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# EXPLORING THE ANCESTRAL ROOTS OF AMERICAN SIGN LANGUAGE: LEXICAL BORROWING FROM CISTERCIAN SIGN LANGUAGE AND FRENCH SIGN LANGUAGE

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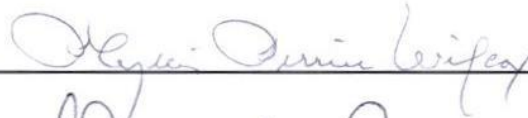
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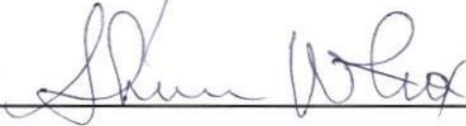
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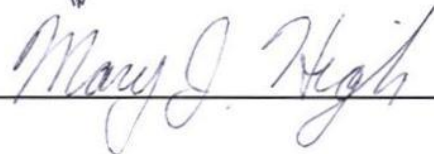
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CISTERCIAN SIGN LANGUAGE AND
FRENCH SIGN LANGUAGE**


**BY**


**KEITH MARTIN CAGLE**


B.A., Social Work, Rochester Institute of Technology, 1982
M.A., Educational Administration, California State University
at Northridge, 1991


DISSERTATION

Submitted in Partial Fulfillment of the
Requirements for the Degree of

**Doctor of Philosophy
Educational Linguistics**

The University of New Mexico
Albuquerque, New Mexico


**May 2010**

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## ABSTRACT

American Sign Language (ASL) is the natural and preferred language of the Deaf community in both the United States and Canada. Woodward (1978) estimated that approximately 60% of the ASL lexicon is derived from early 19th century French Sign Language, which is known as *langue des signes française* (LSF). The lexicon of LSF and ASL may be derived from several sources such as gestures, home signs created by deaf individuals living with their hearing families, North American Indian sign languages, Martha Vineyard sign language, and new signs added to LSF and ASL through the generations. Before the emergence of LSF in the 18th century and ASL in the 19th century, Cistercian Sign Language (CSL) had been used extensively by monks for centuries in Europe. This dissertation explores the plausible roots of ASL prior to LSF. These ancestral roots were researched: (A) to determine, from a limited corpus of CSL, if similar phonologically and semantically related lexical items are found in LSF and ASL; (B) to determine if any of the CSL, LSF and ASL phonologically and semantically related lexical items are related simply because they are iconic forms; and (C) to determine if any of the CSL, LSF and ASL phonologically and semantically related lexical items are initialized.

Analysis of the data revealed that there are numerous identical and similar signs between CSL and Early LSF, and among CSL, LSF, and ASL, indicating that lexical borrowing from CSL was a factor in the development of LSF and ASL. There is a strong

likelihood that iconicity accounts for many of the identical and similar lexical signs that are shared among these three signed languages. There is limited evidence of the employment of initialization in the lexical borrowing that took place from CSL to LSF, and then to ASL.

This analysis of lexical borrowing provides new information about the historical roots of LSF and ASL and their origins in CSL. Information about the development of ASL, and how CSL and LSF have had an impact on the present-day ASL lexicon, is a significant aspect of ASL literature and is important to include in Deaf Studies and ASL teaching curricula.

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**Chapter 1:  Introduction**

## 1.1.    Introduction

Is it possible that some of our American Sign Language lexical signs are nearly 1000 years old?  For some time, it has been widely known that approximately 60% of the ASL lexicon was derived from early 19th century French Sign Language (Woodward, 1978), known as *langue des signes française* (LSF). For this dissertation, this early 19th century French Sign Language will be referred to as Old LSF. This Old LSF lexicon was first introduced and then became incorporated into ASL when Laurent Clerc, the first deaf teacher in America, moved from Paris, France in 1816 and brought Old LSF with him. That language then began spreading throughout America.

The lexicon of ASL may have originated from a combination of sources:  gestures, home signs created by deaf individuals living with their hearing families, North American Indian sign languages, Martha's Vineyard sign language, and new signs which were added to LSF and ASL through the course of generations. There are many documents indicating the use of gestures and/or signs by deaf people for many centuries prior to the 19th century; however, few documents containing descriptions of signs have become evident prior to the monks recording the descriptions of their Monastic sign language.

Before the emergence of Old LSF in the 18th century and ASL in the 19th century, Monastic sign languages such as Cistercian and Trappist sign languages had been used by Christian monks for centuries. There is evidence of that use dating from the tenth century, not only in Europe but also in Japan, China and the United States of America. CSL lexical signs were first documented in 1068 A.D. in Cluny (now France) and are still in use today (Barakat, 1975).

The predominant question posed for this dissertation is to ascertain the ancestral roots of the ASL lexicon and the historical emergence of signs. This dissertation looks beyond Old LSF, prior to 1855 (Brouland, 1855) when the first Old LSF lexical signs were described and documented, to explore the plausible roots of ASL and to confirm ASL's lexical borrowing from Old LSF as well as from CSL.  During the process of analyzing the possibility of lexical

borrowing, the lexical items under review were screened for iconicity and the employment of initialization, all to determine which factors might have played a role in the development of Old LSF and, in turn, modern ASL lexical items.

## 1.2    Goals of the Study

This research investigates lexical borrowing among Cistercian Sign Language (CSL), French Sign Language (LSF), and American Sign Language (ASL). The goals of the study were:

(A) To determine, from a limited corpus of CSL, if similar phonologically and semantically related lexical items are found in either LSF or ASL;

(B) To determine if any of the LSF and ASL signs that are phonologically and semantically related lexical items are related simply because they are iconic forms;

(C) To determine if any of the CSL, LSF and ASL phonologically and semantically related lexical items are initialized.

1.3    Organization of the Study

This study consists of five chapters. Chapter One presents an overview of the basis for this research. Chapter Two provides a review of the current literature available on the roots of American Sign Language and its lexical borrowing, iconicity, and initialization. Chapter Three delineates the research methodology, including the procedure for the collection of data consisting of lexical items from Cistercian Sign Language, *langue des signes française* (LSF) and American Sign Language (ASL).  Chapter Four outlines the findings from the analysis of lexical borrowing, iconicity and initialization among the selected CSL, LSF and ASL lexical items. Chapter Five concludes the research with a discussion the findings and the relative impact of lexical borrowing on present-day ASL, and the significance of this knowledge and its contribution to ASL literature, Deaf Studies, and ASL teaching curricula.

## 1.4    Theoretical Assumptions Underlying This Study

### 1.4.1    Language

Before arguments can be presented regarding lexical borrowing from one language to another, the definition of a language must be addressed. Since Cistercian Sign Language is central to this study, and given there is some question as to whether Monastic sign languages actually constitute a language, the issue merits attention. First, a definition is needed. Baker and Cokely (1980) published the following definition of a language:

> A language is a system of relatively arbitrary symbols and grammatical signals that change across time and that members of a community share and use for several purposes: to interact with each other, to communicate their ideas, emotions, and intentions, and to transmit their culture from generation to generation (Baker and Cokely, 1980, pg. 31).

While sign languages used by deaf people satisfy this definition of language, Monastic sign languages are better categorized as forms of symbolic gestural communication rather than as languages. Their use is generally limited to communicating symbols at the lexical level when silence is required. No grammar is included per se; they mostly adhere to the word order of the spoken language preeminent in the vicinity of the monastery. Some writers have preferred to describe these Monastic sign languages as sign lexicons (Barley, 1974).

Since the term "language" has been readily found in the literature referencing monastic sign language, including Cistercian Sign Language, the term "CSL" was preserved and used throughout this dissertation. The author of this dissertation was interested in the historical development of lexicon and the emergence of specific lexical items found among CSL, Old LSF and ASL. Lexical signs since the advent of CSL, rather than grammar, remained the focus throughout this dissertation.

### 1.4.2 Borrowing and Contact

The focus of this dissertation is on borrowing and language contact between the CSL and LSF lexicons, and among the CSL, LSF and ASL lexicons. When studying the lexical items over time and place, it is helpful to have an understanding of historical linguistics, language contact, and borrowing. These concepts will be addressed here to lay a framework for that understanding.

### Historical Linguistics

Historical linguistics is the study of how and why a language changes over time. It may involve changes in grammar, morphology, phonology or the semantics of a language due to many different factors such as people's mobility, immigration, contact with another language, domination by another country after a war, new cultural and technological ideas emerging, trade and new invention of lexical items. Lyle Campbell wrote that there have been some misconceptions about historical linguistics: (Campbell, 1999, pp. 2-3).

- Historical linguistics is not concerned with the *history of linguistics*.
- Another topic not generally considered to be properly part of historical linguistics is the ultimate *origin of human language* and how it may have evolved from non-human primate call systems, gestures, or what-ever, to have the properties we now associate with human languages in general.
- Finally, historical linguistics is also not about determining or preserving pure, 'correct' forms of language or attempting to prevent change.

Sometimes historical linguistics is called diachronic linguistics, which focuses on change in a language or languages through time. Opposite of this is synchronic linguistics, which focuses on a language at one point in time. For example, synchronic linguists might focus on the grammar of present-day French. Comparative linguists study, analyze and compare at least two related languages descending from a single ancestor language.

Some historical linguists study the history of individual words, called etymology. "The primary goal of historical linguistics is not etymologies, but accurate etymology is an

important product of historical linguistic work (Campbell, 1999, pg. 5)." More than the etymology of these words per se, historical linguists are interested in the kinds of changes these words have undergone and the process of recovering this history. For example, "*god be wy ye*" was a common phrase in the late 1500s in English. Through the years, it gradually changed to the "*goodbye*" of today (Campbell, 1999, pg. 6). The change could be the result of a change in sound, a grammatical change, a semantic change, or the result of borrowing.

**Borrowing**

It is very common for languages to borrow from one another's language, either its lexical items or its grammar. If a lexical item is borrowed, it is commonly referred to as a "loanword."

There are two kinds of languages involved in borrowing:  the donor language and the recipient language (Campbell, 1999). If a language borrows from another language, that is a recipient language and the language it borrows from is the donor language. It is widely known that ASL has borrowed extensively from Old LSF. The Old LSF is the donor language to the recipient language of ASL. An important question for this dissertation is to determine whether CSL is a donor language with Old LSF as its recipient. Campbell (1999) suggested five clues to help identify loanwords and to determine the direction of borrowing: phonological clues, morphological complexity, clues from cognates, geographical and ecological clues, and other semantic clues.

Phonological clues provide the strongest evidence for loanword identification and the direction of borrowing. Phonological clues can be phonological patterns of the language or phonological history. An example of a phonological pattern is words that borrow sounds that do not normally exist in native words. Another example is a borrowed word that violates the typical phonological patterns of the language, such as morpheme structure, syllable structure, or phonotactics. A phonological history would note sound changes in the language and would ascertain from which donor language the borrowed sounds came. Phonological clues denoting sign language borrowing would be changes in parameters (location, handshape, movement and palm orientation). The focus of this dissertation is primarily on the

employment of phonological clues for the purpose of identifying lexical borrowing and the direction of that borrowing.

Morphological complexity involves analyzing the make-up of words to help determine the direction of borrowing. An example is French, which as a synthetic language uses compounded words such a combination of *vin* "wine"' + *aigre* "sour" to form the word *vinaigre* "vinegar." Many recipient languages borrowed the polymorphemic items from donor languages (Campbell, 1999). An example of this morphological complexity within sign languages could be compound signs as they were used historically as compared with their current production and use.

"Clues from cognates" is explained by Campbell (1999) as follows:

> When a word in two (or more) languages is suspected of being borrowed, if it has legitimate cognates (with regular sound correspondences) across sister languages of one family, but is found in only one language (or a few languages) of another family, then the donor language is usually one of the languages for which the form in question has cognates in the related languages. (pg. 67)

Cognate clues within the sign languages would be ascertained from studying, for example, the lexical signs between British Sign Language and Italian Sign Language, or among Japanese Sign Language, Taiwan Sign Language and Chinese Sign Language. This dissertation studied the cognates among the following three sign languages: CSL, LSF and ASL.

Geographical and ecological clues are not as strong as compared to phonological clues and morphological complexity; however, when these clues are studied in conjunction with other information, their inferences can help (Campbell, 1999). The author of this dissertation studied CSL and LSF, which are rooted in Europe, and ASL, which is the sign language of the United States and Canada. From that geographical information, we can infer that the contact and correlation between CSL and LSF will be stronger than that with ASL.

Campbell (1999) posits that most languages have borrowed from other languages because of need and prestige. When a language needs a new term for a new concept, it sometimes borrows the new term from another language. For example, out of need many

other languages borrowed the term "automobile." Sometimes a term is borrowed from another language because that donor language has more prestige. A good example would be borrowing that occurred during the period of Norman French dominance in England (1066-1300) when French was more prestigious than English (Campbell, 1999, pg. 59). For CSL, LSF and ASL, it is logical that their borrowings might have occurred due to need, rather than prestige. The borrowed signs were needed for communication with and among deaf people and for instruction in schools for the deaf in France and the United States.

### 1.4.3   Iconicity

The concept of iconicity in sign language is not new. Although Reverend Thomas H. Gallaudet did not use the term "iconicity," he did recognize its existence in sign language. In 1848, he gave a remarkable description of iconicity by describing ASL using phrases such as "highly poetical," "descriptive," "gesture," "graphic," "pantomime," "adapted to material objects," "picture-like," "symbolical," "shapes," "sizes," "properties," "motion" and "not an arbitrary language" (Gallaudet 1848, 1,1). Baker and Cokely (1980) have provided a definition of iconicity as follows:

> The terms 'arbitrary' and iconic' are adjectives used to describe the relationship between the *form* of a symbol and the *meaning* of that symbol. If there is no resemblance between the form of a symbol and the thing it stands for, then the relationship between the symbol and meaning is purely arbitrary. There are degrees of 'arbitrariness' and 'iconicity' (p. 37).

Another definition of iconicity provided by Valli and Lucas (1992, 6) is, "Iconic means that the form of the symbol is an icon or picture of some aspect of the thing or activity being symbolized".

Sign languages seem to have more similarities among them than do spoken languages. This is probably because sign languages "make visible common parameters of human visual cognition because they draw on them more directly than spoken languages do" (High, 1995, p. 103). There are some iconic similarities among sign languages, revealing how the visual mode of these languages naturally lends itself to iconicity.

Indian Sign Language (ISL) and Japanese Sign Language (JSL) were used in this dissertation for comparison purposes with CSL, LSF and ASL to determine the possibility of universal iconicity in the development of the screened lexical items rather than from lexical borrowing. When the lexical signs were found to be the same or similar across CSL, LSF, ASL, ISL and JSL, those lexical signs were removed from the list of lexical items to be analyzed.

Davis (2007, pg. 96) cautioned that "sorting out the iconic from the noniconic may be a somewhat arbitrary or subjective endeavor, and overcompensating for potential visual symbolism might also skew the results." He suggested that perhaps it is best to weigh the feature of iconicity on a continuum. The author of this dissertation study employed that technique and created an iconicity weight continuum.

After the analysis of CSL-LSF and CSL-LSF-ASL lexicons for contact and borrowing, the author reviewed the sample of 55 lexical signs several times for iconicity. They were assigned a weight of "Likely iconic," "Possibly iconic" and "Unlikely iconic." Lexical signs with a weight of "Likely iconic" were viewed as very closely depicting what they meant to represent, and thus, exhibiting a high level of iconicity. Those lexical signs weighted "Possibly iconic" could be interpreted as being slightly or more iconic depending on the viewer. Lexical signs that showed little resemblance to the concept being conveyed were categorized as "Unlikely iconic."

## 1.4.4 Initialization

Initialization is a process of creating a new lexical sign through the borrowing of a handshape to represent the initial letter of a word in a corresponding written language. Baker and Cokely's (1980) book, *American Sign Language: A Teacher's Resource Text on Grammar and Culture*, provides a description of initialization as follows:

> … these codes will initialize the signs that are borrowed from ASL. This means that they will change the handshape of the ASL sign and replace it with a handshape from the manual alphabet that corresponds to the initial letter in a particular English word. For example, the flat open handshape that occurs in the ASL sign that means 'happy' or 'glad' is replaced with a 'G' handshape to represent the English word 'glad'. Thus, the natural forms of ASL signs are often changed (Baker & Cokely, 1980, p. 67).

Newell (1983) in *The Basic Sign Communication*, offers a more detailed description for initialization, as well as a caution for overusing initialization.

> An initialized sign uses a letter of the manual alphabet (most often representing the initial letter of the English gloss of the sign) as the handshape of the sign which has the movement, location, and orientation of an older form. Initialization is one mechanism by which sign language expands its vocabulary. It is, however, not the only way and caution should be exercised in the invention of initialized signs (Newell, 1983, p. 27).

### 1.4.5   Phonological Analysis of Lexical Items

The research conducted in this dissertation employs the analysis of the phonology of lexical items, more specifically the four parameters of ASL – location, handshape, movement and orientation (Battison, 1978; Stokoe, et al., 1976) – to ascertain whether lexical items have been borrowed, whether iconicity accounts for their development, and whether initialization is evident. Lexical items were screened and selected for analysis based on the level of similarity of their parameters. The analysis was conducted on two separate sets of lexical signs denoted CSL-LSF and CSL-LSF-ASL.

### 1.5.   Summary

Chapter One discussed the goals of the dissertation, the organization of the study, definition of language and its application, historical linguistics including borrowing and contact, iconicity, initialization, and phonological analysis. It presents a path to Chapter Two to explore literature discussing historical linguistics, iconicity and initialization with signed languages.

## Chapter 2:  Review of the Literature

### 2.1     Introduction

This chapter explores the linguistic roots of American Sign Language, indications of iconicity, initialization in several sign languages, manual alphabet histories, lexical borrowing, and historical linguistics. These phenomena are essential in understanding ASL's emergence and development.

### 2.2           Emergence and Development of ASL Lexicon

To understand the emergence and development of the ASL lexicon, it is important to examine the ancestral roots of that lexicon. The advent of alphabets, the use of gestures, home signs, and the development of sign languages from the pre-Spanish era to the present day will be explored. Particular attention will be given to the ASL roots derived from early 19th century French Sign Language, and to the early sign languages existing in American, including that present on Martha's Vineyard Island and in North American Indian sign languages.

### 2.2.1   Gestures, Sign Language (s) and Cistercian Sign Language (CSL) in the Era Prior to Spanish Deaf Education

Before the use of the Spanish manual alphabet was documented in the 16th century (Carmel, 1975), there is scant information recorded about sign languages and fingerspelling used by Deaf people.

> "Sign languages of many types were in use long before the birth of Christianity, in ancient Egypt, among the Greeks, and later among the Romans, who invented a system of finger counting and a language of pantomime." (Barakat, 1975, p. 24)

> "It is very likely that secular signs of various types had some influence on the monastic signs just as they did on the language of the deaf-mutes. Most of these signs came from the folklore traditions of some cultures. In part these borrowings from

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'natural' signs and from folklore tradition account for the appearance of many similar signs among the various sign languages" (Barakat, 1975, p. 24).

In ancient Greece, Plato (427-347 B.C.), in his dialogue entitled "*Cratylus*," mentioned that "the deaf ... express themselves in gestures och [presumably "and"] movements, depicting that which is light or of a higher sphere by raising the hand or describing a galloping horse by imitating its motion" (Eriksson, 1993, p. 13).

Two verses in the New Testament of the *Holy Bible*, Luke chapter 1, verse 22 and verse 62, mention communicating through manual means. Depending on the version of the Bible, the translated word describing that communication may be "signs," "motions," or "gestures." Nevertheless, it is documented evidence that the concept of engaging in manual communication was known at this early period in history.

> Luke 1: 20: And behold, you will be silent and unable to speak until the day that these things come to pass, because you did not believe my words, which will be fulfilled in their time. 21: And the people were waiting for Zecharia'ah, and they wondered at his delay in the temple. 22: And when he came out, he could not speak to them, and they perceived that he had seen a vision in the temple; and he made signs to them and remained dumb (Holy Bible: American Standard Version).

> Luke 1: 59: And on the eighth day they came to circumcise the child; and they would have named him Zechari'ah after his father. 60: But his mother said, "Not so; he shall be called John." 61: And they said to her, "None of your kindred is called by this name." 62: And they made signs to his father, inquiring what he would have him called. 63: And he asked for a writing tablet, and wrote, "His name is John" (Holy Bible: American Standard Version).

In the 4th century, Saint Augustine (354-430 A.D.) challenged the damaging view of deaf people as beings possessed by demons, who could not receive the gospel, and thus were denied salvation. He wrote that "bodily movements," "signs," and "gestures" were used by some deaf people whereby deaf people could be taught and thus receive salvation (Van Cleve & Crouch, 1989, p. 4).

In 530 A.D., there is record of the use of sign language by Benedictine monks in Italy (Allen & Hatrak, 1997, p. 3). In the 4th century, St. Pachomius and St. Basil demanded the monks practice silence in the monasteries. St. Benedict, during his rule, placed a great

emphasis on strict silence, and the doctrine remained a practice for many centuries until the 1970s. This doctrine of silence led to the creation of a sign language or system used by the monks through these many centuries, now known as "Cistercian Sign Language" (Barakat, 1975), the system central to this dissertation.

In 1068, a monk named Bernard of Cluny (in France) documented a list of 296 signs used by the monks. Another monk, Udalricus, also compiled a list of signs. In 1091, another monk, William of Hirschau (in Germany), compiled a list based on the one by Bernard of Cluny, culminating in a list which "is the longest and most detailed, giving signs for most of the ordinary things within the monastery" (Barakat, 1975, p. 25). Many signs from the Udalricus list, such as those for fish, cheese, water, and vinegar, are similar to the signs of Cistercian Sign Language (Barakat, 1975, p. 25). CSL has its own numerical signs and manual alphabet, which is different from the Spanish manual alphabet. CSL is composed of two categories of signs: (1) the authorized signs, which are the oldest; and (2) the local signs, which were invented for local needs and uses."It is unfortunately difficult, if not impossible, to trace the exact date when certain signs were invented, but there is little question that signs from the authorized list are the oldest…" (Barakat, 1975, p. 29).

The authorized List of signs from Cistercian Sign Language may be the earliest record of a description of a sign language or signed system. From the early 11th to 15th century, about twenty lists of signs were mentioned in the literature on monasteries in France, Portugal and Spain. The total number of signs on each list varied from 55 to 472. For example, at Canterbury in 1177, the Benedictine monks expanded the list of signs originating from Cluny to 305 signs (Barakat, 1975, p. 26-27).

From the 13th to 17th century, there were several accounts of the use of gestures and sign languages. Unfortunately, there are no descriptions of individual gestures and signs, except for those listed in the Cistercian Sign Language. In 1282, it was believed that the plotters involved in the massacre known as the "Sicilian Vespers" used a system of signs to signal when their enemies were coming (Barakat, 1975, p. 22). In the 13th century, Spanish King Alfonso X allowed deaf people to marry by "way of signs, observing that 'signs that demonstrate consent among the mute do as much as words among those who speak''' (Plann, 1997, p. 18). In the 16th century, an Italian physician and mathematician, Girolamo Cardano,

advocated for the use of signs to teach deaf people (Ohl & Jerome, 1996). This implies that a sign language existed in Italy in that era, which was at about the same time that deaf education emerged in Spain. A record of sign language use by deaf persons during this period in Spain was documented by the Spanish philosopher and humanist Juan Luis Vives (1492-1540).

In addition to Italy and Spain, there are indications that sign languages or gestures were used centuries ago in Germany and Holland. In 1591, the German lawyer Philip Camerarius wrote about two educated deaf people using gestures (Werner, 1932, p. 183-184). In 1656, Anthony Deusing's paper entitled "*The Deaf and Dumb Man's Discourse*" was published in Groningen, Holland, and then translated in English and published by George Sibscota in England in 1670 (Van Cleve & Crouch, 1989, p. 16). Deusing explained, "Mutes themselves' use signs 'in lieu of speech' to 'conceive the Sentiments of other men's minds" (ibid, p. 16). These writings clearly indicate the use of some form of signs by deaf individuals in Germany in the 1500s and Holland in the 1600s. In the 17th and 18th century, there was a strong growth of interest in educating deaf people. Due to improved transportation and the invention of the printing press, more information about educating Deaf people, their gestures, sign languages and manual alphabets spread throughout Europe (Van Cleve & Crouch, 1989).

Historical records indicate that both deaf and hearing persons as far back as the Egyptian era, the Biblical, Greek, and Roman times, and the Middle Ages were using gestures and signs. Unfortunately, as mentioned before, only CSL provided descriptions of individual gestures or signs. The Authorized list of Cistercian Sign Language and particularly the lists by Bernard of Cluny, Udalricus and William of Hirschau may be the earliest records of sign descriptions.

## 2.2.2   Spanish Manual Alphabet

A manual alphabet is a set of handshapes used to represent written letters in the alphabet of a spoken language. Manual alphabets also have been known as "hand alphabets."

Although manual alphabets had been in use in Europe for many centuries before the Middle Ages, their origins are often unknown (Carmel, 1975).

There are two kinds of manual alphabets: one-handed and two-handed. The earliest documentation of a one-handed manual alphabet was in Spain in the 16th century (Carmel, 1975). In 1698, an unknown writer in London published a two-handed manual alphabet in a book entitled *Digiti Lingua* (Carmel, 1975, pg. xiv). ASL's manual alphabet is rooted in Spain by way of French Sign Language. Many other one-handed manual alphabets also are derived from the early Spanish manual alphabet (Carmel, 1975).

In the 16th century, the Spanish Benedictine monk, Pedro Ponce de Leon (1520-1586), taught a deaf-mute pupil, Gaspard Burges, how to read and write. Later, Ponce de Leon also taught Gaspard's deaf brothers, Pedro and Francisco de Velasco. Although there is no evidence that Ponce de Leon used a manual alphabet to reinforce his instructional efforts, there is evidence that Ponce de Leon might have taught the deaf pupils some monastic signs. This instruction is discussed further in the section on early Spanish Sign Language below.

In 1593, illustrations of the one-handed manual alphabet were drawn by the Franciscan monk Fray Melchor de Yebra (1526-1586) in his book, *Refugium infirmorum*, in Spain, published seven years after his death (Plann, 1997, p. 40). Melchor de Yebra borrowed the manual alphabet of Catholic monks who used it due to their vows of silence in the monasteries (Van Cleve & Crouch, 1989). See the illustration of Yebra's manual alphabet below.

Spanish hand alphabet (Bender 1970: 42-45; Farrar 1923: 9-14; Werner 1932). See Bonet's Spanish Hand Alphabet below, which closely resembles Yebra's illustrations of the hand alphabet.



Spaniard Hand Alphabet of Melchor de Yebra, 1593 (Werner 1932)
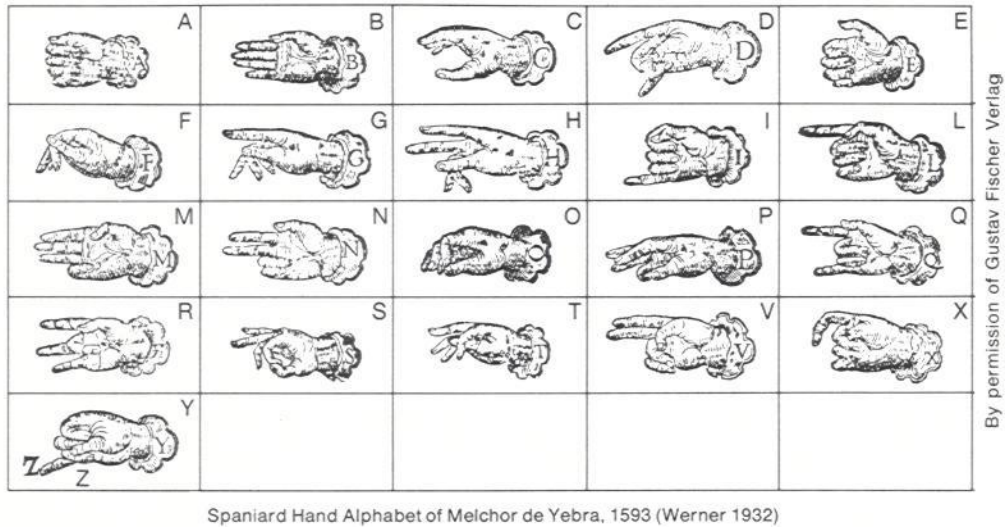
**Figure 1.  Spaniard Hand Alphabet of Melchor de Yebra, 1593 (from Carmel, 1982)**

A record of the use of a manual alphabet to educate deaf people appeared in the 17th century. Thirty years after the death of Ponce de Leon, Ramirez Carrion and Juan Pablo Bonet of Spain taught a deaf child, Luis de Velasco, the grand nephew of Pedro and Francisco, Ponce de Leon's pupils (Ohl & Jerome, 1996). Carrion taught Luis for four years and then Bonet, who was the secretary for the De Valasco family, succeeded him as Luis's teacher. Bonet observed Carrion's methods and elaborated upon them. One of the methods utilized was the one-handed manual alphabet, which became a vital instructional tool for deaf students. Bonet insisted that no signs be employed in the instruction of deaf pupils. Instead, he believed that deaf pupils should be taught to understand the manual alphabet and speak with their voices. Bonet published a version of the Spanish manual alphabet in 1620 in Madrid, Spain. It is believed that Bonet's illustrated Spanish manual alphabet was adapted from the work done by the Franciscan monk, Fray Melchor de Yebra. See the illustration of Bonet's manual alphabet below.

Bonet's Spanish Hand Alphabet, 1620
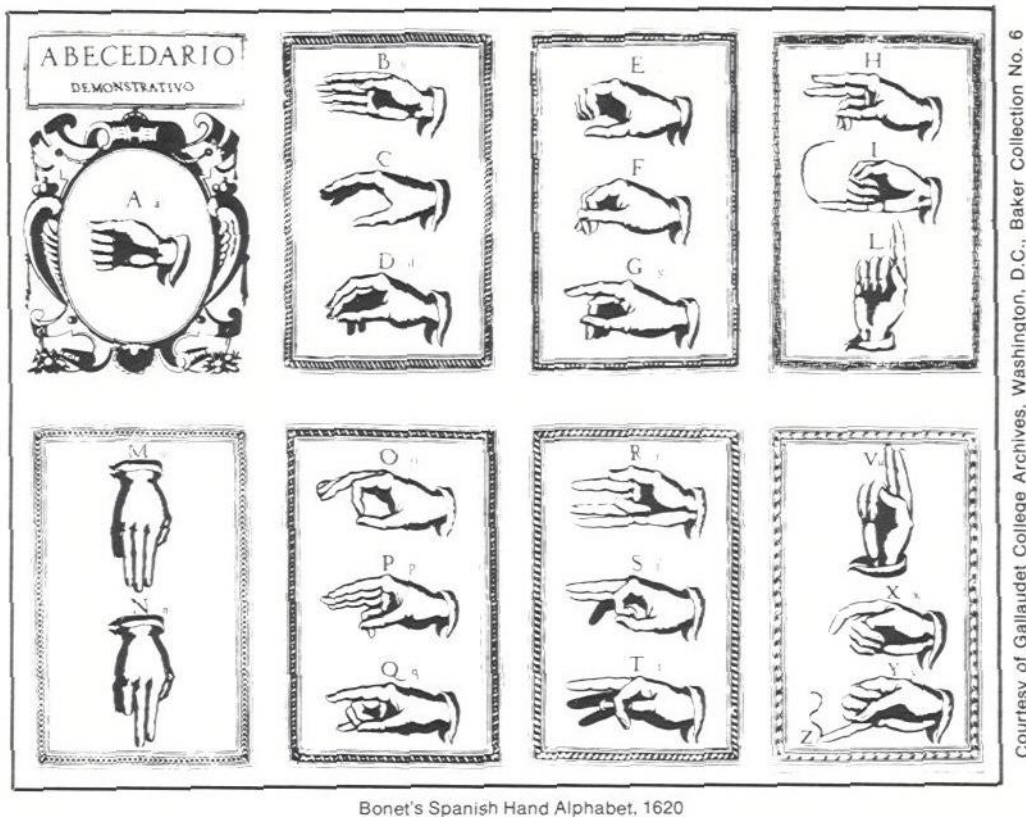
**Figure 2.  Bonet's Spanish Hand Alphabet, 1620 (from Carmel, 1982)**

Although Bonet has been credited with utilizing the Spanish manual alphabet in deaf education, it is not known exactly who invented the manual alphabet. All that is known is the monks used the manual alphabet and signs for many centuries to comply with the rule of silence in the monasteries and, fortunately, they have passed on that use to deaf people (Carmel, 1975).

### 2.2.3   Manual Alphabet Migration to France

There are two accounts of how the use of the Spanish manual alphabet migrated to France in the 18th century. Jacob Rodriquez Pereira (1715-1780) was born in Spain and moved to southern France in 1741, and he brought the Spanish manual alphabet from Spain to France.

He may have been the first teacher of the deaf in France. Pereira had a deaf sister and used the Spanish manual alphabet to teach her and other deaf pupils. In 1749, he exhibited one of his outstanding deaf students at the French Academy of Sciences in Paris. As a result, Pereira's achievements using the manual alphabet as an instructional tool in deaf education were recognized. He founded a private school for the deaf in Paris in 1753, which drew many deaf students from all over Europe (Plann, 1997, p. 75). Pereira modified the Spanish manual alphabet to conform to French orthography and pronunciation (Carmel, 1975, p. xii). He created new handshapes to represent French sounds that were not represented in the Spanish manual alphabet. The following excerpt is a description of how Pereira attempted to create a new manual alphabet system in France.

> Unlike the Spanish alphabet, however, in which each hand shape is somewhat evocative of the written letter, in Pereira's version each handshape served to remind the student of both the spelling and the position of the articulators... [like French] in which frequently the same sounds are represented by different letters, or more frequently still, usage demands the union of several letters to represent just one sound; in short, where each letter is open to more than one pronunciation and in some combinations is not pronounced [at all]. There were some thirty-odd hand shapes to stand for the sounds of French, plus others for sounds designated by a combination of letters, and still others for numbers and punctuation, for a total of about eighty hand shapes in all (Plann, 1997, p. 76).

Though Pereira created this radical new manual alphabet in France, he prohibited deaf pupils from using sign language. He kept his method secret from the world, and when he died in 1780, his unique (oral) teaching method and many of his invented handshapes died with him.

Sometime between 1759 and 1771, abbé de l'Epée founded the first public school for deaf pupils in Paris. One document claimed that abbé de I'Epée bought a Spanish book containing illustrations of a manual alphabet developed by Juan Pablo Bonet and used the manual alphabet in the school, thus incorporating the manual alphabet into French Sign Language (Carmel, 1982, p. xiii). Subsequently, "this French manual alphabet was introduced into various European countries between 1779 and 1846 with various modifications according to their respective linguistic orthographies" (Carmel, 1982, p. xiii).

### 2.2.4 Early Spanish Sign Language

As discussed earlier, in the middle of the 16th century, the Spanish Benedictine monk Pedro Ponce de Leon (1520-1586) taught deaf pupils in the Benedictine monastery of San Salvador at Ona in Spain. As in many other monasteries throughout Europe, the monks were required to observe total silence in certain areas and at certain times of the day, including in the chapel, during meals, and in the dormitory. By Ponce de Leon's day, the Benedictines had developed signs for objects common to their daily lives including signs for foods, garments, habitual actions, emotions, and signs specific to their religious tradition, such as God, the Virgin Mary, and concepts commonly referred to in mass (Plann, 1997, p. 21).

Ponce de Leon and other monks may have taught the deaf pupils some monastic signs. These signs would then be coupled with signs created by the deaf pupils or what we call home signs today. It is likely that young Francisco and Pedro de Velasco, coming from a family with four deaf children, brought with them a well-developed system of home signs. This combination of simple gestures and signs used to represent common people, objects, and actions would become more stylized and arbitrary with use over time. The language used would consist of these lexical items combined to form sentences. Grammatical features leading to the development of a true language would require years of use by a community of signers.

In this era, Spain was the leader in deaf education across Europe. The question of how much early Spanish sign language and which signs were imported from Spain into France remains unknown. An estimate can be calculated by conducting cross-linguistic and cognate studies on the authorized list of signs from Cistercian Sign Language and the early French Sign Language dictionaries.

### 2.2.5 Langue des signes française (LSF)

The sign language of the deaf community in France is known as *langue des signes française* (LSF). Three LSF dictionaries date from 1855, 1856 and 1865. These dictionaries were used to examine borrowing, iconicity, and initialization in the 19th century LSF lexicon.

LSF apparently began with the deaf community in Paris, and later became a standard sign language for deaf people across France in the middle of the 18th century. Its recorded history began with the priest abbé de l'Epée who was the founder of the Royal Institution for the deaf in Paris in the middle of the 18th century. Abbé de l'Epée had observed some deaf people on the streets of Paris using what he thought were gestures. Later, he met two deaf sisters who used what he viewed as gestures to communicate. "Perhaps, he thought, such gestures could be systematized into a consistent mode of communication. Thus, sign language as it is known today was begun" (Scouten, 1985, p. 2). Abbé de l'Epée's first public school for the deaf in France began with six pupils (Van Cleve & Crouch, 1989; Lane, 1977).

Abbé de l'Epée adapted the signs of the deaf people that he gathered together in Paris and the manual alphabet to use as the instructional tools in the school (Lane, 1977). He also invented signs and combined them to represent various concrete images. Abbé de l'Epée added something of his own to the core group of signs used by the deaf community members of Paris, which he called "methodical signs." He thought that by modifying existing signs to show spoken and written French grammar he could have better success in teaching deaf children (Lane, 1977).

For example, for the French phrase *jeune fille*, abbé de l'Epée combined the signs FEMALE (iconically representing the string of a bonnet) and LITTLE (iconically representing the imaginary common low heights of children). For *femme*, he combined the signs FEMALE and BIG (iconically representing the imaginary common high height of adults). For *dame*, he combined the signs FEMALE and POLITE  (Scouten, 1985, p. 3), which is also LADY in present-day ASL. POLITE represented the lace ruffles running down the front of a fancy blouse. This indicates that de l'Epee made use of iconicity in his creation of new signs. For many verbs, he conceived initialized signs, such as the sign VOIR (meaning "see"), initialized with a V handshape (palm facing the eye) moving from an eye to the space in front of signer, and CHERCHE (meaning "look for") produced using the C handshape moving in a circular (searching) motion (Scouten, 1985, p. 3). Such signs were logically derived because of the resemblance between their form and their meaning, clearly making them iconic, in addition to being initialized.

The more abstract concepts posed a greater challenge for abbé de l'Epée. For example, the French word *bien* (good) and its antonym *mal* (bad) are abstract. The sign BIEN was created with the handshape of B touching the lips and then moving forward as if one were "throwing a kiss." This sign was accompanied by a pleasant look of approval. MAL was produced with the handshape of M brought to the lips and then thrown downward with an expression of disapproval and disgust (Scouten, 1985). These facial expressions and the gestures of "throwing a kiss" and "throwing downward" are relatively iconic. Many signs of 18th century LSF underwent a process of initialization in the development of "methodical signs." This initial influence of initialization is evident in the ASL lexicon.

The "methodical signs" that abbé de l'Epée created represented aspects of French grammar, such as the article "a", in French, *un* (or *une*, in the case of a feminine noun); suffixes that correspond to the English suffixes "–able" and "–ment;" and so on (Lane, 1977). To represent the masculine article UN, abbé de l'Epée chose the sign of a man's hat and the sign of a bonnet for the feminine article UNE. When his deaf students referred to a bench as UN BANC, they would literally sign "HAT BENCH." When the pupils signed UNE TABLE (a table) in 18th century LSF, they were literally signing "BONNET TABLE." It is difficult to imagine how the cumbersome addition of the sign of hat or bonnet to everything would help to clarify a message or improve the education of the deaf (Lane, 1977). This is directly analogous to the creation of Seeing Essential English (SEE 1) and Signing Exact English (SEE 2) in the United States in the 1960s and 1970s in an attempt to represent most aspects of English grammar in sign language (Newell, 1983).

Abbé de l'Epée wrote the following observation in a letter to his German colleague, Samuel Heinicke:

> But Methodical Signs are of no language. They express no words, nor yet letters: they signify ideas, which the scholar apprehending expresses in his own language, whatever that be, and in his own words; nor can he possibly do otherwise than understand the sense of a word chosen by himself to be written (Scouten, 1985, p. 4).

After abbé de l'Epée's death in 1789, the abbé Sicard of Bordeaux took over the deaf school as the new superintendent. Immediately, he decided to improve the sign language used in the school, resulting in what is today called "Signed French." Not only was the syntax of the language changed to follow French syntax, but also new signs were invented to

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represent the terminology of grammar. As a result, each part of speech and the function of each word in the sentence were signed (Lane, 1977).

Many believed that abbé Sicard was the leading developer of 18<sup>th</sup> century LSF after abbé de l'Epée; however, Sicard's best student, Jean Massieu, also played an important role. Massieu had two deaf brothers and three deaf sisters (Clerc, 1849, pg. 84), and the family used manual signs to communicate with one another. Massieu explained that these signs were quite different from those of deaf people educated at the school (Lane, 1977). Jean Massieu became the first deaf teacher at the Royal Institution for the Deaf, which was renamed the National Institution for the Deaf in 1791.

Abbé Sicard did not teach Jean Massieu sign language. Instead, it was Jean Massieu who taught abbé Sicard sign language. Abbé Sicard admitted that there was "never a day in which I didn't learn from him [Massieu] the signs of as many objects. Massieu taught me the signs of his. Neither I nor my illustrious teacher is the inventor of sign language…" (Lane, 1977, p. 5). While it is very likely that a good amount of 18<sup>th</sup> LSF lexicon came from the signs used in Jean Massieu's home, the origin of Massieu's signs remains unknown. They may have been purely home signs, borrowed from outsiders such as monks, or were signs used by the local deaf people.

Although abbé de l'Epée invented a very elaborate and cumbersome communication system for the deaf in Paris, he indirectly created the French deaf community by founding the first public school for the deaf in France. Many deaf people became educated and graduated from that school. From there, they created a vibrant deaf community where a sign language could thrive. Jean-Marc Itard, the physician to the deaf school, wrote about the deaf community and language of the deaf people, forty years after the school was founded, as follows:

> A large and seasoned institution of deaf-mutes, bringing together individuals of diverse ages and degrees of education, represents a genuine society with its own language, a language endowed with its own acquired ideas and traditions, and which is capable, like spoken language, of communicating directly or indirectly all its intended meanings (Lane, 1977, p. 4).

Laurent Clerc (1785-1869) of Lyon came to the National Institution for the Deaf-Mutes at the age of 12. He became one of Jean Massieu's star pupils and a teacher at the

school after graduation (Carroll, 1991). Jean-Marc Itard noticed a very interesting difference between the first generation of LSF users, such as Jean Massieu, and the second generation of LSF users, such as Laurent Clerc. Itard knew both Jean Massieu and Laurent Clerc intimately (Lane, 1977, p. 6). Itard wrote a description of the difference, as follows:

> Comparing our current deaf-mutes with those first pupils trained in the same institute, by the same method under the same director, we are led to recognize their superiority which can only be due to their having come later, at a more advanced stage of the signing society. There they found two sources of instruction that could not exist in its earliest days: the [signed] lessons given by the teachers and their conversations with pupils already educated…[Laurent] Clerc…have profited by all the advantages that a more advanced civilization can offer (Lane, 1977, p. 6).

In 1815, abbé Sicard left Paris and went to London with Jean Massieu and Laurent Clerc. In London, they met the Reverend Thomas Hopkins Gallaudet (1787-1851) from the United States. Gallaudet was seeking training on education for the deaf, and abbé Sicard invited him to visit the National Institution for the Deaf-Mutes in Paris. Gallaudet arrived at this school in 1816 (as cited in Van Cleve & Crouch, 1989) and spent several months there learning their instructional methods. Subsequently, Gallaudet invited Laurent Clerc to come to the United States with him and assist with the establishment of the first public school for deaf children in the United States.

On June 18, 1816, both Thomas Gallaudet and Laurent Clerc left France, traveling by ship for 52 days. While on the ship, Gallaudet and Clerc further taught each other their respective languages – written English and signed LSF. They then went to Hartford, Connecticut, where they founded the first public school for the deaf in the United States and began classes on April 15, 1817 (as cited in Van Cleve & Crouch, 1989). Thus began the formal development of American Sign Language.

## 2.2.6   Early American Sign Language

In the early 19th century, prior to his meeting abbé Sicard and Laurent Clerc, Thomas Gallaudet was in Connecticut studying to become a member of the clergy. There he encountered a young deaf girl named Alice Cogswell in his neighborhood, comparable to how abbé de l'Epee encountered two young deaf girls in his neighborhood in Paris.

Gallaudet's church association investigated and discovered there were 89 deaf people in Connecticut. "By extrapolation, that meant that there might be perhaps 2,000 in the United States" at the time (Lane, 1977, p. 6). In 1816, with the support of Alice Cogswell's father and assistance from the community, Thomas Gallaudet went to England with the intention of studying the Braidwood School's teaching method for deaf children. Their method was oralism, which meant that the deaf children were taught to speak and lipread without using sign language. To Gallaudet's frustration, the Braidwood School declined to train him, unless he committed to stay there for years (Van Cleve & Crouch, 1989). At the time (1815), the United States of America and England had just concluded their War of 1812. In her course *Linguistic Structure of ASL* at Western Maryland College (Bienvenu, 1987), M. J. Bienvenu explained that it is believed that the fellows at the Braidwood School were cold toward Gallaudet because he was an American. As mentioned earlier, Thomas Gallaudet met abbé Sicard, Jean Massieu and Laurent Clerc in London in 1815. This led to Gallaudet learning the instructional methods of the French, which utilized sign language, instead of the Braidwood School's oral methods.

Laurent Clerc had brought early 19th century LSF and the manual alphabet from France and started using them as instructional tools in the education of American deaf pupils. Both Gallaudet and Clerc were "faced with the job of transforming the French system of instruction so that it might accommodate the peculiarities of the English language. The specific language system taught was an English version of Sicard's 'Theory of Cyphers'" (Scouten, 1985, p. 7). Gallaudet attempted to create some methodical signs, but later abandoned the idea in favor of using the natural signs used by the deaf people. Exactly what methodical signs Gallaudet attempted to create here in the United States remains unknown.

The American School for the Deaf in Hartford, Connecticut, became the birthplace of early American Sign Language. Laurent Clerc taught many deaf pupils, including Alice Cogswell, early 19th century LSF. These deaf students integrated early 19th century LSF with the gestural or signed communication they already used and created a new language, now known as American Sign Language (Lane, 1977).

It is questionable whether full-fledged early 19th century LSF was being taught in American schools. It has been reported that the methodical signs were the primary

instructional tools in the classroom for deaf pupils in the early 19th century. It is logical that many early 19th century LSF lexical items and some early 19th century LSF grammar were used in the instructions; however, they were used along with other non-LSF lexical signs in primarily English grammar.

Laurent Clerc was the most influential figure in deaf education in the United States during the 40 years after Gallaudet and he founded the first public school for the deaf in United States of America. From 1820 to 1860, twenty-one new American institutions for the deaf were established (Ohl & Jerome, 1996). Many of the teachers and administrators, deaf and hearing, who became the directors and superintendents of these new schools for the deaf in New York, Kentucky, Virginia, Pennsylvania, Ohio and Quebec, were taught by Laurent Clerc (Lane, 1977, p. 7). Thus, ASL started to spread throughout the United States. By 1977, there were over two hundred schools for the deaf in the U.S. with approximately half a million children and adults who communicated in ASL (Lane, 1977, p. 7).

Early ASL went through a difficult time when the oralism movement became strong in the late 1800s through the early 1900s. In 1880 in Milan, Italy, the International Congress on Education of the Deaf (ICED) voted overwhelmingly to pass a resolution banning the use of sign language in deaf education. This decision had an impact on deaf education worldwide for the next one hundred years (Van Cleve & Crouch, 1989). By 1920, 80% of the deaf pupils in the United States were taught without the use of sign language and fingerspelling (Van Cleve & Crouch, 1989). Although sign language was pushed out of many schools for the deaf, the language remained strong in the deaf community and at the Collegiate Department of the Columbia Institution for the Deaf and Dumb, later renamed Gallaudet College (now Gallaudet University). The college was opened in 1864 in Washington, D.C., under the supervision of Thomas Gallaudet's son, Edward Miner Gallaudet (Van Cleve & Crouch, 1989).

In 1980 in Hamburg, Germany, the ICED rescinded the one hundred-year-old resolution to the joy of many deaf and hearing professionals. Dr. William Castle, the chairperson of the ICED convention in 1990, wrote a memo to the deaf and hard-of-hearing professionals at the National Technical Institute of the Deaf at the Rochester Institute of Technology (RIT) as follows:

The educators of the deaf who attended the International Congress on Education of the Deaf in 1880 in Milan, Italy, resolved among themselves that spoken language alone should be the universal language of the classroom for the deaf children. The dynamics of the Congress held in Hamburg, Germany, in 1980 (one hundred years later) clearly provided strong recognition that manual communication also has a role to play in the education of deaf persons; thus, the position held in 1880 is no longer valid. This was even more clearly evident at the Congress held in Manchester, England, in 1985 when sign language interpreters from several countries other than England were very visible in plenary and other sessions of the Congress.…At the Congress being held in Rochester, New York, in 1990, there not only will be sign language interpreters from several countries, but American Sign Language is being recognized as one of the four official languages of the Congress beginning with this newsletter (W. Castle, letter to NTID Deaf Professionals, March 22, 1990).

ASL has gained in stature, respectability, and use since the 1960s when Dr. William Stokoe's research revealed ASL to be a true, formal language with a grammar as complex and as rich as that of other natural languages. The use of Total Communication, which is a philosophy that encouraged any communicative means available to educate deaf children, arose in many schools for the deaf and sign language was again allowed for the instruction of deaf children. By the end of the 20th century, at least 40 states in the United States had recognized ASL as a foreign language for credit in K-12 schools, colleges and universities (Newell and Cagle, 2008).

### 2.2.7   Sign Language on Martha's Vineyard Island

As mentioned earlier, approximately sixty percent of ASL is thought to have originated from early 19th century LSF through methodical signs, which poses the question: from where did the other forty percent come? There have been some theories that the remaining forty percent was derived from home signs, North American Indian sign languages, and the sign language used by the Deaf people living on Martha's Vineyard, an island off the southern Massachusetts' shore. In addition, new lexical signs are constantly being added to ASL generation after generation. Yet there is little evidence documenting this remaining forty per cent of ASL's roots.

The first reference to deaf individuals on Martha's Vineyard did not appear until 1715 when a visitor went to Martha's Vineyard and observed the deaf individuals living there at

the time (Groce, 1985). The first deaf person recorded on Martha's Vineyard was Jonathan Lambert, who was born in 1657. He was a descendant of several families who settled in Martha's Vineyard between 1642 and 1710 from Kent County, England (Groce, 1985, p. 23). Many members of these families married each other and carried the recessive deaf gene. At least 72 deaf people lived on Martha's Vineyard spanning over three centuries (Groce 1985, p. 3). "The deaf community was twelve generations deep on the Island itself, and its Kentish antecedents may go back generations more" (Groce, 1985, p. 69).

Groce, though unable to locate any more substantial references to deafness in Kent County, England in the 17th century, found some circumstantial evidence that sign language existed in Kent County through a record about Sir George Downing who employed some Deaf people who used sign language in Maidstone, in the heart of Kent County (Groce, 1985, p. 30). As Groce remarks, "We do not yet know whether the Vineyard sign language of the nineteenth and twentieth centuries reflects a Kentish sign dialect. What is important to emphasize at this point, however, is that the sign language used on the Vineyard seems to have had a considerable time depth and thus may have been based on an English sign language" (Groce, 1985, p. 73).

Some deaf children from Martha's Vineyard went to the American School for the Deaf soon after it opened and brought their sign language with them, which then blended with early 19th century LSF taught by Laurent Clerc and the teachers he had trained. At that time, the largest group of deaf pupils at the school in Hartford came from Martha's Vineyard (Groce, 1985, p. 73). Nora Groce's informants remembered that Martha's Vineyard signs for many specific words were different from the signs taught at the school in Hartford (Groce, 1985, p. 74).

Many hearing residents of Martha's Vineyard also used sign language on the island, particularly the fishermen to communicate across the water. The hearing members in the community were so accustomed to using sign language that they used signs in most of their conversations, even when there were no Deaf people present (Groce, 1985). Nora Groce (1985) believes that what occurred on Martha's Vineyard is perhaps the most well documented historical record of sign language used by both hearing and deaf community

members. "English-sign bilingualism" was evident on Martha's Vineyard for over 250 years. The last deaf islander, Abigail Brewer, died in 1952 (Groce, 1985).

Interestingly, prior to the settlement of English residents on Martha's Vineyard, bands of Indians who were related to the Wampanoags in southeastern Massachusetts and Rhode Island used some signs (Groce, 1985). The Wampanoags communicated using some signs with the pilgrims in Massachusetts in the 17th century. Some theorized that the Wampanoags might have influenced the language of the deaf people living on Martha's Vineyard (Paris & Wood, 2002). North American Indian sign languages will be discussed further in the following section.

The sign language of Martha's Vineyard, known as Maritime Sign Language (MSL), existed also in Nova Scotia, New Brunswick and Prince Edward Island in Canada (C. LeBlanc, personal communication, Nov. 18, 2004). After the Revolutionary War, many Tories, being unhappy with the new American government in New England, moved to this part of Canada. M. J. Bienvenu (1987) explained that it is possible that some deaf and hearing people from Martha's Vineyard moved and brought their sign language to this part of Canada. Charlene LeBlanc, a deaf woman from New Brunswick (currently living in Asheville, North Carolina), once used MSL at her school for the deaf in New Brunswick and taught ASL for some years in the province of Ontario. She stated that MSL is still used today by some Deaf people in Nova Scotia, New Brunswick and Prince Edward Island. She believes that the majority of MSL is rooted in British Sign Language (C. LeBlanc, personal communication, Nov. 18, 2004), which concurs with Groce's (1985) suggestion of the same. Further research in this area is needed in order to find solid evidence linking the sign languages used in the above-mentioned Canadian provinces and Martha's Vineyard.[1]

Also records and descriptions of signs used by deaf people living in Kent County, England, in the 17th through the 20th century need to be researched to see if there are any similarities between the signs of Kent County and ASL lexical items that may have come from the sign language on Martha's Vineyard. Unfortunately, Groce has noted that the documentation of sign languages in England is limited, though she did discover limited

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[1] See Judith Yoel's (2009) recent dissertation on Canada's Maritime Sign Language for further information.

information indicating that sign language existed in England as far back as the Middle Ages (Groce, 1985, p. 71).

Prior to 1817, the sign language on Martha's Vineyard may have been a blend of early Kent (English) sign language, Wampanoag Indian sign language and home signs created by the Martha's Vineyard deaf family members throughout generations of interaction. After 1817, the sign language of Martha's Vineyard blended with early 19th century LSF at the American School for the Deaf in Hartford, Connecticut.

### 2.2.8   North American Indian Sign Languages

There have been several theories about the influence of North American Indian sign languages on the sign languages used by deaf people in America. North American Indians have made use of their sign languages for many centuries in America. They used sign languages to communicate with members of their own tribe and often with members of differing tribes when they encountered them. The European traders in early America also learned to communicate with North American Indians using their sign languages. In addition, some North American Indians used signs in an effort to remain silent while in battle to surprise the enemy and while hunting to catch prey (Paris & Wood, 2002).

Davis and Supalla (1995) identified the earliest records of North American Indian sign languages in the area stretching from Canada to Southern Texas and Northern Mexico (known as the Plains) as follows:

> The earliest accounts of the use of signs in this area were made by Coronado in 1541 and there were subsequent accounts in the eighteenth century (e.g. Santa Ana 1740). The use of sign among the Plains tribes continued well into the twentieth century and is preserved in the motion pictures, dictionaries, and books produced by scholars….(Davis & Supalla, 1995, p. 79).

North American Indian sign languages were in use long before the emergence of ASL, and North American Indians who used sign language were prevalent in and around Martha's Vineyard and New England where ASL emerged (Paris & Wood, 2002). For instance, as mentioned previously, the Indians known as Wampanoags communicated in their sign language with the pilgrims in Massachusetts in the 17th century. It is possible that the

Wamponoag sign language may have influenced the sign language of the deaf people living on Martha's Vineyard, from the late 1600s to the early 1800s, before the deaf children of Martha's Vineyard began attending the American School for the Deaf in Hartford, Connecticut (Paris & Wood, 2002).

The regular use of various North American Sign Languages and contact with deaf people is well documented. In 1805, years before Laurent Clerc came to America, the North American Indian Sacajawea (1754-1815) was the Indian sign language interpreter for Captains Meriwether Lewis and William Clark on their two-year expedition from St. Louis, Missouri, to the Pacific Ocean. Most of her sign language consisted of Plains Indian Sign Language (PISL) (Paris & Wood, 2002). An Iroquois chief told an Indian sign language expert in the 19th century that Iroquois women and children used sign language when they faced warriors and elders (Paris & Wood, 2002). Delegations of American Indians occasionally visited the Pennsylvania Institution for the Deaf, the third school for the deaf founded in United States, where Laurent Clerc served as the school principal (Paris & Wood, 2002).

Interestingly, Reverend Thomas Gallaudet wrote in 1848 that he examined the work of Major Stephen H. Long on Indian sign languages. Long had gone on an expedition from Pittsburgh to the Rocky Mountains in 1819 and described numerous signs used by the North American Indians he encountered. Gallaudet noted that some signs of the North American Indians were very similar to signs used by the deaf pupils at the first American school for the deaf. This led Gallaudet to believe that the language of signs was universal (Gallaudet, 1848, 1, 1, p. 59-60). It is interesting that Gallaudet used the term "universal;" this concept will be discussed further in the latter chapter entitled "Iconicity in Sign Language."

Furthermore, Luzerne Rae, the editor of *The American Annals of the Deaf and Dumb* in 1852, published a description of 152 signs from Long's expedition to the Rocky Mountains. He wrote, "the points of resemblance between these signs and those in use among the educated deaf and dumb, are numerous and striking" (Rae, 1852, p. 157).

In the 1990s, Davis and Supalla (1995) researched the Navajo sign language in Arizona and discovered some deaf Navajo families who had been using signs derived from the hearing Navajo Indian sign language. One of the deaf Navajo families had been using a

sign system for more than 50 years. Davis and Supalla observed that this family's sign system was more complex than a simple "home-based" sign system. For example, both the deaf and hearing family members participated in signed conversations and were able to cover a wide range of topics expanding beyond their daily routines such as rug-making and sheep-herding. The family also used their sign system to talk about their childhood years. This family's sign system appeared able to function as a natural language.

There are numerous North American Indian sign language books. *Indian Sign Language* by William Tomkins (1969) is one of the earliest collections of signs from North American Indian sign languages. The book is a corrected republication of the 1931 fifth edition of the work originally published by the author under the title *Universal Indian Sign Language of the Plains Indians of North America.* An examination of the collection reveals that there are many signs of the Plains Indians' sign language and ASL that are the same. Some examples follow:

| | | | |
|---|---|---|---|
| ABANDON | ABOVE | AMONG | HORSERIDE |
| BAG | BELOW | BOAT | BOOK |
| BOWL | BREAK | CARDS | COLD |
| COME | CORN | DONE, END | FIRE |
| FISH | FLAG | FOND (LOVE) | GLOVE |
| HANG | HEAP | HEAVY | LIGHTNING |
| LISTEN | MIRROR | MOON | OPPOSITE |
| OWL | PIPE | SLED | SUNRISE |
| SWIM | TREE | TRY | WALK |
| WHIP | WRITE | | |

In addition, there are many other signs that are relatively similar between ASL and the Plains Indians' sign language:

| | | | |
|---|---|---|---|
| ACROSS | AFTER | ANOTHER | ARREST |
| ARRIVE-there | BABY | BAD | BASHFUL |
| BEFORE | BIG | BOW | BRING |
| COUNCIL | CRY | DEER | DEPART |
| DISTANT | EFFORT | FIGHT | FOREST |
| GIVE | GIVE-ME | GO | GO-AHEAD |
| GRASS | GROW | HALF | HEAP |
| HEAR | HIDE | HIGH | I, ME |

| | | | |
|---|---|---|---|
| JUMP | LARGE | LIE | LIGHT |
| MEDAL | MEET | MULE | NIGHT |
| OATH | POWDER | PUSH | QUARREL |
| QUIET DOWN | RAIN | RATTLE | RATTLESNAKE |
| SEE | SEIZE | SEPARATE | SIT |
| SLEEP | SMELL | SNAKE | SNOW |
| STEAL | TAKE | TALK | TASTE |
| TRADE | TREE | TRUE | WITH |
| WINTER | WRAP | YES | |

Many of the signs listed above have relatively iconic properties, such as BOAT, BOOK, BOWL, FISH and FOND. Nevertheless, given the number of similarities between the Plains Indians' sign language and ASL as listed above, it is highly probable that North American Indian sign languages had an influence on the development of ASL.

## 2.2.9   Home Sign and Other Possible Sign Languages and Systems in Early America

It is likely that deaf people living in the early American colonies prior to 1817 created what is known as "home sign," signs that are created by deaf people living with their hearing family members out of a need to communicate. Home signs are widely used by deaf people with their hearing families before they attend deaf schools. Many deaf people continue to use their home signs when they return home to live with or visit their hearing families, even after they have learned ASL at their schools and from deaf peers.

Frishberg (1987) defines 'home sign' as "the generic term for the idiosyncratic sign languages or gestural behavior that is developed when deaf individuals are isolated from other Deaf people and need to communicate with the hearing people around them" (Frishberg, 1987, p. 128). Plann's book, "*A Silent Minority: Deaf Education in Spain, 1550-1835*," provides a description of the phenomenon of home sign as follows:

> When Francisco and Pedro de Velasco entered the monastery at Ona, they too must have employed a gestural system of communication. Deaf children raised in an oral environment are known to invent their own sign system, called home sign. The phenomenon is testimony to our innate biological capacity for language and our need to communicate, and it reveals our flexibility and resourcefulness: language, when blocked in the hearing-speaking mode, emerges in a visual-signing mode. (Plann, 1997, p. 21-22)

The phenomenon of the development of home signs was not limited to Spain, but occurs anywhere deaf people need to communicate with the hearing people around them. In the United States, on Martha's Vineyard, there were several deaf families consisting of 72 deaf people living on the island throughout a 300-year period (Groce, 1985). There is little doubt that those deaf people developed some home signs for their daily communications.

Home sign systems may be distinguished from a true or natural language as follows:

...home sign systems do share some features with natural languages (e.g., individual signs are segmentable, can be assigned to semantic categories, etc.) they also have specific characteristics that distinguish them from conventional sign languages. For example, signing space for home sign is larger, signs and sign sequences tend to be repeated, the number of distinct handshapes are fewer, eye gaze functions differently, the systems are more environmentally dependent, and signs are produced more slowly, awkwardly, and less fluently…The more proficient the user, the less likely they are to exhibit typical home sign characteristics in their signing. In some cases, for example, the sign system may appear environmentally dependent, such as when a signer 'points to' a color in the environment instead of 'signing' the color. The more fluent signers…appear to rely less on environment and tend to sign in a smaller signing space.... (Davis & Supalla, 1995, p. 96).

Home sign systems do not have all the features of a true, natural and conventionalized language. However, when home signs are used by deaf family members for more than one generation, a new and complex sign language may emerge. The deaf Navajo families, studied by David & Supalla (1995) mentioned earlier, have used their sign system for at least fifty years; thus, it developed into a more complex sign language rather than simply a "home-based" sign system. Given that Jean Massieu's family in France and the deaf and hearing people on Martha's Vineyard were able to create home-based signed systems to communicate effectively and efficiently with each other, the possibility that many deaf individuals and deaf families in United States prior to 1817 had their own home signs and/or home-based sign language cannot be ruled out.

### 2.2.10  Passing Down ASL through Generations of Deaf People

ASL has been passed down to generations of deaf people in residential schools for the deaf, by deaf parents to their deaf children, and in deaf communities. Many deaf children of hearing parents learn ASL from the deaf children of deaf parents, older deaf students, teachers and houseparents in the residential deaf schools, and as an adult from deaf friends and peers in the deaf communities. ASL underwent a "Dark Age" from the 1880s to the 1960s, when its use was discouraged in most residential schools for the deaf across the United States. During this time, however, students at Gallaudet College and Deaf[2] community members outside the educational systems continued to use ASL as their primary language, keeping the language alive and passing it down to deaf people generation after generation.

From the 1960s to the present, Deaf communities continue to have a role in the passing down of ASL to the next generation. Following the civil rights movement in 1960s, deaf people became actively involved in pushing for changes to benefit deaf children in the academic arena as well as in the community.

In 1975, the U.S. Congress passed Public Law 94-142, which made it illegal for any public school to deny a disabled student from enrolling. As a result, the percentage of deaf pupils attending residential schools decreased, and today the majority of deaf pupils attend mainstreamed programs in public schools. Many of these programs do not have highly qualified interpreters and until recently used manually coded English systems, rather than ASL. After their graduation from local high schools, many deaf students enter Gallaudet University, the National Technical Institute for the Deaf, California State University at Northridge, or one of several other collegiate programs containing a large percentage of deaf students. It is at these institutions that many mainstreamed deaf students begin learning ASL. Many deaf individuals who do not go to college start to mingle with Deaf communities as adults and begin to learn ASL.

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[2] The term 'deaf' refers to the audiological condition of deafness. The term 'Deaf' is used to designate a cultural affiliation.

Increasingly from the 1980s to the present, ASL has been accepted in fulfillment of modern or foreign language requirements at the high school, bachelor, master and doctoral levels in academic programs across the United States (Wilcox, 1992). At least forty states officially recognize ASL as a language (Newell and Cagle, 2008). The number of ASL courses offered across the United States has increased dramatically.

Even though hearing users may have influenced the evolution of ASL to some extent, Deaf users continue to be the primary native and fluent users of this visual language. ASL has and will continue to be passed down through generations, primarily through Deaf communities.

## 2.3        ICONICITY IN SIGN LANGUAGE

### 2.3.1   Evolving Linguistic Views of Iconicity

There are three major theoretical linguistic approaches in the field of linguistics: formal grammar, cognitive grammar and functional linguistics. Formal grammar is also known as "traditional grammar,"  "a-priori grammar,"  "generative grammar," "structuralism," "minimalism" and "autonomous syntax." Their advocates believe that humans are born with an innate ability to learn languages, known as "Universal Grammar" (Chomsky, 1985). Formal linguists study the data from isolated and constructed sentences, corpora and native speakers to identify and generalize patterns, rules, regularities, routines and operations.

Functional linguists are a relatively new group of linguists who counter formal linguists' doctrine about the innateness of language and the independence of syntax from meaning. They study human categorization, cognition, communication, metaphor, attention, imagery, iconicity, conversations, dialogues, texts, discourses, constructions (form-meaning correspondences), grammaticalization, semantics, pragmatics and more. Their studies are often cross-linguistic or diachronic (historical) and examine data from natural discourse for patterns or repetition in discourse to draw proposals, theories and hypotheses about grammar, semantics and language.

The role of iconicity in language has been discussed and debated for many centuries. (Wilcox, 2004). Interestingly, Socrates thought that representation by similarity (iconicity) was superior to arbitrariness. It has long been thought by linguists that conventionality instead of iconicity plays a vital role in language. In the past, many linguists have underestimated the value and impact of iconicity not only in sign language, but in any language. Formal linguists believe that at a deep level the form and meaning of language are separate; therefore, iconicity has no role in language.

Contrary to the view discounting the importance of iconicity in language, Armstrong (1983, p. 38) argued that the "importance of duality and arbitrariness in language is often overestimated, while the importance of iconicity is often ignored". Functional and cognitive linguists differ from the formal linguists in their perspective and attitude toward iconicity. Langacker wrote,

> Our imagic capacity is the source of meaning and the necessary starting point for
> its characterization. It is no less crucial to grammar, for grammar is nothing other
> than the conventional structuring and symbolization of conceptual content
> (Langacker, 1985, p. 147).

Haiman (1985) wrote that, contrary to the formal linguists, the functional and cognitive linguists recognize and support the idea that iconicity is an essential part of language. Another linguist, William Croft, argued that iconicity plays an important role for linguistic structure, and he asserts that, "the structure of language reflects in some way the structure of experience, that is to say, the structure of the world, including (in most functionalists' view) the perspective imposed on the world by the speaker" (Croft, 1990, p. 164).

Research on sign language has dismantled the myth held by many linguists that "real" languages must be completely arbitrary. This has led to investigations of the role of iconicity within spoken languages. "Functional and cognitive linguists ascribe a deeply significant role to iconicity in spoken languages" (P. Wilcox, 2000, p. 42).

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## 2.3.2    Iconicity in Spoken Language Compared to Iconicity in Sign Language

Several modern linguists (Armstrong 1983; Bybee 1985; Fauconnier 1985; Fleischman 1989; Givon 1985, 1991; Talmy 1983) have declared that spoken languages are influenced by iconic principles. Spoken language may not be as arbitrary as originally believed. There are a variety of studies on spoken languages, which point to a greater transparency (iconicity) among languages (Higgins, 1987). Lyons (1991) suggests that iconicity is present in all levels of language structure including those of spoken languages.

In spoken languages, iconicity is apparent in the form of "sound symbolism" (Baker & Cokely, 1980, p. 39). There are two kinds of sound symbolism: onomatopoeia and phonesthesia. Onomatopoeia occurs when the linguistic form of a word symbolizes the sound of the object or event. For example, in English, many words starting with the letters "sn" are correlated with nasal noise, such as the words: sneeze, snoot, snort, snore and snob. Phonesthesia occurs when a group of words resemble each other and their common form seems to reflect their meanings, for example, words ending with the letters "ump," such as the words: rump, dump, hump, lump and bump (Valli & Lucas, 1992, p. 6). In ASL, "visual symbolism" occurs when signs are clearly related to the shape or picture of the object they represent, such as in the signs: CAR, HOUSE, TREE, GROW, RAIN, MOUNTAIN and EAT/FOOD.

Baker and Cokely (1980) proposed an arbitrariness-iconicity continuum where lexical items fall on a continuum ranging from very arbitrary to very iconic, which is consistent with a functional linguistic position. Wilcox believes that this concurs with Mandel's (1977) suggestion, noting that, "ASL uses a continuum of iconicity that ranges from close physical reproductions of a signed referent to gestures that have no apparent pictorial quality" (P. Wilcox, 2000, p. 43). Because this pictorial quality is inherent in iconicity, "the visual medium of sign languages allows for more iconicity than the auditory medium of spoken languages" (McArthur, 1992, p. 340). Contemplating the visualness of iconicity, Armstrong suggested,

> As primates, humans to a great extent perceive their world visually. We speak of
> 'world views,' of 'mental pictures,' and maps. Vision, then, is of fundamental
> importance to primates in gathering information about their surroundings and this is

reflected in the amount of cerebral cortex dedicated to the processing of visual input. It is for this reason that signed languages can be so much more iconic than spoken languages - - there is simply not as much to represent iconically in the auditory mode, as Stokoe (1980) has pointed out. We do not receive as much detail about the world through the auditory channel as we do through the visual channel, except for the device of spoken language (Armstrong, 1983, p. 38).

### 2.3.3   Iconicity in Manual Alphabets

As delineated earlier, manual alphabets were first recorded in Fray Melchor de Yebra's illustrations in 1593 in Spain. Some handshapes from the manual alphabet are clearly or relatively iconic due to their resemblance of their corresponding letters from the written alphabet. The following comparisons are derived from Figure 1: Spaniard Hand Alphabet of Melchor de Yebra, 1593.

Clearly iconic correspondences:

C, I, J, L, O, V, W, Z

Relatively iconic correspondences:

D, K, M, N, U, Y

As is evident, several handshapes in the manual alphabet mimic the shape of their corresponding letters in the written alphabet. Therefore, it is reasonable to conclude that iconicity played a role in the development of manual alphabets in the Middle Ages.

The manual alphabet from Spain spread to France and eventually to the United States when Laurent Clerc of France came to America to help set up the first school for the deaf in Connecticut. The manual alphabet was important in the development of new signs in France and United States, and played a role in what became known as "methodical signs" in early French Sign Language and early ASL, and as "initialization" in modern ASL. The handshapes of these signs correspond either to the first letter of the French or English words they represent. Once one is aware of the resemblance between the handshape of a sign and the initial letter of its corresponding word, the sign is viewed as more iconic and less arbitrary. There is evidence that a large portion of ASL lexical items is derived from

initialized signs based on French words. Initialization and iconicity work closely together in the development of new lexical signs through the years.

### 2.3.4   Iconicity in Classifier Handshapes and Articulatory Handshapes

There are two categories of handshapes in ASL: classifier handshapes and articulatory handshapes. First, many classifiers used in ASL are strongly iconic. They are a set of handshapes that represent categories of objects sharing similar characteristics such as shape and size. The abbreviation for classifier is CL. The following classifiers are commonly used in ASL, listed below with their meanings:

CL: 1   represents things that are <u>thin and long</u> such as a person, pencil, pole, car antenna

CL: 3   represents all <u>land and water vehicles</u> such as a car, bus, truck, bicycle, motorcycle, ship, submarine

CL: B   represents things that have the quality of <u>flatness</u> such as a sheet of paper, book, table, pavement, surface of land

CL: C   represents objects that are <u>round</u> such as pipes, posts, tree trunks, cups or glasses and also represents <u>thickness</u> such as a thick book, thick hamburger/sandwich, thick jacket or deep snow

CL: F   represents things that are <u>small, flat and round</u> such as a button, coin, or spots

CL: G   represents '<u>thinness</u>" such as a thin book, narrow picture frame, thin layer of snow, or a light jacket.

CL: V   represents the <u>legs</u> of a person, animal or table

Source:  *Basic Sign Communication* (Newell, 1983).

There are many more classifiers, which are known as Size and Shape Specifiers (SASSes). The *Signing Naturally* (Lentz, Mikos and Smith, 1992) curriculum includes a list of classifiers according to their functions and similar characteristics of which many are iconic. Baker and Cokely in *ASL Grammar and Culture,* and Valli and Lucas (1992) in *Linguistics of American Sign Language,* both discussed categories and functions of classifiers in detail. Classifiers are commonly used in the formation of new ASL lexical signs.

The most common articulatory handshapes in ASL are open-B or 5, closed-B, index finger or 1, A, S, O and C, while those of foreign sign languages differ (Baker & Cokely, 1980, pp. 34-36). Handshapes sometime take on specific meanings. For example, the handshape "index finger" represents a concept that does not reflect shape, size or activity in

the signs SINGLE, ONE, ALONE and LONELY. In these signs, the index finger handshape represents a "single object/concept," analogous to how the English words "rump," "bump," "lump" and "hump" represent something in a mound. Another example is when the articulatory handshape "bent-V" represents an underlying meaning of difficulty or hardness in the signs TOUGH, PROBLEM, STRICT, DANGEROUS, HARD, DIFFICULTY.

Thus, some classifiers and articulatory handshapes appear to be iconic. For example, the "CL: V (bent)" is the basis for the ASL sign SIT depicting two legs sitting. However, other sign languages may have different ways of signing the same concept and theirs may be more or less iconic than the ASL sign. To illustrate, the current French sign for SIT is formed by bringing two "Y" handshapes down from shoulder-level to heart-level. Without cultural clues, it is difficult to determine this sign's iconicity.

### 2.3.5 Early Recognition of Iconicity in American Sign Language

Apparently, Rev. Thomas H. Gallaudet did recognize the value of iconicity in sign language, although he didn't use the term "iconicity." Instead, he used other terms, which clearly indicate iconicity. In 1848, he wrote an article entitled "On the Natural Language of Signs; and Its Value and Uses in the Instruction of the Deaf and Dumb" in the journal, *The American Annals of the Deaf and Dumb*. He gave several remarkable descriptions of the language of signs such as: highly poetical and singular descriptive language, gesture, graphic and beautiful pantomime, adapted to material objects, and not an arbitrary, conventional language, picture-like, symbolical, shapes, sizes, properties and motion (Gallaudet, 1848, 1, 1, p. 56-58). These descriptions are perfect descriptions of iconicity in sign language.

Gallaudet very eloquently noted the iconicity inherent in sign language in this passage, "The Natural Language of Signs – II", published in the *American Annals of the Deaf and Dumb*.

> Now even if the natural language of signs were as arbitrary as that of words, there is no reason why it should not be as adequate as that is to the purposes under consideration. If a certain sign made with the hands is agreed upon, always to denote *a book*, why is not the sign as definite and as available, as the letters b o o k, uttered from the mouth, spelt on the fingers, or written or printed? But this language is far from being an arbitrary one. In its original features, the deaf-mute copies nature in

forming it—the shapes, sizes, properties, uses, motions, in fine, the characteristics, addressed to some one of his senses, or sensations, of the *external* objects around him. And, with regard to his *internal* thoughts, desires, passions,  emotions, or sentiments, he just lets them show themselves out… spontaneously and freely, through his eye and countenance, and the attitudes, movements, and gestures of his muscular system. As he uses it, it is a picture-like and symbolical language, calling up the objects and ideas which it is designed to denote, which no oral, written, or printed language can do (Gallaudet 1848, 1, 2, p. 6).

Gallaudet proposed that there was universality in the natural language of signs (Gallaudet, 1848, 1, 1, p. 66). It is interesting that Gallaudet chose the term "universal." For him, the term appears to apply to iconicity whereby many signers of different languages can understand each other's picture-like gestures. Gallaudet cited several instances that supported his proposal of universality. First, some signs of deaf people and signs used by North American Indians as recorded in Major Stephen H. Long's document were similar. Second, Gallaudet and a school laborer once went to visit an eighty-year-old, uneducated man in another town to assist him with writing his will. They were able to communicate with each other successfully. Last, some deaf youths who knew only signs from their homes, known as "home signs," came to the school for the deaf in Hartford. They were able to communicate successfully with the other deaf pupils at the school. Many features of their home signs were remarkably similar to the sign language used at the school (Gallaudet, 1848, 1, 1, p. 57-58). Gallaudet describes this as follows:

> After a short residence in the family, he makes rapid progress in this natural language of signs, enlarged as it is by culture into greater copiousness, and marked by more precision and accuracy than in those detached families throughout the country in which insulated deaf-mutes exist, and improved into a somewhat regular system by the skill of those who have been engaged for a long course of years in this department of education. Yet it retains its original features. It is not an arbitrary, conventional language. It is, in the main, picture-like and symbolical, corresponding, in these respects, to the ideas and objects which it is used to denote. The newly arrived deaf-mute has been well acquainted with its elements in the home of his childhood. He recognizes them as the same which constituted the basis of those very signs which he and others around him have already invented and used, and sometimes they prove to be identically the same with his old ones, or so nearly so that they are at once intelligible to him.  He finds himself, as it were, among his countrymen. They use his native language; more copious, indeed, and elevated than that to which he had been accustomed, but yet virtually the same; so that, perceiving at the onset that he understands others and that they understand him, … (Gallaudet, 1848, 1, 1, p. 57-58).

Obviously, Gallaudet was aware of the concept and importance of "iconicity" for the visual language.

### 2.3.6    Iconicity in North American Indian Sign Languages

As has already been established, it is has been suggested that North American Indian sign languages had an influence on the sign languages used by Deaf people throughout centuries in America (Paris & Wood, 2002). Gallaudet read the work of Major Stephen H. Long on North American Indian sign languages in which Long described numerous signs used by the Indians, and he noticed that some signs of North American Indian sign languages were very similar to the signs used by the deaf pupils at the school for the deaf. Upon examining North American Indian sign language books, one cannot help but notice how iconicity influenced their sign lexicon as revealed through such signs as BUFFALO, EATING, SUNRISE and HORSE-RIDING. Several of these signs also resemble the signs used in ASL.

Some of the more highly iconic signs appearing in William Tomkins' book, *Indian Sign Languag*e are:

ABANDON, ABOVE, ACROSS, ADD, ADVANCE, AFTER, AFTERNOON, GET-OFF, ALL, ALONE, AMONG, ARISE, ARREST, ARRIVE-there, ARRIVE-here, AVOID, BABY, BAG, BEAR, BEARD, BEAVER, BEFORE, BELOW, BESIDE, BEYOND, BIG, BIRD, BLANKET, BLOOD, BOAT, BOOK, BOW. BOWL, BREAK, BRING, BUFFALO, CALL, CAMP, CANDLE, CANNOT, CARDS, CARRY, CENTER, CHOP, CLOSE, CLOUD, COAT, COFFEE, COLD, CORN, COUNCIL, CRY, DANCE, DEAF, DEER, DEPART, DIG, DISTANT, DIVE, DRINK, EARRING, EAT, ELK, ESCAPE, FACE, FALL, FAST, FEMALE, FIGHT, FIRE, FISH, FLAG, FOND (love), FOREST, FUTURE,GALLOP, GIVE, GIVE-me, GLOVE, GO, GOAT, GRASS, GROW, HALF, HALF, HANG, HEAP, HEAR, HEART, HEAVY, HIDE, HIGH, HORSE, HOT, HOUSE, I/ME, IMPOSSIBLE, IMPRISION, INCREASE, ISLAND, JUMP, KEEP, KETTLE, LARGE, LIGHT, LIGHTNING, LISTEN, LITTLE, LONG TIME, MANY TIMES, MANY, MEDAL,

MEET, MIRROR, MOCCASIN, MONEY, MOON, MULE, NOON, OATH, OFTEN, OPPOSITE, OWL, PAINT, PEOPLE, PIPE, POWDER, PRAIRIE, PRISONE, PUSH, QUARREL, QUIET-DOWN, RACE, RAIN, RAPIDS, RATTLE, RATTLESNAKE, RECOVER, RED, RING, ROPE, ROSE, SEE, SEIZE, SEPARATE, SEW, SHAKE-HANDS, SHEEP, SICK, SILENT, SIGN, SIT/REMAIN, SLED, SLEEP, SMELL, SMOKE, SNAKE, SNOW, SOUR, STAND, STAR, STEAL, STRIKE, STRIPED, SUN, SUPERIOR, SUNRISE, SWIM, TAKE, TALK, TASTE, TEPEE, TELL-me, THICK, THIN, TIRED, TABACCO, TRADE, TRAP, TREE, UGLY, UP, WAGON, WAIT, WALK, WATCH (time), WATER, WHIP, WIND, WINTER, WITH, WOLF, WOUND, WRAP and WRITE

Paris and Wood (2002, p. 37) also noticed the iconicity in North American Indian sign languages. They wrote, "In general, AISL (American Indian Sign Languages) are used idiomatically to convey ideas. Beckoning with one's finger means COME while an outward wave of the hand means GO. One 'nods' the right index finger up and down to indicate YES while turning the right hand over means NO" .

Danny Lucero, a Native American Indian who grew up in New Mexico and earned a bachelor degree in Sign Language Studies from Gallaudet University, in his presentation at Georgia Perimeter College, in Clarkston, Georgia in September 2004 (Lucero, 2004), explained that many North American Indians have similar beliefs and values. Most use four points to represent the four directions of North, East, West and South. A circle can represent a cycle, tree, tobacco, and animals and food for survival. Lucero demonstrated several signs that appear clearly iconic, such as ELDERS (using a cane while walking), ASK (looks like TATTLE in ASL), ALL-OVER (same as in ASL), MOUNTAIN (same as in ASL) and INSIDE-HEART (similar to ASL).

Continued research may reveal more iconicity in North American Indian sign languages. It is hoped that future North American Indian researchers, because of their knowledge of their culture and beliefs, may be equipped to help identify iconic signs in their heritage sign languages.

### 2.3.7    Iconicity in Home Signs

There were some accounts of deaf people and deaf families living in American prior to 1817 when Laurent Clerc came from France to America. As mentioned, there were the seventy-two Deaf residents on Martha's Vineyard from the late 1600s to 1950s (Groce, 1985). Another example is that of the Bolling family living in Virginia in the 1770s who had six deaf members in two generations. Unfortunately, there are no recordings indicating whether these deaf people used gesture, home signs, or any kind of sign language to communicate with each other in their homes. Without a description of their signs, the possibility of iconicity in their signs cannot be examined.

Although there is no description of the home signs used by deaf pupils and hearing monks in the monasteries, there is a hint that some kind of iconicity was present in their home signs and sign language systems. There is an account related to educating young Francisco and Pedro de Velasco.

> Beginning as simple gestures to describe people, objects, and actions, home signs eventually become more stylized and arbitrary, and various signs may be strung together to produce simple sentences (Plann, 1997, p. 22).

Frishberg made a distinction between home sign systems and true or natural languages. She explained that in some cases, the "sign system may appear environmentally dependent, such as when a signer 'points to' a color in the environment instead of 'signing' the color. The more fluent signers appear to rely less on environment and tend to sign in a smaller signing space." (Frishberg, 1987, p. 128). The above description reveals that some iconicity is involved in home signs.

There were many deaf individuals and deaf families in Europe and America using home signs and/or sign languages. To date, there are no recorded descriptions of home signs used by deaf individuals from the past except a brief explanation of the home signs of deaf Spaniard pupils and Navajo signers. Given the evidence discussed earlier of iconicity within CSL, LSF and North American Indian Sign Language, it is logical to assume that there was some iconicity in the home signs of deaf individuals from the past.

### 2.3.8  Attitude Toward Iconicity

Prior to the 21st century, linguists ignored the value of iconicity. Some viewed iconicity as representative of non-human languages. Linguists once believed that spoken languages were entirely arbitrary and did not consider sign language a true language. Therefore, linguists and scholars in the early days of sign language research worked hard to downplay the iconicity in sign language in order for sign language to be viewed as a legitimate language. Wilcox (2000) wrote an explanation for this behavior about the early period of ASL research.

> The push in the late 1970s was for recognition of ASL as a language in the eyes of the hearing community.  In order to achieve legitimacy, ASL had to meet the same criterion for arbitrariness that spoken languages exhibit – the relationship between a meaningful element in language and its denotation must be independent of any physical resemblance between the two (P. Wilcox, 2000, p. 36).

Under the structuralist paradigm, arbitrariness was considered to be a defining property of human language. Because of this, in an effort to establish the linguistic status of sign languages, early research by sign linguists focused on constraints on iconicity, such as the way in which iconicity erodes over time or is submerged by grammar. Functional and cognitive linguists, on the other hand, recognize that spoken languages exhibit a great deal of iconicity, even in the grammar. As sign linguists adopted this perspective, they began to explore the role that iconicity plays in sign languages (Wilcox 2004).

When linguists and scholars in the field of ASL studies thought that acknowledging the existence of iconicity in sign languages would forfeit the legitimacy of sign languages as "real" languages (Valli & Lucas, 1992), some of them downplayed and limited the importance of iconicity to only the lexical level. Nancy Frishberg (1975) claimed that ASL once possessed iconicity, but that it had disappeared and transformed into arbitrariness over time. Klima and Bellugi (1979) suggested that iconicity was submerged by grammar. They recognized iconicity in sign language; however, they claimed that it played little role in ASL grammar. For example, they wrote,

> The iconic face does not show at all in the processing of signs in immediate memory. Historical change diminishes the iconic properties of ASL signs; some signs become

more opaque over time, some completely arbitrary. Grammatical operations that signs undergo can further submerge iconicity (Klima & Bellugi, 1979, p. 34).

Valli and Lucas recognized the role of iconicity, but limited it to lexicon, not extending its influence to grammar as evidenced by their writing,

> It is probably true that the form of the sign SIT is an iconic representation of human legs sitting…. [However,] focusing on its iconicity will not provide much insight into the interesting relationship between SIT and the noun CHAIR, and other noun-verb pairs. Nor will [iconicity] help explain how the movement of SIT can be modified to mean SIT FOR A LONG TIME (slow, circular movement) or SIT ABRUPTLY (short, sharp movement) (Valli and Lucas, 1992, p. 7).

Wilcox (2004) challenged these views and argued that iconicity indeed was evident in the grammar of ASL. He described the iconicity present in noun and verb pairs and temporal aspect to support his argument. Macken, Perry and Haas (1993) simply pointed out that sign languages are different from spoken languages, and iconicity is more prevalent in sign languages than spoken languages. They wrote,

> We should not lose sight of an important respect in which ASL differs from spoken language. Because in ASL meanings are associated with signs rather than sound, there are more possibilities in ASL for what we call Richly Grounding Symbols…symbols whose meanings have a cognitively natural link to the referent. (p. 375).

### 2.3.9 Similarity and Iconicity Among Sign Languages

There are some cross-linguistic studies on sign languages' similarities and iconicity. Bellugi and Klima (1990) researched ASL and Chinese Sign Language to examine similarities between the two languages. They discovered that although they are very different sign languages, they are similar in that they are "composed of simultaneously articulated layered elements consisting of a small set of handshapes, locations, and movements, and…they utilize space and spatial contrasts in the service of syntax" (Bellugi & Klima, 1990, p. 118).

Furthermore, Boyes-Braem and Kolb (1990) noted that sign language lexicon is not universal; however, different sign languages do have syntactical and grammatical similarities. Lars von der Lieth believed that "there is enough similarity between different

sign languages that the differences can be learned relatively easily" (Lars von der Lieth, 1980, p. vi.). Woll (1990) believed that there is sufficient evidence that Deaf people who have different sign languages are still able to communicate with each other,

> …partly because of the use of mime, international gestures, invented gestures, multiple representations using alternative lexical signs, paraphrase series, and a mix of signs and gestures.... Because of common grammatical features including the localization of persons, places and objects; directional verbs; aspect movement modifications; characteristic morphological structures including reduplication used to show plurals; the use of classifiers; negative incorporation into verbs; nonmanual marking of questions and negation; and the use of similar discourse devices such as rhetorical questions (Woll, p. 114).

Woll cautioned that viewing "similarities between signs as evidence for historical relationships must be approached with caution...as the use of iconic imagery might also account for similarities" (1990, p. 118). High (1995) postulated that some similarities occur among different sign languages because of image schemata all humans possess. Different sign languages seem to have more similarities than do various spoken languages. This is because sign languages "make visible common parameters of human visual cognition because they draw on them more directly than spoken languages do" (High, 1995, p. 103). High added that, even when sign languages are geographically distant, they show more lexical similarity than do spoken languages.

High (1995) detailed some of the similarities between different sign languages, such as non-manual features, handshapes, movement, location and orientation, which can convey meaning. For example, with non-manual features, "anger" can be shown by drawing on muscle tension. Handshapes can carry meanings such as grasp features, configuration features, and size and shape features, such as those present in classifiers. The grasp features depict the holding of something. The configuration features depend on spatial dimensions and relationships such as "above," "below," etc. The size and shape features represent the physical properties of objects. These are known as classifiers. Movement can express meaning iconically by depicting motion, such as in the sign for CARPENTER which is produced by mimicking the action of sawing. Location is utilized when pointing, indexing, and spatial arrangement are employed. Finally, orientation assists with conveying meaning as when a signer turns his hand or body away from or toward something. "The lexical similarity

between sign languages can be explained in terms of this iconic origin of many signs" (High, 1995, p. 120). Boyes-Braem's (1986) research discovered that one-third to one-half of ASL signs were judged by non-signers as iconic. "It is quite possible for very different sign languages to have similar lexical items. It is also possible that image schemata predispose humans to focus on certain visually salient features more than others and utilize these in the construction of a sign" (High, 1995, p. 121).

## 2.3.10  Iconicity and Metaphor

This section will discuss the differences as well as the connection between iconicity and metaphor in ASL. In her book, *Metaphor in American Sign Language*, Wilcox (2000) explained that a metaphor is a mapping between two concepts or two distinct categories: a concrete object and an abstraction. "Metaphors help us to assimilate information already within our conceptual organization" (P. Wilcox, 2000, p. 9). Cultural experiences and experiences from everyday life assist in understanding metaphorical mappings. "A metaphor is not simply a linguistic expression, a word or a sentence with a colorful flourish. It is a cognitive process of human understanding" (Ibid, p. 35).

McArthur (1992) explained that metaphorical thinking is basic to human nature. An example of metaphor perceives TIME in terms of space (location), such as "future" in forward space and "past" in the space behind one. In English, one can say "I put that behind me now" or "I encourage you to look at the horizon ahead of you." Metaphors of TIME are complex and there are many TIME concepts expressed by metaphor. A few will be described here. In ASL, there are three general points of location for time marker signs. The "past" signs are made in either the space (location) behind the signer or from the space behind the signer to the space in front of the signer. The "present" signs are produced in the space in front of the signer. The "future" signs are found in the space in front of the signer to the space further away from the front of the signer. This organization is known as the "timeline" in ASL and most Western sign languages. Interestingly, this organization is opposite that of some sign languages in the Far East where their FUTURE-signs are associated with the location behind the signer and PAST-signs occur in the location in front of the signer (High, 1995). Their metaphors for timeline are often different from Western metaphors. Culturally,

they view past events in front of them as a sign of respect for the past and perceive future events behind them because they have not yet seen the future. In contrast, people in Western cultures tend to place the past behind them and look forward toward the future.

Timelines also exist that vary from the front-to-back timeline such as a left-to-right timeline revealed through such ASL signs as EVERY-MONTH and FROM-MONDAY-TO-FRIDAY, produced using movement from the signer's left to right side. Other signs such as EVERY-(day), EVERY-WEEK and EVERY-OTHER-WEEK are made using a top-to-bottom (or up-to-down) movement. The above signs are iconic in that they follow the layout of a calendar where "Sunday to Saturday" is organized from left to right and the 1st week to the 4th week of a month is laid out from top to bottom. This kind of iconicity seems to be more concrete and linked to a physical object (a calendar layout), whereas the ASL "future," "present" and "past" signs seem somehow more complex because they are tied to Western metaphorical concepts of time.

Signs can be both iconic and metaphorical, but it is important to remember that iconicity is linked to a literal image, while metaphor involves abstraction (P. Wilcox, 2000, p. 53). One good example is when one produces two "C" handshapes on either side of one's head to represent BRAIN in a bowl type shape. If one moves the C handshapes in a 90 degree circular rotation around one's head, it can mean that one is (literally) turning their head. However, the same movement can be used metaphorically to represent an abstract concept such as CHANGE-ROLE or CHANGE-SUBJECT as in changing from one role to another or from one subject to another as directed by the mind.

Iconicity and metaphor can also co-occur with handshapes. Boyes-Braem suggested that there is often a connection between the components of the handshape and the meaning connected to the handshape" (Boyes-Braem, 1981). One example is the "G" handshape which can represent a long and thin object in ASL, while the "closed X" handshape can represent something that is long and thin, but bent. Both handshapes are iconic. The location of signs on the forehead normally represents something associated with the mind. This location also is iconic. When people do not understand something, this is often perceived as having a lot of questions in mind. The ASL sign for QUESTION mirrors the symbol for the question mark in written English with its bent line. In ASL, the "G" handshape changes to

the "closed X" handshape to represent the metaphorical concept of PUZZLED. In contrast, when people suddenly understand something, this is perceived as the mind becoming clear and straight. In ASL, a signer changes the "closed X" handshape on the forehead into the straight-fingered "G" handshape to represent the metaphorical concept of UNDERSTAND (P. Wilcox, 2000). In addition to handshape, this connection between iconicity and metaphor also occurs with movement, location and orientation.

### 2.3.11 Summary

Despite early resistance to the concept of iconicity and the resistance to recognize the importance of iconicity in the development of ASL, research has shown that iconic forms are important building blocks of ASL. As a visual medium, sign languages naturally lean toward the employment of iconicity in the creation of signs, which is supported when varying sign languages are compared and similarities are found.

### 2.4        INITIALIZATION

### 2.4.1   Introduction

Apparently, there has been reluctance to examine initialization in-depth among sign language scholars and researchers in ASL research and linguistic literature. For example, "initialization" is not listed in the index of Valli and Lucas's (1992) book, *Linguistics of American Sign Language*. There is only a brief explanation about initialized signs in Baker and Cokely's (1980) book, *American Sign Language: A Teacher's Resource Text on Grammar and Culture*, as follows:

> …for example, often these codes will initialize the signs that are borrowed from ASL. This means that they will change the handshape of the ASL sign and replace it with a handshape from the manual alphabet that corresponds to the initial letter in a particular English word. For example, the flat open handshape that occurs in the ASL sign that means 'happy' or 'glad' is replaced with a 'G' handshape to represent the

English word 'glad'. Thus, the natural forms of ASL signs are often changed (Baker & Cokely, 1980, p. 67).

Newell (1983) book, *The Basic Sign Communication*, has a more detailed definition for initialization, as well as a caution for overusing initialization.

> An initialized sign uses a letter of the manual alphabet (most often representing the initial letter of the English gloss of the sign) as the handshape of the sign which has the movement, location, and orientation of an older form. Initialization is one mechanism by which sign language expands its vocabulary. It is, however, not the only way and caution should be exercised in the invention of initialized signs (Newell, 1983, p. 27).

### 2.4.2   Earliest Record of Initialization in Sign Languages

The earliest known record of any initialization within a sign language occurs in the middle of the 18th century when abbé de l'Epée established a public school for deaf children in France. He adopted the signs of the deaf people that he gathered together in Paris and made use of the (Spanish) manual alphabet. He then modified many signs for verbs by initializing them using the manual letter that corresponded to the initial letter of the French word. For example, he signed VOIR (SEE in ASL) with the "V" handshape and CHERCHE (SEARCH in ASL) with the "C" handshape. The sign for BIEN (GOOD in ASL) was produced using the "B" handshape. MAL (BAD in ASL) was signed using the manual "M" handshape (Scouten, 1985). This aspect of the process that abbé de l'Epée used when creating what he called "methodical signs" is now commonly known as initialization.

Abbé De l'Epée's modification of signs is similar to an educational phenomenon that occurred in the United States in the 1960s and 1970s with the invention of Seeing Essential English (SEE 1) and Signing Exact English (SEE 2) – attempts to link sign vocabulary to English through initialization. Political arguments aside, this did lead to an expansion in ASL vocabulary.

Many ASL users have an unfavorable attitude toward initialized signs and borrowing from English due to the minority's social perspective about borrowing from a majority language, much like the French in Quebec who resist borrowing from the English majority around them. Many years of observation has led the author to conclude that often ASL

signers tend to reject the use of initialization and borrowing consciously; however, they use initialized and borrowed lexical items unconsciously. Often they are unaware that many of their ASL lexical signs were originally initialized LSF signs. Identification of this initialization in this analysis of borrowing among CSL, LSF, and ASL is one of the goals of this dissertation.

### 2.4.3   Word-Building Process

"Initialization is one of the most productive of word-building processes in ASL, used widely for technical or professional purposes" (Brentari & Padden, 2001, p. 104). Presently, Deaf people are gaining employment in technical and professional fields, thus increasing the use of specialized vocabulary among Deaf people. One of the most important criteria for becoming an initialized sign appears to be being a member of a semantic field, such as group, person, science, thought, or color. Brentari and Padden (2001) made a list of semantic fields in ASL and their corresponding initialized signs as follows:

| Semantic fields | Corresponding initialized signs |
|---|---|
| GROUP | FAMILY, ASSOCIATION, GROUP, TEAM, SOCIAL, DEPARTMENT, BRANCH*, CLASS*, LEAGUE*, SOCIETY*, STAKE* (Mormon), UNION*, AGENCY* |
| PERSON | PERSON, INDIVIDUAL, CLIENT, HUMAN, SUBJECT, ANATOMY. |
| SCIENCE | BIOLOGY, CHEMISTRY, EXPERIMENT |
| COMPUTATION | STATISTICS, ALGEBRA, CALCLUS, GEOMETRY, TRIGONOMETRY, MATH* |
| THOUGHT | THEORY, REASON, LOGIC, MEDITATE, IDEA*, HYPOTHESIS*, ABSTRACT*, CONCEPT*, FANTASY*, OPINION* |
| GOVERNMENT | POLITIC/POLITICAL, FEDERAL*, BUREAUCRACY* |
| Color | BLUE, PURPLE, YELLOW, GREEN, BROWN, MAROON*, PINK* |

| Trait | PERSONALITY, CHARACTER, NOBLE, LOYAL, ATTITUDE*, QUALITY* |
|---|---|
| Status | BACHELOR, SINGLE, TWIN, SENIOR-CITIZEN |
| Hearing | PHONOLOGY, AUDIOLOGY* |
| Feeling* | EMOTION*, AGGRESSIVE*, DEPRESSION* |

(Brentari & Padden, 2001, p. 104)

* The author of this dissertation added these signs.

In general the Deaf community tends to avoid unnecessary initialized signs for the sake of simplicity. For example, in SEE 2, initialized signs for WINDOW, DOOR and WALL were created but are unnecessary because there are no other signs with the same movement, location or palm orientation that can be confused with these particular signs. Because of this they have not been embraced readily by many core members of the Deaf Community.

**Alignment Constraints on Initialization**

Brentari and Padden (2001) proposed that there are three phonotactic constraints on ASL words as follows:

(1)     Two-Type Constraint:  There may be no more than two handshapes per lexeme. Most initialized signs are produced with one handshape; however, there are several initialized signs consisting of two handshapes, such as FEEDBACK and WITHDRAW.

(2)     ALIGN (L) Constraint:  The initial handshape of the sign stem corresponds to a letter at the left edge of the word stem. This ensures that the leftmost letter of the word will be used for the handshape of the new sign. Most initialized signs exhibit this constraint, such as FAMILY, IDEA and EMOTION. More interesting examples correspond to compounded English words and terms comprised of two words, such as FEEDBACK, WITHDRAW and WORKSHOP. The handshapes used to produce these signs correspond to the leftmost letter of each stem in the compounded word and thus conforms to the ALIGN (L) constraint.

(3)     ALIGN (R) Constraint:  This constraint entails that the rightmost letter of a word will be used for the handshape of a new sign. An example of this constraint is the sign SE<u>X</u>.  This constraint appears to occur on rare occasion.

There may be only one sign that conforms to both the ALIGN (L) and ALIGN (R) constraints. That is the sign <u>CURRICULUM</u>. It may be because it is produced similarly to the <u>CALENDAR</u>, so the additional use of the "M" handshape is needed to distinguish CURRICULUM from CALENDER. Interestingly, the authors of SEE created new initialized signs for <u>JANUARY</u>, <u>APRIL</u> and <u>MAY</u>, however, many Deaf adult signers do not use them. The created sign for <u>PROGRAM</u>, produced with the "P" and "M" handshapes, was also usually rejected by the Deaf community. These occurrences support the idea that Deaf signers will reject a new initialized sign if there are no other signs in the same semantic category with which it could be confused, as is the case with signs such as DOOR, WINDOW, WALL and PROGRAM.

## 2.4.4   Summary

Initialization has played a very important role in the emergence, development, and evolution of ASL. Adherence to several linguistic principles, such as groupings of semantic fields; symmetry; the constraints of Two-Type, Align (L) and Align (R.); ensure that newly formed initialized signs will be accepted by the deaf community. Used correctly, initialization is one of the most productive of the word-building processes in ASL.

## 2.5   Lexical Borrowing from Languages

In this section research related to the lexical borrowing of ASL from LSF and English over several centuries will be explored. How religion, communication methods, deaf education, and social forces had an impact on the development of ASL will also be examined.

### 2.5.1 Research on ASL's Lexical Borrowing and its Creolization

Woodward (1978) believed that ASL was the result of pidginization and creolization stemming from early 19th century LSF and other sign languages. Pidgnization is the process of creating a new communication system through language contact between two different languages. Creolization is the process of a new language being created by children whose primary communication input is a pidgin used by the adults in their community.

Woodward (1978) suggested that a creole deriving from early 19th century LSF possibly developed in the United States between 1817 and 1913. Woodward's (1978) research on cognates between modern LSF and modern ASL, used and modified a glottochronological analysis. He obtained data from a variety of sources, including: lexical signs from a deaf man in his 80s, who had been a student under Hotchkiss at the American School for the Deaf where Laurent Clerc had resided; the ASL signs from the 1913 film of Hotchkiss signing "*Memories of Old Hartford*"; the 423 signs from J. Schuyler Long's "*The Sign Language: A Manual of Signs*" (1918); modern ASL; and 872 modern LSF signs from Oleron's (1974) dictionary (Woodward, 1978). This research led him to conclude that some sign languages existed in the United States prior to 1816.

Woodward's analysis revealed a great discrepancy in expected time depths between modern LSF and modern ASL contrary to the expected time depths between modern ASL and old ASL, as well as modern Russian Sign Language (RSL) and old RSL. This discrepancy indicates a far longer separation between LSF and ASL than what actually occurred. This led Woodward to conclude there must have been other sign languages and sign variations existing in the United States prior to 1816 that interacted with the 19th century LSF taught in the early educational institutions for the deaf in United States. Additionally, Woodward described some sociolinguistic events that supported his conclusion: there were deaf people living in Paris before the French educational institutions for the deaf were established and those deaf people created many sign variations and sign systems before they learned formal 18th century LSF in school. Therefore, it would be highly plausible that the situation for deaf people in United States in the early colonial years was similar. Woodward researched the grammar of negative incorporation in both LSF and ASL, and this resulted in

linguistic evidence, even stronger than the sociological evidence, supporting the existence of sign systems or sign languages in the United States prior to 1816 (Woodward, 1978). Fischer (1996) supported Woodward's conclusions after she had conducted research comparing both old LSF (assumed to be 18th century LSF) and present-day ASL number sign systems.

Furthermore, writings by Laurent Clerc support the idea that ASL developed as a creole deriving from the early 19th century LSF and the indigenous sign language(s) of United States. Laurent Clerc (as cited in Woodward, 1978) wrote the following text in 1852, 35 years after his arrival in the United States:

> I see, however, and I say it with regret that any efforts that we have made or may still be making, to do better than the Abbé Sicard, we have inadvertently fallen somewhat back of Abbé de l'Epée. Some of us have learned and still learn sign from uneducated pupils, instead of learning them from well instructed and experienced teachers (Woodward, 1978, p. 336).

The above quote implies the existence and resilience of early American deaf students' sign systems or sign language(s) that differed from the early 19th century LSF used in their instruction. A primary candidate for a sign system or sign language that existed before the introduction of early 19th century LSF is the one used by deaf individuals from Martha's Vineyard.

Interestingly, there is a possibility that present ASL lexicon could be closer to 19th century LSF than current LSF is to its own early LSF. In about 1870, LSF was forbidden in the schools for the deaf in France, which subsequently resulted in many changes in the language. "Ironically, from the evidence we have from sign books published in France one hundred years ago and longer, Old French Signs, at least at the word level, are closer to present-day American signs than they are to present-day French signs, at least from my limited experience" (Fischer, 1975). On the contrary, Woodward claimed that LSF tends to exhibit an older form of LSF than ASL does. He conducted his research on 54 LSF signs and found that 92.6% of them are similar to the older forms of LSF. It is unclear where Woodward obtained these older forms. Were they from deaf informants in France in the 1970s? Woodward didn't mention nor reference the 1855, 1856 and 1865 LSF dictionaries, while Fischer's research drew from Lambert's LSF dictionary in 1865.

Frishberg (1975) used both "*The Sign Language: A Manual of Signs*" by J. Schuyler Long in 1918 and several films of ASL made around 1913 to identify changes from the older forms of ASL to current ASL lexical items. Several examples of the changes she discovered include the following:  the movement shifted from body and face to the hands, signs tended to shift from the edges of signing space to within the signing space, two-handed signs with body contact tended to become one-handed sign, the location of some signs became centralized to the center of body, and signs with two different handshapes become two symmetrical handshapes. Woodward summarized Frishberg's discovery of "major processes of phonological variation in ASL:  fluidity, centralization, symmetry, morphological preservation, and concentration of lexical information on the hands" (Woodward, 1980, p. 111). Woodward (1976) listed them as (1) "Fluidity" with two kinds of fluidity:  loss of compound elements and assimilated compounds;  (2) "Changes in location" with four kinds of location changes: downward centralization, inward centralization, upward centralization and elbow-to-hand shift ; (3) "Changes in movement" with five kinds of movement changes: compensatory lengthening, simplification of movement, assimilation of movement, movement metathesis and maximal differentiation; and (4) "Handshape changes" with six handshape changes: the rule of thumb (extension), simplification of handshapes, loss of handshape, assimilation of handshape, metathesis of handshape and maximal differentiation of handshape. Last, Woodward added other handshape variations with eleven different handshape variations in FSL: A, G, O, X, F, L, V, 5 and H, O & Y.

In 1976, Woodward conducted research on 873 modern LSF signs using Oléron's 1974 LSF dictionary of signs used by many of the deaf elders and youth in Paris in the early 1970s. He claimed that the following restructurings were made from LSF to ASL: (1) movement metathesis, where LSF's non-dominant hand moved while ASL's dominant hand moved; (2) maximal differentiation of movement in which there is a reversal in the direction of a sign's movement in LSF and ASL; (3) handshape metathesis in which the non-dominant hand took on the dominant handshape or vice versa, which is a rarity in ASL (Woodward & Erting, 1975 as cited in Woodward, 1978); and (4) maximal differentiation of handshape, whereby some of LSF signs' handshapes are maximally closed while their counterparts in ASL have the maximally open handshapes or vice versa; however, some LSF signs are

medially open, but their ASL counterparts are maximally closed (Woodward, 1978). Some of this research is very similar to Frishberg's conducted in 1975.

In his 1980 research article, Woodward mentioned that LSF and ASL cognates had at least 18 types of similar historical changes in five major processes of phonological variation in ASL. They were based on Frishberg's 1975 research, yet it is not clear which source Frishberg used to obtain her sample of Old French signs. Nowhere in Frishberg's 1975 research, including in its references, was any source of Old French signs listed. She simply states in her article, "… we can follow the changes in the formation of many ASL signs by comparing the descriptions given by French sign scholars of the early and mid-19th century with descriptions and photographs from a very thorough sign-language manual published in 1918 by J. Schuyler Long…" (Frishberg, 1975, p. 699). It appears that Frishberg relied entirely upon Long's 1918 ASL dictionary and the contemporary ASL signs of her time.

One interesting note in Woodward's 1980 research is that there is change in meanings of signs. "An example of meaning changes in signs is the Old French sign for BAD, which became the American sign for WORSE" (Woodward, 1980, p. 112).

In 2002, Janzen and Shaffer discussed grammaticization in ASL and researched ASL modality. They defined grammaticization as ". . . a gradual process that differs from other processes of semantic change wherein a lexical item takes on new meaning, but remains within the same lexical category, or word-formation processes, which new lexical items are created through common phenomena such as compounding" (Janzen & Shaffer, 2002). They claimed that several ASL signs, such as "FUTURE," "CAN," and "MUST," must have undergone grammaticization and are borrowed from LSF. They used the 1855 Brouland LSF dictionary, the 1913 film of ASL from the videotape "*The Preservation of American Sign Language,*" and the modern ASL signs from Humphries, Padden and O'Rourke's book "*A basic course in American Sign Language*." Shaffer (2002) conducted research on the grammaticization of CAN'T in ASL. She employed a similar method, but included the modern LSF dictionary on the borrowing of "CAN'T" from LSF into ASL (Shaffer, 2002).

In his article on cognitive iconicity, Wilcox (2004) also studied phonogenesis, the emergence of meaningful phonemes from formerly meaningful, morphological elements. The old LSF WRONG (Brouland, 1855) is an example. This sign was morphologically marked

for person by a change in location. In other words, in this sign, location was morphemic in Old LSF. Only the first-person form remains in ASL, but here the location has demorphologized: the form does not mean "I am wrong," but simply means 'wrong". The chin location is no longer a morpheme marking first-person but is only a phoneme.

In summary, Fischer mentioned the 1865 Lambert LSF sign dictionary. Janzen and Shaffer mentioned and used several LSF dictionaries from the mid-1800s. Neither Woodward nor Frishberg mentioned the 1855, 1856 or 1865 LSF sign dictionaries. In this dissertation the CSL's authorized List of signs, mid-19th century LSF sign dictionaries in 1855, 1856 & 1865, Long's "*The sign language: a manual of signs*" and Tennant and Brown's dictionary "*The American Sign Language Handshape Dictionary*" were all used in the search for ASL's borrowing from LSF, LSF's plausible borrowing from CSL, and the possibility of iconicity and the incidence of initialization in those borrowings.

### 2.5.2   Historical Language Contact and Borrowing in ASL

As described earlier, religion had a huge influence on the emergence and development of fingerspelling and sign languages in Europe and America from the 11th century to the 19th century. Cistercian Sign Language, the Spanish manual alphabet, LSF and early ASL all originated with persons who were either monks or priests.

In the early 1800s, deaf pupils of Martha's Vineyard Island came to the American School for the Deaf in Hartford, Connecticut, resulting in an influence of Maritime Sign Language (MSL) upon ASL. There are few records denoting which ASL lexical sign items derived from MSL. More study to identify this influence is needed, although this may prove to be difficult, because there is no existing known MSL dictionary and little has been researched on MSL.

After the establishment of the American School for the Deaf in 1817, many new schools for deaf children were established across the United States. These schools served as incubators for the creation of many local signs. Many graduates from these deaf schools went to college at Gallaudet University in Washington DC, where local signs often went through a process of standardization, and the Gallaudet students returned to their homes using more

standardized signs. This occurrence advanced, expanded, and standardized the lexicon of local deaf communities scattered across the country.

In addition, communication methods used in deaf education played a role in modifying several ASL lexical signs. The movement supporting oralism grew and became stronger after the 1860s. In 1863, at the Conference for Administrators of Instruction for the Deaf (CAID), Edward Miner Gallaudet encouraged schools for the Deaf to teach both sign language and speech (Van Cleve & Crouch, 1989). This ultimately led to the use of a current communication method known as simultaneous communication, which involves using both signing and speaking at the same time. The simultaneous communication method resulted in the modification of several ASL signs. For example, the signs PHOTO and WRONG were originally produced at the location between the nose and upper lip. After the emergence of simultaneous communication, the location of these signs shifted to the location below the lower lip, so that a listener could see the sign and lipread the signer's mouth at the same time (Caccamise, 1984).

The use of ASL faced challenges in the time period from the 1880s to the 1950s. In 1880, at the International Congress on Education of the Deaf (ICED) in Milan, Italy, the convention passed a resolution banning the use of sign language in the education of deaf children worldwide. As a result, sign language was banned from most schools for the Deaf in the United States. In 1919, oralism peaked when 80% of deaf pupils in the United States were taught using an oral-only method (Van Cleve & Crouch, 1989). Use of ASL was largely limited to deaf communities outside the educational systems.

Beginning in the late 1950s and early 1960s, the Civil Rights and anti-Vietnam War movements in the United States emerged. Those movements influenced the deaf community and ASL in several ways. First, they motivated many Deaf communities to exercise their own rights. As a consequence, many schools for the deaf were pressured into changing their educational method from oralism to Total Communication so that the use of sign language was allowed in the classroom. Total Communication is a philosophy for deaf education that was "conceptualized as communication that would involve all avenues including sign, fingerspelling, speech, audition, speech-reading, gesture, facial expression, and writing" (Schirmer, 2001, p. 202). This led many people within deaf education and the deaf

communities to create committees to develop new signs with the goal of improving deaf children's English vocabulary. Many of these newly created signs were initialized. That led to the creation of Seeing Essential English (SEE 1), Signing Exact English (SEE 2) and other English-based signed systems. During those times, many prominent deaf leaders and activists were not aware that ASL was a true language. Research of their native sign language was occurring concurrently and did not become public knowledge until some years later. It appears after some years that from those different English-based signed systems, the SEE 2 system has emerged as the most widely used in the education for the Deaf and among hearing parents of deaf children. Simultaneously, ASL gained wide popularity among the deaf communities. ASL and SEE 2 would be on a collision course in years ahead. Much of the Deaf community rejected the use of SEE 2, particularly its English prefix (e.g., PRE-, POST-) and suffix signs (e.g.,-ING, -MENT, -NESS, -ISH); however some deaf users did embrace several of the English-based signs, such as <u>B</u>US, <u>V</u>AN, <u>T</u>OY and <u>C</u>ALENDAR.

The Civil Rights movement has empowered the Deaf community to demand more equality and rights, particularly in the area of communication where deaf people have demanded interpreting services, assistive devices such as the telecommunication device for the deaf (TDD, known as TTY for teletype), relay services and more. That has led to tremendous improvement in technology for deaf and hard-of-hearing people, and in training for interpreters. These advancements have enabled more deaf people to enter higher education due to access to better interpreting services and technology. This, in turn has resulted in more deaf people being hired in advanced and professional employment where as a result, they encountered new terminology and professional jargon. The process of initialization then played an important role in creating new lexical items in ASL for use in technical classes and professional workplaces.

In addition, technological advancements have spurred the Deaf community to change several signs, such as TELEPHONE (from the old-time sign of "S" handshapes placed at the mouth and ear to one "Y" handshape placed on the cheek), HORSE-DRIVE to CAR-DRIVE, and COMPUTER. Furthermore, technological advancements often lead to the creation of new signs, such as AIRPLANE, MICROWAVE OVEN, ATM, SPACE SHUTTLE, VIDEOPHONE and PAGER.

### 2.5.3    Borrowing from English

There are several ways that ASL has borrowed from English: through initialization, fingerspelling, and lexicalized fingerspelling. ASL and English have co-existed for close to 200 years. One cannot deny that ASL has borrowed terminology from the English language. Examining the ASL lexicon closely reveals that numerous ASL signs are initialized using handshapes corresponding to the first letter of English words, such as F in <u>F</u>AMILY, G in <u>G</u>ROUP, I in <u>I</u>DEA, M in <u>M</u>ATHEMATICS and more.

In addition to the process of borrowing from English through initialization, ASL signers often borrow English words by using the ASL manual alphabet to fingerspell numerous English words in their daily conversation, such as brand names and names of persons.

There is a particular phenomena that can occur with fingerspelling. It is known as lexicalized fingerspelling. In 1978, Robbin Battison, an ASL linguist, conducted the first in-depth research on fingerspelling and discovered that certain well-used fingerspellings become more sign-like through nine restructuring profiles: deletion; location shift; handshape from change; movement change or addition; palm orientation shift; reduplication; use of second hand; morphological involvement; and restricted semantics (Battison, 1978). Those lexicalized and restructured fingerspelled words become new vocabulary items in ASL. In summary, the influence of English can be seen in ASL as revealed through the processes of initialization, fingerspelling, and lexicalized fingerspelling.

## Chapter Three:  Methodology of the Study

### 3.1     Introduction

Chapter Three begins by addressing the meaning of the listed lexical signs and the four parameters of signs used for the preliminary screening of the samples for this chapter and for the analysis in Chapter Four. Next, this chapter describes the methodology for collecting the data of CSL lexical signs, written French lexical items for LSF lexical signs correlated to the CSL lexical signs, LSF lexical signs that are similar to the CSL signs, and ASL lexical signs similar to the CSL signs, and both the CSL and LSF lexical signs. This chapter includes an explanation of the steps for selecting and coding: (a) the CSL lexical signs; (b) the CSL lexical signs similar to LSF lexical signs; (c) the CSL lexical signs similar to ASL lexical signs; and (d) CSL, LSF and ASL lexical signs sharing similar properties, as based on parameters and semantics of their lexical signs.  The collection and categorization of those lexical signs assisted with determination of their borrowings, initialization and iconicity.

### 3.2     Selection and Collection of Data

This section delineates the collection of: CSL lexical signs; written French lexical items for CSL lexical signs; LSF lexical signs correlated to the CSL lexical signs; ASL lexical signs similar to the selected CSL lexical signs; and ASL lexical signs similar to both CSL and LSF lexical signs. This process included a review of modern ASL lexical signs drawn from the screening of CSL lexical signs for semantic and phonological similarities with Japanese Sign Language (JSL) by a deaf JSL native user and one certified JSL interpreter, and with the *Indian Sign Language* (ISL) for the purpose of iconicity analysis. This was done to reduce the number of unnecessary lexical signs needed for analysis.

The collection and categorization of data took several steps.

1<sup>st</sup> step             List of CSL lexical items as the base.

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The collection and categorization of data took several steps.

1st step             List of CSL lexical items as the base.

| | |
|---|---|
| 2$^{nd}$ step | a. Correlate CSL lexical items with French written words, and then compare CSL lexical signs with LSF signs, both modern and old. |
| | b. Compare CSL lexical signs with ASL signs, both modern and old. |
| 3$^{rd}$ step | Compare the lists of similar CSL and ASL lexical signs with Japanese Sign Language (JSL) |
| 4th step | Screen the categories of same and similar CSL and LSF lexical signs with the lexical signs from Indian Sign Language (ISL), and compare with a list of similar American Sign Language (ASL) and Japanese Sign Language (JSL) lexical signs. |
| 5$^{th}$ step | Finalize and combine the two lists into one list for analysis: |
| | a. CSL lexical signs with LSF lexical signs |
| | b. CSL lexical signs with ASL lexical signs |

## 3.3    Meaning

English terms were used to code each set of CSL, LSF and ASL lexical signs with similar meaning. "Similar meaning" refers to the semantics of lexical items that can be glossed closely. For example, the term "LOOK FOR" was presented in one place, but another dictionary did not list this term; therefore, another semantically similar term was glossed, in this case "SEARCH", in order to find a corresponding lexical sign. The screening and analysis of the CSL, LSF, and ASL lexical signs led to the identification of similar phonological parameter(s).

## 3.4    Using Parameters of Signs to Screen for Phonological Similarity

The sign parameters of location, handshape, movement and orientation were used for screening the samples of lexical signs chosen from CSL, LSF, ASL, ISL and JSL. The sign parameter of *orientation* was used if the pairs of lexical signs showed significantly different orientation. The sign parameter of *movement* was used when descriptions or illustrations

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included the movement symbols. Not all illustrations included  movement symbols, which resulted in the placement of the parameter of movement in a position of least importance for this analysis.

a.  Location – The parameter of *location* was used in the preliminary screening to determine the similarity of a pair of lexical signs. The location primes used in the preliminary screening and later in the analysis were as follows:

   l)  neutral space in front of chest
   2)  forehead -- either in front of forehead or on forehead, or in front of temple or on temple
   3)  mouth -- either in front of mouth or on mouth
   4)  nose -- either in front of nose or on nose
   5)  hand/arm/elbow -- either in front of hand/arm/elbow or on one of those locations
   6)  cheek -- either in front of cheek or on cheek
   7)  shoulder -- either in front of shoulder or on shoulder

b.  Hand Formation –  Most of the 41 handshapes from the book *The American Sign Language Handshape Dictionary* (Tennant & Brown, 1998) were used to code one handshape for each sign if the sign was formed using one hand, or two handshapes for each sign if the sign used two hands.

c.  Movement – When the sign parameter of movement was used or clearly shown in the illustration or description, movement was coded for the sign. The movement symbols used were as follows:

   1)  * to represent a body contact between the hand and face / body
   2)  +++ to represent a repeated movement
   3)  Curved arrow to show where the movement started and ended

4) If both hands were moving, two curved arrows were used.

d. <u>Orientation</u> – When the pairs of lexical signs showed significantly different orientations, the symbols of DOWN, UP, TOWARD SIGNER, LEFT (facing left) or RIGHT (facing right), and AWAY (facing away from the sign) were used to code each of the selected signs.

Location and handshape were found to be the primary parameters for identifying phonological similarities among CSL, LSF and ASL. Frequently, orientation was analyzed to assist in the identification of similarities and differences. Often the movement was difficult to code and analyze, because several written and illustrated dictionaries did not show the movements of signs; yet, the movement information for some CSL lexical signs were present in the CSL dictionary (or manual) that often proved helpful.

**3.5    Screening CSL, LSF, ASL, ISL and JSL to Finalize Samples for Analysis**

This section describes the procedures for screening the CSL, LSF, ASL, ISL and JSL lexical signs to create the final list of samples for analysis.

**3.6    Cistercian Sign Language (CSL) as the Basis for Selection and Collection**

CSL lexical signs were chosen as the basis for the comparison and analysis with ASL and LSF, including ISL and JSL. The CSL lexical signs analyzed for this dissertation were from the two lists of CSL authorized signs published in the book *Cistercian Study Series: Cistercian Sign Language* (Barakat 1975).

The two lists from the CSL book were the "Authorized List of Signs for the Cistercian Order" and "Authorized List of Signs for St. Joseph's Abbey: Basic Signs."  The first list is the older record, starting its documentation as early as in 1068 A.D. in Cluny (France). The author renamed this as "Authorized List" for this dissertation's research. The

second list is renamed by the author as "St. Joseph's Abbey" for this research. The St. Joseph's Abbey list began its history in Massachusetts prior to the French Revolution.

The "Authorized List of Signs", pp. 93-127, contain 324 pictures of signs with the descriptions of their signs, and the "Authorized List of Signs for St. Joseph's Abbey: Basic Signs", pp. 137-162, contain 213 pictures of signs with the descriptions of their signs. (See a List of all CSL lexical signs in English and French in Appendix #A: List of 497 lexical signs in English and French for CSL-LSF-ASL Analysis.) The St. Joseph's Abbey: Basic Signs list included four words that clearly were from modern living: drive, telephone, ten wheeler (truck) and typewriter, which raised a question about the second list's preservation of ancient lexical items. The sign DRIVE was identical to the ASL sign for automobile driving. Therefore, these words – drive, telephone, ten wheeler (truck) and typewriter – were removed from the second list, resulting in 209 lexical items in the second list for further analysis. No modern link or reference was present in the first list. The first list was referred to as "CSL Authorized signs" for this dissertation study. The second list was referred to as "CSL St. Joseph signs".

The lists of the 324 CSL Authorized List signs and the 209 CSL St. Joseph Abbey signs were collated to identify 36 words appearing in both lists. Those 36 words from both lists were then compared for phonological similarities. Twenty-seven words or 75% of the 36 signs had the same phonological features:

| | | |
|---|---|---|
| CHASUBLE | INVITATOR | RAZOR |
| COOK | LEATHER | RED |
| COUNT | LONG | RULE |
| DEVIL | METAL | SAINT |
| DOCTOR | NONE | SCALES |
| DOG | NOTHING | SEXT |
| FISH | NOVICE | SICK |
| FRUIT | OBLATE | SOCKS |
| GRASS | PRIME | TIERCE |

Nine words from the above list of 36 showed some phonological differences; they were compared with equivalent modern ASL lexical items to see which ones were phonologically and semantically similar. The more phonologically similar signs were selected for further comparison and analysis with ASL, LSF, JSL and ISL.

DRAWER        CSL Authorized sign was more similar to ASL.

GUN        CSL Authorized sign was similar to ASL sign for rifle.
CSL St. Joseph sign was similar to ASL sign for handgun.
Keep in the mind that the gun did not exist in the Middle Ages.

HEAR        All share the same location; however, each used a different handshape.

HORSE        None of the signs were similar to ASL. Both the CSL Authorized sign and the St. Joseph sign had the same location and orientation, but they use different handshapes. Then the CSL Authorized sign was selected for further screening and analysis.

HOUR        Each was different from the other phonologically. The CSL Authorized sign was selected for further study.

MILK        All signs shared the same location and similar handshapes. The CSL Authorized sign was more phonologically similar to the ASL sign.

NUT        Each was different from the other phonologically. The CSL Authorized sign was selected for further study.

PICK        The CSL sign's handshape was different from the ASL sign. The CSL Authorized sign was selected.

PROSTRATION  Each sign was completely different. The CSL Authorized sign was selected.

The combined CSL Authorized List and St. Joseph Abbey lists contained 533 lexical items. After adjusting for the 36 words appearing in both lists, the remaining lexical items for this dissertation study totaled 497.

This list of 497 lexical items was screened for semantic and phonological similarity with each LSF and modern ASL lexical item to narrow the sample for study. In other words, the sample of 497 doubled to 994 lexical items for comparison against both LSF and ASL lexical items. This was to ensure that no lexical item would be omitted if it was compared with only LSF, and then with ASL, or vice versa. There might be some lexical items that are similar to CSL and LSF, but not with ASL, or vice versa.

### 3.6.1   Langue des signes française (LSF) Screening

After the 497 CSL lexical items were screened and selected, they were checked against old LSF and modern LSF dictionaries to see if both the CSL list and the LSF dictionaries' lists had corresponding lexical words.

There were at least 800 LSF lexical signs with early manual alphabets in the 1855, 1856, 1865 and 1996 *langue des signes française* (LSF) dictionaries as follows:

a. "*Aux Origines De La Langue Des Signes Française*:  Brouland, Pélissier, Lambert, *les premiers illustrateurs*, 1855-1865." Renard, M. and Delaporte, Y. *Langue Des Signes* Editions Publications, Paris (France), 1994.  The authors reproduced the illustrations from three different old LSF dictionaries (Brouland, 1855; Pélissier, 1856; and Lambert, 1865) into one book.

b. "*Langue des Signes Française: Dictionnaire Technique De Poche*." Labes, J.F. *Langue des Signes Editions Publicitations*, Paris (France), 1996.  This dictionary includes illustrations of modern LSF lexical signs.

The comprehensive and cross-referenced list of LSF lexical signs with written French terminology and English translated terminology from those four dictionaries was created by

the researcher in 2003. This list aided in the identification and matching of the semantics between CSL and ASL lexical signs written in English gloss, and LSF signs written in French gloss.

Further, Emily Haynes, a fluent speaker of French at the University of New Mexico, assisted in the review of the list of French words for their correct semantic match with the list of English words for CSL signs. She also matched French words with the CSL lexical items where French-English corresponding words were lacking in the French Sign Language notebook used by the researcher. CSL lexical items were retained as much as possible from this work, and not deleted due to the lack of a corresponding French word. This resulted in adding 116 French written vocabulary items to the list. The written French words for further screening totaled 372. These were then screened with the LSF dictionaries. This left 256 French signs available for phonological and semantic comparison with the CSL lexical signs.

The 256 CSL lexical items were compared with both old LSF and modern LSF for phonological similarities at least three times. The phonological screening was based on the parameters of location, handshape, movement and orientation.

The similarities were categorized into three groups as follows: "Same," "Very Similar" and "Similar/Fairly Similar". The category of "Same" signs denoted cases in which both CSL and LSF lexical signs incorporated the same signing parameters. The category of "Very Similar" denoted cases in which there was only one differing signing parameter. The category of "Similar/Fairly Similar" denoted cases with two different signing parameters. There were 97 lexical signs determined to be phonologically "Similar" lexical items, which were then further screened for more detailed categorization. There were 30 lexical signs that shared the same phonological features between the CSL and LSF lexical signs. There were 42 lexical signs that shared all of the same phonological features but one. There were 25 lexical signs that used two different signing parameters between the CSL and LSF lexical signs.

They were as follows:　　"Same"　=　　　　　30

　　　　　　　　　　　"Very Similar" =　　　　42

　　　　　　　　　　　"Similar/FairlySimilar" =　　25

　　　　　　　　　　　　　　　　Total:　　97

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The lexical signs in the "Same" category were as follows:

| | | | | | |
|---|---|---|---|---|---|
| AFTER | FISH | I (myself) | MEAT | TO-SEPARATE | THIS |
| BOOK | FLOWER | KEY | MILK | TO-SLEEP | UGLY |
| CROSS | FRIEND | TO-LIKE | POOR | TALL | TO-VOTE |
| TO-DRINK | HARD | LOW | TO-PRAY | TO-TEAR | WHAT |
| FEVER | HOUSE | ME | TO-PUSH | TO-THANK | TO-WORK |

The lexical signs in the "Very Similar" category were as follows:

| | | | | | |
|---|---|---|---|---|---|
| TO-BALANCE | TO-CLOSE | EYEGLASSES | TO-LEAVE IT | TO-PICK | SOLDIER |
| BEAUTIFUL | COMMUNION | TO-GIVE | LIGHT | PLATE | TO-SPEAK |
| BLACK | TO-COME | HEAT | LITTLE | RED | TO-SPREAD |
| TO-BLESS | COW | HERE | MONEY | RULE | SUGAR |
| BOOTS | DAY | HIGH | NEXT | SAME AS | TO-TELL |
| TO-BREAK | DOOR | KNIFE | OPEN | SAND | TO-UNDERSTAND |
| CAT | TO-EAT | LADDER | OX | TO-SIGN | TO-WRITE |

The lexical signs in the "Similar / Fairly Similar" category were as follows:

| | | | | |
|---|---|---|---|---|
| AROUND | T0-COUNT | PAPER | TO-SEE | STAMP |
| TO-ARRANGE | TO-FORGET | POPE | SERPENT* | STRONG |
| ASS | GOOD | TO-PRINT | SNAKE* | THICK |
| TO-BUY | HALF | RAIN | SORRY | TOMORROW |
| CLOTHES | NOW | TO-REMAIN | SPOON | WELL (GOOD) |

\* SERPENT and SNAKE are semantically the same.

The first two categories "Same" and "Very Similar" and their corresponding 72 lexical signs were selected for comparison with ISL signs.

### 3.6.2    Indian Sign Language Screening

Indian sign language was used for comparison purposes against CSL, LSF, ASL and JSL to determine if the possibility of universal iconicity played across those sign languages. When the signs were found to be same or similar across CSL, LSF and ISL, those signs were removed from the list of items to be analyzed for borrowing.

Several Indian sign language books were gathered for exploration and possible selection for this dissertation study.

a.   *Indian Sign Language* by William Tomkins, Dover Publications, Inc., New York, 1969. This Dover edition, first published in 1969, is an unabridged and corrected republication of the 1931 fifth edition of the work originally published by the author in San Diego, California, under the title *Universal Indian Sign Language of the Plains Indians of North America.*

b.   *Indian Signals and Sign Language* by George Fronval and Daniel Dubois. Sterling Publishing Co., Inc first copyrighted it in 1978; however, the edition used was published by Wings Books in 1994.

c.   *Indian Sign Language* by Robert Hofsinde (Gray-Wolf) was copyrighted by the author in 1984 and published by Scholastic Inc, New York.

d.   *North American Indian Sign Language* by Karen Liptak was copyrighted by the author in 1990 and published by Franklin Watts, New York.

The Tomkins book was chosen for this dissertation study because it had the earliest publication date.

The CSL and LSF signs in the "Same" category were screened with the Tompkins Indian Sign Language (ISL) signs. There were 18 Indian signs that had correlated translations with the lexical items in the "Same" category as follows:

| | | |
|---|---|---|
| AFTER | FRIEND | TO-PUSH * |
| BOOK * | HARD | SEPARATE ** |
| TO-DRINK ** | HOUSE | TO-SLEEP ** |
| FEVER (sick) | I (myself) / ME ** | TO-THANK |
| FISH * | MEAT | UGLY |
| FLOWER | POOR | TO-WORK |

\*    The three lexical items BOOK, FISH and PUSH (to) were identical phonologically.

\*\* The four lexical items DRINK, I (myself)/ME, SEPARATE and SLEEP were similar phonologically.

These seven lexical items that were similar among CSL, LSF and ISL were removed from the list, because universal iconicity might have been a factor in the development of these lexical items.

Next, the CSL and LSF lexical signs in the "Very Similar" category were screened with the Indian Sign Language lexical signs. There were 22 Indian signs that had correlated translations with the lexical items as follows:

| | | | |
|---|---|---|---|
| TO-BLESS | TO-GIVE* | LIGHT | TO-SPEAK (talk)* |
| TO-BREAK * | DAY | LITTLE | TO-TELL * |
| CAT | HEAT (hot) | MONEY | TO-UNDERSTAND |
| TO-CLOSE | HIGH * | RED | TO-WRITE * |
| TO-COME * | KNIFE | TO-SIGN (sign language) | |
| TO-EAT * | TO-LEAVE IT | SOLDIER | |

\*    The nine lexical items TO-BREAK, TO-COME, TO- EAT, TO-GIVE, HIGH, LITTLE, TO-SPEAK (talk), TO-TELL and TO-WRITE were found to be very similar phonologically to the CSL signs from the combined list of CSL and LSF signs. Those nine lexical items were removed, because universal iconicity might have been a factor in these

items. The total of 16 lexical signs from the "Same" and "Very Similar" categories was as follows:

| | | |
|---|---|---|
| BOOK | TO-GIVE | TO-SLEEP |
| TO-BREAK | HIGH | TO-SPEAK |
| TO-COME | I (myself) / ME | TO-TELL |
| TO-DRINK | LITTLE | TO-WRITE |
| TO-EAT | TO-PUSH | |
| FISH | TO-SEPARATE | |

After the screening with the ISL signs, the 16 identified items were removed from the list for placement in a category for further iconicity analysis with ASL and JSL. This included the same signs for I (myself) and ME. After this deduction from the list of the 72 CSL-LSF "Same" and "Very Similar" signs, the final list for the analysis of borrowing with CSL and LSF signs totaled 55. These signs fell into two final categories for further screening with Japanese Sign Language (JSL).

The 22 lexical signs in the CSL-LSF "Same" category after the screening with the ISL signs were as follows[3]:

| | | | | |
|---|---|---|---|---|
| AFTER | HARD | MEAT | TEAR (to) | THANK |
| CROSS | HOUSE | MILK | THIS | WORK |
| FEVER | KEY | POOR | UGLY | |
| FLOWER | LIKE (to) | PRAY | VOTE | |
| FRIEND | LOW | TALL | WHAT | |

The 33 lexical signs in the CSL-LSF "Very Similar" category after comparison with the ISL signs were as follows:

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[3] The author recognizes that the distinction between transitive and intransitive verbs were not always documented. When descriptions or illustrations offered, a distinction was made. Otherwise, the printed words were carried over as originally published.

| | | | | | |
|---|---|---|---|---|---|
| BALANCE | CLOSE | HEAT | MONEY | RED | SPREAD (to) |
| BEAUTIFUL | COMMUNION | HERE | NEXT | RULE | SUGAR |
| BLACK | COW | KNIFE | OPEN | SAME AS | UNDERSTAND |
| BLESS | DAY | LADDER | OX | SAND | |
| BOOTS | DOOR | LEAVE IT | PICK | SIGN | |
| CAT | EYEGLASSES | LIGHT | PLATE | SOLDIER | |

These lists were compared with the JSL-ASL items later in this section to create a final sample for CSL-LSF analysis of borrowing.

### 3.6.3 American Sign Language (ASL) Screening

The ASL signs phonologically and semantically similar to the CSL and LSF signs were compared with the lexical signs from the following resources.

1. *The American Sign Language Handshape Dictionary* (Tennant & Brown, 1998)

2. *The Sign Language: A Manual of Signs* (J. Schuyler Long, 1918. Reprinted 1944).

3. When the word was not found in either book, this author, as a native ASL signer with SLPI: ASL [4] rating of Superior Plus, used personal knowledge of current ASL signs to record items for further analysis.

The 497 lexical items from the screening with a combination of the CSL Authorized list, the CSL St. Joseph list and the five LSF dictionaries for phonological similarities were screened with equivalent modern ASL items at least three times. Again the phonological analysis was based on the parameters of location, handshape, movements and orientation.

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[4] SLPI stands for the Sign Language Proficiency Interview. It is a measurement tool to determine a person's proficiency in using ASL (http://www.ntid.rit.edu/slpi/).

When the modern ASL sign was different from the older ASL sign from the Schuyler Long book, that older ASL sign was compared with the corresponding CSL sign. The 214 lexical items were found preliminarily as phonologically similar among the CSL, LSF and ASL lexical items. They were compared to both Old and modern ASL.

There were 66 lexical items from the modern ASL list which did not exist in the Old ASL dictionary (Schuyler Long). Three lexical items: BLESS / BLESSING, COUNT/COUNT (to) and GLASSES (eyeglasses) were counted as one semantic item for each pair. The remaining were categorized as follows:

a. SAME signs category – 108 lexical signs

b. SAME signs as OLD and REGIONAL* signs category – 14 lexical signs

|   |   |   |
|---|---|---|
| - CHANGE (to) | - LIKE (to) | - WHAT |
| - CORN   * | - PEACH* | - WHERE* |
| - FISH | - STOLE |  |
| - HARD | - TIRED |  |
| - HORSE | - TELEPHONE |  |
| - LEAVE IT | - UNLOAD |  |

c. DIFFERENT signs category – 6 lexical signs

|   |   |
|---|---|
| - CABBAGE | - FLOWER |
| - CAT | - FOOT |
| - EXACTLY | - SHOEMAKER |

d. DIFFERENT meaning category – 5 lexical items
   - ANGRY for cross
   - SHUT-DOWN for close
   - ASSEMBLY for gather (to)
   - STEEL for iron
   - CONTROL for rule

e. UNCLEAR category – 1 lexical item:  COMMUNION

Note:  The description was not quite clear and there was no illustration.

f.  SIMILAR signs category – 11 lexical items

| | |
|---|---|
| - I | - QUICK |
| - KNIFE | - SEE |
| - LOW | - SLEEP (to) |
| - METAL | - SORRY |
| - POOR | - WELL (good) |
| - RAIN | |

Next, the ASL list was compared with the CSL lexical signs for the CSL-ASL list. These 159 lexical signs were found to be phonologically similar with CSL lexical signs.

The 159 lexical signs were divided into the following categories.

a.  "Same" category:  both CSL and ASL lexical signs shared the same signing paramaters of handshape, location, movement and orientation parameters. This category included 50 lexical signs.

b.  "Very Similar" category:  both CSL and ASL lexical signs shared all the same signing parameters, except one. This category included 67 lexical signs.

c.  "Similar/Fairly Similar" category:  both CSL and ASL lexical signs shared at least one same signing parameter. This category included 42 lexical signs.

d.  "Gesture" category:  the lexical signs appeared to be used as common gestures.  This category included 8 lexical signs.

These categorized lexical items were used for further screening with Japanese Sign Language (JSL), then with the CSL-LSF lexical signs, for a final sample for CSL-LSF-ASL analysis for possible lexical borrowing.

### 3.6.4   Japanese Sign Language (JSL) Screening

The author began his study of Japanese Sign Language (JSL) with Natusko Shimatoni, a  hearing student, from Osaka, Japan, who came to Gardner-Webb University (GWU) in North Carolina to obtain a bachelor's degree in ASL. Shimatoni signed fluent JSL. He studied JSL with her for two years. After Natusko graduated from GWU in 2003 with a Bachelor's Degree in ASL Studies and a rating of Advanced Plus on the Sign Language Proficiency Interview (SLPI): ASL, she became a teacher of English and ASL in Tokyo before moving back to her hometown in Osaka, Japan. In 2008, Natusko became a certified JSL interpreter and was hired in Washington, D.C. to interpret JSL for deaf Japanese people.

Kazumi Maegawa, a native deaf JSL user teaching JSL at Kansei Gakuiun University in Osaka, Japan, and Natusko Shimatoni, certified JSL interpreter, reviewed the lists of signs that were determined to be phonological similarity among CSL, Old LSF, modern LSF, Old ASL, and modern ASL lexical items. The purpose of this review was to identify which ASL lexical signs were similar phonologically with the JSL lexical items. Those identified signs were then removed from the CSL-LSF-ASL list of lexical items for further study on borrowing. This comparison with JSL lexical items was an important step because the historical development and emergence of JSL is very different from that of CSL, LSF and ASL, which all shared similar historical roots in Europe. If a lexical item was phonologically similar among all of the sign systems (including JSL), then it raised the question of universal iconicity, which might skew the conclusions drawn about ASL lexical items that might have originated from CSL or LSF.

Kazumi Maegawa and Natusko Shimatoni reviewed the 214 lexical items that were found to be phonologically similar among the CSL, LSF and ASL lexical items. The review was based on their knowledge and comparisons of modern JSL and modern ASL.

They identified 37 phonologically similar lexical items:

| | | |
|---|---|---|
| BALANCE | FISH | SEPARATE |
| BEFORE | GATHER | SHOWER |
| BELT | GUN | SPOON |
| BOAT | HAMMER | STAND UP (to) |
| BOOK | HEAR | STRONG |
| BREAK | I | TALL |
| COLD | LADDER | TELEPHONE |
| COMMUNION | LITTLE | THIS |
| CORNER | ME | UP |
| CUT | OLD | WINE |
| DRAWERS | OPEN | WRITE-TO |
| DRINK | SAND | |
| DRIVE | SCISSORS | |

These 37 phonologically similar lexical items were subsequently compared with the list of CSL-LSF-ASL lexical signs. For the remainder of the dissertation, this category is labeled "JSL-ASL" to denote that the comparison was based on the similarities between JSL and ASL.

### 3.6.5    CSL-LSF Lexical Signs Screened with JSL-ASL Lexical Signs

After the CSL and LSF signs in the "Same" and "Very Similar" categories were analyzed along with the ISL signs, they were screened with the JSL-ASL signs. Six JSL-ASL signs were found to have the same phonological properties as the CSL and LSF signs that had been screened with the ISL signs. They were as follows:

| | |
|---|---|
| BALANCE | SAND |
| COMMUNION | TALL |
| LADDER | THIS |

After the comparison of the ISL and JSL-ASL signs, the list of the 16 similar lexical items among CSL, LSF and ISL and the list of 6 similar lexical items among CSL, LSF and JSL-

ASL were combined into the following list of 22 items. This list is significant in that these items represent a high possibility of iconicity among all the languages: CSL, LSF, ISL, JSL and ASL.

| | | | | |
|---|---|---|---|---|
| BALANCE | DRINK | LADDER | SEPARATE | THIS |
| BOOK | EAT (to) | LITTLE | SLEEP | WRITE |
| BREAK | FISH | ME, I (myself) | SPEAK (to) | |
| COME | GIVE (to) | PUSH | TALL | |
| COMMUNION | HIGH | SAND | TELL | |

The six similar JSL-ASL lexical items were removed from the corpus of 55 CSL-LSF items after the screening with ISL above. The remaining list consisted of 49 CSL-LSF signs in the following two categories for further screening with the ASL lexical signs.

a) The 20 lexical signs in the CSL-LSF "Same" category, after the screening with the ISL signs and JSL-ASL signs, are listed below.

| | | | |
|---|---|---|---|
| AFTER | HARD | MEAT | UGLY |
| CROSS | HOUSE | MILK | VOTE |
| FEVER | KEY | POOR | THANK |
| FLOWER | LIKE (to) | PRAY | WHAT |
| FRIEND | LOW | TEAR (to) | WORK |

b) The 28 lexical signs in the CSL-LSF "Very Similar" category after the screening with the ISL signs and JSL-ASL signs were as follows:

| | | | | |
|---|---|---|---|---|
| BEAUTIFUL | COW | KNIFE | RED | SIGN |
| BLACK | DAY | LEAVE IT | NEXT | SOLDIER |
| BLESS | DOOR | LIGHT | SAME AS | SPREAD (to) |
| BOOTS | EYEGLASSES | MONEY | PICK | UNDERSTAND |
| CAT | HEAT | OPEN | PLATE | |
| CLOSE | HERE | OX | RULE | |

### 3.6.6 CSL-LSF Lexical Signs Screened With ASL Lexical Signs for Only CSL-LSF-ASL

The two preceding lists of 48 CSL-LSF items, after the screenings with ISL and JSL-ASL, were further screened with ASL signs to determine the CSL-LSF-ASL similarity and to create a list of lexical items for only CSL-LSF-ASL analysis of borrowing. This resulted in a list of 36 signs that were phonologically similar among CSL, LSF and ASL as follows:

a) 16 lexical signs from the "Same" CSL and LSF category:

| | | | |
|---|---|---|---|
| CROSS | KEY | MILK | VOTE |
| FLOWER | LIKE (to) | POOR | THANK |
| HARD | LOW | PRAY | WHAT |
| HOUSE | MEAT | TEAR (to) | WORK |

b) 20 lexical signs from the "Very Similar" CSL and LSF category:

| | | | | |
|---|---|---|---|---|
| BEAUTIFUL | COW | KNIFE | OPEN | SIGN |
| BLACK | EYEGLASSES | LEAVE IT | PICK | SOLDIER |
| BLESS | HEAT | MONEY | RED | SPREAD (to) |
| CAT | HERE | NEXT | SAME AS | UNDERSTAND |

While many of the CSL and LSF signs were identical, several showed some phonological variation from the ASL signs; therefore, both the "Same" and the "Very Similar" categories were combined into one list. The final list of 36 CSL-LSF-ASL signs for CSL-LSF-ASL analysis of borrowing was as follows:

| | | | | |
|---|---|---|---|---|
| BEAUTIFUL | HARD | LOW | PRAY | VOTE |
| BLACK | HEAT | NEXT | RED | WHAT |
| BLESS | HERE | MEAT | SAME AS | WORK |
| CAT | HOUSE | MILK | SIGN | UNDERSTAND |
| COW | KEY | MONEY | SOLDIER | |
| CROSS | KNIFE | OPEN | SPREAD (to) | |
| EYEGLASSES | LEAVE IT | PICK | TEAR (to) | |
| FLOWER | LIKE | POOR | THANK | |

### 3.6.7 CSL-LSF Lexical Signs Screened With ASL Lexical Signs for Only CSL-LSF

After the CSL-LSF-ASL lists in the earlier section were further compared with the ASL signs, 12 lexical items remained for only CSL-LSF analysis of borrowing. The 12 lexical signs were in the following two categories.

a) The CSL-LSF "Same" category, after the screening with the ISL signs and JSL-ASL signs, had 20 same lexical signs. After the further screening with the ASL signs, there were 4 lexical signs left in the CSL-LSF "Same" category as follows:

| AFTER | FEVER | FRIEND | UGLY |
|-------|-------|--------|------|

b) The CSL-LSF "Very Similar" category, after the screening with the ISL signs and JSL-ASL signs, included 28 similar signs. After the further comparison with the ASL signs, there were 8 signs left in the CSL-LSF "Very Similar" category as follows:

| BOOTS | DAY | LIGHT | PLATE |
|-------|-----|-------|-------|
| CLOSE | DOOR | OX | RULE |

These lexical items became the final sample for analysis of only CSL-LSF borrowing.

### 3.6.8 Addition of Lexical Signs to CSL-LSF-ASL Category

After repeated review of the data, the author noticed additional signs among CSL, LSF, and ASL from the "Similar / Fairly Similar" category sharing similar parameters worthy of further study. These items were added to the final list of lexical items for analysis:

| FORGOT | REMAIN (to) |
|--------|-------------|
| NOW | SORRY |
| PAPER | TOMORROW |

The author also noticed a sign meaning QUESTION that looks similar among the CSL, LSF and ASL, thus he added QUESTION to the List.

## 3.7    Summary

A multi-layered screening for phonological similarities among the CSL, LSF and ASL signs was employed. See the first sheet of "Screening of CSL-LSF-ASL ISL-JSL Lexical signs for selection of sample" in Appendix #B for an example of how the author put all the information in for screening and analysis. The procedure included cross–referenced screenings with ISL and JSP to rule out some common lexical items due to the possibility of iconicity. The two lists for CSL-LSF-ASL and CSL LSF were combined for use in the analysis of borrowing in the next chapter. The signs included in this list are below.

Final list of **55** phonologically "Very Similar" and "Similar" lexical signs for analysis of CSL-LSF-ASL borrowing:

| | | |
|---|---|---|
| AFTER | BEAUTIFUL | BLACK |
| BLESS | BOOTS | CAT |
| CLOSE | COW | CROSS |
| DAY | DOOR | EYEGLASSES |
| FEVER | FLOWER | FORGET |
| FRIEND | HARD | HEAT / HOT |
| HERE | HOUSE | KEY |
| KNIFE | LEAVE IT | LIGHT |
| LIKE | LOW | MEAT |
| MILK | MONEY | NEXT |
| NOW | OPEN | OX |
| PAPER | PICK (to) | PLATE |
| POOR | PRAY | QUESTION |

| | | |
|---|---|---|
| RED | REMAIN (to) | RULE |
| SAME AS | SIGN | SOLDIER |
| SORRY | SPREAD (to) | TEAR (to) |
| THANK | TOMORROW | UGLY |
| UNDERSTAND | VOTE | WHAT |
| WORK | | |

# Chapter Four:  Analysis

## 4.1     Goals of the Chapter

Chapter Four analyzes the data generated in the previous chapter in an effort to address the following goals:

(A) To determine, from a limited corpus of CSL, if phonologically and semantically related lexical items are found in each and both LSF and ASL;

(B) To determine if any of the LSF and ASL signs that are phonologically and semantically related are initialized;

(B) To determine if any of the CSL, LSF and ASL phonologically and semantically related lexical items were created by iconicity.

## 4.2     Sample of Lexical Signs

Final list of **55** phonologically "Very Similar" and "Similar" lexical signs for analysis of CSL-LSF-ASL borrowing:

| | | |
|---|---|---|
| AFTER | BEAUTIFUL | BLACK |
| BLESS | BOOTS | CAT |
| CLOSE | COW | CROSS |
| DAY | DOOR | EYEGLASSES |
| FEVER | FLOWER | FORGET |
| FRIEND | HARD | HEAT / HOT |
| HERE | HOUSE | KEY |
| KNIFE | LEAVE IT | LIGHT |
| LIKE | LOW | MEAT |
| MILK | MONEY | NEXT |
| NOW | OPEN | OX |
| PAPER | PICK (to) | PLATE |
| POOR | PRAY | QUESTION |

| | | |
|---|---|---|
| RED | REMAIN (to) | RULE |
| SAME AS | SIGN | SOLDIER |
| SORRY | SPREAD (to) | TEAR (to) |
| THANK | TOMORROW | UGLY |
| UNDERSTAND | VOTE | WHAT |
| WORK | | |

## 4.3 Analysis of CSL, LSF and ASL Signs for Resemblance

The first two goals of the dissertation are to determine, from the limited CSL corpus, if phonologically and semantically related lexical items are also found in LSF and ASL. This section describes the similarities between CSL, LSF and ASL. The "CSL-LSF-ASL Analysis Worksheet" (see Appendix #C) was used to assist with the analysis.

## 1. AFTER

CSL Lexical Sign[5]          LSF Lexical Signs          ASL Lexical Sign



Figure 3. 'after'
*CSL Authorized*
*List, pg. 93*

Figure 4. *APRES*
*Pélissier (1856),*
*pg. 20, #7*

Figure 5. AFTER
*ASL Handshape Dictionary,*
*(1998), pg. 191*

---

[5] Description of CSL sign: "place right hand near right hip with palm facing backwards; draw hand back and forth several times." (Authorized List, pg. 93)

Figure 6.  *APRES*

*Lambert* (*1865),*

*pg. 15, 13b*

The CSL and LSF lexical signs share the same parameters of location, orientation and handshape. Their locations are next to the waist at the side. Their orientations are facing the signer. Their handshapes are the closed B.  Their movement is slightly different. The LSF sign has one directional movement, while the CSL sign has one bi-directional movement.[6]

Contact:  The phonological similarity between the signs is strong evidence that the LSF signs might have borrowed AFTER from the CSL Authorized list. Although the ASL sign shares the same handshape "B", and the orientation of palm facing the signer, its location and movement are different from the ones for the CSL and LSF signs. There is not a strong correlation between the pair of CSL and LSF signs and the ASL sign.

Iconicity:  Iconicity may be more probable between the CSL and LSF signs than with the ASL sign, because it may be related to the timeline in our Western metaphor where an area behind a standing person represents the past tense.

Initialization:  The English translation of *apres* is "after."  The handshape in these lexical signs is B, not A; therefore, there is no evidence of initialization from the French word in the LSF lexical sign.

---

[6] The author is aware that the illustrations may lack full descriptive movements of the original LSF signs.

## 2. BEAUTIFUL

CSL Lexical Sign



Figure7. 'beautiful'

Description of CSL lexical sign: "pass palm of right hand downward in front of face; right elbow is at right angle to side of body." (CSL Authorized List, pg. 94)

LSF Lexical Signs



Figure 8.   *BEAU*

*Pélissier (1856), pg. 9, #12*



Figure 9.  *BEAU*

*Lambert (1865), pg. 9, #4*

ASL Lexical Sign



Figure 10.  BEAUTIFUL

*ASL Handshape Dictionary (1998), pg. 140*

The CSL and Old LSF signs share the same parameters of location and orientation. Their locations are in the space in front of face. Their orientations are facing the signer. Their handshapes are different where the CSL sign's handshape is a curved 5 and the Old LSF signs' handshape is an O. Their movements are different. The CSL sign has one directional and downward movement, while the Old LSF sign made a curved motion away from the lip toward a neutral space in front of chest.

Contact:  Although they share the same location and orientation, the likelihood of borrowing occurring from the CSL sign to the Old LSF signs is not strong.

Iconicity:  Iconicity is probable, as these lexical signs be referring to something near the face.

Initialization:  The English translation of *beau* is "beautiful." The handshape in this LSF sign is an O, not a B; therefore, there is no evidence of initialization from the French word in the LSF lexical sign.

## 3. BLACK

CSL Lexical Sign



Figure 11. 'black'

Description of CSL lexical sign: "place right forefinger sideways under nose; finger pointed stiffly to left." (CSL Authorized List, pg. 95)

LSF Lexical Signs



Figure 12. *NOIR*
*Pélissier (1856),*
*pg. 10, #22*
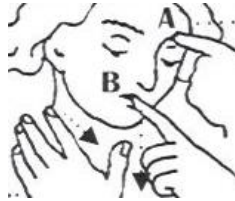


Figure 13. *NOIR*
*Lambert (1865),*
*pg. 9, #20A*



Figure 14. *NOIR*
*Modern LSF Dictionary,*
*(1996), pg. 118*

ASL Lexical Sign



Figure 15.  BLACK
*ASL Handshape Dictionary (1998), pg. 121*

The CSL, Old LSF and ASL signs share the same parameters of movement, orientation and handshape.  Their movement is a motion from one side to the other. Their orientations are facing downward. Their handshapes are a 1 (index finger). The location of the CSL sign is at the moustache which is different from the other lexical signs' locations on the forehead near the eyebrows.

Contact:  There is good evidence that the LSF signs might have borrowed from the CSL Authorized sign for BLACK. The ASL sign is clearly borrowed from the Old LSF lexical sign.

Iconicity:  The iconicity is questionable for these lexical signs. The CSL lexical sign may refer to the color of a moustache being black, while the Old LSF lexical signs may refer to the color of eyebrows being black.

Initialization:  The English translation of *noir* is "black." The handshape in these lexical signs is a 1 (index finger), not an N; therefore there is no evidence of initialization from the French word in the LSF lexical sign.

## 4.  BLESS

CSL Lexical Sign          LSF Lexical Sign          ASL Lexical Sign



Figure 16. 'bless'

*CSL Authorized*

*List, pg. 95*

Figure 17.  *BENIR*

*Lambert (1865),*

*pg. 3, #10*

Figure 18.  BLESS

*ASL Handshape Dictionary*

*(1998), pg. 158*

Description of CSL lexical sign: "trace cross in air with right hand; (1) heel of hand downward and moved in towards body, then (2) hand moved to left then to right." (CSL Authorized List, pg. 95)

The CSL and Old LSF lexical signs share the same parameters of movement, orientation and location. Their movements are the motions from top to bottom, and then from one side to the other side. Their orientations are facing sideways. Their locations are in the neutral space in front of shoulder level. Their handshapes are different. The handshape of CSL lexical sign is a B, while the handshape of Old LSF lexical sign is a U.

Contact:  This is evidence that the LSF lexical sign might have been borrowed from the CSL Authorized sign for TO-BLESS. An ASL sign (Not shown) is clearly borrowed from the Old

LSF lexical sign illustrated above. However, the ASL sign pictured above can be used for "Bless You" after someone sneezes.

Iconicity:  Iconicity is clearly evident for these lexical signs, because the signs depict the cross.

Initialization:  The English translation of *benir* is "to bless." The handshape in the LSF lexical signs is a U, not a B; therefore, there is no evidence of initialization from the French word in the LSF lexical sign. It is interesting to note that the handshape in the CSL sign is a common benediction gesture.

## 5.  BOOTS

CSL Lexical Sign                LSF Lexical Sign



Figure 19.  'boot'             Figure 20.  *BOTTES*
*CSL St. Joseph's*            *Modern LSF Dictionary,*
*Abbey List, pg. 142*        *(1996), pg. 28*

Description of the CSL lexical sign: "place hands on right foot, then move hands up to about knee level as though putting on a pair of boots." (CSL St. Joseph's Abbey List, pg. 142)

There is no illustration for BOOT in the ASL dictionary. The sign is commonly produced using the bottom-side of the dominant handshape B tapping repeatedly on the middle and top of the non-dominant arm. ASL lexicon does include a verb sign similar to that used in CSL and modern LSF to show how to put boots on.

The CSL and modern LSF signs share the same parameters of movement, orientation and handshape. Their locations are slightly different from one other. The modern LSF sign may have evolved by the process of centralization where the location is shifted toward the center of the body. Their handshapes are S. Their movements represent a person pulling on boots.

Contact:  Their contact is possible; however, the issue of iconicity is discussed below which questions their similarity being the result of contact.

Iconicity:  Iconicity is highly probable, because these lexical signs clearly represent putting the boot on.

Initialization:  The English translation of *bottes* is "boot." The handshapes in these lexical signs are S, not B; therefore there is no evidence of initialization from the French word in the LSF lexical sign.

## 6.  CAT

| CSL Lexical Sign | LSF Lexical Sign | ASL Lexical Sign |
|---|---|---|



Figure 21.  'cat'
*CSL Authorized List, pg. 96*

Figure 22.  *CHAT Pélissier (1856), pg. 7, #18*
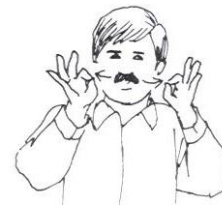
Figure 23.  CAT
*ASL Handshape Dictionary (1998), pg. 223*

Description of CSL lexical sign: "twist an imaginary moustache at sides of upper lip with tips of right and left thumb and forefinger, then add sign of ANIMAL." (CSL Authorized List, pg. 97)

The CSL and Old LSF signs including the ASL sign share the same parameters of movement and location. Their signs move away from each lip corner to the neutral space in front of the face to the sides. They share similar orientations with the CSL sign's orientations facing downward and the Old LSF sign's orientations facing away from the signer. Their handshapes are different with the CSL sign's handshape a closed 3 while the Old LSF sign's handshape is F.

Contact:  There is good evidence that the LSF signs have been borrowed from the CSL sign. The ASL is clearly borrowed from the Old LSF sign.

Iconicity:  The iconicity is strong for these lexical signs, as they represent the whiskers of a cat.

Initialization:  The English translation of *chat* is "cat." The handshape in the LSF lexical sign is an F, not a C; therefore, there is no evidence of initialization from the French word in the LSF lexical sign.

## 7.  CLOSE (near)

CSL Lexical Sign          LSF Lexical Sign          ASL Lexical Sign



Figure 24.  'close'          Figure 25.  *PROCHE*          Figure 26.  CLOSE
*CSL St. Joseph's*          *Lambert (1865)*          *ASL Handshape Dictionary,*
*Abbey List, pg. 144*          *Pg. 15, #5A*          *(1998), pg. 192*
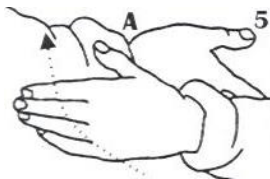
Description of CSL sign: "extend open hands with heels down and palms facing each other in front of body, then move them towards each other several times; no contact." (CSL St. Joseph's Abbey dictionary, pg. 144)

The CSL, LSF, and ASL signs share the same parameter of handshape B. The CSL sign's location is in the neutral space at the waist level, while the location of the Old LSF sign is unknown. The orientation and movement of both the CSL and Old LSF signs are different.

Contact:    Borrowing from CSL to Old LSF is not evident.

Iconicity:   Iconicity may be more probable with the CSL sign and modern ASL sign than the old LSF sign. They show proximity of space.

Initialization:   The English translation of *proche* is "close." The handshapes in these lexical signs are B, not a P; therefore, there is no evidence of initialization from the French word in the LSF sign.

## 8.   COW

<u>CSL Lexical Sign</u>         <u>LSF Lexical Sign</u>         <u>ASL Lexical Sign</u>
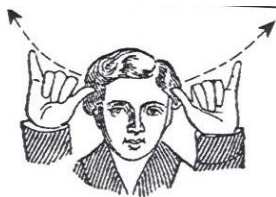


Figure 27.  'cow'          Figure 28.  *BEOUF*        Figure 29.  COW
*CSL St. Joseph's*          *Pélissier (1856),*         *ASL Handshape Dictionary,*
*Abbey List, pg. 144*       *pg. 7, #3*                 *(1998), pg. 113*

Description of CSL lexical sign: "place thumb sides of both hands on respective temples, then extend both forefingers like horns." (CSL St. Joseph's Abbey List, pg. 144)

Contact and Iconicity:  Please refer to the analysis earlier in the section of CSL and LSF Borrowing Analysis' # 33:  OX. The results are the same as for this sign for COW.

Initialization:  The English translation of *boeuf* is "cow" ("steer"). The handshape in the LSF sign is Y, not B; therefore, there is no evidence of initialization from the French word in the LSF sign.

## 9.  CROSS

CSL Lexical Sign



Figure 30.  'cross'
*CSL Authorized List, pg. 100*

Description of CSL lexical sign: "hold up left forefinger with back of hand forward then place extended right forefinger over it forming a cross." (CSL Authorized List, pg. 100)

LSF Lexical Signs
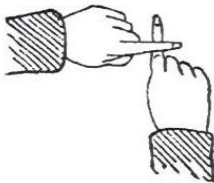


Figure 31.  *CROIX*          Figure 32.  *CROIX*
*Pélissier (1856), pg. 5, #7*     *Lambert (1865), pg. 3, #13*

95

There is no sign of CROSS found in the ASL Handshape Dictionary, although ASL does have several versions.

The CSL and Old LSF signs share the same parameters of handshape. Their handshapes are both 1 (index finger). It is assumed that their locations are in the neutral space in front of signer and their orientations were away from the signer. There is no information about their movements.

Contact:  There is strong evidence that the LSF sign's handshape might have been borrowed from the CSL sign.

Iconicity:  The iconicity is clear for these lexical signs as they represent the picture of a cross.

Initialization:  The English translation of *croix* is "cross." The handshapes in these LSF lexical signs are 1 (index finger), not C; therefore, there is no evidence of initialization from the French word in the LSF sign.

**10. DAY**

<u>CSL Lexical Sign</u>             <u>LSF Lexical Sign</u>             <u>ASL Lexical Sign</u>



Figure 33. 'day'              Figure 34. *JOUR/*             Figure 35. DAY
*CSL Authorized*              *JOURNEE, Pélissier*           *ASL Handshape Dictionary*
*List, pg. 101*              *(1856), pg. 18,  #1*           *(1998), pg. 325*

Figure 36. *JOUR/JOURNEE*

*Lambert (1865),*

*pg. 13, #9*

Description of CSL lexical sign: "place tip of right forefinger into right cheek." (CSL Authorized dictionary, pg. 101)

The CSL sign used a different location, handshape and movement from the ones incorporated in the Old LSF signs. The CSL sign puts the tip of a 1-handshape (index finger) on the right cheek. Its palm orientation faces the cheek. The Old LSF signs move the two B-handshapes facing the signers across each other in the neutral space in front of the signers.

Contact:    There is no evidence that the LSF lexical sign was borrowed from the CSL Authorized sign for DAY. The ASL sign may have been partially borrowed from the Old LSF Pélissier's sign. Interestingly the two LSF signs have the opposite directional movement from each other.

Iconicity:  Iconicity is hardly probable with the CSL signs. The LSF signs appear to be iconic. The LSF lexical signs are showing darkness or a thing becoming dark in night time as well as lightness or a thing becoming light in daytime. Japanese Sign Language (JSL) uses a different sign for night by using the 5 handshapes and moving them downward, vertically and simultaneously from the head level to neck level until the hands close into the handshapes of S. Indian Sign Language (ISL) uses a sign that looks like "OPEN" in our modern ASL. Iconicity is ruled out for these lexical signs of DAY.

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Initialization:  The English translation of *jour/journee* is "day." The handshape in these lexical signs is either 1 (index finger) or B, not J; therefore, there is no evidence of initialization from the French word in the LSF lexical sign.


## 11. DOOR

CSL Lexical Sign          LSF Lexical Sign          ASL Lexical Sign



Figure 37. 'door'          Figure 38.  *PORTE*          Figure 39.  DOOR
*CSL St. Joseph's*          *Modern LSF Dictionary*          *ASL Handshape Dictionary*
*Abbey List, pg. 145*          *(1996), pg.135*          *(1998), pg. 167*


Description of CSL lexical sign: "hold right hand out before body with palm facing left, then move fingers back and forth like a door moving on a hinge." (CSL St. Joseph's Abbey List, pg. 145)


The CSL and Old LSF signs share the same parameters of movement, orientation and handshape. Their locations are slightly different. The CSL sign has the dominant hand beside the left hand's wrist, while the Old LSF sign's dominant hand is in front of the fingertips of the non-dominant hand. Their orientations are facing the signer. Their handshapes are closed B, with a swinging movement. There is good evidence that the LSF sign was borrowed from the CSL Authorized sign for the term DOOR; however, iconicity is highly probable also, because the signs resemble a door or gate opening and closing.

Contact and iconicity:  Since iconicity may be a factor, lexical borrowing may be questionable.

Initialization:  The English translation of *porte* is "door." The handshapes in these lexical signs is B, not P; therefore, there is no evidence of initialization from the French word in the LSF sign.


## 12. EYEGLASSES


CSL Lexical Sign            LSF Lexical Sign            ASL Lexical Sign



Figure 40.  'eyeglasses'     Figure 41. *LES LUNETTES*     Figure 42.  EYEGLASSES

*CSL St. Joseph's*           *Modern LSF Dictionary*       *ASL Handshape Dictionary,*

*Abbey List, pg. 146*        *(1996), pg. 103*            *(1998), pg. 250*


Description of CSL lexical sign: "form circles with tips of thumbs and forefingers, then place them over respective eyes." (CSL St. Joseph's Abbey List, pg. 146)


No lexical sign for EYEGLASSES was included in the OLD LSF dictionaries.


The CSL and Old LSF signs including the ASL sign share the same parameters of location and orientation. Their locations are on the outer side of eyes. As for their orientations, their palms are facing each other. Their movements are varied.


Contact:  This is good evidence that the modern LSF sign's location and orientation are correlated with the CSL St. Joseph's sign for the term of EYEGLASSES. The ASL sign is clearly correlated to the modern LSF sign.


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Iconicity: The iconicity is clear for these lexical signs. They represent the shapes and sizes of eyeglasses. Because there is no lexical sign of EYEGLASSES in the Old LSF dictionaries, the CSL St. Joseph Abbey's List included some modern terms, and the signs depict the frames of the eye glasses, iconicity is very highly likely; therefore, the likelihood of borrowing from the CSL lexical sign to the modern LSF and ASL lexical signs is questionable.

Initialization: The English translation of *les lunettes is "eyeglasses."* The handshape in the modern LSF signs is a G, not an L; therefore, there is no evidence of initialization from the French word in the LSF sign.

## 13. FEVER

CSL Lexical Sign          LSF Lexical Sign          ASL Lexical Sign



Figure 43. 'fever'
*CSL Authorized*
*List, pg. 104*
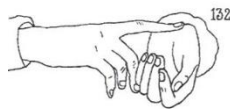


Figure 44. *FIEVRE*
*Pélissier (1856),*
*pg. 20, # 7*



Figure 45. FEVER (1)
*ASL Handshape Dictionary*
*(1998), pg. 48*
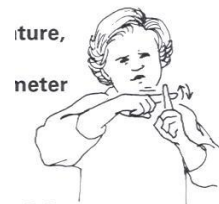


Figure 46. FEVER (2)
*ASL Handshape Dictionary*
*(1998), pg. 317*

100

Description of CSL lexical sign: "place tips right forefinger and middle finger on inner side of the left wrist as though taking pulse" (CSL Authorized List, page 104)

The CSL and Old LSF sign share the same parameters of location, orientation and handshape. Their locations are on the left wrist. Their orientations are the dominant hand facing downward with the non-dominant hand facing upward. Their handshapes are the dominant hand as index finger and the non-dominant hand as closed C. There is insufficient information about their movement; however, they appear to be stationary.

Contact:    This is strong evidence that the LSF sign was borrowed from the CSL Authorized sign for the term FEVER.

Iconicity:   Iconicity is probable, as the sign represents feeling for a pause.

Initialization:    The English translation of *fievre* is "fever." The dominant handshape in these lexical signs is either 1 (index finger) or B, not an F; therefore there is no evidence of initialization from the French word in the LSF sign.

## 14. FLOWER

<u>CSL Lexical Sign</u>



Figure 47.  'flower'

101

Description of CSL lexical sign: "hold tips of right thumb, forefinger and middle finger together, then bring them to nose as though smelling them." (CSL Authorized List, pg. 105)

LSF Lexical Signs



Figure 48.  *FLEUR*

*Brouland (1855), pg. 7, #78*



Figure 49.  *FLEUR*

*Modern LSF Dictionary (1996), pg. 78*

ASL Lexical Sign



Figure 50.  FLOWER

*ASL Handshape Dictionary (1998), pg. 91*

The CSL, Old LSF, and ASL signs share the same values for location, orientation and initial handshape. Their orientations are facing toward the signer. Their handshapes are flat O's. Their locations are at the nose with movements slightly varied. The CSL lexical sign's movement is raising the hand toward the nose. The Old LSF sign does not have a movement symbol, while the modern LSF sign moves away from the nose to a neutral space in front of face. The ASL sign's movement is from one side of nose to another side of nose.

Contact:  This is strong evidence that the LSF sign might have been borrowed from the CSL Authorized sign for the term of FLOWER. The ASL sign appears to be borrowed from the Old LSF sign.

Iconicity: Iconicity is highly probable for these lexical signs, because they refer to scent or a function of the nose.

Initialization: The English translation of *fleur* is "flower." The handshape in these lexical signs is an O, not an F; therefore, there is no evidence of initialization from the French word in the LSF sign.

## 15. FORGET (to)

LSF Lexical Sign

CSL Lexical Sign



Figure 51. 'forget'

Description of CSL lexical sign: "pass curved right forefinger across bridge of nose." (CSL St. Joseph's Abbey List, pg. 147)

LSF Lexical Signs



Figure 52. *OUBLIER*
*Brouland (1855),*
*pg. 5, #59*



Figure 53. *OUBLIER*
*Lambert (1865),*
*pg. 11, #12*



Figure 54. *OUBLIER*
*Modern LSF Dictionary,*
*(1996), pg. 123*

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ASL Lexical Sign



Figure 55.  FORGET

*ASL Handshape Dictionary (1998), pg. 58*


The CSL, Old LSF, and ASL lexical signs share the same parameters of location at the forehead. Their orientations, movements and handshapes are slightly varied. The CSL sign's orientation is facing sideway, with both the LSF and ASL signs' orientation facing toward the signer. While the CSL sign's handshape is an X, the Old and modern LSF and modern ASL lexical signs share the same initial handshape of B.

Contact:  It is evident that these lexical signs' locations are correlated, although their handshapes and movements are different. The LSF signs and the ASL sign share the same handshape of B.

Iconicity:  The iconicity is probable for these lexical signs, because they refer to mind or a mental function, which are located at the forehead in these signed languages.

Initialization:  The English translation of  *oublier* is "to forget."  The handshape in these LSF lexical signs is a B, not an O; therefore, there is no evidence of initialization from the French word in the LSF lexical sign.

## 16. FRIEND

CSL Lexical Sign       LSF Lexical Sign       ASL Lexical Sign



Figure 56. 'friend'

*CSL St. Joseph's*

*Abbey List, pg. 148*
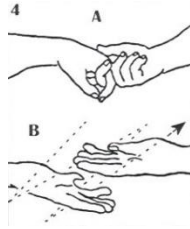


Figure 57. *AMI*

*Lambert (1865)*

*pg. 6, #4A & 4B*



Figure 58. FRIEND

*ASL Handshape Dictionary*

*(1998), pg. 299*

Description of CSL lexical sign: "curve fingers of both hands and then hook them together; back of right hand is up and back of left down." (CSL St. Joseph's Abbey List, pg. 148)

The CSL and Old LSF signs share the same parameter of orientation, and their dominant and non-dominant fingers are holding each other. Their handshapes are the closed A and X respectively. It is assumed that the location of Old LSF sign is in the neutral space at the waist level the same as the CSL sign. There is insufficient information about their movements.

Contact:  It is highly likely that the LSF sign borrowed the location, orientation and hand contact from the CSL sign.

Iconicity:  Iconicity may not be a factor in these lexical signs, except for the possibility that the sign may resemble a form of a handshake that brings two people together,  representing friendship.

Initialization:  The English translation of *ami* is "friend." The handshapes in these lexical signs is either a bent X or B, not an A; therefore, there is no evidence of initialization from the French word in the LSF sign.

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17. HARD

CSL Lexical Sign



Figure 59. 'hard'

Description of CSL lexical sign: "strike back of left hand with middle knuckle of right middle finger."
(CSL Authorized List, pg. 106)

LSF Lexical Signs
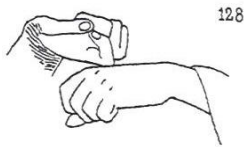


Figure 60. *DUR/DURE*
*Brouland (1855),*
*pg. 11, #128*



Figure 61. *DUR/DURE*
*Pélissier (1856),*
*pg. 10, #20*
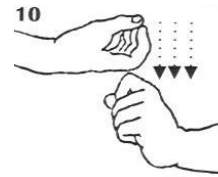


Figure 62. *DUR/DURE*
*Lambert (1865),*
*pg. 9, #10A*



Figure 63. *DUR/DURE*
*Modern LSF Dictionary (1996), pg. 32*

ASL Lexical Sign



Figure 64.  HARD

*ASL Handshape Dictionary (1998), pg. 294*

The CSL and Old LSF signs share the same parameters of location, orientation and handshape. Their locations are on the back of non-dominant hands. Their dominant palms are facing upward while their non-dominant hands' palms face downward. Their handshapes are O. The movements of CSL sign and LSF Lambert's sign are identical. They move upward and downward repeatedly. The modern LSF and modern ASL signs share the same parameters: handshape of bent V; one directional and downward movement; location of the non-dominant hand's back; and palm orientation of dominant hand facing sideways while palm orientation of non-dominant hand faces the signer.

Contact:  This is strong evidence that the ASL sign might have been borrowed from the Old LSF sign, which might have been borrowed from the CSL Authorized sign for the term of HARD.

Iconicity:  Ionicity is probable for these lexical signs, because they refer to tapping on the surface of an object.

Initialization:  The English translation of *dur/dure* is "hard." The handshape in these lexical signs is a bent V, not a D; therefore, there is no evidence of initialization from the French word in the LSF sign.

**18. HEAT and HOT**

<u>CSL Lexical Sign</u>



Figure 65. 'heat' and 'hot'

Description of CSL lexical sign: "hold out right hand with palm open, then blow on it lightly." (CSL Authorized List, pg. 107 for HEAT and 108 for HOT)

<u>CSL Lexical Signs</u>
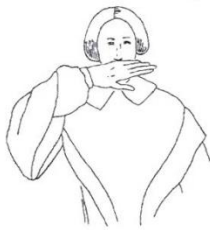


Figure 66. *CHAUD*
*Brouland (1855),*
*pg. 8, #87*



Figure 67. *CHAUD*
*Pélissier (1856),*
*pg. 10, #17*



Figure 68. *CHAUD*
*Lambert (1865),*
*pg. 9, #7*



Figure 69. *CHAUD*
*Modern LSF Dictionary (1996), pg. 37*

ASL Lexical Sign



Figure 70.  HOT

*ASL Handshape Dictionary (1998), pg. 144*

The CSL and Old LSF signs share the same parameter of location, handshape and movement. Their locations are in a neutral space in front of mouths. Their handshapes are B. They do not have a movement. Their orientations are slightly different. The CSL lexical sign's palm orientation is facing upward. The palm orientation of LSF Brouland's sign faces down while LSF Pélissier and Lambert's palms face the signer.

Contact:  There is strong evidence that the LSF sign was borrowed from the CSL Authorized sign for the terms HEAT and HOT. The modern LSF and modern ASL signs are clearly borrowed from the Old LSF sign. They share the same movement twisting away from the mouth to the neutral area in front of the face.

Iconicity:  Iconicity is probable for these lexical signs, because they may refer to a sensation of warm air coming out of the mouth.

Initialization:  The English translation of *chaleur/chaud* is "hot."  The handshape in these CSL and Old LSF signs is a bent B, not clearly a C. The handshape in both modern LSF and ASL look like an open C which may make it look as though initialization may have occurred.

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## 19. HERE

| CSL Lexical Sign | LSF Lexical Sign | ASL Lexical Sign |
|---|---|---|



Figure 71. 'here'

*CSL Authorized*

*List, pg. 107*
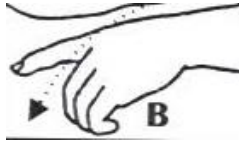
Figure 72. *ICI*

*Lambert (1865),*

*pg. 15, #9B*

Figure 73. HERE

*ASL Handshape Dictionary*

*(1998), pg. 169*

Description of CSL lexical sign: "point extended right forefinger towards the ground several times." (CSL Authorized List, pg. 107)

The CSL and Old LSF sign share the same dominant handshape of 1 (index finger) and one directional downward movement. Due to lack of information about location and orientation in the Old LSF lexical sign's illustration, it is not possible to analyze and compare their locations and orientations.

Although the ASL sign as shown in an illustration above is different from the CSL and LSF signs, we do use a sign similar to the Old LSF sign for the ASL term HERE.

Contact:  There is evidence that the LSF sign's handshape might have been borrowed from the CSL sign.

Iconicity:  Iconicity is likely for these lexical signs, because they refer to being to a specific location.

Initialization:  The English translation of *ici* is "here." The handshape in the CSL and Old LSF lexical signs is a 1 (index finger), not an I; therefore, there is no evidence of initialization from the French word in the LSF lexical sign.

## 20. HOUSE

CSL Lexical Sign



Figure 74. 'house'

Description of CSL lexical sign: "join tips of fingers of both hands in shape of a roof." (CSL Authorized List, pg. 108)

LSF Lexical Signs
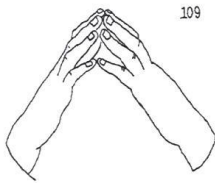


Figure 75. *MAISON Brouland (1855), pg. 10, #108*
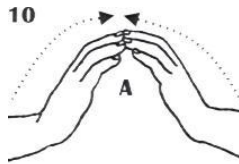


Figure 76. *MAISON Lambert (1865), pg. 15, 10A*



Figure 77. *MAISON Modern LSF Dictionary (1996), pg. 105*

ASL Lexical Sign



Figure 78.  HOUSE

*ASL Handshape Dictionary (1998), pg. 173*

The CSL, Old LSF, and ASL signs share the same parameters of location, orientation and handshape. Their palm orientations are facing each other. Their handshapes are B. Their locations are in the neutral space at the shoulder level. The CSL lexical sign and the LSF Brouland's lexical sign do not show a movement, while the LSF Pélissier and the Lambert's lexical signs show the hands' movement toward each other's fingertips as outlining the wall first and then the roof.  The ASL sign has a movement that is opposite of Pélissier and Lambert's lexical signs' movements.

Contact:  This is strong evidence that the Old LSF sign was borrowed from the CSL Authorized sign for the term of HOUSE. The ASL may be borrowed from the Old LSF sign.

Iconicity:  Iconicity is highly likely for these lexical signs, because they refer to the outline of a house common to Europe and America.

Initialization:  The English translation of *maison* is "house." The handshape in these lexical signs is a B, not an M; therefore, there is no evidence of initialization from the French word in the LSF sign.

**21. KEY**

CSL Lexical Sign



Figure 79. 'key'
*CSL Authorized*
*List, pg. 109*

Figure 80. *CLE*
*Modern LSF Dictionary*
*(1996), pg. 42*
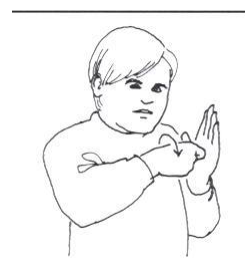
Figure 81. KEY
*ASL Handshape Dictionary*
*(1998), pg. 300*

Description of CSL lexical sign: "hold out right hand as though holding a key, then turn hand as though turning a key in a lock." (CSL Authorized List, pg. 109)

There is no lexical sign for KEY in the Old LSF dictionaries.

The CSL and modern LSF signs, including the modern ASL sign, share the same parameters of location, orientation, movement and handshape. Their palm orientations are facing sideways. Their handshapes are bent baby O's. Their locations are in the neutral space in front of signer. Their movements are twisting as if a person is turning a key around to lock a door.

Contact: There is strong evidence that the modern LSF sign and modern ASL sign was borrowed from the CSL sign.

Iconicity: Iconicity is highly likely for these signs, because they refer to the instrumental function of key.

Initialization:  The English translation of *cle* is "key." The handshape in these lexical signs is an X, not a C; therefore, there is no evidence of initialization from the French word in the LSF sign.

## 22. KNIFE

CSL Lexical Sign



Figure 82.  'knife'

Description of CSL lexical sign: "pass right forefinger over left wrist then add sign of CUT." (CSL Authorized List, pg. 109)

LSF Lexical Signs
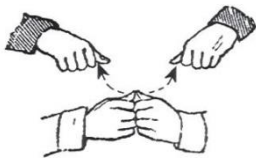


Figure 83.  *COUTEAU Pélissier (1856), pg. 2, #17*
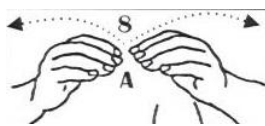


Figure 84.  *COUTEAU Lambert (1865), pg. 10, #8A*



Figure 85.  *COUTEAU Modern LSF Dictionary (1996), pg. 49*

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ASL Lexical Sign



Figure 86.  KNIFE

*ASL Handshape Dictionary (1998), pg. 232*

The CSL and Old LSF signs do not share the same parameters of movement, orientation or handshape. Their locations are in the neutral space in front of the signers.  The CSL sign uses the dominant handshape of 1 (index finger) on the back of the non-dominant hand. Its dominant palm orientation faces sideway while its non-dominant palm orientation faces downward. Its motion is made by moving the dominant hand across the non-dominant wrist. The handshapes of both Pélissier and Lambert's signs are A, which are in contact with each other, and their movements are separating the hands simultaneously. Their illustrations do not provide sufficient information about their locations and orientation.

Contact:  There is not sufficient evidence that the CSL and Old LSF signs have a correlation. Both modern LSF and modern ASL signs clearly are correlated to the CSL sign. The difference raises a question about the correct semantics of the French's *couteau* from the initial screening.

Iconicity:  Iconicity is highly likely for the CSL, modern LSF and modern ASL lexical signs as they refer to something being cut.

Initialization:  The English translation of *couteau* is "knife." The handshape in these lexical signs is either an A or a B, an index finger or an H, not a C; therefore, there is no evidence of initialization from the French word in the LSF sign.

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## 23. LEAVE IT

CSL Lexical Sign          LSF Lexical Sign          ASL Lexical Sign



Figure 87. 'leave it'     Figure 88. *LAISSER*      Figure 89. LEAVE-it

*CSL St. Joseph's*        *Modern LSF Dictionary*   *ASL Handshape Dictionary*

*Abbey List, pg. 150*     *(1996), pg. 98*          *(1998), pg. 336*


Description of CSL lexical sign: "hold out hands with palms forward, then move hands slowly towards ground once or twice." (CSL St. Joesph's Abbey List, pg. 150)


There is no lexical sign for LEAVE-it in the Old LSF Dictionaries.


The CSL and modern LSF signs including the modern ASL lexical sign share the same parameters of location and movement. Their locations are in the neutral space in front of signer. Their movements are downward and forward. Both CSL and modern LSF lexical signs' palm orientations face downward, while the modern ASL sign's palm orientations are facing each other. Both CSL and modern ASL signs use same handshape of B, while the modern LSF sign begins with the handshape of O and ends with the handshape of B.


Contact: It is possible that the LSF sign was borrowed from the CSL sign. The modern LSF and modern ASL signs have a strong correlation with their locations and movements.


Iconicity: Iconicity is highly probable for these lexical signs, because they refer to putting or placing a something downward or something being upon a place.

Initialization:  The English translation of *laisser* is "to leave it." The handshape in these lexical signs is open B, not an L; therefore there is no evidence of initialization from the French word in the LSF sign.

## 24. LIGHT

CSL Lexical Sign          LSF Lexical Sign          ASL Lexical Sign



Figure 90.  'light'

*CSL Authorized*

*List, pg. 110*



Figure 91.  *LUMIERE*

*Lambert (1865),*

*pg. 15, #5A*



Figure 92.  LIGHT

*ASL Handshape Dictionary*

*(1998), pg. 146*



Figure 93.

SUNSHINE

*ASL Handshape Dictionary*

*(1998), pg. 128*

Description of CSL lexical sign: "sign of FIRE, then raise right forefinger above face."
(CSL Authorized List, pg. 110)

The CSL and LSF signs share the same parameter of location where their signs are produced in an area at the upper head level. Their orientations and handshapes are different. Their movements are different. The CSL sign's movement is "moving upward," while the Old LSF sign's movement is in a waving motion upward and away from the face.

Contact:  Borrowing is not evident.

Iconicity:  These lexical signs are probably the result of iconicity at least in part, because the signs may be directed at our sun in which is giving off light.

Initialization:  The English translation of *lumiere* is "light." The dominant handshape in these lexical signs is either 1 (index finger), open B or 8, not an L; therefore there is no evidence of initialization from the French word in the LSF sign.

## 25. LIKE

<u>CSL Lexical Sign</u>



Figure 94.  'like'

Description of CSL lexical sign: "place right palm over heart then place left palm over the back of the right hand." (CSL St. Joseph's Abbey List, pg. 150)

LSF Lexical Sign



Figure 95. *AIMER*
*Brouland (1855),*
*pg. 5, #51*



Figure 96. *AIMER*
*Pélissier (1856),*
*pg. 15, #4*



Figure 97. *AIMER*
*Lambert (1865),*
*pg. 2, 12*



Figure 98. *AIMER*
*Modern LSF Dictionary (1996), pg. 9*

ASL Lexical Sign
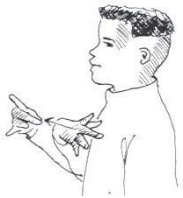


Figure 99. LIKE
*ASL Handshape Dictionary (1998), pg. 149*

The CSL and Old LSF signs share the same parameters of location, orientation and handshape. Their locations are on the left area of the upper chest. Their orientations are facing toward the signer. Their handshapes are B. There is no movement symbol for any of the three Old LSF signs' illustrations. The CSL sign's movement is placing the left hand upon the right hand resting on the chest.

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Contact: This is strong evidence that the LSF signs might have been borrowed from the CSL sign. The modern LSF and modern ASL signs might have adapted by centralizing their locations to the center of the upper chest and reducing the number of handshape from 2 to 1. They share the same movement by moving their signs away from the chest. The modern ASL sign changes its handshape from 5 to 8, while the modern LSF sign appears to retain its initial handshape. The CSL and Old LSF signs are the same as the one used by many Deaf elders for their semantic description of LOVE.

Iconicity: It is difficult to judge whether iconicity has played any role in these lexical signs.

Initialization: The English translation of *aimer* is "to like." The handshape in these LSF lexical signs is either a B or a 5 for the initial handshape, not an A; therefore there is no evidence of initialization from the French word in the LSF sign.

## 26. LOW

CSL Lexical Sign



Figure 100. 'low'
*CSL Authorized*
*List, pg. 110*
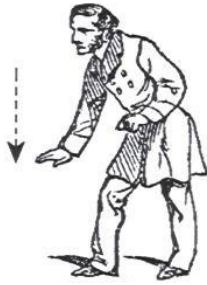


Figure 101. *BAS*
*Pélissier (1856),*
*pg. 10, #8*



Figure 102. LOW
*ASL Handshape Dictionary*
*(1998), pg. 60 (using the*
*illustration for the sign*
*of CHILD which is*
*identical to this sign*
*in our modern ASL)*

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Description of CSL lexical sign: "hold out open right hand, palm down, near to the ground." (CSL Authorized List, pg. 110)

The CSL, Old LSF and modern ASL signs share the same parameters of movement, orientation and handshape. The signs are moved downward. Their orientations are facing downward. Their handshapes are a common B, but their locations are slightly different. The CSL lexical sign's location is at the knee level while both Old LSF and modern ASL signs' locations are at the waist level.

Contact:  There is strong evidence that the LSF sign was borrowed from the CSL sign.  The ASL sign is clearly borrowed from the Old LSF lexical sign.

Iconicity:  Iconicity is highly likely for these lexical signs, because they refer to a low level of space.

Initialization:  The English translation of *bas* is "low." The handshape in these lexical signs is B, suggesting that there is a strong probability that initialization from the French word to the LSF sign may have occurred. However, the author feels this may be an indication of a classifier handshape representing the element of flatness, rather than an articulatory handshape for "B".

## 7.  MEAT

CSL Lexical Sign



Figure 103.  'meat'

Description of CSL lexical sign: "pinch skin of left hand just below thumb with side of right forefinger and thumb." (CSL Authorized List, pg. 111)

LSF Lexical Signs
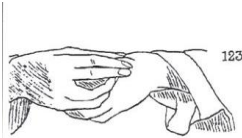


Figure 104. *VIANDE*

*Brouland (1855),*

*pg. 11, #123*



Figure 105. *VIANDE*

*Pélissier (1856),*

*pg. 2, #3*



Figure 106. *VIANDE*

*Lambert (1865),*

*pg. 10, #2B*



Figure 107. *VIANDE*

*Modern LSF Dictionary (1996), pg. 179*

ASL Lexical Sign



*Figure 108. MEAT*

*ASL Handshape Dictionary (1998), pg. 227*

The CSL and Old LSF signs share the same parameters of location, orientation handshape and movement. Their locations are on the back of non-dominant hand. Their orientations face downward. Their dominant handshapes are F and their non-dominant handshapes are B. Their movements indicate pinching of the skin on the non-dominant hand's backs. The identical location of both modern LSF and modern ASL signs is on the area between the thumb and forefinger.

Contact:  This is strong evidence that the LSF signs were borrowed from the CSL signs.  The modern LSF and modern ASL lexical signs are clearly borrowed from the Old LSF lexical sign's handshape, movement and orientation.

Iconicity:  It is doubtful that iconicity has any role in the development of these lexical signs.

Initialization:  The English translation of *viande* is "meat." The dominant handshape in these lexical signs is either a closed 3, baby O or F, not a V; therefore, there is no evidence of initialization from the French word in the LSF sign.

## 28. MILK

CSL Lexical Sign



Figure 109.  'milk'

Description of CSL lexical sign: "hold out left forefinger so that tip is pointing down, then grasp it with right hand as though milking a cow." (CSL Authorized List, pg. 111)

Figure 110.  *LAIT*

*Brouland (1855),*

*pg. 11, #125*

Figure 111.  *LAIT*

*Pélissier (1856),*

*pg. 3, #10*

Figure 112.  *LAIT*

*Lambert (1865),*

*pg. 10, #8C*



Figure 113.  *LAIT*

*Modern LSF Dictionary (1996), pg. 98*

ASL Lexical Sign



Figure 114.  MILK

*ASL Handshape Dictionary (1998), pg. 67*

The CSL and Old LSF signs, including the modern LSF sign share the same parameters of handshape and location. Their dominant handshape is S grasping on the non-dominant handshape of 1 (index finger). Their movements are slightly varied. The CSL sign's

movement is grasping the index finger repeatedly while the Old LSF signs' movements are made downward repeatedly. The modern LSF lexical sign's movement is made from right to left repeatedly. The ASL sign uses only one handshape that is an S, and it grasps repeatedly.

Contact:  This is strong evidence that the LSF signs' might have been borrowed from the CSL lexical sign. The ASL sign is clearly borrowed from the Old LSF sign's initial handshape, location and orientation.

Iconicity:  Iconicity is high probable for these lexical signs, because they depict the action of milking a cow.

Initialization:  The English translation of *lait* is "milk." The dominant handshape in these CSL and LSF signs is a 1 (index finger), not an L; therefore, there is no evidence of initialization from the French word in the LSF sign.

## 29. MONEY

CSL Lexical Sign



Figure 115.  'money'

Description of CSL lexical sign: "hold out left hand with palm up, then push tip of right thumb over tip of right forefinger several times as though counting money into the left palm." (CSL St. Joseph's Abbey List, pg. 151)

LSF Lexical Signs



Figure 116. *ARGENT DU Lambert (1865), pg. 14, #6A*
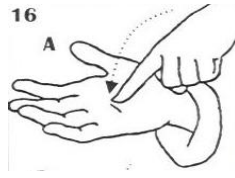
Figure 117. *ARGENT DU Lambert (1865), pg. 14, 16A*

Figure 118. *ARGENT DU Modern LSF Dictionary (1996), pg. 15*

ASL Lexical Sign
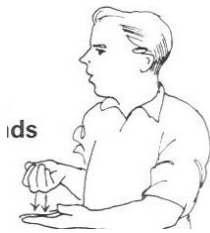


Figure 119. MONEY

*ASL Handshape Dictionary (1998), pg. 260*

The CSL sign and Old LSF Lambert's first sign share the same parameters of orientation and handshape. Their dominant hands of closed G face sideways, while their non-dominant hands of B face upward. Their locations are similar where the CSL sign's dominant hand does not make contact with the non-dominant hand, while the Old LSF sign does. The Old LSF sign does not have a movement symbol, while the CSL sign pushes the tip of right thumb over the tip of right forefinger several times. With the same palm orientation and location of neutral space in front of the signer, the modern ASL sign moves the handshape of a flat O toward the palm repeatedly.

Contact: This is strong evidence that the LSF Lambert's first sign might have been borrowed from the CSL lexical sign. The modern ASL sign might have borrowed its orientation and location from the Old LSF sign.

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Iconicity: There are vestiges of iconicity found in the development of these lexical signs.[7] The sign might be considered slightly iconic except when considering the Old LSF Lambert's second sign and the modern LSF lexical sign. Many non-signers are aware that this sign as a common gesture for money, similar to the modern LSF sign.

Initialization: The English translation of *argent* is "money." The dominant handshape in these lexical signs is either a closed K, a 1 (index finger) or a flat O, not an A; therefore, there is no evidence of initialization from the French word in the LSF sign.

## 30. NEXT

| CSL Lexical Sign | LSF Lexical Sign | ASL Lexical Sign |
|---|---|---|



| Figure 120. 'next' | Figure 121. *COTE* | Figure 122. NEXT |
|---|---|---|
| *CSL St. Joseph's* | *Modern LSF Dictionary* | *ASL Handshape Dictionary* |
| *Abbey List, pg. 152* | *(1996), pg. 47* | *(1998), pg. 192* |

Description of CSL lexical sign: "push right fist forward from right shoulder; do this only once." (CSL St. Joseph's Abbey List, pg. 152)

There is no sign for this word in the Old LSF dictionaries.

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[7] See Wilcox 2000, pp.155–156, for an expansion on the grammaticalization of ASL GIVE signs that extend from Old LSF signs for 'money'.

The CSL sign and either the modern LSF sign or the modern ASL sign do not share any of the same parameters. The CSL sign moves the handshape of an A forward from the right shoulder. The modern LSF and the modern ASL signs resemble each other more than the CSL sign. They move the dominant hand of B toward the non-dominant hand of B in a neutral space; however, their movements are in the opposite direction.

Contact:  There is no evidence that the LSF signs might have been borrowed from the CSL lexical sign. The modern LSF and modern ASL signs are nearly correlated with each other.

Iconicity:  It is doubtful that iconicity has any role in the development of these lexical signs, unless we are looking at the metaphorical timeline for past, present and future. However, the movements of CSL and modern LSF signs are the opposite.

Initialization:  The English translation of *cote* is "next." The dominant handshape in these lexical signs is either an A or a B, not a C; therefore, there is no evidence of initialization from the French word in the LSF sign.

## 31. NOW

<u>CSL Lexical Sign</u>



Figure 123.  'now'

Description of CSL lexical sign: "point to the ground with tip of right forefinger." (CSL St. Joseph's Abbey List, pg 152)

LSF Lexical Sign



Figure 124. *MAINTENANT*

*Lambert (1865), pg. 13, #2*

Figure 125. *MAINTENANT*

*Modern LSF Dictionary (1996), pg. 104*

ASL Lexical Sign



Figure 126.  NOW

*ASL Handshape Dictionary (1998), pg. 301*

The CSL, Old LSF, modern LSF and modern ASL signs share the same parameters of location and movement. They move their signs downward in a neutral space in front of the signer. The CSL sign uses one hand of the 1- handshape whose palm orientation faces the signer, while the Old and modern LSF signs uses both hands with B-handshapes facing upward. The modern ASL sign shares all the same parameters except one with the Old and modern LSF signs. The ASL item uses the handshape of Y for both hands.

Contact: It is possible that the LSF signs location and movement were borrowed from the CSL lexical sign. There is a strong correlation between Old LSF, modern LSF, and modern ASL signs.

Iconicity:  It is doubtful that iconicity has had any role in the development of these lexical signs, unless the downward movement is looked at as a representation of present tense.

Initialization:  The English translation of *maintenant* is "now." The dominant handshape in these lexical signs is either a 1 (index finger), a B or a Y, not an M; therefore, there is no evidence of initialization from the French word in the LSF sign.

**32. OPEN**

CSL Lexical Sign



Figure 127.  'to-open'

Description of CSL lexical sign: "place hands back to back so that palms are facing in opposite directions, then move them apart." (CSL St. Joseph's Abbey List, pg. 153)

LSF Lexical Signs



Figure 128. *OUVERT/ OUVRIR, Lambert (1865), pg. 7, #1*
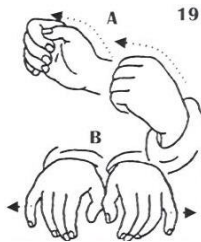
Figure 129.  *OUVERT/ OUVRIR, Lambert (1865), pg. 11, #19A*

Figure 130.  *OUVERT/ OUVRIR, Modern LSF Dictionary (1996), pg. 124*

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ASL Lexical Sign



Figure 131.  OPEN

*ASL Handshape Dictionary (1998), pg. 166*

The CSL sign and Old LSF Lambert's first sign including the modern LSF and modern ASL signs share the same parameters of location, movement and handshape. Their locations are in the neutral space in front of the signers. Their handshapes are open B. Their movements separate their two hands in contact with each other. The CSL sign's orientation is the opposite from all other lexical signs. Its palms face away from each other, while the other signs' palms face each other.

Contact:  This may be evidence that the LSF signs' handshape, location and movement might have been borrowed from the CSL lexical sign. The ASL sign is clearly borrowed from the Old LSF sign having the same handshape, location and movement.

Iconicity:  Iconicity is highly probable for these lexical signs, because they refer to the function of opening a gate or door as discussed earlier with the term DOOR in the section of CSL and LSF borrowings.

Initialization:  The English translation of *ouvert/ouvrir* is "to open." The handshapes in these lexical signs are either an A or a B, not an O; therefore, there is no evidence of initialization from the French word in the LSF sign.

## 33. OX

CSL Lexical Sign          LSF Lexical Sign          ASL Lexical Sign
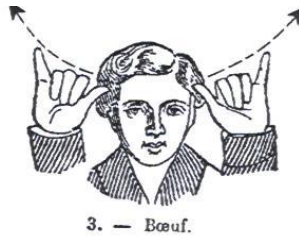


Figure 132.    'ox'          Figure 133.  *BEOUF*          Figure 134.  COW

*CSL Authorized*          *Pélissier ( 1856),*          *ASL Handshape Dictionary*

*List, pg. 113*           *pg. 7, #3*                   *(1998), pg. 113*

Description of CSL lexical sign: "sign of ANIMAL, then extend both forefingers from fists and place on sides of head, near forehead (temples) like horns." (CSL Authorized List, pg. 113)

Contact: The CSL sign employs morphology when requiring the sign of ANIMAL prior to the "ox" portion, while the other sign systems only use the "ox" or "cow" portion of the sign. The CSL and Old LSF signs share the same parameters of location and orientation. Their locations are on the sides of temple. Their orientations are facing away from the signer. Their handshapes and movements are different. The CSL sign uses the handshapes of 1 (index finger) while the Old LSF sign uses the handshapes of Y. The ASL sign is clearly related to the Old LSF sign, except that ASL uses one hand, instead of two hands. It is possible that the Old LSF sign might have been borrowed from CSL; however, iconicity is a factor.

Iconicity:   It is clear that iconicity has played a role with these lexical signs, because they are representing the horns of cow, cattle, buffalo and ox. The sign for BUFFALO (see the illustration below) in the Indian Sign Language is very similar to the CSL sign for OX, therefore iconicity must have been a factor in these signs. Borrowing between the CSL and Old LSF signs is questionable.

Buffle
Büffel          Buffalo

Figure 135. *Tomkins' Indian Sign Language (1929), page 18*

Initialization: The similar English translation of *un beouf* is "ox" / "cow". The handshape in these lexical signs is either 1 (index finger) or Y, not a B; therefore, there is no evidence of initialization from the French word in the LSF sign.

## 34. PAPER

CSL Lexical Sign



Figure 136.  'paper'

Description of CSL lexical sign: "hold out open left hand with palm down, then rub back of right hand over it several times." (CSL Authorized List, pg. 113)

LSF Lexical Signs
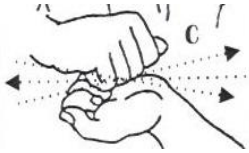


Figure 137. *PAPIER*
*Lambert (1865),*
*pg. 11, #10C*

Figure 138. *PAPIER*
*Modern LSF Dictionary*
*(1996), pg. 125*

ASL Lexical Sign



Figure 139. PAPER
*ASL Handshape Dictionary (1998), pg. 186*

The CSL and Old LSF signs and the modern LSF and modern ASL signs share the same parameters of location and movement. Their locations are in the neutral space in front of signer, and their movements rub each other's hand. Both the CSL and modern ASL signs use the same handshape of B for both hands, yet, their palm orientations are opposite. The CSL sign's palms face away from each–one up and one down–while the ASL sign's palms face each other up and down. The Old LSF sign resembles the modern ASL sign, but it uses A handshapes. The modern LSF sign is different from these lexical signs. It moves a dominant hand with the bent V handshape sideways on the back of non-dominant hand's wrist.

Contact:  This is strong evidence that the Old LSF signs' location and movement might have been borrowed from the CSL lexical sign. The modern ASL sign clearly has borrowed its location, movement and orientation from the Old LSF sign.

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Iconicity:  The iconicity is unknown for these lexical signs, unless we know how the paper is being made.

Initialization:   The English translation of *papier* is "paper." The dominant handshape in these lexical signs is either an A, a B or a bent V, not a P; therefore, there is no evidence of initialization from the French word in the LSF lexical sign.


**35. PICK (to)**

| CSL Lexical Sign | LSF Lexical Sign | ASL Lexical Sign |
|---|---|---|



Figure 140.  'pick (to)'
*CSL Authorized*
*List, pg. 114*
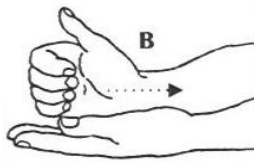
Figure 141.  *RAMASSER*
*Lambert (1865),*
*pg. 14,#10B*

Figure 142.  PICK
*ASL Handshape Dictionary*
*(1998), pg. 70 (Note:  Used*
*the illustration of FIND*
*which is identical to the sign*
*PICK in modern ASL).*


Description of CSL lexical sign: "hold out right hand with forefinger and middle finger down, then move them several times up and down and simultaneously moving hand with picking motion; other fingers held into palm." (CSL Authorized List, pg. 114)

The CSL and Old LSF signs including the modern ASL sign share the same location in the neutral space in front of signer and the same orientation where their palms are facing downward. The CSL and modern ASL sign have the same upward movement, while the LSF

lexical sign's dominant hand moves toward the signer and rubs the palm of the non-dominant hand simultaneously. The orientation of the LSF sign's dominant palm is facing sideways, while its non-dominant palm is facing upward.

Contact:  There is no evidence that the LSF sign would have been borrowed from the CSL sign, because both the CSL and LSF signs are much different.  The ASL sign is clearly correlated with the CSL sign, although they use different handshapes.  ASL uses the LSF sign for the semantics of "COLLECT" or "EARN."

Iconicity:  Iconicity is highly probable for these lexical signs, because they depict the action of picking up something.

Initialization:  The English translation of *ramasser* is "to pick." The dominant handshape in these lexical signs is either an open C, a C or an F, not an R; therefore, there is no evidence of initialization from the French word in the LSF sign.

## 36. PLATE

CSL Lexical Sign          LSF Lexical Sign          ASL Lexical Sign



Figure 143. 'plate'        Figure 144.  *ASSIETTE*        Figure 145.  PLATE
*CSL Authorized*           *Modern LSF Dictionary*        *ASL Handshape Dictionary*
*List, pg. 114*            *(1996), pg. 17*               *(1998), pg. 249*

Description of CSL lexical sign lexical: "sign of DISH, then place tip of right forefinger into middle of left palm." (CSL Authorized List, pg. 114)

The CSL and modern LSF signs share the same parameters of location, orientation and handshape. Their locations are in the neutral space at the waist level. The orientations of dominant and non-dominant hands are facing the signer and facing upward respectively. Their handshapes are 1 (index finger) and closed B. Their movements are slightly different. The CSL sign's movement appears to be stationary, while the modern LSF sign is moving is a circular motion.

Contact: This is evidence that the LSF sign might have been borrowed from the CSL Authorized sign for PLATE.

Iconicity: Iconicity may have played a role in these lexical signs, because the circular movements show the roundness of the plates and their non-dominant hands may represent the flatness of the object.

Initialization: The English translation of *assiette* is "plate." The dominant handshape in these lexical signs is either 1 (index finger) or a bent L, not an A; therefore, there is no evidence of initialization from the French word in the LSF sign.

## 37. POOR

<u>CSL Lexical Sign</u>



Figure 146. 'poor'

Description of CSL lexical sign: "hold out right hand with palm up as though begging; fingers are curved in slightly." (CSL Authorized List, pg. 115)

LSF Lexical Signs



Figure 147. *PAUVRE*
*Brouland (1855),*
*pg. 2, #21*

Figure 148. *PAUVRE*
*Pélissier (1856),*
*pg. 9, #10*

Figure 149. *PAUVRE*
*Lambert (1865),*
*pg. 4, #20A*

ASL Lexical Sign



Figure 150. POOR
*ASL Handshape Dictionary (1998), pg. 352*

The CSL and Old LSF Brouland and Pélissier's lexical signs share the same parameters of location, orientation and handshape. Their locations are in the neutral space in front of signer. Their palms face upward. Their handshapes are an open B. The modern ASL lexical sign moves a dominant handshape of 5 away from the elbow and then the handshape changes to a flat O.

Contact:  This is strong evidence that the LSF Brouland and Pélissier's signs might have been borrowed from the CSL sign. The ASL sign is borrowed from the Old LSF sign; however the semantics changed from "poor" to "beg."

Iconicity:  Iconicity is probable for the CSL and LSF lexical signs, because they depict an action of begging.

Initialization:  The English translation of *pauvre* is "poor." The dominant handshape in these lexical signs is either an A, a bent B or an open B, not a P; therefore, there is no evidence of initialization from the French word in the LSF sign.

## 38. PRAY

CSL Lexical Sign



Figure 151.  'pray'


Description of CSL lexical sign: "interlace fingers of both hands." (CSL Authorized List, pg. 115)


LSF Lexical Signs

     

Figure 152.  *PRIER*          Figure 153.  *PRIER*

*Brouland (1855), pg. 1, #7*     *Lambert (1865), pg. 2, #15*

ASL Lexical Sign



Figure 154. PRAY

*ASL Handshape Dictionary (1998), pg. 174*

The CSL, Old LSF, and modern ASL signs share the same parameters of location and orientation. Their locations are in the neutral space in front of upper chest, and their palm orientations face each other. The CSL sign and LSF Lambert's sign share the same handshapes of C interlocked with each other. The LSF Brouland and Lambert's 2nd lexical sign, and the modern ASL sign use the same handshapes of B contacting each other with flat hands in the neutral space in front of the upper chest.

Contact: This is strong evidence that the LSF Lambert's first lexical sign might have been borrowed from the CSL sign. The ASL clearly might have borrowed from the Old LSF Brouland sign and Lambert's 2nd lexical sign. The author would call this as a "bridging" borrowing between CSL and modern ASL. This provides a strong evidence for borrowing.

Iconicity: Iconicity is probable for these lexical signs, because they depict the action of praying.

Initialization: The English translation of *prier* is "to pray." The handshapes in these lexical signs is either a spread C or B, not a P; therefore, there is no evidence of initialization from the French word in the LSF sign.

## 39. QUESTION

| CSL Lexical Sign | LSF Lexical Sign | ASL Lexical Sign |
|---|---|---|



Figure 155. 'question'
*CSL St. Joseph's*
*Abbey, pg. 156*

Figure 156. *QUESTION*
*Modern LSF Dictionary*
*(1996), pg. 144*

Figure 157. QUESTION
*ASL Handshape Dictionary*
*(1998), pg. 112*

Description of CSL lexical sign: "draw an imaginary question mark in the air with the tip of right forefinger." (CSL St. Joseph's Abbey, pg. 156)

There is no lexical sign for QUESTION in the Old LSF dictionaries.

The CSL and modern LSF signs and the modern ASL sign share the same location of neutral space in front of the signer and the same orientation of palms facing downward. Their handshapes are varied. The CSL sign uses the handshape of 1 (index finger) while the modern LSF sign uses the handshape of U and the modern ASL sign uses the handshape of X. Both the CSL and modern LSF signs use the same movement where their signs are moved in a curve initially, and then moved straight downward slightly. The modern LSF sign's dominant hand strikes the palm of non-dominant hand, while both CSL and modern ASL lexical signs do not have the non-dominant hand in place.

Contact:  Although there is no lexical sign from the Old LSF dictionaries for QUESTION, it is probable that the modern LSF and ASL sign might have borrowed the CSL sign's location, orientation and movement.

Iconicity:  Iconicity is unlikely for these lexical signs, unless the speakers of other languages use the same marking of question in their languages and may recognize them.

Initialization:  The English translation of *question* is "question." The dominant handshape in these lexical signs is a 1 (index finger), not a Q; therefore, there is no evidence of initialization from the French word in the LSF lexical sign.


**40. RED**


<u>CSL Lexical Sign</u>



Figure 158.  'red'


Description of CSL lexical sign: "place tip of right forefinger on lower lip and bend lip slightly." (CSL Authorized List, pg. 117)


<u>LSF Lexical Signs</u>



Figure 159.  *ROUGE*
*Pélissier (1856),*
*pg. 10, #23*



Figure 160.  *ROUGE*
*Lambert (1865),*
*pg. 9, #20<u>B</u>*



Figure 161.  *ROUGE*
*Modern LSF Dictionary*
*(1996), pg. 153*

ASL Lexical Sign



Figure 162.  RED

*ASL Handshape Dictionary (1998), pg. 123*


The CSL, Old LSF, modern LSF and modern ASL signs all use the same parameters of location, handshape and orientation. Locations are on the lips. Their handshapes are a 1 (index finger) with the palm orientations facing toward the signers. The CSL and Old LSF Pélissier's signs do not have moment, while the Old LSF Lambert's, modern LSF and modern ASL signs have the same movement of pulling the hands away and slightly downward.

Contact:  This is strong evidence that the LSF lexical signs might have borrowed from the CSL lexical sign. The ASL clearly might have borrowed from the Old LSF signs.

Iconicity:  The iconicity is probable for these lexical signs, because they refer to the color of the lip.

Initialization:  The English translation of *rouge* is "red." The dominant handshape in these lexical signs is a 1 (index finger), not an R; therefore, there is no evidence of initialization from the French word in the LSF sign.

**41. REMAIN (to) / (STAY)**

| CSL Lexical Sign | LSF Lexical Sign | ASL Lexical Sign |
|---|---|---|



Figure 163. 'remain(to)'
*CSL Authorized*
*List, pg. 117*

Figure 164. *RESTEZ*
*Brouland ( 1855),*
*pg. 2, #16*

Figure 165. STAY/REMAIN
*ASL Handshape Dictionary*
*(1998), pg. 113*

Description of CSL lexical sign: "stretch out open right hand with palm down, then move it downwards." (CSL Authorized List, pg. 117)

The CSL and Old LSF sign and the modern ASL signs share the same parameters of location, orientation and movement. Their locations are in the neutral space in front of the signers' chests. Their palm orientations face downward. They move their hands forward away from the signers. Their handshapes vary since the CSL sign uses the handshape of B, while the Old LSF lexical sign uses both handshapes of B contacting each other's thumb tips, and the modern ASL sign uses the handshape of Y.

Contact: This may be evidence that the LSF lexical sign might have borrowed its location, orientation and movement from the CSL lexical sign. Likewise, the modern ASL lexical sign borrowed its location, orientation and movement from the Old LSF lexical sign. The old ASL sign is the same one as the Old LSF Brouland's lexical sign; therefore, the old ASL sign may have borrowed the sign from Old LSF. The modern ASL uses this same sign formation; however its semantics changed to "continue."

Iconicity: Iconicity is highly likely for these lexical signs, because they refer to being on a place. Then it is questionable whether the LSF lexical sign was borrowed from the CSL sign.

144

Initialization: The English translation of *restez* is "remain." The dominant handshape in these lexical signs is either an A, a B or a Y, not an R; therefore, there is no evidence of initialization from the French word in the LSF sign.

## 42. RULE

| CSL Lexical Sign | LSF Lexical Sign | ASL Lexical Sign |
|---|---|---|



Figure 166.    'rule'

*CSL Authorized*

*List, pg. 118*

Figure 167.  *REGLE*

*Pélissier (1856),*

*pg. 4, #17*

Figure 168.  RULE

*ASL Handshape Dictionary*

*(1998), pg. 298*

Description of CSL lexical sign: "pass the palm of the right hand over the left little finger." (CSL Authorized List, page 118)

They share the same parameters of location, orientation, handshape and movement.  Their locations are on the non-dominant wrist side. Their orientations are the dominant hand facing toward the signer while the non-dominant hand faces downward. Their dominant and non-dominant handshapes are B. Their movement of dominant hand slides rightward (in the signer's perspective).

Contact:  This is strong evidence that the LSF lexical sign might have been borrowed from the CSL Authorized sign for RULE.

Iconicity:  There is no probable iconicity.

Initialization:  The English translation of *regle* is "rule." The dominant handshape in these lexical signs is either a B or an X, not an R; therefore, there is no evidence of initialization from the French word in the LSF sign.

## 43. SAME AS

CSL Lexical Sign



Figure 169.  'same as'

Description of CSL lexical sign: "rub sides of forefingers together; other fingers held into palms." (CSL Authorized List, pg. 119)

LSF Lexical Signs
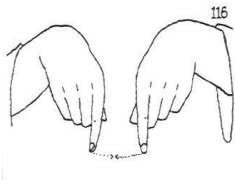


Figure 170.  *PAREIL*
*Brouland (1855),*
*pg. 10, #116*
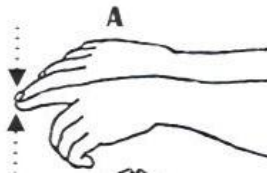
Figure 171.  *PAREIL*
*Lambert (1865),*
*pg. 15. #1A*

Figure 172.  *PAREIL*
*Modern LSF Dictionary*
*(1996), pg. 126*

ASL Lexical Sign
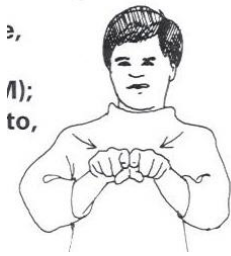


Figure 173. SAME-AS
*ASL Handshape Dictionary (1998), pg. 310*

All CSL, Old LSF, modern LSF and modern LSF signs share the same parameters of location, orientation and handshapes. Their signs are in the neutral space of signers. Their palm orientations face downward. Their two handshapes are 1 (index finger). The movement of the CSL sign differs from all of the other lexical signs' movement. The CSL sign has two index fingers rubbing against each other, while the other signs' movements are striking their index fingers against one other.

Contact:  This is strong evidence that the LSF sign might have been borrowed from the CSL Authorized sign. The ASL sign is clearly borrowed from the Old LSF signs.

Iconicity:  Iconicity is unlikely for these lexical signs, because these signs might mean "WITH," "TOGETHER," or "MEET-each-other" to some people.

Initialization:  The English translation of *pareil/meme* is "same as." The dominant handshape in these lexical signs is a 1 (index finger), not an P or M; therefore, there is no evidence of initialization from the French word in the LSF sign.

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## 44. SIGN

CSL Lexical Sign        LSF Lexical Sign        ASL Lexical Sign



Figure 174. 'sign'
*CSL St. Joseph's*
*Abbey, pg. 158*

Figure 175. *SIGNE*
*Modern LSF Dictionary*
*(1996), pg. 160*
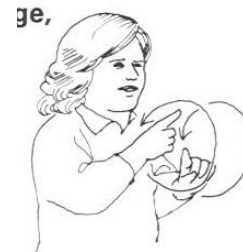
Figure 176. SIGN
*ASL Handshape Dictionary*
*(1998), pg. 314*

Description of CSL lexical sign: "raise both hands with palms facing chest and fingers spread wide, then wriggle fingers rapidly back and forth." (CSL St. Joseph's Abbey, pg. 158)

There is no lexical sign for SIGN in the Old LSF dictionaries.

The CSL and modern LSF signs and the ASL sign share the same parameters of location, orientation and movement. Their locations are in the neutral space in front of the signers' chest. Their palm orientations are facing each other. Their movements are the circular motions made up and down alternatively. The CSL and modern LSF signs share the same handshapes of 5, while the modern ASL sign uses the handshapes of 1 (index fingers).

Contact: It is likely that the modern LSF sign was borrowed from the CSL sign. It is more likely that the modern ASL sign might have borrowed its location, orientation and movement from the CSL, although there is no lexical sign from the Old LSF dictionaries to assist with the analysis.

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Iconicity:  Iconicity is unlikely for these lexical signs, although the CSL and modern LSF signs are widely used to indicate "sign language" among the participants at international conferences for deaf and hard of hearing people. Modern ASL uses this lexical sign for GESTURE.

Initialization:  The English translation of *signe* is "sign." The handshapes in these lexical signs are either an open B or a 1 (index finger), not an S; therefore, there is no evidence of initialization from the French word in the LSF sign.

## 45. SOLDIER

<u>CSL Lexical Sign</u>



Figure 177.  'soldier'

Description of CSL lexical sign: "bring right fist to left hip, then draw it across body as though drawing a sword." (CSL Authorized List, pg. 122)

<u>LSF Lexical Signs</u>



Figure 178.  *SOLDAT*
*Pélissier (1856),*
*pg. 6, #17*



Figure 179.  *SOLDAT*
*Lambert (1865),*
*pg. 4, #15*

ASL Lexical Sign



Figure 180.  SOLDIER

*ASL Handshape Dictionary (1998), pg. 153*

The CSL and Old LSF Lambert's sign share the same parameters of location, orientation and handshape. Their palm orientations are facing toward the signer. Their handshapes are S. Their locations are on the side of the chest. The CSL sign's movement is drawing the dominant hand upward and diagonally across the chest from the waist. There is no movement symbol on the Old LSF signs' illustrations. Both the Old LSF Pélissier's sign and the modern ASL sign share the same location of chest side with the palm orientation facing the signer. The ASL lexical sign's hands strike the chest repeatedly.

Contact:  This is strong evidence that the LSF Lambert's sign's handshape, location and orientation might have been borrowed from the CSL sign.  The modern ASL sign might have borrowed its location and orientation from the Old LSF Pélissier's sign.

Iconicity:  Iconicity is highly likely for these lexical signs, because they refer to holding a sword or gun against the body.

Initialization:  The English translation of *soldat* is "soldier." The handshapes in these Old and modern LSF signs including the modern ASL sign are S. It is possible that initialization has occurred; however, the handshape of S might have been selected and used, as an instrumental classifier of holding an object. The resulting sign might be the result of iconicity rather than initialization.

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## 46. SORRY

CSL Lexical Sign          LSF Lexical Sign          ASL Lexical Sign



Figure 181. 'sorry'        Figure 182. *DESOLE*       Figure 183. SORRY
*CSL St. Joseph's*         *Modern LSF Dictionary*    *ASL Handshape Dictionary*
*Abbey List, pg 156*       *(1996), pg. 56*           *(1998), pg. 42*


Description of CSL lexical sign: "strike the chest with the right fist several times." (CSL St. Joseph's Abbey List, pg. 156)

There is no lexical sign for SORRY in the Old LSF dictionaries.

The CSL, modern LSF and ASL signs all share the same handshape of S and a similar location on the chest. Both the CSL and the modern ASL signs' locations are on the center of the chest, while the modern LSF sign is located slightly left of the mid-chest. Both the CSL and the modern ASL signs' palm orientations face the signer, while the modern LSF sign's palm faces downward. Both modern LSF and modern ASL signs use same circular motion, while the CSL lexical sign's hand strikes the chest several times.

Contact:  Although there is no Old LSF sign to be compared with, it is likely that both the modern LSF and ASL signs might have been borrowed from the CSL sign.

Iconicity:  Iconicity is very unlikely for these lexical signs.

Initialization:  The English translation of *desole* is "sorry." The dominant handshape in these lexical signs is either an A or S, not D or R; therefore, there is no evidence of initialization from the French word in the LSF sign.


**47. SPREAD (to)**


CSL Lexical Sign          LSF Lexical Sign          ASL Lexical Sign



Figure 184.  'spread (to)'     Figure 185.  *ECARTER*     Figure 186.  SPREAD-to
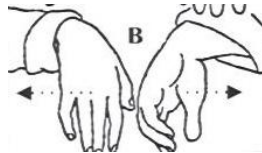
CSL Authorized             Lambert, 1865,            ASLHandshape Dictionary,

List, pg. 123              pg. 10, #13B             1998, pg. 263


Description of CSL lexical sign: "stretch the hands out flat, then separate them, keeping them on same plane." (CSL Authorized List, pg. 123)


The CSL, Old LSF and modern ASL signs all share the same parameters of location, orientation and movement and handshape. Their locations are in the neutral space in front of signers. Their palm orientations are facing downward. Their signs move away from each other's hand to the sides. The CSL sign's handshape is an open B, while the Old LSF sign uses a bent B and the modern ASL sign begins with the handshapes of a flat O and ends with the 5 handshapes.


Contact:  This is evidence that the LSF lexical sign's location, orientation and movement might have been borrowed from the CSL lexical sign.  The ASL lexical sign might have borrowed its location, orientation and movement from the Old LSF sign, too.

Iconicity:  Iconicity is probable for these lexical signs, because they refer to something being flattened or spread over a plane.

Initialization:  The English translation of *ecarter* is "to spread." The initial handshapes in these lexical signs are either a B, bent B or an O, not an E; therefore, there is no evidence of initialization from the French word in the LSF sign.

**48. TEAR (to)**

CSL Lexical Sign              LSF Lexical Sign              ASL Lexical Sign
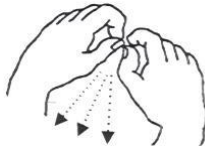


Figure 187.  'tear'          Figure 188.  *DECHIRE*        Figure 189.  TEAR
*CSL Authorized*             *Lambert (1865),*             *ASL Handshape Dictionary*
*List, pg. 124*              *pg. 9, #12B*                 *(1998), pg. 254*
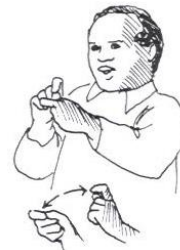
Description of CSL lexical sign: "place thumb sides of both hands next to each other, then move them outward and down as though snapping a twig; hands are closed at all times." (CSL Authorized List, pg. 124)

The CSL, Old LSF and modern ASL signs all share the same location of neutral space in front of the signers and the handshapes of X. The tips of the Old LSF and modern ASL lexical signs' forefinger and thumb contact each other while the CSL lexical sign does not. The CSL and Old LSF signs share the same palm orientations facing downward, while the modern ASL sign's palm orientations are facing each other. Their movements vary slightly. Both the CSL and modern ASL signs share the same movement of separating the hands away

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from each other, while the Old LSF sign's dominant hand moves toward the signer several times.

Contact:  This is strong evidence that the LSF sign's handshapes, location and orientation might have been borrowed from the CSL lexical sign. The modern ASL sign's location and handshapes might have borrowed from the Old LSF sign.

Iconicity:  Iconicity is highly like for these lexical signs, because they refer to something being separated.

Initialization:  The English translation of *dechire* is "to tear." The handshapes in these lexical signs are a baby O, not a D; therefore, there is no evidence of initialization from the French word in the LSF sign.

## 49. THANK (to)
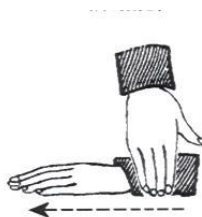
CSL Lexical Sign



Figure 190. 'thank (to)'

Description of CSL lexical sign: "bring hand to mouth as though about to kiss it; or kiss tips of right fingers." (CSL Authorized List, pg. 125)
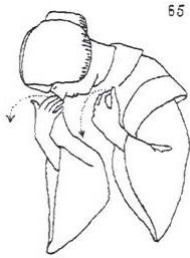
Figure 191.  *MERCI /*
*REMERCIER, Brouland*
*(1855), pg. 6, #65*

Figure 192.  *MERCI /*
*REMERCIER, Pélissier*
*(1856), pg. 17, #9*

Figure 193.  *MERCI /*
*REMERCIER, Lambert*
*(1865), pg. 2, #17*



Figure 194.  *MERCI / REMERCIER*
*Modern LSF Dictionary (1996), pg. 112*


ASL Lexical Sign



Figure 195.  THANK
*ASL Handshape Dictionary (1998), pg. 56*


The CSL and Old LSF signs including the modern LSF and ASL signs share the same parameters of orientation and handshape. Their palm orientations face the signer, and their handshapes are B.  The location of the CSL sign, the Old LSF Lambert's sign and the modern ASL signs' hands are on the mouth, while the Old LSF Brouland and Pélissier's

signs are by the cheek or near the sides of the face. Their movements are different. The CSL sign appears to be stationary on the mouth, while the Old LSF Pélissier and Lambert's signs move their hands away from the mouth repeatedly. The modern ASL lexical sign moves its hand away from the mouth. The modern LSF sign's palm orientation faces sideways and it is moved from the neutral space in front of face toward mouth.

Contact: This is strong evidence that the LSF signs' are from the CSL sign. The ASL sign is clearly borrowed from the Old LSF sign.

Iconicity: Iconicity is probable for these lexical signs, because people would interpret these signs as depicting the motion of blowing a kiss to show appreciation.

Initialization: The English translation of *remercier/merci* is "to thank." The handshape in these lexical signs is a B or a bent B, not an M or R; therefore, there is no evidence of initialization from the French word in the LSF sign.

## 50. TOMORROW

CSL Lexical Sign



*Figure 196. 'tomorrow'*

Description of CSL lexical sign: "hold right fist before right shoulder, then push it forward once but slightly down as motion is made. DAY AFTER TOMORROW: make motion twice." (CSL Authorized List, pg. 126)

Figure 197. *DEMAIN*
*Pélissier (1856),*
*pg. 18, #8*
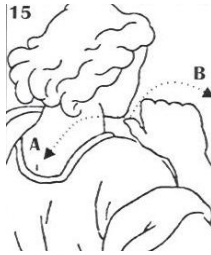
Figure 198. *DEMAIN*
*Lambert (1865),*
*pg. 13, #15B*

Figure 199. *DEMAIN*
*Modern LSF Dictionary*
*(1996), pg. 55*

ASL Lexical Sign



Figure 200. TOMORROW
*ASL Handshape Dictionary (1998), pg. 44*

The CSL, Old LSF, modern LSF and modern ASL signs all share the same location in the neutral space next to the right side of the cheek, the same palm orientation facing the side of cheek, and the same movement of moving the hand away from the cheek twisting slightly downward to a neutral space in front of the neck. The handshape of the CSL sign is an S, which is slightly different from all the other lexical signs that use the handshape of A.

Contact:  This is strong evidence that the LSF signs' location, orientation and movement might have been borrowed from the CSL sign. Both the modern LSF and ASL signs clearly are borrowed from the Old LSF signs.

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Iconicity:  Iconicity is unlikely for these signs, unless the speakers of the language use and know about the timeline of future tense being forward in space.

Initialization:  The English translation of *demain* is "tomorrow." The dominant handshape in these lexical signs is either a closed A or an open A, not a D; therefore, there is no evidence of initialization from the French word in the LSF sign.

## 51. UGLY

CSL Lexical Sign                LSF Lexical Sign                ASL Lexical Sign



Figure 201.'ugly'              Figure 202.  *LAID*            Figure 203.  UGLY

*CSL Authorized*               *Brouland (1855),*             *ASL Handshape Dictionary*

*List, pg. 126*                *pg. 6, #66*                   *(1998), pg. 127*

Description of CSL lexical sign: "pass open right hand up from chin to forehead  before face but not in contact with it." (CSL Authorized List, pg. 126)

The CSL lexical sign and Old LSF lexical sign share the same parameters of location, orientation and handshape. Their locations are in the space in front of face. Their orientations are facing the signer. Their handshapes are the curved 5. Their movement is slightly different. The CSL sign has one directional upward movement, while the Old LSF sign appears to be stationary.

Contact:  This is good evidence that the LSF sign might have been borrowed from the CSL Authorized sign for UGLY. It is also interesting to note hat the CSL and LSF signs are

formationally similar to the modern ASL signs for ANGRY or MAD. This may indicate some semantic extension and relationship.

Iconicity:  Iconicity is probable, since these lexical signs refer to the face.

Initialization:  The English translation of *laid(e)* is "ugly." The dominant handshape in these lexical signs is either a bent 5 or 1 (index finger), not an L; therefore, there is no evidence of initialization from the French word in the LSF sign.

## 52. UNDERSTAND

CSL Lexical Sign



Figure 204.  'understand'

Description of CSL lexical sign: "touch right temple with the right forefinger several times." (CSL Authorized List, pg. 126)

Figure 205.

*COMPRENDRE*

*Pélissier (1856),*

*pg. 15, #18*

Figure 206.

*COMPRENDRE*

*Lambert (1) (1865),*

*pg. 7, #3*

Figure 207.  *COMPRENDRE*

*Lambert (2) (1865),*

*pg. 8, #16*



*Figure 208.  COMPRENDRE*

*Modern LSF Dictionary (1996), pg. 45*

ASL Lexical Sign
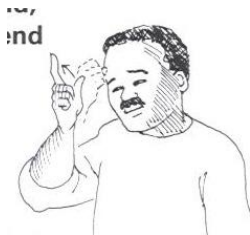


Figure 209.  UNDERSTAND

*ASL Handshape Dictionary (1998), pg. 100*

The CSL and Old LSF lexical signs share the same handshape of 1 (index finger) and the similar location at the forehead or temple. The CSL sign's location is on the temple, while the Old LSF signs' locations are on the center of forehead. The modern LSF and ASL signs' locations are between the temple and the center of forehead. Their handshapes and movements are slightly different from the CSL and Old LSF signs. The modern LSF sign begins with the handshape of 3 and ends with the handshape of a closed 3, while the modern ASL lexical sign begins with the handshape of S and ends with the handshape of 1 (index finger).

Contact:  This is good evidence that the LSF Pélissier sign and Lambert's second sign's handshape, location and orientation might have been borrowed from the CSL sign. Both the modern LSF and modern ASL lexical signs' location and orientation might have been borrowed from the Old LSF signs' parameters.

Iconicity:  Iconicity is probable for these lexical signs, because they refer to a mental function.

Initialization:  The English translation of *comprendre* is "to understand." The dominant handshape in these lexical signs is a 1 (index finger), a closed 3, an O or S, not a C; therefore, there is no evidence of initialization from the French word in the LSF sign.

**53. VOTE**

CSL Lexical Sign              LSF Lexical Sign              ASL Lexical Sign



Figure 210.  'vote'          Figure 211.  *VOTER*         Figure 212.  *VOTE*
*CSL St. Joseph's*           *Modern LSF Dictionary*      *ASL Handshape Dictionary*
*Abbey List, pg. 161*        *(1996), pg. 183*            *(1998), pg. 225*

Description of CSL lexical sign: "hold left thumb against left forefinger, then place them between a slit formed by the right thumb pressing against the other fingers of the right hand." (CSL St. Joseph's Abbey List, pg. 161)

There is no lexical sign for VOTE in the Old LSF dictionaries.

The CSL, modern LSF and modern ASL signs all share the same parameters of location, orientation and handshape. The location of their dominant handshape of F is upon the inner bowl of non-dominant handshape of O whose palm orientations face the signers. Their palm orientations face downward. The CSL item's movement appears to be one directional movement, while the modern LSF and ASL items' movements are downward and upward several times.

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Contact:  This is strong evidence that all the lexical signs have strong correlations. It is questionable how old the CSL St. Joseph's Abbey lexical item is, because democracy existed in few countries prior to 1855.

Iconicity:  Iconicity is fairly probable for these lexical signs, because they refer to something being put inside an object, but people may readily realize that they would refer to voting or an election.

Initialization:  The English translation of *voter* is "to vote." The dominant handshape in these lexical signs is an F, not a V; therefore, there is no evidence of initialization from the French word in the LSF sign.


**54. WHAT**


CSL Lexical Sign



Figure 213.  'what'


Description of CSL lexical sign: "raise both hands upward and outward with palms facing up." (CSL St. Joseph's Abbey List, pg. 161)

LSF Lexical Signs



Figure 214. *QUOI? /*
*COMMENT, Brouland*
*(1855), pg. 8, #94*

Figure 215. *QUOI? /*
*COMMENT, Pélissier*
*(1856), pg. 21, #14*

Figure 216. *QUOI? /*
*COMMENT, Modern LSF*
*Dictionary (1996), pg. 44*

ASL Lexical Sign



Figure 217. WHAT
*ASL Handshape Dictionary (1998), pg. 335*

The CSL, Old LSF, modern LSF and modern ASL signs all share the same parameters of location, orientation and handshape. The location of their two 5 handshapes is in the neutral space in front of the signers' chests. Their palm orientations face upward. There is no movement symbol on the illustrations for the CSL and Old LSF signs, while there is a movement symbol for each modern LSF and ASL items. Their lexical signs move sideways repeatedly.

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Contact:  This is strong evidence that the modern LSF and ASL items might have been borrowed from the Old LSF signs. It is highly possible that the Old LSF signs might have borrowed from the CSL St. Joseph Abbey's sign for WHAT.

Iconicity:  Iconicity is unlikely for these lexical signs. While these lexical items are commonly recognized gestures for "what," that does not imply iconicity (as discussed earlier in this section regarding MONEY.)

Initialization:  The English translation of *quoi?/comment* is "what." The handshapes in these lexical signs are a B or an open B, not a Q or C; therefore, there is no evidence of initialization from the French word in the LSF sign.

Strikingly, these lexical signs are as same as the CSL sign for WHERE as follows:



Figure 218.  'where'

Description of CSL lexical sign: "raise both hands upward and outward with palms facing up." (CSL St. Joseph's Abbey List, pg. 162)

## 55. WORK

CSL Lexical Sign                 LSF Lexical Sign                 ASL Lexical Sign



Figure 219. 'work'          Figure 220. TRAVAIL /          Figure 221.
*CSL Authorized*            *TRAVAILLER, Modern*          *ASL Handshape Dictionary*
*List, pg. 128*             *LSF Dictionary (1996)*        *(1998), pg. 273*
                            *(1996), pg. 173*

Description of CSL lexical sign: "strike thumb side of left fist with little finger side of right fist several times." (CSL Authorized List, pg. 128)

There is no lexical sign for WORK in the Old LSF dictionaries.

The CSL, modern LSF and modern ASL lexical signs have the same dominant hand with the handshape of S where its bottom strikes upon the top of non-dominant hand with the S handshape repeatedly.

Contact: This is strong evidence that the CSL sign and modern LSF sign are exactly the same; therefore, it is very likely that the modern LSF sign might have been borrowed from

the CSL sign. The ASL sign has the same parameters except the palm orientation with both the CSL and LSF signs.

Iconicity:  Iconicity is fairly probable for these lexical signs, because they refer to something stamping or hammering on another object; however, viewers may not recognize the movement as a referent to the semantics of WORK.

Initialization:  The English translation of *travail/travailler* are "work and "to work." The handshapes in these lexical signs are S, not T; therefore, there is no evidence of initialization from the French word in the LSF sign.

## 4.4     Summary of Analysis

Below are the summaries analyzing the probability of borrowing among CSL-LSF-ASL lexical signs, iconicity and initialization. The first chart shows the analysis of CSL-LSF-ASL borrowing. The second chart shows the probability of iconicity in both the CSL-LSF-ASL category. The final chart shows the incidence of initialization within LSF and ASL signs.

### 4.4.1.   CSL-LSF-ASL Analysis of Borrowing Summary

**Table 1:  *Chart of CSL-LSF-ASL Analysis of Borrowing***

| Lexical items | Between CSL and LSF? | Between CSL and ASL? | Among CSL, LSF and ASL? | CSL, LSF and ASL: Location | CSL, LSF and ASL: Handshape | CSL, LSF and ASL: Movement | CSL, LSF and ASL: Orient. |
|---|---|---|---|---|---|---|---|
| AFTER | Same | Different | Different | Different | Same | Different | Different |
| BEAUTIFUL | Similar | Similar | Similar | Same | Similar | Similar | Same |
| BLACK | Similar | Similar | Similar | Different | Same | Similar | Same |
| BLESS | Similar | Similar | Similar | Same | Similar | Same | Same |
| BOOTS | Same | Same | Similar | Different | Same | Same | Same |
| CAT | Similar | Similar | Similar | Same | Similar | Similar | Similar |
| COW | Similar | Similar | Similar | Same | Similar | Similar | Same |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| CLOSE | Similar | Similar | Similar | Similar | Same | Similar | Different |
| CROSS | Same | Different | Different | Same | Different | Different | Different |
| EYEGLASSES | Similar | Similar | Similar | Same | Different | Similar | Same |
| DAY | Different | Different | Different | Different | Different | Different | Same |
| DOOR | Similar | Similar | Similar | Similar | Same | Similar | Different |
| FLOWER | Same | Similar | Similar | Same | Same | Similar | Same |
| FEVER | Same | Different | Different | Similar | Similar | Different | Different |
| FORGET | Similar | Similar | Similar | Same | Different | Different | Different |
| FRIEND | Similar | Similar | Similar | Same | Different | Similar | Same |
| HARD | Same | Same | Same | Same | Same | Same | Same |
| HEAT / HOT | Same | Similar | Similar | Same | Same | Different | Different |
| HERE | Similar | Similar | Similar | Same | Similar | Same | Same |
| HOUSE | Similar | Similar | Similar | Same | Same | Different | Same |
| KEY | Same | Same | Same | Same | Same | Same | Same |
| KNIFE | Different | Similar | Different | Same | Different | Different | Different |
| LEAVE IT | Similar | Similar | Similar | Same | Same | Same | Different |
| LIGHT | Different | Different | Different | Similar | Different | Different | Different |
| LIKE | Same | Different | Different | Same | Different | Different | Same |
| LOW | Same | Similar | Similar | Similar | Same | Same | Same |
| MEAT | Same | Similar | Similar | Same | Similar | Similar | Similar |
| MILK | Same | Similar | Similar | Same | Different | Same | Same |
| MONEY | Same | Similar | Similar | Same | Similar | Similar | Same |
| NEXT | Different | Different | Different | Different | Different | Same | Different |
| NOW | Different | Different | Different | Same | Different | Same | Different |
| OPEN | Similar | Similar | Similar | Same | Same | Same | Different |
| OX | Similar | Similar | Similar | Same | Different | Different | Same |
| PAPER | Similar | Similar | Similar | Same | Similar | Same | Different |
| PICK (to) | Similar | Similar | Different | Same | Different | Different | Different |
| PLATE | Similar | Different | Similar | Same | Different | Different | Different |
| POOR | Same | Different | Different | Same | Different | Different | Different |
| PRAY | Same | Similar | Similar | Same | Different | Same | Same |
| QUESTION | Similar | Similar | Similar | Different | Similar | Similar | Same |
| RED | Same | Similar | Similar | Same | Same | Similar | Same |
| REMAIN (to) | Similar | Similar | Similar | Same | Different | Same | Same |
| RULE | Same | Different | Different | Same | Different | Different | Different |
| SAME AS | Same | Same | Same | Same | Same | Same | Same |
| SIGN | Same | Similar | Similar | Same | Different | Same | Same |
| SOLDIER | Similar | Different | Similar | Similar | Same | Similar | Same |
| SORRY | Same | Same | Similar | Same | Same | Same | Different |
| SPREAD (to) | Similar | Similar | Similar | Same | Different | Same | Same |
| TEAR (to) | Same | Same | Similar | Same | Similar | Similar | Different |
| THANK (to) | Similar | Similar | Similar | Same | Same | Different | Same |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| TOMORROW | Similar | Similar | Similar | Same | Similar | Similar | Same |
| UGLY | Similar | Different | Different | Same | Different | Different | Different |
| UNDERSTAND | Similar | Similar | Similar | Same | Same | Different | Same |
| VOTE | Same | Similar | Similar | Same | Same | Similar | Same |
| WHAT | Same | Similar | Similar | Same | Same | Similar | Same |
| WORK | Same | Similar | Similar | Same | Same | Same | Different |
| | | | | | | | |
| Same | 24 | 6 | 3 | 34 | 23 | 21 | 31 |
| Similar | 26 | 36 | 39 | 5 | 11 | 11 | 2 |
| Different | 5 | 13 | 13 | 6 | 21 | 23 | 22 |

The chart shows that there are 3 sets of the same signs from the CSL lexical signs to the LSF lexical signs, and then from the LSF signs to the ASL signs, and there are 39 sets of similar signs among the CSL, LSF and ASL signs. Only 13 sets of the lexical signs are different.

Next, the chart shows that the same parameter of location occurs most often with 34 sets of lexical signs. Next the same parameter of orientation occurs with 31 sets of lexical signs. The same parameter of handshape occurs with 23 sets of signs. The same parameter of movement occurs with 21 sets of signs, if both "Same" and "Similar" parameter categories are combined. Surprisingly they are nearly equal as follows:

**Table 2:** *Parameters with the CSL-LSF-ASL Borrowing*

    Same & similar location:        39
    Same & similar handshape:       34
    Same & similar movement:        33
    Same & similar orientation:     33

The same parameter of location occurs the most with all sets of lexical signs. The same parameter of handshape comes next with 34 sets. Then the same parameters of handshape and movement occur equally with 33 sets.

### 4.4.2. Summary of the Analysis of Iconicity within the CSL-LSF-ASL Category

The summary outlines the probability of iconicity in the CSL-LSF-ASL category, and analyzes iconicity among the "Same," "Similar," and "Different" categories. The "Same" category has lexical signs that have no difference in the parameter change among the CSL, LSF and ASL signs. The "Similar" category has lexical signs that have one-two parameter changes, while the category "Different" has the signs with at least three parameter changes.

**Possibility of Iconicity**

This chart shows the possibility of iconicity among the lexical items. If the lexical item has a high possibility, a "Probable" is denoted. If the lexical item has a low possibility, it is marked "Unlikely." If the item is not a definite "Probable" or "Unlikely," it is noted as "Possible."

**Table 3:** *Iconicity Analysis of CSL-LSF-ASL Category*

| | |
|---|---|
| AFTER - | Possible |
| BEAUTIFUL- | Possible |
| BLACK - | Possible |
| BLESS - | Probable |
| BOOTS - | Probable |
| CAT - | Probable |
| CLOSE - | Probable |
| COW - | Probable |
| CROSS - | Probable |
| DAY - | Unlikely |
| DOOR - | Probable |
| EYEGLASSES - | Probable |
| FEVER - | Possible |
| FLOWER - | Possible |
| FORGET - | Possible |
| FRIEND - | Possible |
| HARD - | Possible |
| HEAT / HOT - | Possible |
| HERE - | Probable |
| HOUSE - | Probable |
| KEY - | Probable |
| KNIFE - | Probable |
| LEAVE IT - | Probable |

| | |
|---|---|
| LIGHT - | Possible |
| LIKE - | Possible |
| LOW - | Probable |
| MEAT - | Unlikely |
| MILK - | Probable |
| MONEY - | Unlikely |
| NEXT - | Unlikely |
| NOW - | Unlikely |
| OPEN - | Probable |
| OX - | Probable |
| PAPER - | Unlikely |
| PICK (to) - | Probable |
| PLATE - | Probable |
| POOR - | Possible |
| PRAY - | Probable |
| QUESTION - | Unlikely |
| RED - | Probable |
| REMAIN (to) - | Probable |
| RULE - | Unlikely |
| SAME AS - | Unlikely |
| SIGN - | Unlikely |
| SOLDIER - | Probable |
| SORRY - | Unlikely |
| SPREAD (to) - | Possible |
| TEAR (to) - | Probable |
| THANK - | Possible |
| TOMORROW - | Unlikely |
| UGLY - | Possible |
| UNDERSTAND - | Possible |
| VOTE - | Possible |
| WHAT - | Unlikely |
| WORK - | Possible |

Probable -  23 lexical signs
Possible - 19 lexical signs
Unlikely - 13 lexical signs


**Comparison of Same, Similar and Different Lexical Signs' Iconicity**

This analysis takes a different look at the lexical signs' iconicity through an analysis of their "Same," "Similar" and "Different" signs categories.

The figures below are the breakdowns of the "Probable iconic," "Possibly iconic," and "Unlikely iconic" ratings in the CSL-LSF-ASL category.

**Table 4:** *Percentages of Iconicity in CSL-LSF-ASL*

|  | Probable iconic | Possibly iconic | Unlikely iconic |
|---|---|---|---|
| CSL-LSF-ASL | 23 (41.8%) | 19 (34.5%) | 13 (23.6%) |

This data shows that the "Probable iconic" category of iconicity is the most prevalent among the studied lexical signs in the CSL-LSF-ASL lexical sign category. The "Possibly iconic" and "Unlikely iconic" categories are nearly equal. If both the "Probable Iconic" and the "Possibly Iconic" sign categories are combined, they would number 42 out of the 55 total signs (76.3%).

Next, the categories of "Same," "Similar," and "Different" are sorted into the "Probable iconic," "Possibly iconic," and "Unlikely iconic" categories to see if there are any significant findings. The data is as follows:

**Table 5:** *Iconicity Analysis with Same, Similar and Different Lexical Signs*

|  | Iconicity? | CSL-LSF-ASL |  |
|---|---|---|---|
| SAME lexical signs | Probable | 1 | = 33.3% |
|  | Possibly | 1 | = 33.3% |
|  | Unlikely | 1 | = 33.3% |
|  |  | 3 | = 100 % |
| SIMILAR lexical signs | Probable | 20 | = 51.3% |
|  | Possibly | 11 | = 28.2% |
|  | Unlikely | 8 | = 20.5% |
|  |  | 39 | = 100 % |
| DIFFERENT lexical signs | Probable | 3 | = 23.0% |
|  | Possibly | 6 | = 46.1% |
|  | Unlikely | 4 | = 30.7% |
|  |  | 13 | = 100 % |

This data shows that the "Same" lexical sign category has an equal weight for each "Probable," "Possibly" and "Unlikely" iconicity. Next, the "Similar" lexical signs category is coded mostly at "Probable" iconicity with "51.3%" while "Possibly" iconicity is at a 28.2% chance and "Unlikely" iconicity at 20.5%. Finally, the "Different" lexical signs category carries the highest weight of 46.1% for the code of "Possibly" iconicity and its weights for "Unlikely" and "Probable" iconicity are 30.7% and 23.0% respectively.

### 4.4.3   Initialization with the Lexical Signs

All lexical items' initial letters were reviewed and analyzed comparing the LSF signs' initial handshapes with the initial letters of their corresponding French words, and the ASL signs' initial handshapes with the initial letters of their corresponding English words. Only six lexical items out of the fifty-five (55) showed a correlation between the initial handshapes of the lexical signs and their initial letters of the lexical words. They are as follows:

**Table 6:  *Chart of Possible Initializations in LSF and ASL Lexical Signs***

| English word | French word | Initial handshape of LSF lexical sign | Initial handshape of ASL lexical sign |
|---|---|---|---|
| BLESS | BENIR | U | <u>B</u> |
| HEAT/HOT | CHAUD | open B / bent 5 | bent 5 |
| LOW | BAS | <u>B</u> | B |
| RULE | REGLE | B | <u>R</u> |
| SOLDIER | SOLDAT | <u>S</u> | A |
| SORRY | DESOLE/ REGRETTER | S | A |

It is possible that initialization has occurred with the French term *chaud* ("hot") to the LSF lexical sign. It is questionable whether initialization has occurred with other French words such as *bas* ("low") and *soldat* ("soldier"). The handshape "B" is widely used for lexical signs such as LEVEL, FLOOR, WALL, HILL and PLANE (flatness), and in ASL, "CL-B" represents the handshape of B when used as a classifier. Finally, the lexical signs for *soldat* in LSF and SOLDIER in ASL clearly are instrumental classifiers using CL-S for holding an

object. It is doubtful that *soldat* and SOLDIER are initialized from their spoken languages' words.

Finally, Chapter Four has analyzed and discussed the three following goals of the dissertation: phonological and semantic similarities between the CSL and LSF lexical items and among the CSL, LSF and ASL lexical items; iconicity; and initialization. The significance of this effort will be addressed in the succeeding "Chapter Five: Significance and Conclusions.

# Chapter 5: Significance and Conclusions

## 5.1    Introduction

Lexical borrowing, iconicity and the employment of initialization were the factors selected for the focus of this dissertation. These factors are significant to the emergence, development, and evolution of the ASL lexicon, and are therefore worth exploring in depth. This dissertation has described how borrowing, iconicity and initialization may have played vital roles in the development and evolution of certain signs within specific sign languages, and how they may have contributed to the ASL lexicon.

## 5.2    Emergence and Development of CSL, LSF and ASL

### 5.2.1   Cistercian Sign Language

The early monastic Fathers emphasized no usage of voice in the monasteries as early as the 4th century. This doctrine of silence remained for many centuries until the 1970s and led to the invention of sign systems used by the monks throughout many centuries. It is interesting that there are about twenty lists of signs from the early 11th to 15th century mentioned in the literature on monasteries in France, Portugal and Spain (Barakat, 1975). The development of sign lists may have began in 1068 A.D. In 1091, one monk, William of Hirschau, created a list based on the one by Bernard of Cluny (in France), which "is the longest and most detailed, giving signs for most of the ordinary things within the monastery" (Barakat, 1975, p. 25). Another monk, Udalricus, also created a list of signs. Many signs such as fish, cheese, water, and vinegar and so on from the Udalricus list are similar to the signs of CSL (Barakat, 1975, p. 25). The CSL is divided into two: (1) the list of the CSL authorized signs, which are the oldest, and has been labeled "CSL Authorized List" for this dissertation study; and (2) the list of the local signs, which were locally invented for local needs and uses, has been labeled "CSL St. Joseph's Abbey List" for this dissertation study. The signs from the authorized list are probably the oldest (Barakat, 1975).

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### 5.2.2   Langues des signes francaise (LSF)

In the middle of the 18th century, abbé de l'Epee founded the first public school for the deaf in Paris, France. He adopted the manual alphabet and the signs that deaf people were already using in Paris. Then, he invented some additional signs that he called "methodical signs" (Lane, 1977).

It is plausible that a good number of 18th and 19th century LSF lexical items may have come from the home of Jean Massieu, who lived with his deaf siblings, and may have also come from other deaf LSF users who had not attended the school for the deaf in Paris. Jean Massieu became the first deaf teacher at the school for the deaf in Paris.  Later he taught Laurent Clerc who moved to America and brought LSF to the first school for the deaf in America.

Three early LSF dictionaries written by – (a) Josephine Brouland in 1855; (b) Pierre Pélissier in 1856; and (c) Louis-Marie Lambert in 1865 – as well as the modern LSF dictionary published in 1996 by Langue des Signes Editions Publications, were used for this dissertation study. The analysis of lexical items detailed in Chapter Four provides evidence that some early LSF signs might have been borrowed from outsiders such as the monks using CSL.

### 5.2.3   American Sign Language (ASL)

Approximately 60% of the ASL lexicon is thought to be derived from early 19th century LSF (Woodward, 1978. The remaining 40% of the ASL lexicon possibly derives from plausible roots of the development of American Sign Language that include (a) gestures and monastic sign languages whose records date back to the 11th century, (b) the Spanish manual alphabet recorded in the 16th century, (c) Old LSF which became known in 18th century France, (d) sign language used in Martha's Vineyard used from the 17th to the 19th century, (e) North American Indian sign languages used many centuries before Laurent Clerc came from France to America in 1816, (f) home signs used by Deaf people in early America,

(g) some influence of English signs from the 19th century to the present (possibly including Maritime Sign Language)[8], and (h) lexical borrowing through initialization.

Additionally, the ASL dictionaries: (a) *The Sign Language: A Manual of Signs* edited by J. Schuyler Long, copyrighted in 1918; and (b) *The American Sign Language Handshape Dictionary* authored by Richard A. Tennant and Marianne Gluszak Brown in 1998, were used for this dissertation study. When any of the ASL lexical signs under review were not listed in either dictionary an ASL teacher certified by the national ASL Teachers Association (ASLTA), was consulted.

## 5.3. Lexical Borrowing

### 5.3.1 CSL Lexical Signs Similar to ASL

At the outset of this endeavor, lexical items were screened as delineated in Chapter Three for the analysis of borrowing in Chapter Four. CSL lexical items were selected that resembled LSF or that resembled both LSF and ASL. CSL signs that only resembled ASL (and not LSF) were not selected for analysis. While not included in the set of signs for analysis for this study, they are listed here because they are interesting to note and warrant future investigation.

**Table 7:** *List of CSL and ASL Similar Lexical Sign*

| | | |
|---|---|---|
| BALANCE | BEAUTIFUL | BOIL |
| BOOK | BOX | BREAK |
| BUTTER | CABBAGE | CAT |
| CHANGE | CHEESE | COLD |
| COME | COMMUNION | CUT |
| FISH | FLOWER | GLASS |
| GUN (SHOOT in ASL) | HALF | HARD |
| HEAT | HORSE | HOUSE |
| I | KEY | LADDER |
| LITTLE | LOW | MASS |
| MEAT | ONION | PAPER |
| RAKE | RAZOR | RED |
| REMAIN (STAY in ASL) | SAME AS | SAW (WOOD in ASL) |

---

[8] See the recent study by Judith Yoel (2009) on Maritime Sign Language.

| SAND | SCISSORS | SEE |
|------|----------|-----|
| SHOEMAKER (SHOE in ASL) | | SLEEP |
| SNAKE | SOUR | STRONG |
| TAKE | TALL | TEAR |
| THANK | TIRED | TOMORROW |
| UNDERSTAND | USELESS | WATER (WET in ASL) |
| WORK | WRITE | |

One striking example to note is the CSL lexical sign of WATER and its similarity to the modern ASL sign WET. Both CSL and modern ASL share handshape parameters and look the same yet the old LSF sign for WATER looks quite different.

'water'                     WET                     WATER

Figure 222. 'water'         Figure 223. WET         Figure 224. WATER

*CSL Authorized List,*      *ASL Handshape Dictionary*   *ASL Handshape Dictionary,*

*Pg.127*                    *Pg. 347*               *Pg. 107*

*EAU* for 'water'

Figure 225. *EAU*     Figure 226. *EAU(1)*     Figure 227. *EAU (2)*     Figure 228. *EAU*
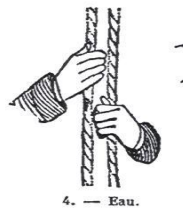
*LSF Brouland, 1855*  *LSF Pélissier, 1856*    *LSF Pélissier, 1856*     *LSF Lambert, 1865*

*Pg. 9, #102*         *Pg. 3, #3*              *Pg. 3, #4*               *Pg. 10, #5*

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This is an example of how the same phonological lexical sign is preserved from CSL to modern ASL; however, in this case, its semantics has changed from WATER in CSL to WET in ASL. The modern ASL sign for WATER looks different from both the CSL and the Old LSF signs. The Old LSF signs from Brouland, Pélissier and Lambert are preserved in modern LSF signs. There is no translation or illustration for WET in the Old LSF dictionaries.

### 5.3.2 CSL Lexical Signs with Strong Resemblances to LSF

From the analysis of the CSL-LSF pairs, several signs with strong resemblances were discovered:  AFTER, FEVER, PLATE, POOR, RULE and UGLY. While these CSL and LSF signs have strong resemblances, they are quite different from both the old and modern ASL lexical signs.

Sometimes there were three LSF illustrations available for the same concept. In that case, only the illustration of the old LSF lexical sign that most closely resembled the CSL lexical sign was selected for consideration here.


CSL Lexical Sign            LSF Lexical Signs            ASL Lexical Signs



Figure 229: 'after'        Figure 230. APRES           Figure 231.  AFTER

*CSL Authorized*           *Lambert, 1865*             *ASL Handshape Dictionary,*

*List, pg. 93,*            *pg. 15, 13b*               *1998, pg. 191*

| CSL Lexical Sign | LSF Lexical Signs | ASL Lexical Signs |
|---|---|---|



*Figure 232. 'fever' CSL Authorized List, pg. 104*



*Figure 233. FIEVRE Pélissier, 1856 pg. 20, # 7*
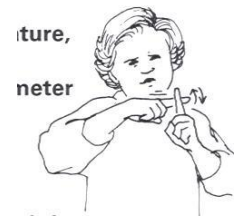


*Figure 234. FEVER ASL Handshape Dictionary, 1998, pg. 317*



*Figure 235. 'plate' CSL Authorized List, pg. 114*



*Figure 236. ASSIETTE Modern LSF Dictionary, 1996, pg. 17*



*Figure 237. PLATE ASL Handshape Dictionary, 1998, pg. 249*



Figure 238. 'poor' *CSL Authorized List, Pg. 115*



Figure 239. *PAUVRE Brouland, 1855, pg. 2, #21*



Figure 240. POOR *ASL Handshape Dictionary, 1998, pg. 352*

| CSL Lexical Sign | LSF Lexical Signs | ASL Lexical Signs |
|---|---|---|

*Figure 241. 'rule'*
*CSL Authorized*
*List, pg. 118*

*Figure 242. REGLE*
*Pélissier, 1856*
*pg. 4, #17*

*Figure 243. RULE*
*ASL Handshape Dictionary,*
*1998, pg. 298*

Figure 244. 'ugly'
*CSL Authorized*
*List, pg. 126*

Figure 245. *LAID*
*Brouland, 1855*
*pg. 6, #66*

Figure 246. UGLY
*ASL Handshape Dictionary,*
*1998, pg. 127*

Although PLATE (above) could possibly be construed as iconic, it is interesting to see that the Old LSF sign is identical to the CSL sign.

### 5.3.3 CSL Lexical Signs with Strong Resemblances to LSF and with Moderate Resemblances to ASL

Also from the analysis of CSL, LSF, and ASL lexical signs, another group of signs were identified as being pairs with strong resemblances between CSL and LSF, however they are only somewhat different than the ASL signs. The signs in this category are CROSS, FLOWER, HEAT/HOT, LIKE, LOW, MEAT, MILK, MONEY, POOR, SIGN and WORK.

CSL Lexical Sign             LSF Lexical Signs             ASL Lexical Signs



Figure 247.  'cross'

*CSL Authorized List,*

*pg. 100*
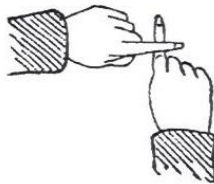


Figure 248.  *CROIX*

*Pélissier, 1856, pg. 5, #7*

Note: None in *ASL*

*Handshape Dictionary;*

however the ASL signers do

use this sign.



Figure 249.  'flower'

*CSL Authorized*

*List, pg. 105*



Figure 250.  *FLEUR*

*Brouland, 1855,*

*pg. 7, #78*



Figure 251.  FLOWER

*ASL Handshape Dictionary,*

*pg. 91*

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| CSL Lexical Sign | LSF Lexical Signs | ASL Lexical Signs |
|---|---|---|



Figure 252. 'heat' & "hot"

*CSL Authorized List, pg. 107 for HEAT and 108 for HOT*



Figure 253. *CHAUD Pélissier, 1856, pg. 10, #17*



Figure 254. HEAT/HOT

*ASL Handshape Dictionary, 1998, pg. 144*



Figure 255. 'low'

*CSL Authorized List, pg. 110*



Figure 256. *BAS Pélissier, 1856, pg. 10, #8*



Figure 257. LOW

*ASL Handshape Dictionary, pg. 60*



Figure 258. 'meat'

*CSL Authorized List, pg. 111*
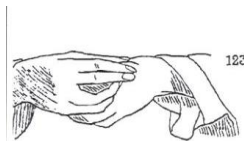


Figure 259. *VIANDE Brouland, 1855, pg. 11, #123*



Figure 260. MEAT

*ASL Handshape Dictionary, 1998, pg. 227*

| CSL Lexical Sign | LSF Lexical Signs | ASL Lexical Signs |
| --- | --- | --- |



Figure 261. 'milk'
*CSL Authorized List,*
*pg. 111*
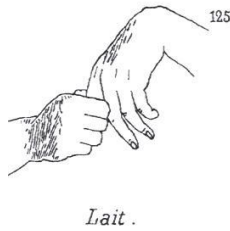


Figure 262. *LAIT*
*Brouland, 1855,*
*pg. 11, #125*



Figure 263. MILK
*ASL Handshape Dictionary,*
*1998, pg. 67*



Figure 264. 'money'
*CSL St. Joseph's*
*Abbey List, pg. 151*



Figure 265. *ARGENT DU*
*Lambert, 1865,*
*pg. 14, #6A*
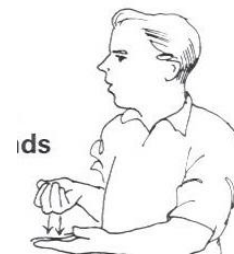


Figure 266. MONEY
*ASL Handshape Dictionary,*
*1998, pg. 260*



Figure 267. 'sign'
*CSL St. Joseph's*
*Abbey, pg. 158*



Figure 268. *SIGNE*
*Modern LSF Dictionary,*
*1996, pg. 160*



Figure 269. SIGN
*ASL Handshape Dictionary,*
*1998, pg. 314*

| CSL Lexical Sign | LSF Lexical Signs | ASL Lexical Signs |
|---|---|---|

Figure 270. 'work'
*CSL Authorized*
*List, pg. 128*

Figure 271. *TRAVAIL*
*Modern LSF Dictionary,*
*1996, pg. 173*

Figure 272. WORK
*ASL Handshape Dictionary,*
*1998, pg. 273*

Although it is likely that MILK exhibits a high level of iconicity, it is interesting to see that the Old LSF sign strongly resembles the CSL example.

### 5.3.4   CSL Lexical Signs with Strong Resemblances to Both LSF and ASL

From within the category of the CSL-LSF-ASL signs culminating from the analysis conducted in Chapter Four, several signs with strong resemblances were discovered:  HARD, KEY, RED, SAME AS, SORRY, TEAR and THANK. The fact that the signs have a strong resemblance is evidence that these lexical items could have been borrowed from CSL to LSF and then to ASL.

| CSL Lexical Sign | LSF Lexical Signs | ASL Lexical Signs |
|---|---|---|

Figure 273. 'hard'
*CSL Authorized*
*List, pg. 106)*

Figure 274. *DUR/DURE*
*Pélissier, 1856,*
*pg. 10, #20*

Figure 275. HARD
*ASL Handshape Dictionary,*
*1998, pg. 294*

| CSL Lexical Sign | LSF Lexical Signs | ASL Lexical Signs |
| --- | --- | --- |

Figure 276.  'like'

CSL St. Joseph's
Abbey List, pg. 150

Figure 277.  *AIMER*

*Pélissier, 1856,*

*pg. 15, #4*

Figure 278.  LOVE in ASL

*Long, 1918,*

*pg. 42*

Figure 279.  'key'

CSL Authorized
List, pg.109

Figure 280.  *CLE*

*Modern LSF Dictionary,*

*1996, pg. 42*

Figure 281.  KEY

*ASL Handshape Dictionary,*

*1998, pg. 300*

Figure 282.  'red'

CSL Authorized
List, pg. 117

Figure 283.  *ROUGE*

*Pélissier, 1856,*

*pg. 10, #23*

Figure 284.  RED

*ASL Handshape Dictionary,*

*1998, pg. 123*

| CSL Lexical Sign | LSF Lexical Signs | ASL Lexical Signs |
|---|---|---|



Figure 285.  'same as'
*CSL Authorized*
*List, pg. 119*
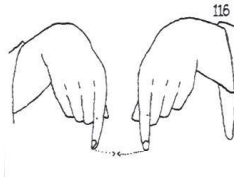


Figure 286.  *PAREIL*
*Brouland, 1855,*
*pg. 10, #116*



Figure 287.  SAME AS
*ASL Handshape Dictionary,*
*1998, pg. 310*



Figure 288.  'sorry'
*CSL St. Joseph's*
*Abbey List, pg 156*



Figure 289.  *DESOLE*
*Modern LSF Dictionary,*
*1996, pg. 56*



Figure 290.  SORRY
*ASL Handshape Dictionary,*
*1998, pg. 42*



Figure 291.  'tear'
*CSL Authorized*
*List, pg. 124*
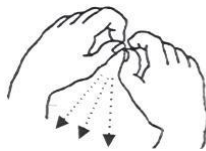


Figure 292.  *DECHIRE*
*Lambert, 1865,*
*pg. 9, #12B*



Figure 293.  TEAR
*ASL Handshape Dictionary,*
*1998, pg. 254*

| CSL Lexical Sign | LSF Lexical Signs | ASL Lexical Signs |
|---|---|---|

Figure 294. 'thank'
*CSL Authorized*
*List, pg. 125*

Figure 295. *MERCI /*
*REMERCIER,*
*Lambert, 1865*
*Pg. 2, #17*

Figure 296. THANK
*ASL Handshape Dictionary,*
*1998, pg. 56*

Figure 297. 'what'
*CSL St. Joseph's*
*Abbey List, pg. 161*

Figure 298. *QUOI?/*
*COMMENT*
*Brouland, 1855,*
*pg. 8, #94*

Figure 299. WHAT
*ASL Handshape Dictionary,*
*1998, pg. 335*

It is possible that HOUSE, KEY, and TEAR do not exhibit lexical borrowing because they are highly iconic signs.

## 5.3.5   CSL Lexical Signs with Moderate Resemblances to Both LSF and ASL

From the analysis of the CSL-LSF-ASL category of signs, several signs with moderate resemblances were discovered:  DOOR, OX/COW, BLACK, CAT, HOUSE, LEAVE-it, OPEN, PAPER, PRAY, QUESTION, REMAIN/STAY, SOLDIER, SPREAD-to and TOMORROW.

Because of the resemblance of these signs across languages, there is evidence that lexical borrowing has occurred from CSL to LSF to ASL. Because of the strong likelihood that iconicity influenced the items of BLESS, CAT, DOOR, HOUSE, OPEN and OX/COW, the author chose not to analyze these items further.

| CSL Lexical Sign | LSF Lexical Signs | ASL Lexical Signs |
|---|---|---|



Figure 300.  'black'

*CSL Authorized*

*List, pg. 95*



Figure 301.  *NOIR*

*Pélissier, 1856,*

*pg. 10, #22*
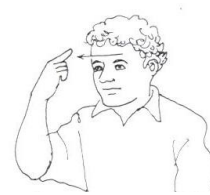


Figure 302.  BLACK

*ASL Handshape Dictionary,*

*1998, pg. 121*



Figure 303.  'leave it'

*CSL St. Joseph's*

*Abbey List, pg. 150*



Figure 304.  *LAISSER*

*Modern LSF Dictionary,*

*1996, pg. 98*



Figure 305.  LEAVE-it

*ASL Handshape Dictionary,*

*1998, pg. 336*

| CSL Lexical Sign | LSF Lexical Signs | ASL Lexical Signs |
|---|---|---|

Figure 306. 'pray'
*CSL Authorized*
*List, pg. 115)*

Figure 307. *PRIER*
*Lambert, 1865,*
*pg. 2, #15*

Figure 308. PRAY
*ASL Handshape Dictionary,*
*pg. 174*

Figure 309. 'question'
*CSL St. Joseph's*
*Abbey, pg. 156*

Figure 310. *QUESTION*
*Modern LSF Dictionary,*
*1996, pg. 144*

Figure 311. QUESTION
*ASL Handshape Dictionary,*
*1998, pg. 112*

Figure 312. 'remain (to)'
*CSL Authorized*
*List, pg. 117*

Figure 313. *RESTEZ*
*Brouland, 1855,*
*pg. 2, #16*
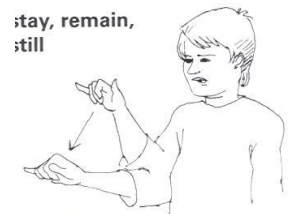
Figure 314. REMAIN /
STAY, *ASL Handshape*
*Dictionary, 1998, pg. 113*

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| CSL Lexical Sign | LSF Lexical Signs | ASL Lexical Signs |
|---|---|---|



Figure 315. 'soldier'

*CSL Authorized*

*List, pg. 122*



Figure 316. *SOLDAT*

*Lambert, 1865*

*pg. 4, #15*



Figure 317. SOLDIER

*ASL Handshape Dictionary,*

*1998, pg. 153*



Figure 318. 'spread (to)'

*CSL Authorized*
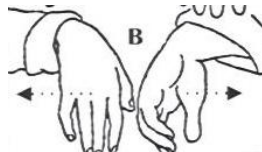
*List, pg. 123*



Figure 319. *ECARTER*

*Lambert, 1865,*

*pg. 10, #13B*



Figure 320. SPREAD-to

*ASL Handshape Dictionary,*

*1998, pg. 263*



Figure 321. 'tomorrow'

*CSL Authorized*

*List, pg. 126*



Figure 322. *DEMAIN*

*Pélissier, 1856,*

*pg. 18, #8*



Figure 323. TOMORROW

*ASL Handshape Dictionary,*

*1998, pg. 44*

### 5.3.6   Parameters: Location, Orientation, Handshape and Movement

As the data were screened, it became apparent that with contact certain parameters were more likely to be retained. The parameter of location was found to be most important when identifying resemblances among lexical signs with 41 out of 55 of the lexical signs having a similar location. Palm orientation was similar in 39 of the lexical signs. A similar handshape was recognized in 35 of the signs. The parameter of movement appears to be the least significant when identifying resemblances with only 32 of the lexical signs having similar movements. As mentioned earlier in the delineation of the research methodology, several illustrations did not include movement symbols. If this information had been available, there may have been some difference in the number of resemblances due to movement. This breakdown of the parameters may be significant for future linguists who want to study lexical borrowing and language comparison.

### 5.3.7   Determining the Borrowing / Contact and Direction of Borrowing

As discussed earlier in Chapter One, Campbell (1999) noted five clues: (a) phonological clues; (b) morphological complexity; (c) clues from cognates; (d) geographical and ecological clues; and (e) other semantic clues to help determine the direction of borrowing. The phonological, geographical, and morphological clues are the most significant for loanword identification in addition to determining the direction of borrowing with CSL, LSF and ASL.

The record of authorized CSL lexical sign descriptions dates back to 1068 A.D. in Europe (Portugal, Spain, France, Germany and England). The first list of CSL authorized signs used for this study is from the Cluny monastery in France. These lexical signs were then brought to the monastery, St. Joseph's Abbey in Spencer, Massachusetts, in America prior to the French revolution in 1789-1799 (Barakat, 1975, pg. 12). In 1761, abbé Charles Michel de l'Epée founded the school for the deaf in Paris, France, where Old LSF was used for instruction. Old LSF lexical signs were first recorded in 1855 in France. In 1816, Laurent Clerc immigrated to America and brought Old LSF with him to the first school for the deaf in

Hartford, Connecticut. In 1918, Long published the one of earliest known descriptions of ASL signs.[9] Inferences drawn from an examination of this phonological history and the geographical clues gleaned during this progression culminate in a strong body of evidence that Old LSF was often the recipient of many CSF lexical signs. In turn, ASL subsequently borrowed lexical items from its own donor language, Old LSF.

In addition to these phonological and geographical clues, morphological complexity can be a telling indicator when determining the direction of borrowing. The lexical signs of CSL employed more morphemes than did those of Old LSF and ASL. Examples of multiple morphemes used to create CSL signs[10] are (1) 'cost' (HOW + MUCH + MONEY); (2) 'desert' (DRY + SAND + COURTYARD); (3) 'English' (E + TONGUE _ COURTYARD); and (4) 'Eve' (NUMBER + ONE + SECULAR + LADY) (Barakat, 1975). As Campbell (1999) points out, recipient languages often lose morphemes when they are borrowed from donor languages. This appears to be the case for CSL, Old LSF, and ASL. The CSL sign for 'ox', for example, was ANIMAL+HORNS. In Old LSF, this sign became HORNS. In CSL the sign for 'plate' was a two-morpheme sign: DISH+INDEX-PALM, where DISH is the gloss for a sign that describes a circle over the open palm with the tip of the forefinger; PLATE is the sign for DISH, then the tip of the forefinger is placed into the middle of the palm. In Old LSF, the sign for 'plate' used only the first morpheme, DISH.

Finally, the analysis of the phonological parameters of cognates also can provide evidence to help to determine borrowing or contact and the direction in which it occurred. Lexical signs such as HARD, LIKE (LOVE in old ASL), KEY, RED, SAME-AS, TEAR, THANK, and WHAT are produced with all four of the nearly same parameters in CSL, LSF, and ASL, suggesting contact. The lexical signs such as AFTER, FEVER, FLOWER, HEAT & HOT, LOW, MEAT, MILK, MONEY, PLATE, POOR, PRAY, RULE,  UGLY and WORK are produced with all four of the same parameters in both CSL and LSF, suggesting contact. Some cognates will share three parameters, with one slightly different in production, such as is evident with the ASL sign BLACK; this suggests BLACK could have been

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[9] Gallaudet University Archives in Washington, D.C., do contain a number of older signed language films that date back to 1913.
[10] It should be noted that the analysis here assumes that these are multimorphemic signs and not collocations or compounds.

borrowed from CSL and LSF. The sign MEAT in CSL and Old LSF is signed with all four of the same parameters, while the ASL sign differs in its palm orientation; this suggests that the ASL sign for MEAT could have been borrowed from LSF and CSL.

Finally, phonological reduction also suggests the course of borrowing. In the example of OX, described above, the ASL sign shows phonological reduction. The Old LSF sign OX is signed with two hands; the ASL sign OX uses only one hand.

Only one clue is not always sufficient to determine the borrowing/contact and the direction of borrowing. The phonological, geographical and morphological clues, when examined together, create powerful inferences indicating that some ASL lexical signs were borrowed from the donor language of LSF, which were in some cases borrowed from CSL.

### 5.3.8 Phonological and Grammatical Changes

During the process of analyzing the selected data, phonological and grammatical changes and variants were detected in the borrowed lexical signs. The changes noted are delineated below.

**Phonological changes and variants**

a. Change in the phonological parameter from the donor sign to the recipient sign. Several examples of one parameter change follow:
   - AFTER (movement) between CSL and LSF
   - BEAUTIFUL (movement) between CSL/ LSF and ASL
   - BLACK (location) between CSL and LSF/ASL
   - CAT (handshape) between CSL and LSF/ASL
   - COW (handshape) between CSL and LSF/ASL
   - FLOWER (movement) between CSL/LSF and ASL
   - HEAT/HOT (movement) between CSL/LSF and ASL
   - HOUSE (movement) between CSL/LSF and ASL
   - LOW (location) between CSL/LSF and ASL

- MEAT (orientation) between CSL/LSF and ASL

- PAPER (orientation) between CSL and ASL

- TOMORROW (handshape) between CSL and LSF/ASL

- WORK (orientation) between CSL/LSF and ASL

b. Allophonic variants of handshape in some lexical signs.

- BLACK, HERE, RED and SAME AS using index finger with thumb open or closed

- CLOSE, DOCTOR, HOUSE, NOW, THANK, SPREAD (to) and WHAT using B/M with thumb open or closed, fingers spread apart or closed, and straight or bent

- BEAUTIFUL, HEAT/HOT and UGLY using C with closed fingers or bent 5

- FORGET and MONEY using O with round or flat fingers

c. Change in the number of hands from two to one. In the older signs, the signs tend to have two hands; however in the modern ASL, the signs use one hand. The examples are as follows:

- CAT from CSL/LSF to ASL

- COW from CSL/LSF to ASL

- CROSS from CSL/LSF to ASL

- LIKE from CSL/LSF to ASL

- MILK from CSL/LSF to ASL

- REMAIN / STAY from CSL/LSF to ASL

- SAME AS from CSL/LSF to ASL's another lexical sign for SAME AS

- THANK from LSF to ASL

d. Centralization of lexical signs. The location of sign is shifted from the location farther from the signer toward the location closer to or at the center of signer. The examples are as follows:

- BOOT from CSL/LSF to ASL (from knee level to stomach level)

- LOW from CSL/LSF to ASL (from knee level to stomach level)
- LIKE from CSL/LSF to ASL (from breast area to center of chest)

e. Shifting from head movements to hand movements. In CSL and LSF, the head movements tend to be positioned upward or downward, while there are no head movements in ASL.  The examples are as follows:
- FLOWER from LSF to ASL
- FORGET from LSF to ASL
- LIGHT from CSL to LSF/ASL
- THANK from LSF to ASL
- UNDERSTAND from LSF to ASL

These findings of phonological changes, including the removal of the second hand, centralization, and symmetry matched the results of the research conducted by Frishberg (1975) on the changes from the older forms of ASL to current ASL lexical items as discussed in Chapter Two. Furthermore, the allophonic variants of handshapes (G for index finger, O, B/M and 5) found among the lexical signs listed above echoed the research conducted by Woodward on eleven different handshape variations also discussed in Chapter Two.

**Grammatical Changes**

One significant grammatical change, morphological complexity, was found between CSL and both the LSF and ASL lexical items. CSL used more morphemes in its lexical signs, which were subsequently reduced in LSF and ASL. For example, CSL required the signing of two morphemes to convey the concepts of "cat" and "plate" -- ANIMAL + CAT and DISH + PLATE respectively. LSF retained one of the CSL morphemes in its lexical signs producing just the CAT and PLATE portions of the signs, but dropping the initial morphemes. Frishberg (1975), when studying the changes between older forms of ASL to current ASL lexical items, also noted this change in morphological complexity and the preservation of only one morpheme in a sign.

**Semantic Changes**

Semantic changes were evident in two words: WATER / WET and LIKE / LOVE. The CSL lexical sign for WATER resembles the ASL sign for WET with the predicate stem handshapes being exactly the same. CSL and LSF use the same lexical signs for LIKE, with both carrying the same semantic meaning; however, the semantics became somewhat different in modern ASL. The CSL and LSF sign for LIKE is produced similarly in ASL, but semantically it became the sign for LOVE.

The researcher noted that some similar lexical signs in CSL and Old LSF influenced ASL; however the signs underwent some semantic expansion from CSL to Old LSF. The examples are as follows:

| CSL | Old LSF | ASL |
| --- | --- | --- |
| AFTER | AFTER | LATE |
| LIKE | LIKE | LOVE (old ASL sign) |
| POOR | POOR | BEG |
| UGLY | UGLY | ANGRY |

There also appears to be some semantic changes Old LSF to modern ASL:

| Old LSF | ASL |
| --- | --- |
| STAY | CONTINUE |
| PICK (to) | COLLECT or EARN |

### 5.4. Iconicity

One of the goals of this dissertation was to ascertain which, if any, of the phonologically and semantically related lexical items were created because of iconicity. The

subjectivity inherent in identifying lexical items as either iconic or non-iconic forms necessitated the development of a continuum of iconicity. Each of the 55 lexical signs selected for this study was given a weight of iconicity: "Probable Iconic," "Possibly Iconic" or "Unlikely Iconic." Iconicity was determined for the items in both the CSL-LSF-ASL category and separated among the "Same," "Similar," and "Different" categories, yielding interesting results.

**Table 8:** *Iconicity Analysis of CSL-LSF-ASL Category*

| | |
|---|---|
| AFTER - | Possible |
| BEAUTIFUL- | Possible |
| BLACK - | Possible |
| BLESS - | Probable |
| BOOTS - | Probable |
| CAT - | Probable |
| CLOSE - | Probable |
| COW - | Probable |
| CROSS - | Probable |
| DAY - | Unlikely |
| DOOR - | Probable |
| EYEGLASSES - | Probable |
| FEVER - | Possible |
| FLOWER - | Possible |
| FORGET - | Possible |
| FRIEND - | Possible |
| HARD - | Possible |
| HEAT / HOT - | Possible |
| HERE - | Probable |
| HOUSE - | Probable |
| KEY - | Probable |
| KNIFE - | Probable |
| LEAVE IT - | Probable |
| LIGHT - | Possible |
| LIKE - | Possible |
| LOW - | Probable |
| MEAT - | Unlikely |
| MILK - | Probable |
| MONEY - | Unlikely |
| NEXT - | Unlikely |
| NOW - | Unlikely |
| OPEN - | Probable |
| OX - | Probable |

| | |
|---|---|
| PAPER - | Unlikely |
| PICK (to) - | Probable |
| PLATE - | Probable |
| POOR - | Possible |
| PRAY - | Probable |
| QUESTION - | Unlikely |
| RED - | Probable |
| REMAIN (to) - | Probable |
| RULE - | Unlikely |
| SAME AS - | Unlikely |
| SIGN - | Unlikely |
| SOLDIER - | Probable |
| SORRY - | Unlikely |
| SPREAD (to) - | Possible |
| TEAR (to) - | Probable |
| THANK - | Possible |
| TOMORROW - | Unlikely |
| UGLY - | Possible |
| UNDERSTAND - | Possible |
| VOTE - | Possible |
| WHAT - | Unlikely |
| WORK - | Possible |

Probable - 23 lexical signs
Possible - 19 lexical signs
Unlikely - 13 lexical signs

This data showed that the "Probable Iconic" category contained the largest number of lexical signs. The "Possibly Iconic" category has the larger number of lexical signs. "Unlikely Iconic" category has the least number of lexical signs. If both the "Probable Iconic" and the "Possibly Iconic" sign categories are combined, they would number 42 out of the 55 total signs (76.3%). Iconicity, as judged by the author, runs high among the large majority of lexical signs selected for this study.

Further analysis investigated the lexical signs' iconicity through the comparison of the signs in the "Same," "Similar" and "Different" categories with the weights of "Probable Iconic," "Possibly Iconic" and "Unlikely Iconic." The analysis showed that the lexical signs in the "Same," "Probable Iconic" and "Unlikely Iconic" categories had equal weights of 33.3%. The lexical signs in the "Similar" category arrived mostly at "Probable Iconic" with a weight of "51.3%" while the "Possibly Iconicity" accounted for 28.2% and the "Unlikely

Iconic" accounted for 20.5% of the signs. Finally, the lexical signs in the "Different" category had the largest number, 46.1%, in the "Possibly Iconic" category with "Probable Iconic" and "Unlikely Iconic" accounting for 23.0% and 30.7% respectively.

The data above closely agrees with the research and findings made by Parkhurst and Parkhurst (2003). They found that comparing lexical items chosen for 'low potential of iconicity' resulted in significantly lower similarity scores among unrelated languages than did word lists of basic vocabulary of 'highly iconic signs.

It is reasonable that CSL might have made use of iconicity in the formation of many of its signs, which were subsequently borrowed by LSF, and eventually found their way into ASL. Iconicity has played a vital role in the development of the sign lexicon.

## 5.5    Initialization

Initialization played an important role in the development of ASL and continues to exert an influence on the evolution of ASL. It is one of the most productive mechanisms in the word-building process in ASL. Deaf education in France and United States has played a role in fostering the use of initialization in sign languages for the deaf.

In the 18th century, abbé de l'Epée adopted the signs of the deaf people that he gathered in Paris and made use of the (Spanish) manual alphabet. He also modified many signs for verbs by initializing them using the manual letter that corresponded to the initial letter of the French word. For example:  VOIR (SEE in ASL) with the "V" handshape, CHERCHE (SEARCH in ASL) with the "C" handshape, BIEN / BON (GOOD in ASL) with the "B" handshape, and MAL (BAD in ASL) with the "M" (Scouten, 1985). In this process de l'Epée often creating many "methodical signs" that could possibly be considered initialized.

ASL and English have co-existed in America since 1817. It is reasonable to expect that a substantial amount of borrowing from English to ASL would have occurred. The deaf community in America has criticized the overuse of initialization when it is unnecessary and labeled that to be unnatural and linguistically oppressive. Yet, nitialization is used widely for technical and professional purposes.  Some deaf signers do recognize and accept that

initialization is making it easier for them to categorize ASL signs in many ways. However, caution should be exercised when inventing initialized signs in order to ensure that the initialization is warranted and useful in the language.

It appears that iconicity's influence in the creation of new lexical items occurs prior to the process of initialization. Initialization is a productive process that creates more lexical items after iconicity has played its role. An example of this is the French sign <u>V</u>OIR (SEE in ASL) that was created using a location and movement iconically associated with the sign, and then it was initialized based on its French spelling. Later, ASL borrowed the root sign from early 19<sup>th</sup> century LSF, and with that sign as a base, ASL eventually created several derivations such as: LOOK, WATCH, OBSERVE, EVALUATE, MONITOR, SURVELLIANCE, BROWSE, SIGHTSEEING, VIEW, PERCEPTION, FORESEE, PREDICT, LOOK FORWARD, LOOK INTO BACK, and MEMORIAL. The semantic productivity of the sign SEE was probably strengthened by the fact that humans have two eyes, which promoted a dual mapping of "V" and "2".

Once one becomes aware of the correspondence between the handshape of a sign and the initial letter of its corresponding English word, the sign tends to be viewed as having been borrowed, because one perceives the sign as representing the English word. Most ASL signers in the United States are unaware that a large portion of ASL lexical items were borrowed and initialized based on the spelling of French words. Once one becomes aware of the correspondence between the handshape of certain signs and French words, those signs are perceived as less arbitrary and more iconic.

One of the goals of this dissertation was to identify any significant occurrence of initialization in the borrowing from CSL lexical signs to LSF lexical signs, and then into ASL. The author reviewed the manual alphabets used by the Cistercian monks and noticed that they used two hands to create their manual alphabet producing iconic representations mirroring the written letters. Some examples of the CSL manual alphabet follow:

Figure 324.

CSL Manual Alphabet of "A",

*Barakat, 1975, pg. 175*



Figure 325.

CSL Manual Alphabet of "F",

*Barakat, 1975, pg. 175*



Figure 326.

CSL Manual Alphabet of "G",

*Barakat, 1975, pg. 175*



Figure 327.

CSL Manual Alphabet of "M",

*Barakat, 1975, pg. 176*



Figure 328.

CSL Manual Alphabet of "Z",

*Barakat, 1975, pg. 178*

No use of this two-handed manual alphabet was found in any of the handshapes in the CSL lexicon. That CSL would initialize their signs can be ruled out. Yet, it is striking how strongly CSL fingerspelling resembles the written letters. The form of the handshape mimics the written form, showing a strong iconicity between CSL fingerspelling handshapes and the written letters.

All LSF signs selected for sharing phonological similarities with CSL were examined to detect the use of initialization. French terms for the LSF signs used were from a comprehensive and cross-referenced list created by the author. This written French was then compared with the corresponding LSF signs' handshapes to ascertain whether the LSF signs were initialized.

From the analysis of the 55 sets of CSL, LSF and ASL signs, initialization was identified as possible in 6 sets of lexical signs. Their initial letters were reviewed and compared with the LSF signs' initial handshapes and the initial letters of their corresponding French words, and with the ASL signs' initial handshapes with the initial letters of their corresponding English words. These six lexical items show some correlations between the initial handshapes of signs and their initial letters of words. The words are as follows:

**Table 9:** *Possible Initialization in LSF and ASL Lexical Signs*

| English word | French word | Initial handshape of LSF lexical sign | Initial handshape of ASL lexical sign |
|---|---|---|---|
| BLESS | BENIR | U | <u>B</u> |
| HEAT/HOT | CHAUD | open B / bent 5 | bent 5 |
| LOW | BAS | <u>B</u> | B |
| RULE | REGLE | B | <u>R</u> |
| SOLDIER | SOLDAT | <u>S</u> | A |
| SORRY | DESOLE/ REGRETTER | S | A |

Initialization might have occurred with the French term CHAUD (for HOT) and the modern LSF lexical sign. It is more questionable whether the initialization occurred with the French words of BAS (for LOW) and SOLDAT (for SOLDIER). The handshape of "B" is widely used for lexical signs such as LEVEL, FLOOR, WALL, HILL and PLANE, and it is a classifier known as "CL-B." SOLDAT in LSF and SOLDIER in ASL clearly are employing the instrumental classifiers using the CL-S to represent holding an object. It is doubtful that SOLDAT and SOLDIER would be initialized with their spoken languages' words.

Initialization appears not to have played a significant role in borrowing among the 55 sets of CSL, LSF and ASL lexical signs selected for analysis. This lack of initialization might

be because many CSL lexical signs are iconic and older than the LSF lexical signs.  If we could take a look at the Latin terms for those CSL lexical signs and compare the initial letters of those Latin words with the handshapes of CSL lexical signs, there might appear some instances of initialization. In addition, if the whole set of approximately 800 LSF signs were compared with handshapes of the initial letters of their corresponding French words, further initialization might be identified.

       To keep ASL alive, expanding, evolving, and relevant to its users, initialization and borrowing can be expected to occur. What is important is that these evolutionary processes are used naturally by members of modern Deaf communities, not artificially created through committees whose members have their own agenda for changing the language.

## 5.6    Limitations

l.   As previously mentioned, there are about twenty lists of signs from the early 11th century to 15th century mentioned in the literature on monasteries in France, Portugal and Spain (Barakat, 1975). This study relied on only two lists of CSL authorized signs: "Authorized List of Signs for the Cistercian order: BASIC SIGNS" and "Authorized List of Signs for St. Joseph's Abbey: BASIC SIGNS" in the CSL book published in 1975.  More may be discovered with access to translations of the 22 lists of CSL signs.

2.   The CSL and Old LSF dictionaries were printed in two dimensions. There were no films or videotapes prior to late 1800s; thus, research was limited to samples found in dictionaries. Several of them included arrows drawn to show movements; however, they may not have accurately depicted the complete formation of the sign. The CSL dictionary included some descriptive movements, which were helpful; yet, some of their corresponding LSF lexical items did not present any movement symbols. Additionally, it was sometimes difficult to analyze the LSF signs' accurate palm orientations, because several of the old LSF signs were illustrated with hands sans body.

3. Translations from Latin to French and subsequently from French to English for some lexical signs may not have been captured every nuance, thus some valid comparisons and cross-linguistic analyzing opportunities may be lost. For instance, a French sign may have a specific written term attached to it; however in the translation process, a glossed English word was chosen, which may have paved the way for slightly different semantic meaning.

4. In several instances, CSL signs did not have a corresponding Old LSF sign, but did have a corresponding modern LSF sign. It was not always certain whether these corresponding modern LSF signs were borrowed from the CSL directly, which is doubtful, or whether an Old LSF lexical sign existed between the CSL and the modern LSF signs, but was not found in the historic sources.

## 5.7    Recommendations

The author recommends the following for future studies or a replication of this study. The author believes that the following actions recommended would result in increased findings.

### 5.7.1   Seek other CSL dictionaries

This dissertation study is based on an original total of 497 CSL lexical items, and after the screening and selection, the sample was narrowed to the 55 lexical items for analysis. As previously mentioned, there are about twenty lists of signs from the early 11th century to 15th century mentioned in the literature on monasteries in France, Portugal and Spain (Barakat, 1975). If those lists could be accessed, there might be a wealth of data for research into the very earliest roots of ASL and LSF, and perhaps lead to the discovery of further influences of iconicity and initialization on signs used in the Middle Ages.

### 5.7.2  Iconicity analysis on CSL

Further study on CSL signs, the culture of monks in the Middle Ages, including their clothing, food, utensils, tools, environmental surroundings, religious rituals, and Catholicism may lead to the identification of iconicity in more of the CSL signs.

### 5.7.3  Iconicity Analysis on LSF

It is recommended that LSF researchers, who extensively know $18^{th}$ and $19^{th}$ century LSF, current LSF, and French culture (e.g., clothing, food, daily lives, Catholicism) conduct research to identify more iconic, sociolinguistic, and sociocultural influences on $18^{th}$ and $19^{th}$ century LSF lexical items.

### 5.7.4  Iconicity Analysis Survey with Non-signers

As discussed earlier, the author of this study found iconicity analysis to be complex and subjective. The author devised an iconicity weight measurement continuum to categorize CSL, LSF and ASL lexical signs into "likely iconic," "possibly iconic" and "unlikely iconic" to the author's best judgment. It is recommended that a survey be conducted testing the set of 55 lexical signs with non-signers to gather more valid iconicity measurements.

### 5.7.5  Initialization on CSL and LSF

Latin was used as an official language in Europe and in many monasteries for many centuries throughout the Middle Ages. The CSL dictionary used for this dissertation included the English translations without the Latin translations. By obtaining a list of the Latin terms for the CSL signs from the Authorized list as well as the CSL's manual of alphabet illustrations, one could make a more adequate assessment of the possibility of initialization being employed in CSL signs. It would be possible to examine the influence of initialization

by comparing the initial letter of the Latin words with their corresponding monastic signs' handshapes.

Finally, if the author were to do another language contact study, he would narrow his focus to an analysis of the borrowing between the Old LSF lexical signs and old and modern ASL lexical items. The author has noticed possible initialization occurring among the Old LSF signs that might have been retained by Old and modern ASL. The examples found are:

**Table 10:** *Possible Initialization with LSF Lexical Signs*

| French lexical item | English lexical item | ASL handshape |
|---|---|---|
| AUTRE | OTHER | A |
| BEIN/BON | GOOD | B |
| CENT | HUNDRED | C |
| CHERCHE | SEARCH | C |
| CHOU | CABBAGE | C |
| GRANDE | BIG | G |
| JAUNE | YELLOW | J (LSF hdshp/same as ASL "Y" |
| MAINTENANT | NOW | M |
| MEDECIN | DOCTOR | M |
| MERCI/MERCI BIEN | THANK | M / B |
| MILLE | THOUSAND | M |
| NOM | NAME | N |
| NON | NO | N |
| VOIR | SEE | V |
| VOLER | STEAL | V |

LSF uses initialization with <u>V</u>IN for the ASL sign of WINE and <u>V</u>IOLET for the ASL sign of PURPLE. The author noticed that the handshapes of B and M apparently work together. This combination would make an interesting study.

### 5.7.6    Borrowing from Indian Sign Language (ISL)

An additional area of research that could be pursued would be to examine the influence of North American Indian sign languages upon ASL. It is highly plausible that early ASL borrowed signs from North American Indian sign languages because many similar signs between the two have been identified, and North American Indian sign languages existed in Massachusetts and Rhode Island before the sign language on Martha's Vineyard emerged. It is quite possible that North American Indian sign languages influenced the sign language of deaf people living on Martha's Vineyard (Paris & Wood, 2002). In addition, Davis (2007) has done extensive research on the correlation between the Plains Indian Sign Language (PISL) and ASL. His study generated 1,297 pair wise comparisons of PISL and ASL from a sign vocabulary base of 1,500 items. The replication of this study on initialization and iconicity of the PISL could extend research findings.

### 5.7.7    Study on Martha's Vineyard Sign Language

Research on the origins of Martha's Vineyard sign language needs to be promoted. Groce (1985) has done extensive research on Maritime Sign Language and suggests that it may be rooted in a British sign language. Personal accounts indicate that Maritime Sign Language is still used by some Deaf people living in Nova Scotia, New Brunswick and Prince Edward Island. It is recommended that further research be conducted on Canadian Maritime Sign Language (MSL)[11] and early British Sign Language (BSL). Influences of iconicity and initialization could also be researched. It is important to keep in mind that British Sign Language has its own two-handed manual alphabet systems, distinct from the one-handed manual alphabet system used in ASL and LSF. It is possible that BSL and MSL may have employed initialization in the creation of some of their lexical items.

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[11] Judith Yoel (2009) is in the process of researching Maritime Sign Language and her published work will be valuable for the expansion of ASL's heritage.

**5.8      Applications for Teaching ASL, ASL Literature and Deaf History, and the Field of ASL Linguistics**

The most important discovery from this dissertation study is the contact and borrowing evident between some CSL and LSF lexical signs, and among some of the CSL, LSF and ASL lexical signs. The study shows that more correlations and borrowing took place between CSL and Old LSF lexical signs than between CSL and modern ASL lexical signs. These findings will raise awareness about the roots of ASL prior to the Old LSF era back to the Middle Ages when CSL emerged. If the CSL signs are authentic and well preserved since the Middle Ages, those ASL lexical signs resembling the CSL signs may be nearly one thousand years old. This intriguing idea may motivate future linguists to take a closer look at the exploration of CSL, and to conduct more extensive analysis of its development, grammaticalization, and contributions to European signed languages other than LSF and ASL.

Sociolinguistic factors will always play a significant role in the continuing evolution of ASL through such processes as borrowing, initialization, historical change and emergence of new vocabulary spawned by society, industry, and technology. Iconicity will continue to play a significant role in development of new lexical signs. Although the area of iconicity is complex, an important finding from this study may be how widespread iconicity is in CSL, LSF and ASL lexical signs.

The information in this dissertation can be added to the curricula for Deaf studies, ASL studies, ASL linguistics, signed language interpreting, and Deaf education programs. From the author's teaching experience, most ASL courses have relied heavily on the linguistic information from two textbooks, *ASL Grammar and Culture* by Baker and Cokely (1980) and *ASL Linguistics* by Valli and Lucas (1992). These textbooks only briefly touch on borrowing, initialization and iconicity. Textbooks can be updated with information about the vital roles played by borrowing and iconicity, including initialization in the development of the ASL lexicon. Additionally, this information may evoke interest in further research on borrowing, initialization and iconicity in other signed languages.

Finally, in the fields of ASL education, interpreting training, and ASL linguistics, it is important for teachers and linguists to take on a leading role in encouraging an open and

scholarly debate recognizing and understanding the contribution of borrowing, iconicity, and initialization in the development of the ASL lexicon. The information discussed in this dissertation provides support that borrowing, iconicity and initialization have played valuable roles in the development of ASL. Last, and probably most important, these linguistic phenomena are inseparable from ASL. As long as ASL exists, borrowing, iconicity and initialization will be involved in its development.

## Appendixes

**Appendix A:**

**List of 497 lexical signs in English and French for CSL-LSF-ASL Analysis**

<u>English words</u>            <u>French words</u>

| English words | French words |
|---|---|
| abbot | o |
| about * | au suject de ** |
| acid | acide ** |
| acolyte | o |
| acolyte * | o |
| afraid * | avoir peur (to have fear)** |
| afraid * | effraye (scared) ** |
| afraid * | craintif/craintive ** |
| after | apres |
| air * | o |
| all | tout / touts les choses ** |
| amice | o |
| amice * | o |
| animal | animal ** |
| animal | bete (beast**) |
| apple | pomme de terre ** |
| apple * | o |
| apron | un tablier ** |
| *around* * | autour de ** |
| arrange * | arranger ** |
| arrange * | ordonner (to order) |
| ass (animal) | ane |
| assistant | un aide ** |
| baby * | bebe, enfant ** |
| back * | retourner de (to return) ** |
| back * | dos (body part) ** |
| bad | mal (adj) ** |
| bad | mauvais (adv) |
| bad | mechant (mean) |
| balance | equilibrer (to balance)** |
| *balance* | echelle (scale) ** |
| bar (for prying) * | barre ** |
| basket | un panier ** |

| | |
|---|---|
| beads | o |
| *beautiful* | beau ** |
| beautiful | joli |
| before | avant |
| bell * | une cloche ** |
| bellows | o |
| belt | une ceinture ** |
| big | grande(e) ** |
| bind (to) | attacher a (to fashen to )** |
| bishop | eveque |
| bit * | morceaude (a bit/piece of)** |
| bitter | o |
| *black* | noir (also dark **) |
| *bless (to)* | benir |
| *blessing* | une benediction ** |
| blind | aveugle ** |
| blue * | blue |
| boat * | bateau ** |
| boil (to) | bouillir ** |
| *book* | livre |
| boots * | bottes |
| box | boite ** |
| bread | pain |
| *break (to)* | casser |
| brick * | une brique ** |
| broom * | un balai ** |
| brother * | frere |
| brush | brass / to brush - brosser ** |
| bull * | un taureau (animal) ** |
| butter | beurre |
| button | un bouton ** |
| *buy (to )* * | acheter |
| cabbage | chou ** |
| calotte | o |
| candlestick | o |
| carpenter | o |
| cart | une charrette (noun) ** |
| case | un cas ** |
| *cat* | chat |
| cat * | chat |

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| | |
|---|---|
| cellar | une cave ** |
| ceremonies, master of | o |
| chain * | une chaine ** |
| change (to) | changer |
| chant (to) | o |
| chapter | un chapitre ** |
| charge | une charge (a charge) ** |
| charge * | charger (to charge as in $)** |
| chasuble | o |
| chasuble * | o |
| cheese | fromage |
| choir religious | un choeur ** |
| choke * | etouffer (like suffocating) ** |
| chop * | couper (to cut) ** |
| church | une eglise ** |
| church * | une eglise ** |
| cloak (of lay brothers & novices) | |
| *close (near)* * | proche |
| close (shut) | fermer ** |
| *clothes* | vetement |
| coat * | manteau / une veste ** |
| cold | un rhume (bad cold) ** |
| cold | froid (temperature) |
| *come (to)* | venir (to come) ** |
| common | commun ** |
| *communion* | communion |
| confusion | confusion ** |
| cook | cuire |
| cook * | faire la cuisine (to cook)** |
| corn | le mais ** |
| corner * | coin ** |
| cotton | coton ** |
| count (to) | compter ** |
| count * | compter ** |
| courtyard | o |
| cow * | une vache **, beouf |
| cowl | o |
| *cross* | croix |
| crozier | o |
| crucifix | un crucifix ** |

| | |
|---|---|
| cut (to) | couper |
| day | jour / journee ** |
| deacon | o |
| dead | o |
| deaf | sourd-muet, sourde(e) ** |
| dessert * | dessert |
| devil | diable |
| devil * | o |
| dig (to) * | o |
| dirt* | terre ** |
| dirt * | sale (dirty**) |
| discipline | discipline ** |
| disengaged | declenche (let go) ** |
| dish | un plat ** |
| displeased | de plu ** |
| doctor | medecin / docteur ** |
| doctor * | medecin / docteur ** |
| dog | chien |
| dog * | chien |
| don't * | ne / pas ** |
| don't * | ne / pas ** |
| door * | porte |
| drawer (of a desk) * | tiroir  **, tirer (to pull) ** |
| drawers | o |
| dress (to), (wounds) | o |
| *drink* | une boisson (a drink) ** |
| *drink* | boire (to drink)** |
| drive * | conduire (to drive) ** |
| dry | sec / seche ** |
| dunghill | o |
| dust | o |
| easy * | facile |
| *eat (to)* | manger / dejeuner / diner ** |
| edible | o |
| egg | oeuf(s) |
| employment | un travail (work - noun)** |
| employment | un boulot (less formal- job)** |
| empty | vide |
| end | le fin ** |
| enough * | assez |

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| | |
|---|---|
| envelope * | une enveloppe ** |
| equal | egal ** |
| evening | soir |
| everything | tout/touts les choses ** |
| exactly * | exactement** |
| extinguish (to) | eteindre** |
| extinguisher | un extincteur ** |
| extra * | plus / supplement ** |
| *eyeglasses* * | les lunettas ** |
| fast (quick) * | presse |
| fast (to) | o |
| fasting * | o |
| fat *, greasy | gras ** |
| fault | faut (il)  (can mean "must"**) |
| fence * | la cloture** |
| fever | fievre |
| fight * | combat/battre (to fight) ** |
| fill * | remplir (to fill) ** |
| finish, end ** | fin, fini, finir |
| finish * | finir (to finish)** |
| fire | feu |
| *fish* | poisson(s) |
| fish * | pecher (to fish) ** |
| flour | farine ** |
| *flower* | fleur |
| fly* | une mouche (a fly)** |
| fly * | voler (to fly)** |
| foot * | pied |
| *forget (to)* * | oublier |
| fork * | fourchette |
| *friend* * | ami |
| front * | devant (in front of) ** |
| fruit | fruit |
| fruit * | o |
| gather (to) | cueillir |
| gather (to) | recueiller |
| girdle | o |
| *give (to)* | donner |
| glass | verre |
| glasses (not in CSL) | lunettes ** |

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| | |
|---|---|
| gloves * | les gants ** |
| glue | colle ** |
| go (to) | *aller* |
| go (to) | sortir (to go out) |
| go (to) | dehors (outside) |
| go (to) | monter (to climb) |
| God | dieu |
| *good* | bon |
| grain | un grain ** |
| grass | herbe ** |
| grass * | herbe ** |
| green | vert |
| gun | o |
| gun * | o |
| habit | habitude |
| *half* | demi / moitie ** |
| hammer * | un martean ** |
| handkerchief | un mouchoir ** |
| happy * | heureux / heureuse |
| hard | difficile (difficult) ** |
| *hard* | dur, dure (physical) |
| hay * | foin ** |
| head * | tete |
| hear (to) | ecouter (to listen) |
| hear * | entendre (to hear) ** |
| heart | coeur |
| *heat* | chaleur **, chaud =hot//heat/warm |
| help | aider (to help) ** |
| herb, grass ** | herbe |
| *here* | ici (here),   la (there) |
| hide | cacher (to hide) ** |
| *high* * | haut |
| hood | o |
| hook * | un crochet ** |
| *horse* | cheval |
| horse * | o |
| hose (water) * | arroseur (sprinkler) ** |
| hot | epice (spicy) ** |
| *hot* | chaud (temperature) |
| hour | heure (une..) |

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| | |
|---|---|
| hour * | o |
| *house* | maison |
| hundred (cent **) | cent |
| *I (myself)* | Je (moi-meme)** |
| idele | o |
| incense (to) | o |
| incense-boat | o |
| inch * | centimeter (meter system)** |
| indulgence | o |
| invitator | o |
| invitator * | o |
| iron | fer |
| iron (to) * | repasser ** |
| jug | o |
| *key* | cle |
| kill (to) * | touer/assassine ** |
| *knife* | couteau |
| *ladder* | echelle |
| language * | langue ** |
| last * | dernier |
| late | en retard ** |
| lavabo towel | toilette (washcloth) ** |
| lay brother | o |
| leather | o |
| leather * | o |
| *leave it* * | le laisser |
| leek | un poireau ** |
| light | leger (not heavy) |
| light | lumiere (not dark) |
| like (to) * | aimer (to like/love)** |
| like (to) * | vouloir (like to) |
| linen | le linge ** |
| *little* | petite(e) ** / un peu (alittle)** |
| *little* | peu a peu (little by little) |
| load | o |
| long | long |
| long * | " |
| *low* | en bas ** |
| machine * | une machine ** |
| make (to) * | faire |

| | |
|---|---|
| maniple | o |
| manure | o |
| mass | messe |
| master of novices | o |
| match | match (game) ** |
| *me* * | moi (me), a moi (to me) |
| *meat* | viande |
| medicine | medicament |
| metal | metal |
| metal * | " |
| *milk* | lait |
| milk * | " |
| mill | un moulin ** |
| minute (small)(little)* | |
| mistaken (to be) | avoir tort (to be wrong) ** |
| *money* * | argent |
| month | mois |
| more * most, more than** | plus (de), supplement ** |
| morning | matin |
| mother * | mere |
| mow | o |
| much | beaucoup de |
| much (too much) | beaucoup |
| mule * | un ane |
| nail * | un clou |
| name * | nom |
| needle | o |
| next * | cote (a..de)(proximity) |
| *next* * | prochain (ordinal) |
| night | nuit |
| no * | non |
| none | aucun |
| none * | " |
| nothing | rien |
| nothing * | " |
| novice | un novice ** |
| novice * | un novice ** |
| *now* * | maintenant |
| number * | un nombre ** |
| nun * | une religieuse ** |

| | |
|---|---|
| nun * | une seur religieuse (sister)** |
| nut | o |
| nut * | o |
| oblate | o |
| oblate * | o |
| oil | huile |
| old * | vieux / vieille ** |
| onion | oignon ** |
| *open* * | ouvert (adj) / ouvrir (to) ** |
| ordo | o |
| ordo * | o |
| organ * | o |
| over * | fini (finished)** |
| over * | par-dessus (location) |
| *ox* | un boeuf ** |
| pail * | poele |
| paint * | la peinture ** |
| *paper* | papier |
| paste | pate (as in liver pate)** |
| patch * | une piece (noun) ** |
| pax * | o |
| pax, instrument of the | o |
| peace * | paix ** |
| peach * | peche ** |
| pear | une poive ** |
| penance * | o |
| penknife | canif |
| permission * | permission ** |
| pick (to) | ramasser |
| *pick* * | choisir (to choose) ** |
| picture * | une image ** |
| pig | cochon |
| pin | o |
| pipe * | un tuyanu (water pipe) ** |
| pipe * | une pipe (smoker's pipe)** |
| plate | assiette / un plat ** |
| please * | sil te plait (informal)** |
| please * | sil vous plait (formal) ** |
| pluck | plummerer (feathers)/arracher** |
| plum | une prune ** |

| | |
|---|---|
| *poor* | pauvre |
| pope | pape |
| pot | un pot ** |
| potato | un pomme de terre** |
| pound * | use kilos ** |
| pour * | o |
| *pray* | prier |
| *prayer, mental prayer* | un prier ** |
| president | president |
| prime | premier / apogee ** |
| prime * | premier / apogee ** |
| *print *| imprimer ** |
| prior | avant (before) ** |
| professed | professeur |
| prostration | o |
| prostration * | o |
| psalm | un psaume ** |
| pull (to) * | tirer ** |
| pull up | o |
| purple | violet |
| *push (to) *| pousser |
| put away (to) * | ranger ** |
| quarter | euro centiemes (cents) ** |
| *question *| *une question ** |
| quick | vite |
| quick | rapide |
| quickly | rapidement ** |
| *rain* | pleuvoir (to) / la pluie (rain)** |
| rake | un rateau ** |
| rank | o |
| razor | un rasoir ** |
| razor * | un rasoir ** |
| *red* | rouge |
| *red *| rouge |
| relics | un vestige ** |
| religious | religious ** |
| *remain (to)* | restez (to stay) |
| remedy | o |
| reprimand | reprimande ** |
| right * | correct ** |

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| | |
|---|---|
| ring (a) | une bague ** |
| ring (to) (to ring a bell) | sonner ** |
| ring (to) * | sonner ** |
| ripe | o |
| ripen (to) | o |
| rising, signal for rising | o |
| rock * | une pierre ** |
| room * | une chambre / une salle **, piece (noun) ** |
| roots | les racines ** |
| rosary | o |
| rubber (footwear) * | o |
| rule | une regle (a rule) ** |
| rule | reguler (regulate) ** |
| rule * | gouverner (to govern) ** |
| sacraments, last | un sacrement ** |
| saint | un saint ** |
| saint * | un saint ** |
| salad * | salade |
| salt | sel |
| salt-cellar | o |
| *same as* | pareil / meme ** |
| *sand* | sable |
| saw (tool) | o |
| scale * | une echelle ** |
| scales | o |
| scissors | les ciseaux ** |
| scold (to) | reprocher ** |
| screen * | un ecran ** |
| seal | o |
| secular | o |
| *see (to)* | voir / regarder ** |
| seed | o |
| *separate* * | separer |
| *serpent* | un serpent (snake) ** |
| serve (to) | servir (at restaurant) ** |
| service | le service ** |
| sew * | o |
| sext | o |
| sext * | o |
| shame | honte |

| | |
|---|---|
| shave (to) * | raser ** |
| shoe | chaussures |
| shoemaker | o |
| shovel | une pelle / une truelle ** |
| shower * | une douche ** |
| shut off (to) * | eteindre ** |
| sick | malade / sentir pas bien ** |
| sick * | " |
| sickle | |
| *sign* * | un signe ( a sign) ** |
| silk | o |
| sing (to) | chanter ** |
| sister * | soeur |
| skip it * | o |
| sleep (to) | dormir / la sommeil (noun)** |
| sleep (to) | coucher (se..) |
| sleepiness ** (not in CSL) | sommeil / dormir ** |
| small * | petit(e) |
| *snake* | serpent |
| snuff | o |
| soap * | le savon ** |
| socks | chaussettes |
| socks * | " |
| soft | doux |
| *soldier* | soldat |
| soon | bientot |
| *sorry* * | desole / regretter (to be) ** |
| soul | ame |
| soup | potage (stew) / la soupe ** |
| sour | o |
| spade | o |
| *speak (to)* | dire |
| *speak (to)* | parler |
| spectacles | lunettes (glasses) / spectacle (show)** |
| *spoon* | cuiller, cuillere |
| *spread (to)* | ecarter |
| stairs * | les escaliers ** |
| stamp *, postage, tone ** | un timbre ** |
| stand (to) | tienir ** |
| stand up (to) | se lever ** |

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| | |
|---|---|
| stocklings | o |
| stole | voler (to steal) |
| stone | pierre (like rock) ** |
| strong | fort(e) |
| *strong* | pouvoir (power) ** |
| sub-prior | o |
| sugar * | sucre |
| sweep * | balaier (to sweep) ** |
| sweet | gentil(le) (kind, nice)** |
| sweet | doux (sweet)** |
| table | table |
| take (to) | eloigner / prendre ** |
| *tall* | grand(e) |
| tea * | the |
| *tear (to)* | dechire |
| telephone * | telephone |
| *tell (to) * | dire / racounter ** |
| ten wheeler (truck) * | o |
| *thank (to)* | remercier |
| *thanks* | merci / merci bien ** |
| thanksgiving | o |
| thick | epais |
| thin | maigre, mince |
| thin * | " |
| *this * | ce, cette, ces, cet, celui..** |
| thread | un fil (cord) ** |
| thurible | o |
| tie (to) | o |
| tierce | o |
| tierce * | o |
| time * | le temps ** |
| tired | fatigue |
| *tomorrow* | demain |
| tongue * | la langue ** |
| tool | un outil ** |
| typewriter * | ordinateur (computer) ** |
| ugly | laid(e) |
| *understand (to)* | comprendre |
| unload (to) | o |
| unloaded (to be) | o |

| | |
|---|---|
| up * | haut (au) |
| useless | inutile ** |
| vegetable | un legume ** |
| vegetable * | un legume ** |
| vessel | o |
| violet * | voilet (purple) ** |
| *vote* * | voter |
| wait * | attendre |
| want (to) * | vouloir |
| wash (to) | laver |
| water | eau |
| water (to) | arroser ** |
| wax * | o |
| week | semaine |
| *well (good)* | bien ** |
| wet * | mouille(e)** |
| *what* * | quoi? , comment - how |
| what * | qu'est-ce |
| wheel * | o |
| wheelbarrow * | o |
| where * | ou ** |
| white | blanc |
| wild * | sauvage ** |
| wind * | vent |
| window * | fenetre |
| wine | vin |
| wing | aile ** |
| woman | femme / dame ** |
| wood | le bois ** |
| *work* | travail,travailler (to work) |
| wrap (to) * | emballer ** |
| *write (to)* | ecrire |
| yard (of monastery) | o |
| year | une annee,  un an |
| yellow | jaune |
| young | jeune |

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# Appendix B:

## Screening of CSL-LSF-ASL-ISL-JSL Lexical Signs for Selection of Sample

(1st 3-sheets row from 16 of 3-sheets rows)

AUTHORIZED LIST OF SIGNS FOR THE CISTERCIAN ORDER -   BASIC SIGNS
**\*** AUTHORIZED LIST OF SIGNS FOR ST. JOSEPH'S ABBEY:  BASIC SIGNS

\*\* additions from Emily Haynes' French translation
brown = similarity/sameness between CSL and ASL
*blue* = similarity/sameness between CSL, LSF and ASL
green = similarity/sameness between CSL and LSF
red = possible initialization from French word
orange = similarity/sameness between LSF and ASL
purple = same/similarity among CSL, LSF, ASL and ISF as well as same between CSL & ISL-
            raise questions/issues about iconicity across different languages
bigger font = same or very similar;    regular font = similar / pretty
similar

| English words | Old ASL (1919/1944) | Modern JSL | French words |
|---|---|---|---|
| abbot | | | o |
| about \* | | | au suject de \*\* |
| acid | | | acide \*\* |
| acolyte | | | o |
| acolyte \* | | | o |
| afraid \* | | | avoir peur (to have fear)\*\* |
| afraid \* | | | effraye (scared) \*\* |
| afraid \* | Pg. 114 -  5/5 backward to chest | different | craintif/craintive \*\* |
| after | Pg. 129 - B/B forward. "Old AFTER" sign | different | apres |
| air \* | | | o |
| all | Pg. 34 - same as Modern ASL | different | tout / touts les choses \*\* |
| amice | | | o |
| amice \* | | | o |
| animal | | | animal \*\* |
| animal | | | bete (beast\*\*) |
| apple | | | pomme de terre \*\* |
| apple \* | | | o |
| apron | | | un tablier \*\* |
| *around* \* | Pg. 170 - same as Modern ASL | different | autour de \*\* |

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| Indian Sign Language | CSL to LSF word to LSF Dictionaries |
|---|---|
| | o |
| | o |
| | o |
| | o |
| | o |
| | avoir = have - B8,85;  L11,5,  P15, 10 |
| | o |
| different | craindre = to worry -  P15,20 |
| similar to ASL, not CSL or LSF | Lam 13,14 (X),  Lambert 15,13b (similar - 1 mov.), Pel 20,7 (same - repeated mov.) |
| | o |
| different | L 5,9 (similar to ASL's WHOLE with hdshps of 5/5 tapping top to bottom) |
| | o |
| | o |
| | o |
| | Lam 7,4 |
| | Modern ASL (X) |
| | o |
| | o |
| o | P 19, 13 (rhd 1 around lhd 0 - similar to old ASL sign) |

| CSL-LSF signs | CSL-ASL signs | CSL-LSF-ASL | LSF-ASL |
|---|---|---|---|
| o | o | | |
| o | different | | |
| o | o | | |
| o | o | | |
| o | o | | |
| o for afraid | different | | |
| o | different | | |
| B, L, P-diff, | similar to our gesture | none | Same loc, diff mov |
| same | different | | |
| o | different | | |
| different | similar - different movement | different | different |
| o | o | | |
| o | o | | |
| o | different | | |
| different | different | | |
| different | different | | |
| o | different | | |
| o | different | | |
| similar | similar - 1 hd vs 2 hds | similar | SAME - old ASL sign |

**Appendix C:**

**Sample of "CSL-LSF-ASL Analysis Worksheet"**

with the lexical sign of BLACK

Lexical Sign:  BLACK

|  | Page | R-hd | L-hd | Loc. | Orient. | Mov. | Initial. | Iconic. |
|---|---|---|---|---|---|---|---|---|
| Modern ASL | 121 | 1 | - | forehead | R-down | to right | No | Poss. |
| Old ASL | 123 | 1 | - | forehead | R-down | to right | No | Poss. |
| CSL | 95 | 1 | - | under nose | R-down | to right | No | Poss. |

French word:  *NOIR*

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| LSF: Brouland | NA | | | | | | | |
| LSF: Pélissier | 10, 22 | 1 | - | forehead | R-down | to right | No | Poss. |
| LSF: Lambert | 9, 20A | 1 | - | forehead | R-down | to right | No | Poss. |
| LSF: Modern | 118 | 1 | - | forehead | R-down | to right | No | Poss. |

Indian Sign Lang.    NA

Japanese Sign Lang.    Different

Borrowing

| | |
|---|---|
| CSL-LSF-ASL-ISL-JSL | NA |
| CSL-LSF-old ASL | similar |
| CSL-LSF-modern ASL | similar |
| CSL-LSF | similar |
| CSL-ASL | similar |
| LSF-ASL | same |

Author's notes:  Clearly all lexical signs share the same handshape, orientation and movement. The CSL lexical sign refers to the color of the mustache.

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