

Emphatic fingerspelling as code-mixing in American Sign Language

Kathryn Montemurro & Diane Brentari*

Abstract. In this paper, we propose a view of fingerspelling in American Sign Language (ASL) not only as cross-modal lexical borrowing (Padden & Gunsauls 2003), but also as code-mixing. Using corpus data from public online video sources, we show that fingerspelling can be utilized for pragmatic and sentential purposes aside from the more generally cited uses (e.g. personal names, technical terms, gaps in the lexicon). Namely, it may be used to put emphasis on a particular word, generally in focus constructions. This motivation for fingerspelling is used with items which have a well-attested lexical alternative. In these cases, fingerspelling is not necessary but rather driven by its function in the discourse.

Keywords. bilingualism; language contact; code-mixing; fingerspelling; sign language; American Sign Language

1. Introduction. Fingerspelling, a contact phenomenon found in most sign languages, utilizes a manual alphabet as a visual-spatial means of representing spoken language vocabulary (Battison 1978, Wilcox 1992, Brentari & Padden 2001). Most sign languages tend to have high degrees of spoken language contact and bilingualism as they are situated within a large, dominant oral community (Lucas & Valli 1992).

In general, fingerspelling is often used for personal names, place names, brands and so forth. It is used to fill in gaps in the lexicon. For instance in highly specialized fields (e.g. linguistics), not all technical terms may have a sign. However, if a lexical sign exists, fingerspelling is no longer a necessity, in that it is not providing a means to express a concept or form a word. When presented with a redundant fingerspelling i.e. a fingerspelled item that has a sign alternative in the lexicon, this constitutes a lexical choice. This study investigates what drives the use of fingerspelling in American Sign Language (ASL) when there is a well-attested lexical sign to select from. Utilizing a corpus of fingerspelling in natural discourse, we look at the motivation behind the use of fingerspelling outside of necessity and borrowings. Here we analyze this use of fingerspelling in a specific function: to make a word or specific meaning prominent within an utterance, generally in focus constructions.

1.1. FINGERSPELLING AS CODE-MIXING. Though widely recognized as a contact phenomenon, fingerspelling is not generally discussed within the context of code-mixing¹ (though code-blending has been attested in sign languages (Emmorey et al. 2008, Bank et al. 2016a, 2016b)). Code-mixing, defined broadly, is the mixing of two or more languages (or dialects), within a sentence or a discourse. Additionally, in code-mixing, intra-sentential mixing of a lone word or fragment between two or more languages via insertion is possible according to Muysken's (2000) typology. Structurally, insertion is a type of code-mixing within a sentence in which either a lone lexical item or entire constituent is embedded into the structure of another language as in (1) with the insertion of an English phrase into the Spanish matrix structure.

* We would like to acknowledge the Toyota Technical Institute of Chicago (TTIC) and Kim et al. (2017) for collecting and compiling the corpus data. Authors: Kathryn Montemurro, University of Chicago (kmontemurro@uchicago.edu) & Diane Brentari (dbrentari@uchicago.edu).

¹ We follow Muysken (2000:1) in using code-mixing as a more general term 'to refer to all cases where lexical items and grammatical features from two languages appear in one sentence,' rather than code-switching.

- (1) Spanish-English insertion (Pfaff 1979:296)
 Yo anduve *in a state of shock* por dos días.
 ‘I walked in a state of shock for two days.’

We argue that this insertion of a single element, either lexical or phrasal, could be extended cross-modally to a single fingerspelled word or phrase in ASL. We differentiate between borrowing and code-mixing by analyzing only instances where the fingerspelled item has a lexical sign alternative and is not an attested borrowing² which will be discussed further in section 3.

Furthermore, pragmatic accounts of code-mixing delineate many higher level discourse functions and motivations behind code-mixing based on information content (Mysín & Levy 2015). Code-mixing can serve to mark information as important, new, or to direct a change in topic (Muñoa Barredo 1997), meaning it can serve to mark focus, topic, or general emphasis (see section 2). Code-mixing is even argued to increase salience in and of itself (de Rooij 2000). As such, it is argued that, along with other familiar resources like syntax and prosody, the choice of language can project focus and mark the information in a discourse as prominent. This suggests that even the language choice itself can serve to carry out focus or topic-marking functions.

In this study, we find evidence of fingerspelling used as a resource to put emphasis on a word, generally either putting it into focus or through topicalization. On the whole, this prominence or separation of the fingerspelled item follow pragmatic analyses of code-mixing. As such, we put forth a view that fingerspelling, while often used in borrowings or as an avenue for word formation (Brentari 2001) can be indicative of code-mixing (Muysken 2000).

This paper is organized as follows. In section 2, we discuss the structure of focus and prominence in spoken language and in ASL. In section 3, we detail the corpus collection and analysis, and section 4 outlines the instances of emphatic fingerspelling in the corpus. In section 5 we discuss the results of our study with in regards to code-mixing and other contact phenomena in sign languages.

2. Prominence and information structure. In this paper, we look at prominence as a factor of information packaging. Information structure notions of prominence tend to involve focus or topic constructions, in which new information contrasts with given information. Given information means information that has already been discussed or presented (Prince 1981). In general, new information in a discourse will be accented and can be focused whereas given information cannot (Selkirk 1984). Focus affects the meaning of a sentence and can be used to distinguish among possible interpretations of a single sentence. A focused sentence also introduces a set of alternatives which contrasts with the standard semantic meaning of an utterance according to Rooth (1985). In general, focus makes a particular word or interpretation prominent.

Prominence in a language can be realized in a variety of ways. Specifically, focus tends to be realized prosodically (e.g. through a pitch accent), syntactically (e.g. clefting), or both. In particular, phonological prominence is often associated with focus and prominence. In English this includes a higher pitch, a longer duration, or a louder articulation (Katz & Selkirk 2011). Different ways of pronouncing a sentence or different structures will alter the sentence meaning. In the following section, we discuss how this information structure is shown in ASL.

2.1 FINGERSPELLING AND PROMINENCE. Like spoken languages, prominence in sign language is indicated by two main resources: syntactic movement and nonmanual markers (NMMs). Though

² We utilize online dictionaries such as <http://www.lifeprint.com/> and <https://www.signingsavvy.com/> which list fingerspelling as the citation form (or alternate forms) for entries that have been borrowed into ASL.

Prosodically, NMMs are the chief way to express focus, topic, and emphasis. In general, NMMs serve to pronounce a word or phrase, and indicate a particular interpretation of a sentence. Though there are many uses for other grammatical reasons, we focus solely on how NMMs lend prominence to a constituent. While certain semantic operators (e.g. emphatic focus, contrastive focus, information focus) may require particular prosody (Wilbur 2012), we are not as concerned with the type of focus per se, but rather with the general means and resources ASL uses to express them. We outline the main resources for prosodic prominence marking but do not expand much further on their particular uses.

(2) a. $\overline{\text{ELINOR DOCTOR NOT}}^{\text{BR}}$
 ‘It is not the case that Elinor is a doctor.’
 b. ELINOR NOT DOCTOR.
 ‘Elinor is not a doctor.’

Additionally, the combination of NMMs can be used together to follow the meaning of the sentence. In (3), we see how NMMs are used to for contrast. While single body leans (usually forward leans) are utilized for emphasis, opposing leans are used in contrastive structures. In (3), we have a backwards lean (BL) and forwards lean (FL), in which the forward lean corrects the assumption of the interlocutor, in which DEATH is replaced by BET.

- ³ Both examples in this section from Wilbur (2012).

3

For the purposes of our study, as the focus NMMs and sentence-final, sentence-initial, and doubled positions are well-attested in ASL, we can utilize them as markers of emphasis with fingerspelled items to help determine if the item is in focus, or meant to show prominence.

2.2. FINGERSPELLING AND PROMINENCE. As mentioned previously, fingerspelling is a contact phenomenon. As a foreign means of encoding written language, fingerspelling is already a distinct element in a sentence in its contrast with native vocabulary. Additionally, it is phonologically prominent in that it violates the phonological constraints of sign languages by having more than two handshapes within one sign (Sutton-Spence, 1994). Both foreign and set apart phonologically, fingerspelling offers a useful and efficient means of putting prominence on a word.

This is even attested with some lexicalized fingerspellings. We find that fingerspelling is used for emphasis in cases that have both a lexical sign and a lexicalized fingerspelling. This is true of *wh*-words in ASL where the two items, both the native and borrowed form do have a trade-off of use. The lexicalized fingerspelling is reserved to add pragmatic force to the expression, generally for emphasis, surprise, and even shock (Fischer 2014).

Overall, following pragmatic accounts of code-mixing, not only is fingerspelling prominent on account of its foreign status, but signers can also utilize phonological and prosodic means to further emphasize a fingerspelled item.

3. Methods. We use a corpus of highly naturalistic data compiled by Kim et al. (2017) in an ongoing study. Videos of ASL signers were mined from public, online sources, all available on YouTube. They were taken predominantly from video sources such as vlogs on deaf-run, deaf-centered channels like *ASLized*, *DeafVideoTV*, and *ASL That!*. These are all popular forums for the deaf community to post in. Given the nature of the vlogs and YouTube channels from which the data is predominantly collected, the intended audience of these posts are deaf community members. This allows insight into natural discourse directed to other fluent signers of ASL. Additionally, videos were taken from public lecture series and interviews in which ASL is the target language utilized.

At the time of analysis, the corpus had 216 videos ranging in length from 1-30 minutes, giving us a total of 7483 fingerspelled tokens. The overall distribution of frequently fingerspelled items aligns with proposed functions of fingerspelling in the literature. The top five most common fingerspelled tokens – out of the entire corpus, not just the portion we have categorized – are either lexicalized fingerspellings or acronyms (ASL, #OR, #SO, #OK, #IF) which make up roughly 15% of the corpus. In fact, lexicalized fingerspellings in general total 1111 instances. Aside from lexicalized fingerspellings and acronyms or abbreviations, the next most common items include lexical gaps being filled, generally in the form of nominals. These include proper names, science or technology vocabulary, and highly specialized terms. However, in section 4 we will discuss less frequent and much less expected tokens and their motivation, which, while not comprising the majority of the corpus do give us great insight into the role of fingerspelling in ASL.

3.1. PARTICIPANTS. All videos are of highly fluent, daily users deaf signers of ASL as judged by the research team at the Toyota Technological Institute at Chicago. Though some signers may be included with multiple videos, there is data from over 150 different signers in the corpus. While no other metalinguistic data is available, these signers come from different regions and backgrounds, thus giving a more representative nature to the corpus. This allows insight into how various sociolinguistic profiles (e.g. whether born to hearing or deaf parents, degree of

bilingualism, varying degrees of identification with both the hearing and deaf communities) affects language structure and use, and how these may result in code-mixing. By using naturally occurring corpus data from signers with sociolinguistic variation, we see signers as they sign in their day-to-day lives, as posts are aimed at a predominantly deaf audience.

3.2. ANALYSIS. Annotations were made in ELAN which first isolated each of the fingerspelled items in a video. These were then exported and each of the items in the corpus was categorized as to whether it had a lexical alternative. In our study, we include only fingerspelled items in which the fingerspelling is neither necessary nor attested. That is to say, fingerspelled items were included if they have a known lexical sign alternative. We define *known lexical alternative* as having a clear dictionary entry for the sign that is attested in daily use. We consulted online dictionaries⁵ and native signers of ASL to check that each fingerspelled item in our data set has a lexical sign as its preferred counterpart. Items were excluded if they were known borrowings or lexicalized fingerspellings⁶, meaning if the fingerspelled version was preferred or acceptable in general contexts. Some signs have both a lexical sign and a lexicalized fingerspelling, and both of which are acceptable and frequently used (e.g. #PEN rather than PEN, or #CAR for CAR⁷), which were also excluded. In general, if items were thought to be fingerspelled, or the fingerspelled item was equally as acceptable as the lexical sign, they were excluded.

Additionally, if multiple signers in the corpus used the same fingerspelled item in different contexts then that was excluded on grounds of dispersion. Though code-mixing and borrowing are by no means mutually exclusive, we take a conservative view on dispersion so as to avoid conflating the two. We focused solely on unique and redundant fingerspelled items, meaning fingerspelled items which did not need to be fingerspelled.

Any fingerspelling deemed to have a clear lexical alternative was then further annotated in ELAN for surrounding context in which they occurred. This includes a full gloss of the utterance itself and where necessary, the utterances before and after the item were also glossed. We then utilized the markers of focus detailed in section 2 to determine whether a fingerspelled item is being used for prominence. Any NMMs that occurred on the fingerspelled item or in the surrounding context were coded in ELAN as well as sentence-position. We then analyze items as being prominent based on the use of NMMs, the sentence position, and the type or role of the construction (e.g. if the fingerspelled item is used to contrast a lexical item), as discussed in section 2.

4. Results. We find fingerspelled items used over their lexical counterpart for prominence in a variety of focus and topic constructions. In particular, we most often find emphatic and contrastive focus. While not used by all signers in our corpus, use of emphatic fingerspelling is widespread in that it is not coming from a single, idiosyncratic signer. The following results are not meant to be exhaustive but rather to illustrate the range of uses of fingerspelling in emphatic contexts.

⁵ <http://www.lifeprint.com/> and <https://www.signingsavvy.com/>

⁶ Lexicalized fingerspelling, denoted by the #, is foreign vocabulary that has assimilated phonologically to become more like a native lexical sign. These are short 3-4 letter words (e.g. #PEN, #BUS) which delete some letters, or add transitions for a single, smooth movement rather than spelling out each letter (Brentari 2001).

⁷ In both examples, the fingerspelled item is encouraged over the lexical item on the online dictionary www.lifeprint.com (at <http://www.lifeprint.com/asl101/pages-signs/p/pencil.htm> and <http://www.lifeprint.com/asl101/pages-signs/c/car.htm> respectively).

The most common usage of fingerspelling we find is for general emphasis. We find use of stressed and prominent fingerspelled items in focus constructions, used to emphasize a key point or word. These fingerspelled items come sentence-finally, and are accompanied by focus NMMs. One such example comes from a video in which a signer discusses Tom Harkin, a U.S. politician who recently taught the sign AMERICA at a public speech. In this video, the signer explains that Donald Trump does not understand the true meaning of the sign, which is one of unity. In describing Trump, the signer explains that he feels as though Trump is evil. Here, E-V-I-L appears in the sentence-final position with a strong lean forward at the end and is preceded by a pause. It is clear that the signer wishes the audience to understand that Trump is not just bad, but *evil*. Fingerspelling strengthens the interpretation of the utterance, allowing the signer to truly depict how severe and dire they find the post-election fallout.

- (4) T-R-U-M-P NOT SEE SIGN, FEEL LIKE SPEECH, E-V-I-L^{FL}
 ‘Trump didn’t see the sign, I feel like he gives speeches and it is evil’

Furthermore, in (4), we have a case of a fingerspelled proper name, T-R-U-M-P, and a fingerspelled word, E-V-I-L within the same utterance. Looking to NMMs, we have T-R-U-M-P fingerspelled neutrally, with no NMMs on the face or body. However, when we get to the utterance final E-V-I-L, we have a strong lean forward. This provides a clear juxtaposition of the use of NMMs to emphasize a fingerspelled item, where as the standard use of fingerspelling for a non-focused proper name does not merit them, nor does it require the grammatical function of focus NMMs.

In another example from a different signer, we have the fingerspelling B-E-A-C-H used over the lexical sign BEACH. Again, as in (4), while the lexical sign is not present in the discourse, it is a common sign with a clear lexical alternative. In the discourse, the signer is explaining the stereotype that black people cannot swim, and comparing it with his own experience growing up. He emphasizes that over the summer, the place that he and his family went was the beach, clearly a place that one tends to go with the purpose of swimming. This focus of beach contrasts with the expectations and false beliefs his video is set to undermine.

- (5) MY FAMILY GO-GO EVERYDAY B-E-A-C-H, YES^{HN,BR} YES^{HN}
 ‘My family went to the beach everyday’

In (5), we have both an eyebrow raise and a head nod over the focused B-E-A-C-H, as well as the sentence-final position. The fingerspelled item is also followed by an emphatic YES with another head nod, often a marker of stress to highlight an important point. Together in both (4) and (5), we find that the signer puts stress on the fingerspelled items to convey crucial information in the discourse.

In line with emphatic focus, we see not only a construction with clear NMMs, but the continued use of the fingerspelled item in two consecutive utterances, with similar structures in (5). This repetition, though not in a single utterance, lends weight to the words. It is important to note here that WORD is a not only well-known, highly attested sign with no known tendency to be fingerspelled, but the signer uses the lexical multiple times elsewhere in the discourse, outside of this focused context. It is only in this particular context she switches to fingerspelling.

When discussing closed captioning in a presentation about technology and accessibility, a signer discusses her initial reaction to seeing words on the screen for the first time. The use of fingerspelling repeated in both sentences conveys the awe felt at being able to access content on

the screen, putting both the words themselves and their effect on the signer into focus. While the video centers around the improvements that can still be made to closed captioning, the signer pronounces that, when closed captioning first came out as a resource, she was simply amazed that these were accessible and is emphasizing patience for their improvement.

- (6) a. IX:1 GRAB-EYES THAT ^{FL, BR, Eyes Wide} W-O-R-D-S IX:3.
 ‘I was just fascinated that there were words there (on the screen)!’
 b. DREAM, AMAZING, ^{BR} W-O-R-D-S SENTENCE.
 ‘It was a dream (to think of) words.’

Aside from the repetition of the fingerspelled item, there is a strong eyebrow raise, pronounced forward lean, and even a slower speed to emphasize the fingerspelled item on the first instance in (6a). The wide eyes may also add affect. The second fingerspelled instance reduces the NMMs but still clearly involves raised eyebrows. The fingerspelled items in (6a) are juxtaposed with an ASL idiom (GRAB-EYES), which in and of itself is about something grabbing one’s attention, or really drawing a person’s focus. The connection to English and closed-captioning could also be influencing the use of fingerspelling in this construction. Put together, these two instances clearly focus the *words* on the screen.

Much like the case in (6), signers will often use the lexical item within the discourse. Other times, the fingerspelled and lexical items are used sequentially within a pair of utterances. Note that these are not cases of well-known borrowings, nor are they attested to have both a fingerspelled and lexical item. As such, the alternation cannot be motivated by free variation, but rather, how they function in the discourse.

One such motivation for this alternation is for contrastive purposes. In one video, a deaf actor from the series *Switched at Birth*, signing with a deaf interviewer, discusses other artistic endeavors, which include writing. He signs the following two sentences one after the other as given in (7). We find the fingerspelled S-O-N-G-S used emphatically in (7a) but signed lexically in (7b). Here, the signer contrasts poetry with songwriting, and their relevance to deafness and deaf culture, giving us a contrastive focus construction.

- (7) a. I NOT WRITE ^{NEG} S-O-N-G-S, I P-R-O-F-O-U-N-D-L-Y DEAF D-E-A-F.
 ‘I don’t write songs, I’m profoundly deaf.’
 b. ^{LEX, LL} HOW CAN WRITE SONG, ^{BR, RL} CAN WRITE P-O-E-M⁹
 ‘How can I write songs, I can write poems.’

This construction uses body leans to show the signer replacing the incorrect assumption (that he writes songs) with the contrasting and correct item (poems). The NMMs serve to contrast the two possibilities, leaning opposite directions. To add to the contrast, there is a headshake for negation on the first instance in (7a). The negation on the first instance of *song* contrasts with the

⁸ LL means left lean, and RL stands for right lean. Contrasting body leans are often used in contrastive focus structures (Wilbur 2012).

⁹ The signer in (6a) uses the English plural morphology of -s, where ASL does not have any such plural morphology but rather relies on quantifiers and numerals, or leaves the signs underspecified for number. In (6b) however, there is no use of the plural. However, this difference remains outside the scope of this paper as more work is needed on the morphological integration of English inflectional morphology in fingerspelling.

affirmation of poetry being the actor's medium of choice, with a pronounced eyebrow raise as if to serve corrective purposes. The negative headshake in (7a) only spans the fingerspelled item, with an emphatic dismissal of the idea of writing songs.

This contrast of lexical and fingerspelled items follows the concepts of new information vs. given information, i.e. previously discussed information (Prince 1981). In addition to contrasting fingerspelling with a lexical sign for prominence, note that the new information, the focused information, is fingerspelled in each of these constructions (S-O-N-G in (7a) and P-O-E-M in (8b)). The concept of 'song' is only new in (7a), and given in (7b). In (7b), as SONG is given, the lexical item is used, and P-O-E-M comes into focus.

Another use of fingerspelling for information structure purposes is seen in (8). Unlike (7) in which fingerspelling was used on new information, this instance of fingerspelling follows the lexical sign. As such, in addition to focus, we find evidence that fingerspelling can differentiate new and given information and be used in topic constructions. In one video example, a signer discusses unity and judgment amongst diverse groups of people. We find the signer using both a lexical item and a fingerspelled item for the same concept within the same video. When discussing whether or not we should use our brain or our heart in interaction with others, we have the fingerspelled J-U-D-G-E. In this case, we have the lexical item JUDGE occurring just in the previous utterance in the discourse. Below in (8a) and (8b), we have these two examples in the order they were signed. Both of the fingerspelled items occur sentence-initially and all emphasized elements also have a forward lean and eyebrow raise.

- (8) a. $\overline{\text{N-E-V-E-R}}^{\text{FL, BR}} \text{ JUDGE. } \overline{\text{THINK EQUAL}}^{\text{FL, BR}}$
 'Never judge (others), you should think you are equal'
- b. $\text{STOP } \overline{\text{J-U-D-G-E}}^{\text{FL, BR}} \text{ STOP, PLEASE WORK WITH LOTS-OF-PEOPLE, UNITY}$
 'Stop judging please and work with everybody in unity'

In (8b) we have a topic emphasis of old information (JUDGE), previously signed with the lexical item in the discourse. The old information fingerspelled with the topic marking NMMs, while the force of doubling of STOP emphasizes the command of it. In (8a), the prominence was on the fingerspelled item of N-E-V-E-R, rather than *judge*. It is particularly interesting to look at contrastive structures as in (7) and (8) which show an asymmetry of lexical item and fingerspelled item, in which newness and givenness play a role in their use.

In addition to the alternation between lexical and fingerspelled forms of JUDGE, we find emphasis on such concepts as *never* and *stop*, as the signer urges the audience to refrain from doing these things. However, both are accentuated with two different resources. In (8a), we have a fingerspelled item, N-E-V-E-R with NMMs while in (8b), there is a reduplication of STOP. Reduplication is often employed for emphasis (Lillo-Martin & Müller de Quadros 2005, Wilbur 2012). We thus see two resources for emphasis employed: fingerspelling (8a) of N-E-V-E-R and reduplication (8b) of STOP. These pose a nice juxtaposition to one another as ways the signer stresses an important point, imploring his audience to work toward equality.

5. Discussion. Overall, our results suggest that fingerspelling may be chosen over a lexical item to fulfill various higher-level functions in a sentence or a discourse. Mostly, we find the use of fingerspelled items which have a generally preferred lexical alternative in structures related to prominence and information packaging. We show that fingerspelling is used to contrast, to emphasize, and to highlight new or even given information. It is a productive and meaningful way

of emphasizing a word and the fingerspelled alternative is used only in special instances. Many signers even use the lexical item at another point in the video, in contexts which are not focused, but rather the more standard use. While our results are by no means exhaustive, this paper merely aims to examine an unexpected use of fingerspelling and highlight the interplay between fingerspelling and information structure in ASL. By illustrating environments where language contact affects the packaging of emphasis, code-mixing becomes a resource in and of itself. Additionally, this variety shows that the phenomenon is not limited to a single construction or a single signer, but is a viable resource for asserting prominence.

Furthermore, this use of fingerspelling is in lieu of the many resources that ASL signers have to emphasize a word or phrase. It is also used in conjunction with native NMMs. While signers do utilize ASL NMMs (akin to spoken language intonation) in conjunction with the fingerspelled item, code-mixing is generally said to maintain the phonology of the original language. However, this is not possible cross-modally. In fact, this use of focus NMMs helps us better identify these types of constructions. Thus, language contact across modalities calls for a reconsideration of code-mixing.

Our findings also suggest fingerspelling may serve a secondary purpose, to emphasize not only the word, but the corresponding English meaning as will be discussed in the following section as will be discussed in section 5.1..

5.1. SPECIFYING AND ALTERNATIVES. Emphatic uses of fingerspelling can also be used to make a specific English connotation or semantic meaning prominent. Fingerspelling may even provide a pragmatic function in which the English word aligns more closely with the desired meaning. According to Rooth (1985), a focused sentence introduces a set of alternatives which contrasts with the standard semantic meaning of an utterance. As such, introducing a fingerspelled item introduces narrows the set of possible meanings for the sign. While we discuss these fingerspelled items as redundant in that they overlap with a lexical sign, some of our tokens could be considered non-redundant in that they specify a particular English interpretation as fingerspelling maps to an English word which occupies its own semantic domain. This mapping may or may not overlap with that of the native sign item in the ASL lexicon. This could be another function of choosing a fingerspelled item over the lexical item. For instance, one of our previous involves the fingerspelled item E-V-I-L, given again in (9).

- (9) T-R-U-M-P NOT SEE SIGN, FEEL LIKE SPEECH, E-V-I-L^{FL}
 ‘Trump didn’t see the sign, I feel like he gives speeches and it is evil’

The emphasis here is that Trump is *evil*, in that he is not just bad, but truly terrible. However, there are a four different accepted signs available in the dictionary to mean ‘evil’ as given in figure 1. The sign in (a) involves the index fingers pointed up and slightly inward while circling, in (b) the clawed 3 hand bends up and down on right side of forehead, (c) involves both hands in the clawed 3, and in (d) the open flat hand begins at the mouth with the fingertips at the lips and then turns away as it goes down.

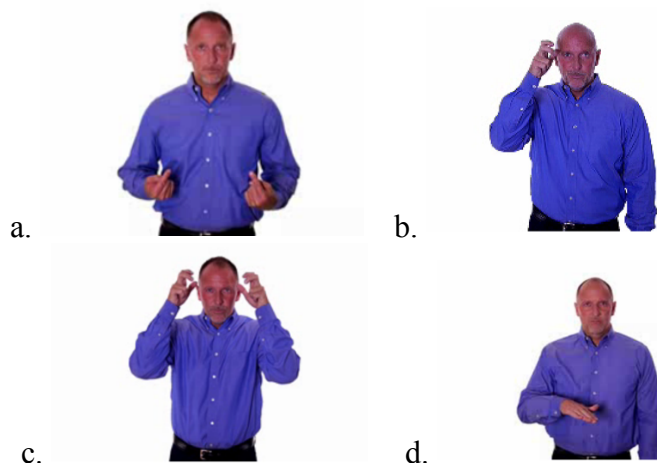


Figure 1. Variations for the sign EVIL¹⁰

Of these four signs, there can be some ambiguity. One sign may map onto multiple English meanings and vice versa. For instance, other possible meanings of the four signs include: (a) SIN, (b)-(c) DEVIL, MISCHIEVOUS, WICKED, RASCAL, (d) BAD, NASTY, NAUGHTY. It is also possible, that aside from focus, using a fingerspelled token E-V-I-L helps to specify the exact connotation desired by the signer. The use of the fingerspelled item makes the EVIL reading the only interpretation available. Thus while fingerspelling may be used to focus the denotation, it may also have the added effect of specifying the exact meaning from English, rather than the possibly ambiguous ASL signs, i.e. to specify EVIL rather than DEVIL or RASCAL. The use of fingerspelling narrows in on interpretations to make clear that the only meaning the signer intends is that of the fingerspelled item, that Trump is *evil*. He is not *bad*, not *mischievous*, but *evil*. The fingerspelling of ‘evil’ leads to a stronger interpretation than many of the alternatives for each of those signs, lending not only emphasis, but landing the audience on a specific meaning.

Importantly, it is not only the case the signs fingerspelled in focus all stem from a mapping ambiguity. It is also important to note that these are used for new information only, to establish the meaning in the discourse. For instance, while (9) had no other mention of *evil* in the discourse, in other cases we do have both the lexical and fingerspelled items present, in the contrastive structure given again in (10). Crucially, the signer uses fingerspelling and lexical items to distinguish *songs* from *poems*. Yet, the sign for SONG could also be conflated with the meaning *music* and the signer may want to specify that songs are used in the context of the hearing world, but the signer wishes to situate the interview in a deaf-friendly modality of poetry. However, in (10b), having established the exact meaning of the sign SONG/MUSIC as only referring to *song*, the signer then uses the lexical sign. The use of fingerspelling dispelled any such ambiguities.

- (10) a. I NOT WRITE S-O-N-G-S, I P-R-O-F-O-U-N-D-L-Y DEAF D-E-A-F.
‘I don’t write songs, I’m profoundly deaf.’
- b. HOW CAN WRITE ^{LEX}SONG, CAN WRITE ^{BR}P-O-E-M
‘How can I write songs? I can write poems.’

¹⁰ All signs taken from the entry for EVIL at <https://www.signingsavvy.com/sign/EVIL/1297/1>

Fingerspelling is used not only for emphasis of a word or phrase then, but may also restrict the semantic domain to specific English meaning or connotation even when both sign and fingerspelled item have a similar denotation. The switch for connotation is attested in spoken language code-mixing literature (e.g. Muñoa Barredo 1997, Muysken 2000, Torres Cacoullous & Aaron 2003). Given these functions behind the promotion of fingerspelling used over a lexical item, we analyze these instances as code-mixing by way of insertion, though further work is needed to better understand this specifying function. However, more work is needed on fingerspelling used to establish an English meaning as a referent.

5.2. EVIDENCE FROM CODE-BLENDING. Furthermore, we find parallels to the expressive power and semantic specification function of fingerspelled English items in bimodal bilingualism with the use of code-blends. Bimodal code-blends consist of manual signs and spoken language words articulated simultaneously (Emmorey et al. 2008).

A study on mouthings in Sign Language of the Netherlands (NGT) found, among many grammatical and pragmatic uses, a small number of non-redundant mouthings used by signers. Non-redundant is used to mean mouthings which are not linked to the manual signs. These non-redundant mouthings include mouthings which specify a different meaning than that of the co-articulated sign, isolated mouthings with no manual articulation, and added mouthings without their corresponding manual sign. These are not the conventionalized redundant mouthing which makes up the majority of mouth gestures. This leads Bank et al. to conclude that there is ‘code-blending continuum for NGT’ (2016b) as they are examples of mixed utterances.

More importantly, these mouthings are analyzed as *specifying mouthings* in that they signal a particular semantic interpretation of the manual sign. Unlike much of the redundant mouthing in the corpus, these non-redundant examples add their own distinctive meaning, with the specifying Dutch information layered on top of the manual sign.

(11) Code-blending in NGT with Dutch (Bank et al. 2016a:109)

Hands: CONTACT EASY CONTACT PT CONTACT

Mouth: makkelijk moeilijk

Mouth gloss: easy difficult

‘Contact [with deaf children] is easy, but contact [with hearing children] is difficult.’

In (11), the signer omits the manual sign for ‘difficult,’ and rather chooses to mouth *moeilijk* while signing CONTACT, to mark the contrast between contacting deaf and contacting hearing children.

While not conventionalized and only occurring in 12% of all utterances in the corpus, they are found to be used by nearly all signers in the corpus. Here, in the blending of non-redundant mouthing into the utterance, we find a parallel to the emphatic use of fingerspelling in ASL. Though it should be noted that mouthings and fingerspelling are not perfectly comparable in that mouthings and manual signs can be articulated simultaneously and the mouthing does not take the place of the manual sign as a focused fingerspelled item does, it does provide evidence that elements of spoken languages have an integral role in the sign language, with highly connected mental representations.

Crucially, according to Bank et al., they offer ‘the signer ways of expressing something that could also be expressed by manual signs alone or by non-manual expressions alone’ (2016b). That is to say there is an expressive power involved in the use of non-redundant mouthing and are subject to individual choice. Under the continuum of code-mixing then, fingerspelling offers another channel for expression (though with the same articulators rather

than a parallel oral articulator as in NGT).

6. Conclusion. This paper outlines an unexpected usage of fingerspelling within the ASL discourse in which a fingerspelled item is chosen over its highly attested and generally preferred lexical alternative. We focus on instances of fingerspelling used not out of necessity but rather as a lexical and stylistic choice to highlight the extended role that fingerspelling can take on. In arguing for the discourse value of fingerspelling, outside of borrowings and filling lexical gaps, we show that fingerspelling can function as insertion in code-mixing. This interacts with many information structure notions in the discourse. We find it used both as a means of putting emphasis on a word - in either focus or topic constructions - where the language already has pre-existing mechanisms (e.g. raised eyebrows, forward lean, sentence-final position etc.). In doing so, fingerspelling functions to narrow the semantic domain and introduce English alternatives which map to a specific English connotation. This understudied use of fingerspelling helps us better understand the role that fingerspelling performs in ASL, and we argue that it is more expansive than often analyzed.

References

- Auer, Peter. The pragmatics of code-switching: A sequential approach. In Leslie Milroy & Pieter Muysken (eds.), *One speaker, two languages: Cross-disciplinary perspectives on code-switching*. 115-135. Cambridge: Cambridge University Press.
- Bank, Richard, Onno Crasborn & Roeland Van Hout. 2016a. Bimodal code-mixing: Dutch spoken language elements in NGT discourse. *Bilingualism: Language and Cognition*. <https://doi.org/10.1017/S1366728916000936>.
- Bank, Richard, Onno Crasborn and Roeland Van Hout. 2016b. The prominence of spoken language elements in a sign language. *Linguistics* 54(6). 1281–1305. <https://doi.org/10.1515/ling-2016-0030>.
- Brentari, Diane. 2001. Borrowed elements in sign languages: A window on word formation. In Diane Brentari (ed.), *Foreign vocabulary in sign languages* ix-xx. Mahwah, NJ: Erlbaum.
- De Rooij, Vincent. 2000. French discourse markers in Shaba Swahili conversations. *International Journal of Bilingualism* 4(4). 447-467.
- Emmorey, Karen, Helsa B. Borinstein, Robin Thompson, and Tamar H. Gollan. 2008. Bimodal Bilingualism. <https://doi.org/10.1017/S1366728907003203>.
- Fischer, Susan. 2014. Sign languages in their historical context. In Claire Bowerman and Bethwyn Evans (eds.), *The Routledge handbook of historical linguistics*. 442-465.
- Katz, Jonah & Elisabeth Selkirk. 2011. Contrastive focus vs. discourse-new: evidence from phonetic prominence in English. *Language* 87(4). 771-816. <https://doi.org/10.1353/lan.2011.0076>.
- Kim, Taehwan, Jonathan Keane, Weiran Wang, Hao Tang, Jason Riggle, Gregory Shakhnashvili, Diane Brentari & Karen Livescu. 2017. Lexicon-free fingerspelling recognition from video: Data, models, and signer adaptation. *Computer Speech & Language* 46. 209-232.
- Lillo-Martin, Diane & Ronice Müller de Quadros. 2005. The Acquisition of Focus Constructions in American Sign Language and Língua de Sinais Brasileira. In Alejna Burgos, Manuella R. Clark-Cotton, & Seungwan Ha (eds.), *Proceedings of the 29th Annual Boston University Conference on Language Development*. 365-375. Somerville, MA: Cascadia Press.
- Lucas, Ceil & Clayton Valli. 1992. *Language contact in the American deaf community*. San Diego: Academic Press.

- Meir, Irit. 2010. Iconicity and metaphor: Constraints on metaphorical extension of iconic forms. *Language* 86(4). 865-896
- Muñoz Barredo, Inma. 1997. Pragmatic functions of code-switching among Basque-Spanish bilinguals. *Actas do I Simposio Internacional sobre o Bilingüismo*, Universidade de Vigo. 528–541.
- Muysken, Pieter. 2000. *Bilingual speech: A typology of code-mixing*. Cambridge: Cambridge University Press.
- Muysken, Pieter. 2013. Language contact outcomes as the result of bilingual optimization strategies. *Bilingualism: Language and Cognition* 16. 709–730.
<https://doi.org/10.1017/S1366728912000727>.
- Myslin, Mark & Roger Levy. 2015. Code-switching and predictability of meaning in discourse. *Language* 1(4). 871-905. <https://doi.org/10.1353/lan.2015.0068>.
- Padden, Carol & Darlene Gunsauls. 2003. How the alphabet came to be used in a sign language. *Sign Language Studies* 41. 10-33.
- Prince, Ellen F.. 1981. Toward a taxonomy of given-new information. In Peter Cole (ed.) *Radical pragmatics*. New York, NY: Academic Press.
- Sandler, Wendy. 2012. Sign language prosody. In Roland Pfau, Markus Steinbach, & Bencie Woll (eds.), *Handbook of Sign Language Linguistics*. 55-74. Berlin: Mouton de Gruyter.
- Schembri, Adam., and Trevor Johnston. 2004. Sociolinguistic Variation in Auslan Australian Sign Language: A Research Project in Progress. *Deaf Worlds* 201: S78-S90.
- Schlenker, Peter, Valentina Aristodemo, Ludovic Ducasse, Jonathan Lamberton & Mirko Santoro. 2016. The unity of focus: Evidence from Sign Language. *Linguistic Inquiry* 47. 363–381. https://doi.org/10.1162/LING_a_00215.
- Selkirk, Elisabeth. 1984. *Phonology and syntax: The relation between sound and structure*. Cambridge, MA: MIT Press.
- Sutton-Spence, Rachel & Bencie Woll. 1993. The status and functional role of ringer spelling in BSL. In Marc Marschark & M. Diane Clark (eds.), *Psychological perspectives on deafness* vol. 1. 185-208. Hillsdale, N.J.: Erlbaum.
- Torres Cacoullos, Rena & Jessi E. Aaron. 2003. Bare English-origin nouns in Spanish: Rates, constraints, and discourse functions. *Language Variation and Change* 15(3):287-326.
- Quinto-Pozos, David and Wanette Reynolds. 2012. ASL Discourse Strategies: Chaining and Connecting-Explaining across audiences. *Sign language studies* 12(2). 211-235.
<https://doi.org/10.1353/sls.2011.0021>.
- Wilbur, Ronnie. 2012. Information structure. In Roland Pfau, Markus Steinbach, & Bencie Woll (eds.), *Sign language. An international handbook* 462-489. Berlin: Mouton de Gruyter.