it would be the first known instance of such a use for communicating with the born deaf. Unfortunately, this cannot be demonstrated with any certainty.

It is necessary to begin by clearing away the fog of conjecture that has surrounded the work of Pedro Ponce. Ruth Bender (1970) has stated, approvingly, that there is no evidence that Ponce used any signing with his pupils (p. 41), but this statement overlooks the plain fact that as a Benedictine monk he must have known and used a small sign vocabulary that he could hardly have avoided using with his pupils in the confines of a monastery that observed the Benedictine periods of silence and where others were using this sign lexicon. In other words, the mere fact that Ponce was a sixteenth-century Benedictine requires us to proceed on the assumption that he knew a sign lexicon and taught his pupils in an environment where it was used. It does not permit us, however, to draw any conclusions about Ponce's attitude toward using the sign

lexicon with deaf pupils (*pace* Hodgson, 1953, pp. 83–84).

Nor does it permit us to assume the use of a finger alphabet (*pace* Habig, 1936, pp. 286–87); on the contrary, it suggests that we assume the *absence* of fingerspelling, since finger alphabets are unknown in Benedictine monasteries until recent times. The one bit of evidence for Ponce's use of the finger alphabet derives from Don Balthasar de Zuñiga, a contemporary who described the communication methods used with a deaf man who had been a pupil of Ponce's as a child: Don Pedro de Velasco, a nephew of the Constable of Castile. Don Balthasar states that Don Pedro's young nephews, "by express order of the monk, would speak to him using certain movements of their hands with which they formed the letters of the alphabet" (Chaves & Soler, 1974, p. 50). This is clear enough, but unfortunately Don Balthasar has already proven himself an unreliable source on the Velascos when, a few lines before this statement, he confuses the two deaf Velasco brothers, and, in any case, he could not have known these details firsthand. Neither Don Pedro himself, describing his lessons, nor Ponce, describing his procedures, mentions fingerspelling, and, again, there is no evidence for the use of any finger alphabet among cloistered orders of monks until the modern era, and thus no presumptive evidence that Ponce habitually used one. If the Velascos were using a finger alphabet with their deaf family members (and Don Balthasar's dubious testimony is the only evidence that they were), there is every reason to suppose that they would have hit upon this method themselves when the deaf boys were returned to them with the faculty of speech and the ability to read and write. Thus, while this statement from Don Balthasar remains the first documentation of the use of the finger alphabet by a born deaf person, it does not constitute *prima facie* proof of Ponce's use of fingerspelling.

As this survey has now reached the year 1600 and a period of history that is more widely known, I will mention only some of the facts related to the fate of finger alphabets in the seventeenth century that will allow the reader to connect with the work of the Abbé de l'Épée in eighteenth-century Paris, at which point the history of the finger alphabet is noncontroversial. As we shall see, the case of the Velascos marks a water-

shed in the history of finger alphabets. Before the Velasco brothers, finger alphabets were used by ordinary hearing literates as mnemonic devices and for amusement, as well as for privacy. After, finger alphabets were promoted for the deaf, and any use by hearing people drops from the historical record. This is so, I believe, largely because of the invention of the printing press in the fifteenth century and the dramatic rise of literacy that it induced during the next century and a half. Privacy and memory, the two needs served by finger alphabets, could now be achieved by writing. The finger alphabet therefore would likely have gone the way of the manuscript book had it not found quite another use in quite another arena.

In 1620, a book by the secular Spanish scholar, Juan Pablo Bonet, *Reducción de las letras y arte para enseñar a ablar los mudos (Adaptation of the Letters and Art of Signing for Talking with Mutes)* was published. *Reducción* printed the same one-handed alphabet that had appeared in Fray Melchor's *Libro llamado refugium* but in an entirely different context. While Fray Melchor provided it for Franciscan friars as an aid in their "pastoral" duties, Bonet provided a new set of woodcuts depicting nearly identical handshapes but specifically for communication with the deaf. Bonet's description and advocacy of "speech therapy" for deaf youths need not concern us here beyond the fact that the finger alphabet was essential to the method, which introduced articulation of phonemes accompanied by the corresponding graphemes and finger letters. Bonet stressed that in households including a deaf member, everyone in the household who could read must fingerspell to the deaf person (p. 130). Like Fray Melchor, Bonet assumes that although this alphabet is not universally known, it would not be difficult or unusual to learn it. Current social resistance to learning the finger alphabet must be behind Bender's interpretation of Bonet's advice: She has him "forcing" apparently recalcitrant family members to learn to fingerspell (Bender, 1970, p. 44). It is difficult to imagine why anyone would resist acquiring this skill during the Renaissance, since modern resistance surely derives from the association of visual-kinetic communication with socially scorned categories of people like immigrants or the deaf. During the Renaissance, finger alphabets would have had neutral connotations.

As is typical at this period, Bonet gives no source

for this alphabet. The secondary literature on the Spanish founders of deaf education tends to assume that each successive educator received it from his predecessor; for example, Chaves and Soler (1974) speculate that "[i]t is likely that Carrión [a contemporary of Bonet] and Bonet became acquainted with this hand alphabet in their contact with the Velasco family who must have kept it in use because of the many members afflicted by deafness" (p. 56), implying, of course, that there could have been only one source: the Velascos' teacher, Ponce. This is unlikely, for reasons already mentioned; finger alphabets were in use among the general population, but not associated with monasteries.

The seventeenth-century Englishman John Bulwer is best known as an advocate, or, better, enthusiast of deaf education. In fact, he seems to be known in some circles as the "inventor of the deaf-and-dumb language" (Barasch *Giotto*, 2; note that this incredible statement was made in a book published by a reputable academic press as recently as 1989), but nothing could be further from the truth. Bulwer became interested in finger alphabets (and speech instruction for the deaf) through Sir Kenelm Digby, who, Bulwer states, observed the deaf younger brother of the Constable of Castile at the Spanish Court and brought the amazing news back to England that a deaf man had been taught to speak. Bulwer's chief interests, however, were the mysteries of oral articulation and the organs thereof (in *Philocophus*, 1648) and the "naturall Language of the Hand," which he thought to be universal and divinely sanctioned (*Chirologia*, 1644, p. 7). His work included analyses of what he thought were natural gestures, which he divided into those formed with the hands, such as prayer, applause, supplication, benediction, head scratching, handshaking (1644, pp. 153, 155), and those formed with the fingers such as "thumbs up," beckoning, and pointing (p. 191). To 26 of these, he assigned a letter of the alphabet, so that the gesture for "quiet" was to stand for H, the pointing gesture for F, and so on, these for "privy cyphers for any secret intimation" (p. 188). Bulwer's knowledge and interests, those of a true Renaissance man, were wide but pre-modern, and we now recognize, as discussed above, that none of his putative universal gestures is universal at all, but rather all are culture-specific and conventional.

Bulwer's work is interesting to us chiefly because of the way it combines an interest in teaching speech to the deaf with a general interest in linguistics, from oral articulation and physiology to gestural semiotics. His contemporary and compatriot, George Dalgarno, had only a far more limited interest in a finger alphabet. In *Didascalocophus, or The Deaf and Dumb mans Tutor*, 1680, Dalgarno writes (in seventeenth-century spelling), "after much search and many changes, I have at last fixt upon a Finger, or Hand-alphabeet according to my mind . . ." (p. 73). Did he invent it? It seems so. He discusses, but quickly rejects, such spelling methods as drawing letters on the palm, which is neither distinct nor quick enough, and two-handed iconic alphabets, which are too "laborious" (p. 82) as well as impossible to make accurately, before settling on an alphabet in which each letter is represented by touching a specific place on the left palm with the right index finger (pp. 81–88). This discussion suggests strongly that Dalgarno had no knowledge of the one-handed alphabet published by Fray Melchor and Bonet, since if he did he would have mentioned and rejected it as he did other possibilities. Although this touch alphabet never caught on (for the obvious reason that the palm is too small and the fingertip too big to articulate 26 different characters distinctly), two other aspects of Dalgarno's book are of interest for us here. One is that he suggested other uses for his alphabet besides conversing with the deaf: silence (such as might be necessary among attendants in a sick room), secrecy (discussion of private matters when servants are present), amusement, and, most significantly, for helping young children learn to read (pp. 90–91). To my knowledge, Dalgarno was the first to suggest the use of a finger alphabet for this purpose.

This survey of premodern finger alphabets concludes, arbitrarily to be sure, with the publication of the earliest known British finger alphabet in the anonymously published *Digiti Lingua* of 1698. This book, written "By a person who has conversed no otherwise in above nine Years," according to the title page, "thro' an unfortunate impediment" (p. 1) may very well represent the invention of the British finger alphabet, since it is perfectly clear that the alphabet is largely based on Dalgarno's touch alphabet with the addition of some iconic handshapes to assist in distinguishing letters, thus solving the basic problem with Dalgarno's. The

current British finger alphabet features further iconic refinement but retains much of the *Digiti Lingua* and therefore much of Dalgarno, especially evident in the vowels that were distinguished most clearly, being articulated on the finger tips rather than joints. It is interesting to note here that the anonymous author makes no mention of the deaf and one can only assume that he was a hearing mute. His few remarks concerning the possible uses of his alphabet suggest that he thought of it as a mnemonic technique (p. 3).

To summarize the documentation of finger alphabets in the sixteenth and seventeenth centuries, we have observed that the one-handed alphabet now in use among deaf people in North America as well as most parts of continental Western Europe emerged among the Franciscans, a mendicant order that lived by mingling in the community, begging and preaching and performing "social-work" duties in competition with parish priests. The Franciscans treated the finger alphabet as fairly common knowledge, were uninterested in its origins, and saw it both as a mnemonic device and as a tool to greater efficiency in ministering to the hard of hearing and the ill. At some point in the late sixteenth or early seventeenth century, this finger alphabet was put to use with deaf youths whose educations were being undertaken for the first time and as a novelty, a kind of internal colonization of deaf people that paralleled the external colonization of "primitive" peoples outside of Europe. Later in the seventeenth century, however, we still find the English, to whom all new things from southern Europe arrived rather late, experimenting with various less efficient alphabets for the old (indeed, medieval) purposes of privacy and parlor games, these experiments, however, later resulting in a two-handed alphabet that was put to use in the education of deaf youths in England and is still in use there among the deaf.

Conclusion

This survey is meant only to present a balanced overview of what is known to both mainstream scholarship and deaf history about visual-kinetic communication before the Renaissance and a sampling of how a more skeptical approach to the extant documentation will yield a more realistic picture of the use and functions of those systems. I maintain that somewhat greater

skepticism is warranted in any study of premodern societies, but especially among historians who may come to the evidence with a prior enthusiasm or ideology, not an uncommon circumstance in minority histories and not without its value in uncovering evidence that mainstream historians have overlooked for lack of interest or misinterpreted for lack of knowledge. But the truth seems to be that while the general population in antiquity and the Middle Ages was indeed (1) somewhat less self-conscious about using gesturing and gesticulating, (2) a great deal more interested in pantomime and gestural dance than is now seemly for the sophisticated Westerner, and (3) far more dependent on their fingers for memory and math than we are today, there was no sign language in any meaningful sense of that word, and whatever fingerspelling there may have been is all but lost to history. Natural sign language emerges from deaf children who are lucky enough to grow up in deaf communities, and such communities could not have taken hold over generations before the population explosion of modern times and the rise of universal schooling, whereas finger alphabets, if they are to be at all widely used, need some application beyond novelty, and this was not found until the invention of deaf education. Renaissance exploitation of visual-kinetic systems (recall Bonet's title, *Reducción de las letras*, the first word of which I have translated as "Adaptation" but which also means exploitation, colonization, acculturation, systemitization,—an important concept cluster for the Renaissance) is the key to their modern history, and the area that most needs new research and better analysis. The story of the Renaissance thrust toward internal colonization of the deaf, among other minorities, and of social control over language, among other human behaviors, promises to be fascinating on its own terms, without any embellishment it might gain by contrast with premodern periods, about which we still know so much less than we would like.

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