The Validity of the Gallaudet Lecture Films

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Ted Supalla
Georgetown University
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TED SUPALLA

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THE STUDY OF ANY LANGUAGE can be greatly enhanced by uncovering older versions of that language and studying the ways it has changed over time. Unearthing very early written samples is a source of great excitement for historical linguists, who use the prototypes to reconstruct a reasonable account of the language's beginnings. By reconstructing language family trees and studying early cognates of related languages, linguists obtain further evidence for the accuracy of their models.

What if a scientist discovered extant data within not centuries, but just one hundred years from a language's known date of origin? These data may exist for American Sign Language (ASL), a language with a documented time of origin and filmed footage of the language within one hundred years of that date. The potential wealth of information about the origins of the language could be invaluable if the data are valid and reliable. This article describes the data discovered and discusses the process for determining its usefulness in studying the evolution of ASL. Discussion then focuses on selected word formation processes found in the records.

Validity of Films as a Source of Data

This section discusses how to determine the validity of historical films made by elite members of the Deaf community and how the films can inform us of the history of their language. Beginning in 1910,

Ted Supalla is Associate Professor in the Department of Brain and Cognitive Sciences and Director of the Undergraduate Program in American Sign Language and the Sign Language Research Center at the University of Rochester.

with its pilot film of Edward Miner Gallaudet, the National Association of the Deaf (NAD) filmed a series of twenty-two lectures and events referred to as the Gallaudet lecture films under the supervision of the NAD's motion picture committee. Made available for circulation on a rental basis from 1920 to 1940, the films, of which fifteen remain intact today, exhibited different master signers of the time. Upon dissolution of the motion picture committee, the NAD turned its films over to the Gallaudet College Archives and the Library of Congress for safekeeping. The films collected dust until a few researchers accessed them in the early 1970s to study the properties of historical change in ASL (Frishberg 1975; Woodward and Erting 1975; Woodward 1976, 1978). Recently these films have been restored and made available again, now as videotapes by Sign Media, Inc. However, many scholars have scrutinized the films and doubt their validity as reliable examples of early ASL.

Researchers have argued (and still do argue) that one cannot assume that the films are an accurate reflection of ASL use at that time. They may have questioned the value of the films because of the historical oppression among educators and leaders toward natural sign language in the United States. The usual interpretation of the literature from the nineteenth century and the beginning of the twentieth suggests that the sociolinguistic climate of that time was the same as the present diglossic situation in the United States. That is, it is assumed that the educators and leaders in the Deaf community thought that the signing of the average deaf person was not "proper" or correct and that a means of correcting their signing—a prescriptive approach to language use—was necessary. The films, then, were a demonstration of a "proper" form of the sign language used at that time. As a result, researchers have purposely not used the films to glean information about the history of ASL.

Another current assumption is that what was considered "proper" at that time was defined in the same manner it is today (at least until the recent past)—that proper use of sign language was a signed form of English, and therefore the sign language data as recorded on these films would be uninformative concerning the nature of the language. This reflects a unifying perspective—that processes and attitudes observed today are the same throughout history.

These misunderstandings are due in part to unfamiliarity with early sign language structures, so researchers have not considered which register the films actually reflect and the importance of the data from that era. Many have ignored the possibility that language can change.

Research Strategy

In order to determine the validity of these films, one must view them from the perspective of the era in which they were made. What if they *did* reflect the sign language of the time? How do we go about answering this question? This is the approach I used with the Gallaudet lecture films. However, a strategy had to be developed to resolve the additional questions concerning the validity of these films' representation of early ASL. That strategy involved the following four basic steps:

1. identification of the signers in the films
2. identification of the type of sign language seen in the films
3. analysis of the content of the films
4. study of the metalanguage of that era

First, discover the data available in the films, identify the signers and their backgrounds, and understand why they were selected for filming. This includes determining whether they were hearing or deaf and, if deaf, when they became deaf. This may affect sign language competence and English influence in their signing. Second, look at the films and determine what style was used. Apart from the signer's identity, presentation style is also important in informing us today of the views of sign language that people held at that time. Third, analyze the content of the films to determine whether they reflect the sign language of the time, and, if so, compare the language with modern ASL to understand how the sign language differed. Finally, look at other literature of that era and discover how people wrote about sign language. Knowing what their issues were and what they thought is essential to building a framework from which to view and analyze the films. Study of their metalanguage guides our linguistic discovery and places it in the proper context.

The Films

The fifteen films from the NAD's Gallaudet lecture films series include prepared texts in sign language produced by master signers who were selected to preserve the "Gallaudet Sign Language," as the "proper" ASL was called.[1] The films range from speeches, poetic performances, short plays, and narratives to lectures before live audiences (see table 1).

Table 1. Gallaudet Lecture Films

Master Signer	Title*	Length
J. Cloud	A Plea for a Statue of D' l'Epée in America	6 min.
G. T. Dougherty	Discovery of Chloroform	6 min.
A. G. Draper	Signing of the Charter of Gallaudet College	5 min.
Mary Erd	"The Death of Minnehaha"	14 min.
E. A. Fay	Emperor Dom Pedro's Visit to Gallaudet College	5 min.
T. H. Fox	Lincoln's "Gettysburg Address"	10 min.
E. M. Gallaudet	The Lorna Doone Country of Devonshire, England	15 min.
J. B. Hotchkiss	Memories of Old Hartford	16 min.
W. Hubbard	An Address at the Tomb of Garfield	9 min.
W. E. Marshall	Yankee Doodle	4 min.
R. McGregor	A Lay Sermon	16 min.
R. McGregor	The Irishman's Flea	2 min.
R. McGregor	The Lady and the Cake	2 min.
G. W. Veditz	Preservation of the Sign Language	14 min.
H. D. Drake, F. H. Hughes and Ruth Knox[1]	The Gallaudet Play	5 min.

*These items are part of George W. Veditz Film Collection at Gallaudet University Archives.

Identification of the Signers

Several characteristics describe and group the signers in the films. By looking up the signers' biographies, I was able to group these people into three generations of cohorts determined primarily by their age, school attended, and the generational distance from direct contact with the original adult signing model, Laurent Clerc. Using these criteria, thirty years became the working standard to identify a generation. Therefore, these three represented the second, third, and fourth generations of signers in the United States, with Clerc and Thomas Gallaudet considered as the first generation. Background information included each signer's identity and education (when and where they went to school). Interestingly, generational affiliation, professional background, and an initial analysis of the type of discourse each signer used were quite helpful in identifying which factors were the most effective determinants of the type of sign language they used.

Another consideration is signing style, which was not as informative in identifying or grouping the signers, though it offered important information about the genre. The older signers, who were in their seventies, shared personal memoirs. These men were all Gallaudet faculty members nearing retirement. The middle-aged, third-generation signers were NAD officers, community leaders, or teachers in residential schools and focused on political and social issues in their lectures, whereas the younger generation, the college students, tended toward performances, preferring to do artistic renditions (see table 2.)

The information learned so far indicates that the sign language seen in the films reflects a noncolloquial form, an advanced level of sign language of the college educated, but the question remains—was it ASL? Because of current concerns that researchers must take into consideration in determining the validity and reliability of their data, doubts have been raised about identifying the sign language in the films as an early form of ASL. The first concern relates to the age of onset of deafness, which has an impact on the amount of English grammar the signer uses. However, this factor does not seem to have

Table 2. Selection of Models and Genres[1]

Personal Memories	Social Issues	Literary Arts
Second Generation	Third Generation	Fourth Generation
G. Draper (D-prelg), Gallaudet College	J. Cloud (D-postlg), Missouri	Mary Erd (D-unknown), Michigan
E. M. Gallaudet[2] (H-CODA), Gallaudet College	G. Dougherty (D-postlg), Illinois	H. D. Drake (D-postlg), Gallaudet College
J. B. Hotchkiss (D-prelg), Gallaudet College	T. H. Fox (D-postlg), New York	F. H. Hughes (D-postlg), Gallaudet College
E. A. Fay[4] (H), Gallaudet College	W. Hubbard (D-postlg), Michigan	Ruth Knox (D-unknown), California
	R. McGregor (D-postlg), Ohio	W. E. Marshall (D-CODA), Maryland
	G. W. Veditz (D-postlg), Colorado	
Members of the Gallaudet College faculty	NAD leaders and educators from various parts of the United States	Gallaudet students and alumni as performers

an impact on the grammatical structures seen consistently across signers in the films. Most of the third- and fourth-generation signers in the films were postlingually deaf, whereas the second generation consisted of two prelingually deaf professors and two hearing professors, one of whom was a native signer. The diglossic situation observed today, based on the schism between the English-like signing of college graduates and the colloquial ASL of the rest of mainstream Deaf America, is the second concern since the signers in the Gallaudet lecture films were educated predominantly at Gallaudet College.

This, however, does not mean that the diglossic situation at the turn of the century was the same as it is today. We require careful study of the records and descriptions of their sign language to understand what the ''high-prestige'' and ''low-prestige'' forms were at that time. If we can show that the sign language of the films is an example of the standard form of the language at the turn of the

century, then no sampling error has occurred, and the films can be studied with confidence that they are both valid and reliable.

Development of the Database

In order to identify what type of sign language the films actually represent, the first step was to create a prototype database of all of the texts. The videotexts were digitized, compressed, and stored in a QuickTime file and linked to files containing transcriptions and a lexicon of all of the signs produced in the films. The transcriptions contain English glosses of the signs along with a corresponding English translation and notes with additional research-related information.

Each sign gloss was compiled into a lexicon also containing the location of the sign in the text and information about related citations from dictionaries of that era. Glosses were used primarily to provide a means for cross-referencing with old dictionaries, all of which used glosses to index their signs. Issues regarding the procedure for glossing and cross-indexing with dictionaries are discussed elsewhere (Supalla 2000).

TABLE 3. Sign and Sentence Counts

Signer	Length	Signs	Sentences
Cloud/McCarthy	6 min.	284	19
G. T. Dougherty	6 min.	360	38
A. G. Draper	5 min.	239	26
Mary Erd	14 min.	402	41
E. A. Fay	5 min.	259	21
T. H. Fox	10 min.	362	27
E. M. Gallaudet	15 min.	879	106
J. B. Hotchkiss	16 min.	747	87
W. Hubbard	9 min.	356	38
W. E. Marshall	4 min.	219	32
McGregor	20 min.	852	105
G. W. Veditz	14 min.	574	60

Figure 1. Sample of regional variants of THIEF.

THIEF STEAL BODY

Figure 2.

Sample Analysis of the Sign Language Used in the Films

Using the database I was able to find where "thief" appears in the films by typing that word in the search field. The search returned all instances of the sign, which, by the way, appears twice across the entire corpus and only in Edward Miner Gallaudet's narrative text. The use of glosses can be misleading when studying historical word formation processes. Before discussing the problems with this search, a brief look at modern variants of "thief" is appropriate. A number of variants are recorded in "Signs across America" (see figure 1).

Looking at Edward Gallaudet's rendition of the *entire* concept of "thief," one can explain these variants by understanding the process of lexical change. The complete rendering is THIEF STEAL BODY(see figure 2).[2]

Notice that several signs composing a phrase are required to render this one concept. The chosen gloss can be misleading because the sign for one of the modern variants is glossed the same as one part of the phrase made by Edward Miner Gallaudet. The modern sign did not stand alone at that time. One or two of the signs from the original phrase were combined in different ways to produce most of the variants seen today. Using glosses to record signs has contributed to the erroneous assumption many people hold that one gloss is equivalent to one word. By looking at various signers and at other historical documents, it is clear now that Edward Gallaudet exemplified the ASL of the day, which often required the combination of several signs into phrases to convey a concept.

The word formation process of early ASL relied upon syntax. At that stage ASL was not yet ready for the types of reduced forms seen today. Moreover, as the conventional linguistic models for lexical change predict, redundant information was eliminated, eventually resulting in the local forms we see now. This suggests that we should not expect to see reduced lexical forms in the early stages of ASL. Beginning with the use of several words (a phrase) to express a new concept, speakers will first come to a standardized use and then reduce it to either a compound or a single word that still shows vestiges of the original phrase (see the later section titled "Vestiges of Historic Paradigm Formation").

Study of the Metalanguage of the Era

The current consensus in the sign language research community is that signed languages consistently make use of a rich morphology. The rich morphology observed across signed languages is often attributed to natural cognitive preferences in the visual-gestural modality for simultaneous structures in order to overcome the slower rate of transmission (Bellugi and Fischer 1972). The presence of a rich morphology in modern ASL can also be attributed to historical grammaticalization that converted original phrasal constructions through reanalysis into current lexical and grammatical morphemes. The grammar of a signed language then would contain more compounds and inflections in its older version.

One complication evident in the literature concerns the conditions surrounding sign language evolution. Many signed languages in the world have emerged in the context of schools for deaf students with intervention from educators, which raises questions about the true source of the grammar. Although our study of grammar in early ASL cannot rule out the influence of the surrounding spoken language, it highlights ways that early ASL grammar differed from English and French and instead exhibited the very features found in the process of grammaticalization.

Metalinguistic Knowledge about Sign Phrases

We have based our judgments about the current form of ASL, as well as our assumptions about the language, on our current metalanguage. But what did nineteenth-century signers and educators think? How did they talk about sign language? Did they have a metalanguage?

Document after document indicates that not only did the nineteenth-century scholars think about sign language, but they also identified the way the signers formed new concepts and expressions as sign phrases.[3] When first reading their intellectual discussion, I did not understand what they were referring to when they used the term *sign phrases*. Not until I studied the films and recognized how Edward Gallaudet was expressing ''thief'' did the term become clear. The scholars meant that the expression of a complex concept required the construction of a sign phrase rather than a single sign. A dictionary

published in 1856 by James Brown, *Vocabulary of Signs for Deaf-Mutes,* provides further evidence that scholars understood not only how new concepts were introduced into the lexicon but also how various forces at work reduced and modified these new "signs." Brown states the following in his grammatical notes:

1. It is desirable to increase the number of simple signs. Consequently, where a simple sign can be substituted for a compound one, it should, in most cases, be done.
2. As no spoken language without compound words exists, so it has been found impossible to construct the sign language without compound signs.
3. A tendency exists in all spoken languages to contract the elements of compound words, so that such compound words are often much shorter than their different parts, when separated. The same tendency exists in the sign language and should be encouraged, when it does not interfere with precision and perspicuity.
4. In the sign language this tendency proceeds even farther and often drops an element of the compound sign. This tendency should not be interfered with, except in the case above specified.

Brown's dictionary was intended as a companion text for a dictionary compiled by Thomas H. Gallaudet and Horace Hooker in 1842 listing 2,260 English words and definitions as a standard vocabulary for college-bound youth. Brown's goal was to provide a sample of phrases in sign language of how each word in Gallaudet and Hooker's dictionary was to be signed. He was able to describe ninety percent of the dictionary's words in sign phrases.

The linguistic discussions of the nineteenth century have shown that word formation processes then and now are not the same. If assuming a uniformitarian perspective, we can overlook these processes. What is most exciting is the evidence for true historical change in ASL that mirrors what has been found in spoken languages and in recent studies of emerging signed languages that have no contact with conventional signed languages. Our lab's current research on emerging sign languages and home signers is providing additional evidence that grammaticalization in young sign languages stems from syntactic sign phrases (Senghas, Coppola, Newport, and Supalla

1997; Coppola, Senghas, Newport, and Supalla 1997; Osugi, Supalla, and Webb 1999).

Vestiges of Historic Paradigm Formation

The next step is to determine whether the sign phrases were rule governed. If word order is consistent in sign phrases, the environment is set for the process of paradigm formation throughout the language. Future generations may then reduce the phrase while maintaining the original word order. These vestiges of word order or syntactic structure will be evident in modern forms as a result of the paradigms.

In early ASL, kinship terms were expressed by sign phrases and were used across all three generations appearing in the films. For example, (MALE + modifier) or (FEMALE + modifier) was used to express these terms. The first sign identified the gender, and the second sign (or second position) identified the kinship relationship, resulting in sign phrases such as (MALE + ROCK-BABY) for "son," (FEMALE + SAME) for "sister," and (MALE + MARRY) for "husband" (see figure 3). This provides us with a clue for a possible regular process of paradigm formation.

Once there were various sign phrases sharing the paradigm of marking gender contrast, the stage was set for the next step in the process. Redundant information appearing throughout the sign phrase could be eliminated. An example of redundant information in the kinship paradigm was the marking of gender information by both the location of the gender sign and the handshape used. Location alone was sufficient information for identifying gender, so the handshape was reduced. The first half of the sign phrase opened to assimilatory processes, spreading handshape features regressively from the second half of the sign phrase to the now unmarked first half. This neutralization of handshape led to reanalysis of a gender sign into a simple gender-marking location.

The Role of Initialization in Early ASL

Initialization is another interesting example of historical change. The development of manual codes for English (MCE) approximately

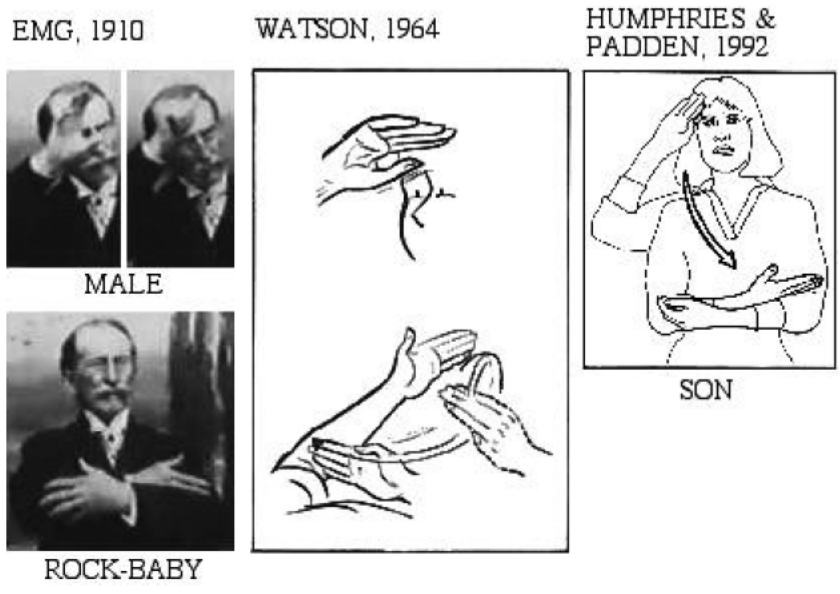


FIGURE 3.

thirty years ago expanded the use of this word formation device. *Initialization* today is the substitution of the original handshape of a sign with a handshape from the manual alphabet that represents typically the first letter of the English word equivalent for that sign. For example, the modern sign for CLASS originally referred to any type of group formed, a plural marker in one sense, used at the end of sign phrases such as MALE + FEMALE + CLASS (modern gloss). Eventually other signs were added to the ASL lexicon by this initial handshape substitution process, yielding FAMILY, by substituting the F handshape and GROUP by substituting the G handshape. Thus these three modern signs contrast minimally—produced with the same movement in the same location but with different handshapes.

MCE development took initialization to an entirely new level. Before 1970 the overall usage of initialization was quite limited; after 1970 MCE systems exploited it as the major means of adding English words to the sign language lexicon. The limited use of initialization in the CLASS quantifier was expanded by substituting "T" for TEAM,

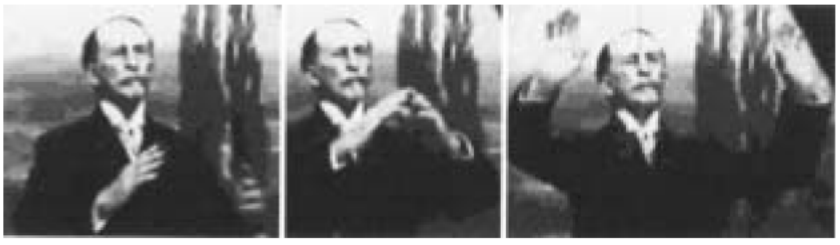


Figure 4. The sign phrase ROOF HANDS-RAISED.

Figure 5. The sign phrase HANDS-RAISED DAY.

Figure 6. C + ESTABLISH.

"A" for ASSOCIATION, "D" for DEPARTMENT, and "S" for SOCIETY. Researchers and native signers sometimes view these recent examples of initialization as English intrusions in the natural language.

This current intrusive use of initialization is, however, not an adequate representation of how words were formed at the turn of the century and earlier. Let us look at an example, then, of the word formation process seen in the films. Edward Gallaudet signs the sign phrase ROOF HANDS-RAISED (see figure 4). The direction of movement for ROOF has changed; then the hands moved up and touched. HANDS-RAISED refers to the posture of Jesus on the cross.

We consulted dictionaries published at that time to help us identify this as "church." Edward Allen Fay also used this sign phrase at the end of his address about the visit of Emperor Don Pedro to Gallaudet College. The contextual reference was to the chapel, which also helped us to identify the meaning of the phrase. Another contemporary, John Hotchkiss, signed HANDS-RAISED + DAY (movement for DAY was also in the opposite direction of the modern form), which meant "Sunday" (see figure 5).

Third-generation signers used different forms. George Veditz signed "church" with a C handshape circling the back of the left flat hand. The movement and location are those of our current sign ESTABLISH, which indicates that the form Veditz used was an initialized form (figure 6).

Apparently there was competition between two distinct forms of the same concept in the language. This type of lexical competition is also seen in spoken languages, and the result can be the selection of one of the tokens and the disappearance of the other, or a combination of features from both tokens can be used to produce a hybrid phrase. Willis Hubbard, another third-generation signer, used a hybrid when he combined one part of the original sign phrase with the initial sign to create HANDS-RAISED CHURCH (see figure 7). This is an example of the process of *amalgamation,* which is a morphological compromise between two competing forms.

Thus the original forms for CHURCH were apparently not influenced by English at all, and it is not until later in ASL history, with the appearance of competing forms, that we see possible English influence via the replacement of older forms. Only recently has the

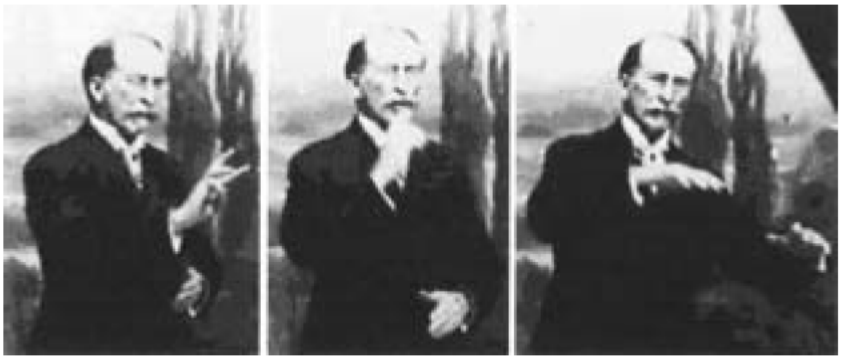
FIGURE 7. The sign phrase HANDS-RAISED CHURCH.

reduced form of the initialized sign dominated, and there is no trace of the original sign phrase except for the relexicalization of HANDS-RAISED into the contemporary sign SUNDAY. The pattern of lexical competition caused by English influence suggests that early ASL morphology (i.e., word formation rules) was based on a type of grammar unrelated to English.

Second-generation signers used initialization to form sign phrases, but the word formation rules illustrate a second process at work at that time. The manual alphabet handshape was not combined simultaneously with the location and movement of an existing sign to form a new word. Instead, the handshape was expressed as a separate "sign," fully formed with its own internal movement located in neutral space. It is apparent that it acquired a new grammatical function—marking a noun class (e.g., WET-SUBSTANCE). It was then followed by a size-and-shape specifier (SASS). Edward Gallaudet provides a couple of examples of this process: W + WET-SUBSTANCE + SASS are used to create sign phrases such as OCEAN, WATERFALL, and RIVER (see figure 8).

These two concurrent processes are further substantiated by Isaac Peet's 1868 description of two processes for initial signs. In the first process, which is still in use today, the initial is incorporated into the lexical sign, which he called the "radical." The second process is exemplified by Edward Gallaudet, wherein the initial is the radical combined simultaneously with an internal movement (e.g., shaking back and forth) and then placed in a sign phrase.

In order to understand the grammar of early ASL, then, it is necessary to rethink the traditional approach to the films. It is evident



W WET-SUBSTANCE SASS: FLOWING

FIGURE 8.

that the first place to begin is to study ASL's word formation processes. Once we understand these and the metalinguistic knowledge of the time better, the roles of natural linguistic mechanisms and grammatical transfer of English may become clearer.

The Register of Language Reflected in the Films

The political climate at the turn of the century was grim. Oralism was taking over more and more schools for deaf students in America. Deaf teachers were often being released from the schools, removing a vital link to the language of their forebears. The leaders of the NAD were troubled by these developments. Not only that, but the elite second generation, masters of the sign language, all professors at Gallaudet College, were now in their seventies and quickly retiring; some had already passed away. The third-generation signers, who were leaders of the NAD, wanted to preserve this rich heritage, and when the moving picture medium appeared, they saw it as their answer.

George Veditz, one of the signers, explained the rationale behind the project in his lecture, "Preservation of the Sign Language." His idea was to preserve the sign language of their predecessors on film so that future generations could learn the "proper" way to sign and return to the natural language of deaf people.

Veditz was president of the NAD when his talk was filmed in 1913. Prior to that, the NAD had established the NAD film committee, which began making regular reports to the membership in 1907.

These reports were published in the NAD convention proceedings. Another signer was Edward Miner Gallaudet, the youngest son of Thomas Hopkins Gallaudet, the 1817 cofounder of the first school for deaf students in the United States (today known as the American School for the Deaf in Hartford, Connecticut). Edward Miner Gallaudet had a deaf mother and grew up at the American School for the Deaf, interacting with the deaf students. He later went on to establish Gallaudet College and became its first president, hiring all of the original faculty for the college—all friends with whom he had grown up and all second-generation signers.

The third-generation leaders who are featured in the films were schooled under the second-generation professors of Gallaudet University. They looked up to their professors as the elite and as mentors of all that was good. They sought to emulate the professors' sign language as much as possible, especially when they observed the "deterioration" of the sign language as used "on the streets." In addition, the NAD proceedings clearly state the organization's concern about the deterioration of the average deaf person's sign language and the NAD's desire to prescribe the proper way to sign.

> Resolved, that we call upon schools for the deaf not only to preserve, but to improve on this sign language, and to give systematic instruction in the proper and correct use thereof. (1910)

One way to interpret this action of the NAD is that it confirms the presence of a diglossic situation in which elite members tried to replace the local ways with another type of language they considered superior. I refer to the latter as an *elite register* of ASL. Another resolution that the NAD made in 1910 shows that there was even a name circulated among the members of the Deaf elite for the prestigious variety of their sign language. The resolution states the following:

> Resolved, that we endorse and recommend the manual of signs recently published by Mr. J. S. Long, as a text-book to those hearing persons desiring to acquire a fair knowledge and correct use of the Gallaudet sign language.

We assume the term "Gallaudet sign language" refers not to the name of a particular individual but instead to a place—the college itself; the NAD named this elite register for the faculty members

there and the way they used it. Edward Gallaudet had hired the entire second-generation faculty from the alumni of the American School for the Deaf (ASD), so the language the NAD was really trying to preserve and emulate was the original sign language, the ''natural language of signs,'' as NAD President Veditz stated in his film lecture. It is evident that Edward Gallaudet's goal in hiring these particular faculty members was to maintain a standard: the one set by Laurent Clerc and Thomas Hopkins Gallaudet, the founders of ASD.

John Hotchkiss explains the process of maintaining this standard in his own film, ''Memories of Old Hartford,'' in which he recalls how all new teachers hired at the school were required to pay Clerc to tutor them in the proper way to sign. Hotchkiss taught oratory at Gallaudet College from its inception until his retirement, ensuring that the sign language that graduates used was faithful to Clerc's ideals. I refer to this register as the classical elite register of early ASL, which existed alongside the colloquial register, used in everyday conversation. This term distinguishes it from the more recent elite variety, which was popular among the Deaf elite in the mid-twentieth century (Stokoe, Bernard, and Padden 1976). The latter was named Pidgin Signed English (PSE) (Woodward 1973).

The classic elite register originated, in fact, at the American School for the Deaf at Hartford. So although the first generation of signers was gone, the second and third generations cherished the first-generation's sign language and sought first to use it and then to preserve it. If preservation was the goal and the sign language to be preserved was that of the American School for the Deaf at Hartford, the question remains, where did this sign language come from? Historical records indicate that Edward Gallaudet's father went abroad in search of methods of instructing deaf children. He returned to Hartford with Laurent Clerc, a native signer from Paris. Can it be shown that the elite version of early ASL as shown in the NAD films (e.g., ''Gallaudet Sign Language'') was similar in structure to the one that Clerc had first learned and used in France?

The French Connection

A deaf contemporary of Clerc's in France was Pierre Pélissier, who published the dictionary *Langue des Signes Françaises (LSF)* in 1856.

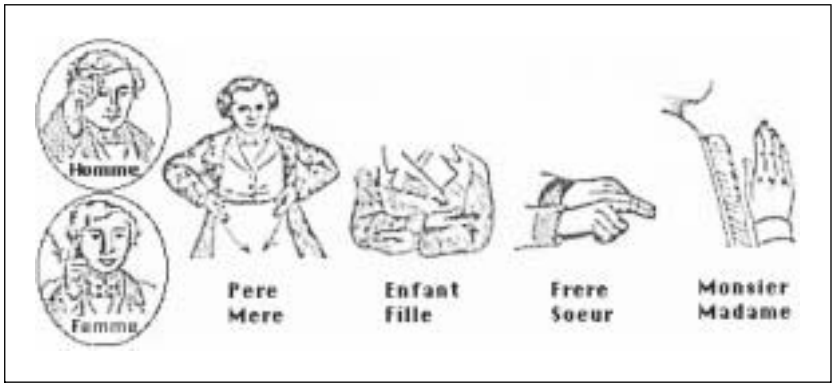


Figure 9.

Figure 10.

Examination of the signs and grammatical descriptions contained in his dictionary shows a striking similarity to the structure of sign phrases found in early ASL. The kinship paradigm is one good example of this connection. In Pélissier's dictionary, the chapter on kinship signs begins with an explanation that one needs to combine a sign indicating gender with an attributor sign. It then presents pictures of the gender forms and the attributor signs used in their sign phrases (see figure 9). Formational similarity to ASL can be seen in a number of the attributor signs in this section of his dictionary.

Assuming the LSF signs that Clerc and Gallaudet brought with them to America in 1817 were similar in form, we compared these forms with both historical and modern ASL forms (see figure 10). The comparison revealed a great similarity of forms among the LSF and ASL data.

This very brief example illustrates the quality of data available in the historical LSF materials and the way they closely relate to modern and early ASL data. This analysis presents a hypothesis for a pattern of evolution of ASL lexical forms and shows, for the first time, grammaticalization patterns parallel to those described for spoken languages.

Earlier comparative work did not look at the structures reviewed in this article. Woodward (1976) focuses on individual lexemic cognates in modern ASL and LSF and does not take into consideration grammatical constructions in both languages. Fischer (1975) analyzes ASL word order across time, suggesting that it changed from SOV to SVO. Again, however, her focus is not on sign phrase constructions, so her work cannot provide an adequate explanation of the language seen in the films.

The Role of Methodical Signs

Popular belief today suggests that the sign language preserved in the Gallaudet lecture films was strongly influenced by methodical signs that the Abbé de l'Epée and Sicard developed. We assume that Clerc brought these signs to the United States in addition to LSF. However, we also know that Bébian's discussions in France arguing against methodical signs influenced educators in Europe and America so much that people had abandoned them by the mid-1830s (Lane 1984). Therefore, methodical signs were not included in Pélissier's 1856 dictionary. Although there was much debate in the *American Annals of the Deaf* throughout the nineteenth century about whether to restore methodical signs, the idea of intervening in the natural development of sign language and restructuring signs in accordance with the grammar of spoken language was not revived again until the popularization of MCE in the 1970s. The extent of influence that methodical signs had on early ASL then is still in question. Further research into

the historical documents describing the mechanisms of methodical signs must be done before making such a determination.

Tracing Historical Change in the Films

Now that we have described some processes of change in this diachronic analysis of ASL, the rest of the article shows how we have confirmed that our historical film materials are a reasonable representation of the ASL of that time. In addition, we provide a description of some of our findings in comparing word formation processes observed in the 1910–1920 materials to those in modern ASL. This information is a significant addition to our understanding of language change and diversity, which previously dealt primarily with spoken languages.

Synchronic Variation in Word Formation

By carefully identifying generations of users in the films and then comparing sign use across these generations, we were able to trace the historical change in word formation processes as it occurred. A clear synchronic variation appears across the three generations of master signers in the way they form their concepts. The second generation used more phrases with fully formed signs, whereas the fourth generation used more reduced forms.

THIEF is not a good example to study since it is used only by Edward Gallaudet, so let us look at an example that appears in all three generations—TEACHER. Second-generation signers used the phrase TEACH BODY, but by the time the fourth generation came around, BODY had changed in meaning and form. TEACHER was produced as a reduced phrase: TEACH AGENT. Within the third and fourth generations the combination of the two signs varied, and even within one signer, the phrase sometimes appears as two fully formed signs and sometimes almost as a compound with AGENT reduced slightly. Today's affixed form looks like a single sign with a simple downward movement attached to the end.

As a final step in assessing our historical film materials, we conducted several sample synchronic analyses to see whether the signers' use of morphological devices across domains of ASL grammar

showed homogeneity. What we found was generationally based diversity in two sets of morphological devices. The features in one set remained unchanged across time. We found synchronic variation across signers in the ways they incorporated morphemes in the second set of devices, leading to radical structural changes. To express certain meanings, the younger generation of signers in the films performed inflections in ways similar to those found in modern ASL, whereas the older signers relied on periphrastic devices. These patterns of change indicate a shift from an analytic to a synthetic typology for certain aspects of ASL morphology.

Results of Synchronic Analysis

Our synchronic analysis of the sign language as recorded in the NAD films demonstrates the feasibility of using the theory of grammaticalization proposed by historical linguists as a model that explains historical change in the typology of ASL morphology from analytic to synthetic.

The following list shows some aspects of ASL morphology that we found to remain unchanged across time.

1. person agreement for subject and object
2. number and aspect inflections
3. syntactic use of nonmanual features

Indeed, the grammatical mechanism of marking subject and object agreement in person, number, and verbal aspect involves synthetic fusion of temporal-spatial patterning into the verbal stem, but this type of morphophonemic process would still appear early in the history of ASL and remains unchanged until today. This is also true for fusing nonmanual patterning of facial postures to lexical items across clauses. It is interesting to note that the morphophonemics for verb agreement, number and aspect inflections, and nonmanual signals are common in other signed languages. These structures are also observed in new, emerging signed languages, such as Nicaraguan Sign Language (Senghas et al. 1997) and in ad-hoc, lingua franca systems (e.g., International Sign) created for international contacts between signers sharing no mutual sign language (Supalla and Webb 1995). Therefore, we may assume that these devices are naturally

synthetic and already utilized as part of natural gesture, so one may just adopt them as lexical and grammatical mechanisms at the onset of a developing sign language.

In contrast, other morphemic types seem to emerge later in the development of sign language grammar. The following list includes certain types of modern ASL morphology that we found to be absent in the early ASL database:

> affixation of the agentive case marker for certain human nominals
> cliticization of the gender marker for human kinship terminology
> incorporation of the negative or completive marker for verbs
> incorporation of number and tense markers for temporal adverbs

As reported earlier, the first two on the list involve a subsequent reanalysis of a singular person quantifier (e.g., BODY) into a productive agent suffix or reconfiguring two lexical words distinguishing human gender into a paradigmatic set of two minimally contrastive proclitics for modifying human kinship terms. Note that the difference in position of the clitic morpheme is determined by the dependent relation of the modifier to the host word in the original paradigm (i.e., the right position for the agent suffix versus the left position for the gender proclitic).

Process of Grammaticalization

In historical linguistics research, the work done on the process of grammaticalization in spoken languages provides the tools we needed to analyze the sign language used in the Gallaudet lecture films. Beginning with free morphemes, grammaticalization follows a unidirectional path in which the "free" morpheme (i.e., content word) appears as a grammatical word modifying a "host" word. As the modifying word becomes more dependent on the host (always appearing adjacent to the host), it undergoes phonological reduction and becomes a clitic (Lehmann 1995). Finally, when the clitic comes to be used in a consistent, paradigmatic fashion with different host words, it triggers morphologization of the clitic into an affix (Givon 1971).

Content word > grammatical word > clitic > affix

In summation, new words, function words, and affixes are derived through the process of grammaticalization, contributing to the expansion of the lexicon and development of its morphology. This trend of grammatical change is captured in Givon's statement "Today's morphology is yesterday's syntax."

Opacity in Lexicon and Morphology

Let us apply this process of grammaticalization to the observed changes in ASL already mentioned. The particles involved in the creation of modern negative formatives, completive formatives, comparative adjectives, and temporal adverbs originally appeared as separate lexemes in early ASL constructions. As we propose, the process of grammaticalization requires time to accomplish the conversion of certain grammatical words into systematic affixlike morphemes appearing either to the left or right of the host stem. This is followed by a subsequent phase where the original lexemes positioned in a particular syntactic paradigm are eventually fused into the synthetic compounds and polywords used today. What we find most interesting is the presence of opacity in the current lexicon and morphology of ASL as a result of the shift from analytic to synthetic morphology. One such case is the opacity of the modern ASL lexeme NEVER (see figure 11).

NEVER originated as a phrase starting with an adverb resembling the modern ASL version of ALWAYS and ending with a negator produced by Edward Miner Gallaudet (see figure 11) in 1910 on film when expressing the same meaning. Without the film example of this sign phrase, we would never know that NEVER underwent the process of grammaticalization.

This case of opacity makes us realize how precarious it is to rely on the lexicosemantics of the modern sign language as a method of historical analysis. For instance, one may trace origins on the basis of visible evidence, such as identifying two sign parts in HOME as verification that it is a compound of EAT and SLEEP. However, the presence of opacity in the current lexicon and morphology of ASL makes one

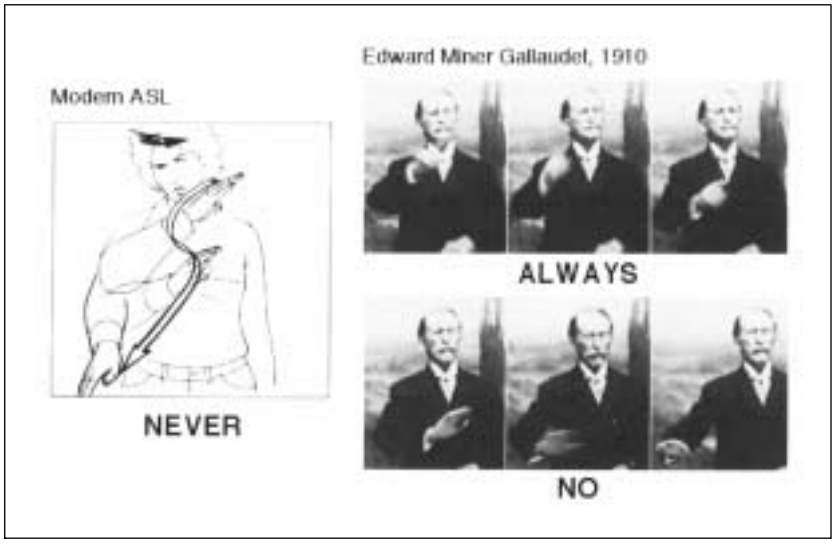


Figure 11.

realize the need to seek other sources for evidence in the search for the origins of the lexicon and grammar as shown here.

Divergence in Morphology

There is an ongoing debate about whether the word order of ASL has changed (Liddell 1981). This idea of word order change was first mentioned by Fischer (1975), who noticed differences in word order patterns in published descriptions and transcripts of sign language data throughout the nineteenth century. However, one may be reluctant to rely on written records that may reflect certain metalinguistic biases of authors. To demonstrate how the historical database of sign language recorded on the NAD films can help resolve this matter, we performed a synchronic analysis on the use of negators among signers in the NAD films. Indeed, the synchronic method shows that a certain aspect of ASL word order has been changing. We can identify two groups on the basis of how they arranged negators in their sentences (see table 4).

Here the analysis shows the variation in the negator's position and form. The older members of the Gallaudet faculty place the older version of the negator (i.e., the gestural form for NO as shown in

TABLE 4. Typology and Distribution of Negators among Second- and Third-Generation Signers

	Early ASL Negator Types		Modern ASL Negator Types	
Signer	Preverbal	Postclausal	Preverbal	Postclausal
Fay		2		
Fox			6	
Gallaudet		6		
Hotchkiss	3			
McGregor				5
Veditz			3	1

figure 11) at end of the clause, whereas the other signers place the more modern negator (i.e., NOT as used today) before the verb. Obviously the different negator types were competing against each other at that time. We observed this same pattern of variation in the use of other particles such as the completive FINISH and the numeral quantifier and tense marker accompanying temporal adverbs. Furthermore, the reassignment of clause-final particles, especially with the modern versions of the negator NOT and the completive FINISH, as preverbal tense and modal words must have been completed later in the twentieth century, with the departure of Gallaudet faculty members.

This analysis suggests that current ASL morphology and syntax are language specific since the change in negator placement occurred sometime early in the twentieth century, which is about one hundred years after contact first took place between ASL and LSF. That is, the grammar of ASL is not completely imported (that is, unchanged) from France but instead underwent further development on its own.

Conclusion

Although the validity of the Gallaudet lecture films as a sample of early ASL has been challenged, careful analysis of the word formation processes we identify in the films provides evidence of natural processes of language change at work. By reviewing the linguistic discussions of that era, applying historical linguistic tools, and considering the sign language data within the context in which they were created, we can construct a more accurate account of the data in the films.

In the 1946 report to the NAD bureau, Roy Stewart, the chair of the NAD motion picture committee, outlined the objective of the 1910–1920 effort as follows: ''for the preservation of the sign language through securing lecture films in the sign language by prominent educators of the deaf and by others, not educators, who were outstanding in the use of the sign language.'' After twenty years, the circulation of films was discontinued because of a lack of interest in them. The motion picture committee instead focused on preserving the remaining films. In *Deaf Heritage* Gannon (1981) describes how Roy Stewart spent many years trying to convince the NAD of the need for preserving the films for posterity.

> Unfortunately, for the committee, the members voted at the Hartford Convention to transfer $1,000 from the Motion Picture Fund to the NAD Endowment Fund. The Picture Fund never recouped from this large withdrawal, and many of the old 35-mm films deteriorated so much that they could not be transferred to 16mm film. Many of the old films were lost. Nevertheless, Stewart remained the guardian angel of these old films through the many years they were in his care. His biennial request for funds to restore old films and enlarge the collection became as common an item on the NAD convention agenda as the regular resolution supporting sign language which was inevitably adopted at each convention. Although RJ was not very successful in getting the financial support he needed, he took care of the films as best he could and arranged for their preservation in the Library of Congress and at the Edward Miner Gallaudet Memorial Library. He faithfully reported on their condition at each convention. It is due largely to RJ that today's students of sign language can see on video-tape the rare old sign language presentations made from those early films. (Gannon 1981, 173)

In the last report from this committee, Stewart states that ''It is the hope of the National Association of the Deaf that educators of the deaf and others interested in the educational progress of the deaf will be enabled by the use of copies made from these prints to study the progress of the sign language and note whether it is improving. If copies can be made, fifty or a hundred years hence they will be of great value and interest'' (*Proceedings of the National Association of the Deaf* 1946 p. 47). This noble enterprise was not in vain. The Gallaudet lecture films are indeed a rich resource illuminating everything

we know about sign languages today. Furthermore, these films help us to better understand the evolutionary processes that all human languages undergo.

The meticulous actions of Roy Stewart and other members of the motion picture committee in raising funds, recruiting master signers, and archiving the film records for posterity have helped preserve a dying dialect whose origin can be traced all the way back to the Hartford school and its founders, who had imported some parts of French Sign Language as it was at the beginning of the nineteenth century. At the same time the film records have captured synchronic variation among American signers one hundred years later. We also regard the literary material recorded on these films as unique and invaluable for representing the oratory art of sign language at the end of the nineteenth century. Even though this elite dialect has completely disappeared today, these historical films provide priceless historical data that give us a new perspective on ASL history and enable us to explain the lexical, grammatical, and stylistic unfamiliarities of early ASL and to recognize the complexity of change as well as the presence of opacity in the current lexicon and morphology.

The evidence from early ASL dictionaries, early French Sign Language, and the films all points to the fact that the history of ASL, when understood in the appropriate context, mirrors the grammatical processes of change seen in spoken languages. Early ASL morphology has been shown to be distinct from modern ASL in the synchronic variation seen across the three generations of signers in the films.

Understanding the purpose behind the films and the people who were in them provides both an appropriate framework from which to study the language of that day and insight into how the language came about. The NAD films are truly a window into the history of ASL.

Notes

1. Gallaudet Sign Language was established as the "proper" sign language by the NAD's 1910 resolution.

2. Brackets indicate a sign phrase, that is, a phrase conveying a single concept or word.

3. We have chosen to use Isaac Peet's term *sign phrase* to refer to these phrases that represent concepts in the sign language (1868). Other scholars have used the word "paraphrase" for the same concept (Jacobs 1855) while others might use "compound signs" (Brown 1856).

4. Although it is one of the original Gallaudet lecture films, "The Gallaudet Play" is not included in the restored videotape distributed by Sign Media, Inc.

5. "D" and "H" refer to hearing status: Deaf or Hearing. "Prelg" and "Postlg" mean prelingual and postlingual respectively. "CODA" means that person has at least one deaf parent.

6. Both E. M. Gallaudet and E. A. Fay grew up on the grounds of a school for deaf students.

References

Baker-Shenk, C., and D. Cokely. 1980. *American Sign Language: A Teacher's Resource Text on Grammar and Culture*. Washington, D.C.: Gallaudet University Press.

Bellugi, U., and S. Fischer. 1972. A Comparison of Sign Language and Spoken Language: Rate and Grammatical Mechanisms. *Cognition* 1 (3): 173–200.

Brown, J. 1856. *Vocabulary of Signs for Deaf-Mutes*. Baton Rouge, La.: Morning Comet Off.

Coppola, M., A. Senghas, E. Newport, and T. Supalla. 1997. Evidence for Verb Agreement in the Gesture Systems of Older Nicaraguan Home Signers. Presentation given at Boston University Conference on Language Development, Boston, Mass.

De l'Epée, Abbé C. M. 1765. Instruction of Deaf and Dumb by Means of Methodical Signs: The Manner of Instructing the Deaf and Dumb Confirmed by Long Experience. Paris.

Fischer, S. 1975. Influences on Word Order Change in American Sign Language. In *Word Order and Word Order Change,* ed. C. Li. Austin: University of Texas Press.

Frishberg, N. 1975. Arbitrariness and Iconicity: Historical Change in American Sign Language. *Language* 51:696–719.

Gallaudet, T. H., and H. Hooker. 1841. *The School and Family Dictionary, and Illustrative Definer.* New York: Robinson, Pratt & Co.

Gannon, J. R. 1981. *Deaf Heritage: A Narrative History of Deaf America*. Silver Spring, Md.: National Association of the Deaf.

Givon, T. 1971. Historical Syntax and Synchronic Morphology: An Archaeologist's Field Trip. *Chicago Linguistic Society Papers* 7:394–415.

Greenberg, J. H., ed. 1966. *Universals of Language*, 2d ed. Cambridge, Mass.: MIT Press.

Higgins, D. D. 1923. *How to Talk to the Deaf.* St. Louis: Higgins.
Hock, 1991. *Principles of Historical Linguistics,* 2d ed. Berlin: Mouton de Gruyter.
Hopper, P. J., and E. C. Traugott. 1993. *Grammaticalization.* New York: Cambridge University Press.
Jacobs, J. 1855. The Philosophy of Signs in the Instruction of Deaf-Mutes. *American Annals of the Deaf and Dumb* 7:197–228.
Klima, E., and U. Bellugi, eds. 1979. *The Signs of Language.* Cambridge, Mass.: Harvard University Press.
Lane, H. 1984. *When the Mind Hears: A History of the Deaf.* New York: Random House.
Lehmann, C. 1995. *Thoughts on Grammaticalization.* LINCOM Studies in Theoretical Linguistics, vol. 1. München: LINCOM EUROPA.
Liddell, S. K. 1981. *American Sign Language Syntax.* Approaches to Semiotics, vol. 52. The Hague: Mouton.
Liddell, S. K., and R. E. Johnson. 1986. American Sign Language Compound Formation: Processes, Lexicalization, and Phonological Remnants. *Natural Language and Linguistic Theory* 4:445–513.
Long, J. S. 1910. *The Sign Language: A Manual of Signs.* Iowa City: Athens Press.
Michaels, J. W. 1923. *Handbook of the Sign Language of the Deaf: Prepared Especially for Ministers, Sunday School Workers, Theological Students and Friends of the Deaf.* Atlanta, Ga.: Home Mission Board, Southern Baptist Convention.
Osugi, Y., T. Supalla, and R. Webb. 1999. The Use of Word Elicitation to Identify Distinctive Gestural Systems on Amami Island. *Sign Language and Linguistics* 2:87–112.
Peet, I. 1868. Initial Signs. *American Annals of the Deaf and Dumb* 20:171–84.
Pélissier, P. 1856. Iconographies des signes, avec des notes explicatives faisant partie de l'enseignement primaire des sourds-muets mis à la portée de tout le monde [Iconography of Signs with Explanatory Notes]. Paris: Paul Dupont.
Senghas, A., M. Coppola, E. L. Newport, and T. Supalla. 1997. Argument Structure in Nicaraguan Sign Language: The emergence of grammatical devices. In *Proceedings of the 21st Annual Boston University Conference on Language Development: Vol. 2,* ed. E. Hughes, M. Hughes, and A. Greenhill. Somerville, MA: Cascadilla Press.
Sicard, R. A. C. 1808. A Theory of Signs for the Instruction of the Deaf-Mute. Paris: Dentu; Delalain.
Smith, C., K. Mikos, and E. M. Lentz. 1988. *Signing Naturally: Teacher's Guide.* San Diego: DawnSign Press.
Stokoe, W. C., H. R. Bernard, and C. Padden. 1976. An Elite Group in Deaf Society. *Sign Language Studies* 12:189–210.

Supalla, T. 1998. Reconstructing Early ASL. Paper presented at Sixth International Symposium on Theoretical Issues in Sign Language Research, November 12–15, Washington, D.C.: Gallaudet University.

———. 2002. Making Historical Sign Language Materials Accessible: A Prototype Database of Early ASL. *Sign Language and Linguistics* 4:285–97.

Supalla, T., and R. Webb. 1995. The Grammar of International Sign: A New Look at Pidgin Languages. In *Sign, Gesture and Space,* ed. K. Emmorey and J. Reilly. Mahwah, N.J.: Erlbaum.

Valade, Y. L. R. 1854. Essai sur la grammaire du langage naturel des signes à l'usage des sourds-muets [Lexical and Grammatical Studies of Natural Sign Language]. Paris.

Watson, D. 1964. *Talk with Your Hands*. Menasha, Wisc.: George Banta.

Woodward, J. 1973. Some Characteristics of Pidgin Sign English. *Sign Language Studies* 3:39–46.

———. 1976. Signs of Change: Historical Variation in American Sign Language. *Sign Language Studies* 10:81–94.

———. 1978. Historical Bases of American Sign Language. In *Understanding Language through Sign Language Research,* ed. P. Siple. New York: Academic Press.

Woodward, J., and C. Erting. 1975. Synchronic Variation and Historical Change in American Sign Language. *Language Sciences* 37:9–12.

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