Sources of Variation in Mongolian Sign Language

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1. Introduction[1]

During a nine month period in which data on Mongolian Sign Language (MSL) were collected in a Field Methods course, there were numerous instances of disagreement between language consultants on the correct sign for a given concept. The present paper seeks to describe these disagreements in terms of the potential sources of language variation among language consultants. The remainder of this paper is organized as follows: In section 1 we provide a sampling of previous work on language contact and language variation and describe the link between them. We then discuss the linguistic outcomes of contact situations between signed and spoken languages versus signed and signed languages as they relate to the present investigation. In section 2 we describe how data were collected and annotated and in section 3 we present our findings. Section 4 includes a discussion of these findings with respect to previous work on language contact, language variation, and language attitudes. In section 5 we close with brief mention of how to expand upon this work in the future.

1.1 Background: Language contact and language variation

Several studies of lexical variation in signed languages have been undertaken: Lucas, Bayley & Valli (1991) for American Sign Language (ASL); Schembri, Johnston & Goswell (2006), Schembri & Johnston (2006, 2007) for Australian Sign Language (Auslan); and McKee & McKee (2011) for New Zealand Sign Language (NZSL), just to

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[1] Many thanks are in order here. First to our consultants (and in particular NB who has maintained contact with me and always been eager to answer questions), who shared their language with our group. Second, thanks to the members my Field Methods course and research team: Roxanne Moore, Page Roberts, Rachael (Manahan) Camp, Christina Healy and of course to Robert Johnson for helping to guide the path through our journey. A special artistic thank you to Christopher H. Brown for designing the graphic in Figure 4. Finally, thanks to Ceil Lucas, Richard P. Meier, Lynn Hou, and Elena Liskova for valuable input on earlier versions of this work. Any errors or misinterpretation of the data or literature are my own.

name a few. These investigations were developed for the specific purpose of documenting variation within each respective language-using community. Very generally, these studies documented variation as a factor of age, gender, region, language background, and educational background, among other influences. A common thread that runs through the variation present in each of these languages is contact with a majority spoken language, specifically, in the case of these languages, contact with English. To give an example, each of these languages has signs that are *initialized*; consider Figure 1. In Figure 1a we see the Auslan 'M' handshape (Auslan and NZSL use two-handed fingerspelling[2]). The movement of the active hand contacting the palm of the passive hand is reduplicated to form the sign MOTHER, so the final posture of the sign MOTHER would look much the same as what is pictured in Figure 1a. Figure 1b shows the final posture of the ASL sign KITCHEN, which is performed with a 'K' handshape, pictured in Figure 1c, on the dominant hand. Examples such as these encourage further examination of the possible ways in which contact phenomena can influence linguistic outcomes of contact.

Figure 1. Initialized signs (result of contact with majority spoken language)

| 1a. Auslan 'M' handshape | 1b. ASL sign KITCHEN produced with 'K' handshape | 1c. ASL 'K' handshape |

In their seminal work on language contact within the American Deaf community, Lucas & Valli (1992) described the influence of five major foci, all of which have also been discussed in literature on contact in spoken languages. These are summarized in (1).

(1)   a. Structural linguistic outcomes of contact including but not limited to lexical borrowing, convergence and divergence (Weinreich, 1968)
      b. Genetic relations between languages (Thomason & Kaufman, 1988)
      c. Functions of respective languages in contact situations (Ferguson, 1959)
      d. Attitudes about contact (e.g, Mougeon & Beniak, 1987)
      e. Measurement of bilingualism (e.g, Ferguson, 1966)

As we will see, these foci, in particular (1a)-(1d), were particularly relevant in the present investigation and we will return to these in the discussion section below.

### 1.2 Types of language contact

There seems to be a very clear relationship between language variation and language contact, particularly given the suggestions based on previous work summarized in (1). Specifically, and as it relates to the present investigation, language contact can lead to language variation in some situations. In this work it will be important to distinguish two types of contact and the specific types of linguistic outcomes associated with each. These are detailed below.

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[2] Fingerspelling is a process used in some sign languages which involves using a manual alphabet in which each orthographic character used in a particular language is represented by a unique hand configuration. The manual alphabets of some languages are one-handed, like ASL, while others require both hands, like Auslan and NZSL. These manual representations for letters are also the hand configurations used in signs that involve initialization.

1.2.1 Inter-modal contact   The first type of language contact is that which occurs between a signed language and a spoken language, very often, though not exclusively, through the orthography. This can be called inter-modal contact because the languages in contact use different modes of transmission (oral/aural for spoken languages versus visuo-gestural for signed languages). An example of the outcome of this type of contact was mentioned earlier and exemplified in Figure 1 with examples of initialized signs from two different languages. There are also other outcomes associated with the ways in which spoken languages and signed languages interact when they come into contact. For instance, signers might fingerspell *of* or *then* in ASL as a result of contact with English.

1.2.2 Intra-modal contact   A topic on which there is less information than inter-modal contact, but one that is also relevant to the present investigation, is the linguistic outcomes of sign languages in contact with other sign languages (see Quinto-Pozos, 2007 for an edited collection of chapters that address this newer line of research). We saw several examples of inter-modal contact, but what might this intra-modal contact look like? Figure 2a illustrates the Mexican (LSM) sign TAMALE, which is produced with the handshape pictured in 2b. One type of phonological variation the author noted in southern New Mexico was an alternation between the use of the handshape pictured in 2b and the handshape in 2d for the sign TAMALE. One possible reason for this variation is that the handshape in 2b does not occur in ASL, but it is similar enough to the handshape in 2d that the latter is used in place of the former as the result of contact situations between LSM and ASL, yielding the southern New Mexican variant of TAMALE shown in Figure 2c. Quinto-Pozos (2007) noticed similar variation in the production of the ASL sign FAMILY in his own work (with alternations of the same handshapes pictured in Figure 2b and 2d) and has discussed it in terms of *interference*, where knowledge of one language (use of one of these handshapes more regularly) interferes with the production of tokens in a contact language that require a similar, but crucially not identical, handshape.

Figure 2. Phonlogical variation that resulted from sign-to-sign language contact

2a. TAMALE (LSM)   2b. Old LSM 'T'   2c. TAMALE (ASL)   2d. ASL 'F'
                          handshape   handshape
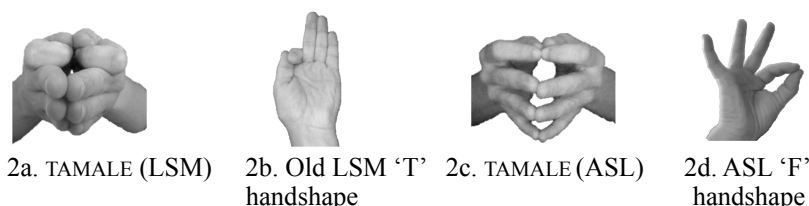
Our language consultants, who we will introduce more formally and completely in 2.2, were involved in very complex contact situations involving spoken and signed languages synchronically and diachronically. To help illustrate this point, here are a couple of brief examples. Because Russia helped to establish the first school for the deaf in Mongolia, there are vestiges of contact between Russian Sign Language (RSL) and early MSL; for instance, the sign for *bed* is the same in both languages and there are other cognates as well. This is an example of intra-modal contact from the 1960s when the deaf school was founded. It has been some time since MSL had persistent contact with RSL. For an inter-modal example, one might consider the ongoing contact MSL has experienced with the majority spoken language, which can be seen in the use of fingerspelling. This long-standing contact is also apparent in a shift in the kinship system from forms introduced by RSL to forms consistent with kin terms found in spoken Mongolian, which adhere to the cultural values shared by all Mongolians, deaf and hearing alike (Geer, 2011).

1.3 Deaf education in Mongolia

So far we have described relevant literature related to language contact and variation, but it is also important to understand the language situation of our consultants on whom this project is based. To begin, it is important to understand the role of the languages in contact, namely MSL and Mongolian, in deaf education. For formal instruction at the school for the deaf, most instructors use fingerspelling, accompanied by the oral method[3], as the predominant means of communication; this is a technique hearing teachers believe will help deaf children understand and acquire spoken and written Mongolian more efficiently (NB, personal communication). MSL is typically not used in the classroom for instruction, yet students sign with each other throughout the school day. This situation very closely mirrors the situation of English and ASL in deaf education noted by Lucas & Valli (1992) in which children are forced to acquire signed language from their peers, since it is most likely that their parents are hearing and thus are not in a position to transmit an accessible native language to their children. What is interesting in particular about the case of MSL is that it has been noted how quickly MSL seems to change. NB, for instance, on a visit to Ulaanbaatar from December 2011 to January 2012, noticed distinct cohorts of MSL users based on when they attended the deaf school. This suggests there is something significant about age with respect to language variation, at least in the present investigation.

1.4 Research question and hypotheses

As we have seen there is a deeply-rooted relationship between language contact and language variation, and while the present study was not developed for the purpose of explicitly documenting language variation in MSL, we hope to illustrate a brief snapshot of some of the variation present at least among the three language users who served as our informants. Specifically, we hope to answer the following question: what are the sources of variation in MSL? We expected to find a variety of factors that contribute to variation, but that most would fall under the umbrella of language contact. We also expected that strong language attitudes about signs and the languages in contact would influence which forms are preferred in one context or another. In particular, we would expect younger signers to have a stronger dispreference for signs of Russian origin, because MSL has become more fully developed with time. Second, the perceived status of the languages in contact might serve as a good predictor of which consultants prefer which signs in a given context. We would like to mention here that one limitation to this study is that the results we present are likely not generalizable. The sources of variation we present are specific to these signers in particular and may not account for variation in signers who have never studied in an ASL/English environment.

2. Methods

2.1 Data collection and transcription

In weekly filming sessions we elicited language from three signers of MSL in a variety of ways. For instance, elicitations were sometimes targeted to examine a particular feature of the language (e.g., basic word order, negation strategies or numeral incorporation). Other times we attempted to make the setting more naturalistic. For

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[3] The oral method refers to the use of spoken language with deaf children where students are encouraged to understand speech through lip-reading and use of residual hearing, and to produce spoken language with the use of voice.

instance, one consultant would be shown a short cartoon clip and then asked to describe the video (in MSL) to the other consultants. Video data were transcribed by members of the research team using ELAN[4] software. What encouraged us to examine variation was that, regardless of the style of elicitation, throughout the course of data collection, a number of disagreements arose between consultants about the appropriate sign for a given thing or concept. There seemed to be a good deal of lexical variation, so for the present investigation, these instances of disagreements were noted in our transcripts for analysis.

2.2 Participants

Our language consultants for this project were three students from Gallaudet University's English Language Institute (ELI), each of whom was visiting from Ulaanbaatar, the capital of Mongolia and the home of the only school for the deaf, known as the 29th special school. A summary of each consultant's educational and linguistic backgrounds is presented in Table 1. Note that the number of semesters listed in the last column of the table is the number of semesters each consultant had completed at ELI by the time we finished our data collection.

Table 1. MSL consultant information

Consultant	Gender	Age	Educational background	Audiological status	Semesters at ELI
NB	F	29	BA, Linguistics; MA, Education	Born hearing, became deaf ~ age 11	6
AY	M	24	Secondary school	Born deaf	2
BG	M	33	Secondary school	Born deaf	3

There are several important aspects of our consultants' respective backgrounds to which we wish to draw the reader's attention. First, note that NB was born hearing and thus acquired Mongolian as a native language, whereas the other two consultants were not exposed to an accessible (signed) language until they entered the deaf school around age 5. After becoming deaf, NB attended the 29th special school for two years, before returning to a mainstream hearing program to complete her secondary education. After graduating, she pursued a Bachelor's degree in linguistics, a fact we did not become aware of until quite late in the data collection period. Much more than AY and BG, NB displayed great metalinguistic awareness, which seems to be the result of formal training in linguistics. The age difference between AY and BG is also worthy of mention, as it will become relevant in the discussion. Finally, we wish to point out that when we began our weekly filming sessions in the fall of 2009, AY had just arrived from Mongolia, and had no prior knowledge of ASL, though he acquired it quickly as the result of the immersive environment at Gallaudet's ELI. In those very early filming sessions, AY's language use was likely the most representative of MSL use in Ulaanbaatar at that time.

3. Findings

As we described above, instances of disagreements about the form of a sign were noted in the transcriptions of our weekly filming sessions. In particular, we were looking

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[4] More information and free downloads available from www.lat-mpi.eu/tools/elan/

for some sort of explanation for why one consultant preferred form *A*, while the other consultant(s) preferred form *B,* thus allowing us to speculate as to why and how the variation developed. Upon re-examination of each of these instances of disagreement, five categories, though not necessarily mutually exclusive ones, emerged. These categories were sign etymology, "DEAF NOT USE", "New" versus "Old" signs, use of fingerspelling, and items borrowed from ASL. Each will be detailed with several examples in subsequent sections.

3.1 Etymology

With respect to the etymology of different forms, there was a general dispreference for signs of Russian origin (whether the origin of the sign was really RSL or whether consultants only thought that to be the case). This trend was most apparent by consultants' preferred kin terms (see Geer, 2011 for a full description of the MSL kinship system) though Baljiinyam (2007) also noted this trend more generally in her documentation of MSL development.

3.2 "DEAF NOT USE"

Another source of variation centered around disagreements between consultants which were resolved with one of them saying something like, *Sign it that way if you like, but no one will understand you because* "DEAF NOT USE" [deaf people (in Mongolia) don't use it]. There were several examples of this type of disagreement, but one was particularly interesting. NB and BG disagreed on the sign for the concept of *everyday.* NB produced something which literally means "many sleeps", while BG performed the sign for "one sleep" but with iterative aspect ("one sleep many times") so roughly the same semantic content is conveyed with both forms.

3.3 "New" versus "Old" signs

Table 2. Descriptions of new versus old signs

Concept	Signs in competition	Description of disagreement
daughter	DAUGHTER vs. GIRL +BABY	NB and AY disagreed about the appropriate sign with the former producing GIRL+BABY and the latter producing a new sign phonologically unrelated to the compound. The disagreement was resolved when NB pointed out that the reason AY used that form was that he is "new" (meaning AY is young)
forever	FOREVER vs. fingerspelling	NB demonstrated her sign for FOREVER then asked BG for verification. Instead, BG disagreed, calling NB's sign "new" and "technical" and stated that he preferred to fingerspell the Mongolian word for *forever.*
help	HELP$_{agr}$ vs. HELP$_{plain}$	NB produced the agreement verb HELP which had previously been agreed upon between NB and AY, but BG disagreed and produced an alternative. AY indicated that he had never seen the sign before, and the dispute was settled when AY stated that BG is old.

Recall the ages of our consultants (see Table 1), and in particular that BG is almost ten years AY's senior. Bear in mind also the length of time each consultant had been in the

United States. Variation among signs in this category tended to be related to one of these factors. Variation that stemmed from age differences was likely the result of how signing (whether MSL or just fingerspelling) was used when each consultant was a student at the school for the deaf. It also seems, based on comments consultants made about each other's preferred signs, that MSL is experiencing rapid change. We will return to this topic in the discussion section. Variation related to how long consultants had been studying at Gallaudet was also apparent. For instance, NB claimed she had never seen some of the signs that BG and AY used since she had been studying at Gallaudet longer than either of them. Examples of signs that vary as a factor of age or time away from Mongolia are given in Table 2.

3.4 Fingerspelling

We mentioned above that fingerspelling is a way to represent the orthographic characters of a given language in manual form, and this technique was used quite often among all of our consultants, but there were instances in which one consultant preferred to spell the Mongolian word as opposed to using a lexical sign to represent the concept in question. We saw one example of this type of variation above with *forever,* but there were others as well. Two examples are given in Table 3.

Table 3. Description of variation in fingerspelling versus using single lexical items

Concept	Signs in competition	Description of disagreement
milk	MILK vs. fingerspelling	NB produced the sign MILK and stated that it was appropriate for use as a noun and also as a verb meaning *'to milk'*. BG and AY disagreed and said that the sign was appropriate only for the verb and that the noun should be fingerspelled.
University student	SCHOOL+PERSON vs. fingerspelling	NB and AY agreed that there was no sign specifically for students attending colleges or universities and that the concept would need to be fingerspelled. BG, however, created a compound, SCHOOL+PERSON and stated that his sign was an acceptable form, despite NB's and AY's argument that the sign would not be recognized in Mongolia as distinguishing secondary school students from those in higher education, it would just be interpreted as *student*.

3.5 Borrowed from ASL

Lexical borrowing from ASL gave rise to a great deal of variation in MSL, and interestingly, three subcategories within this source of variation emerged in the data. In the first group, some full signs from the ASL lexicon were borrowed in lieu of fingerspelling Mongolian words. An example of this is *coffee*. AY preferred to fingerspell the Mongolian word but NB said it was appropriate to use the ASL sign instead. A second type of borrowing from ASL involved changing only one parameter of the sign, usually the handshape, in order to match the ASL sign. An example of this from our data was the sign FAMILY. In this example, the newer form simply replaced the handshape of the older form with the ASL 'F' handshape. Another related but distinct example of this type of borrowing can be found in the MSL online dictionary (www.msl.mn). The MSL sign for *restaurant* is articulated with the same movement and location as the ASL sign, but instead

of using the ASL 'R' handshape, the MSL 'R' handshape is used (the Mongolian word also begins with 'r'). A third type of borrowing from ASL involves using morphological strategies from ASL to create new signs in MSL. For example, the ASL signs HUSBAND and WIFE were originally compounds created from the lexical items MALE+MARRY and FEMALE+MARRY, respectively. NB preferred to use the sign WED (*the person I am wed to*), made by depicting the sliding of a wedding band onto the ring finger, for both *husband* and *wife*, indicating that a distinction could be made with context, but BG stated that it would be better to sign MALE+WED and FEMALE+WED because it is "the same as ASL."

4. Discussion

We have been describing the investigation of the potential sources of language variation in three users of MSL. In weekly elicitation sessions we noticed numerous disagreements about the correct form of a particular sign. The purpose of this investigation was to determine why such variation might exist and we hypothesized that the reasons for language variation would be in some way related to language contact. This turned out to be the case and the categories of variation related to contact listed in sections 3.1 to 3.5 will be discussed in greater detail here.

4.1 The foci of language contact

In section 1 we listed the five major foci of language contact mentioned by Lucas & Valli (1992) in their discussions of language contact in the American Deaf community. We return to the most relevant four here and discuss how the variation that seems to be related to the linguistic outcomes of contact fit in with these proposals.

4.1.1 Structural linguistic outcomes   With respect to this focus (see (1a) above), several trends are apparent in the MSL data as a result of the different contact situations we have mentioned. Diachronically, there has been a tendency to diverge from RSL (a type of inter-modal contact). This was apparent in our data and has also been noted more formally in a thesis which examined the development of MSL including a description and analysis of the etymology of different signs (Baljinnyam, 2007). As the result of on-going intra-modal contact with spoken Mongolian, there has been a tendency to converge (at least) on aspects of the language that have cultural significance like the reverence for elders (see Figure 4) and the shift in the kinship system to reflect this (Geer, 2011).

Figure 4. Potential linguistic influences on MSL from areal contact languages
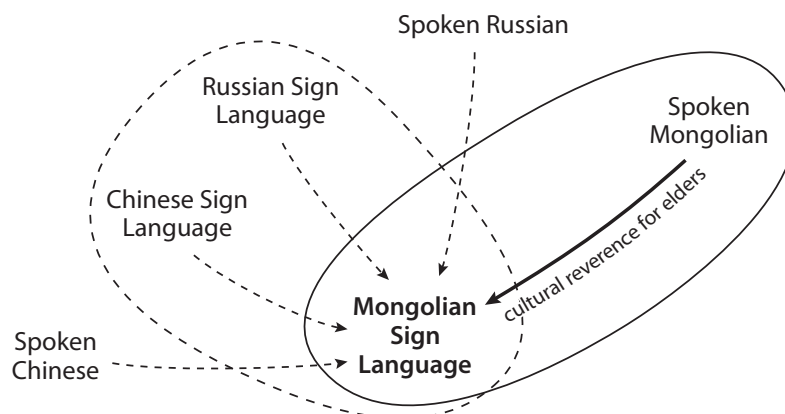
4.1.2 Genetic relations   In (1b), we saw that Thomason & Kaufman (1988) proposed that the genetic relationship between languages in contact can affect how they interact. Israel & Sandler (2011), in their analysis of ASL, Israeli Sign Language and Al-Sayyid Bedouin Sign Language, also suggested genetic relationship as a factor that can influence language variation, along with three other factors, two of which are particularly relevant here: (1) language age and (2) the existence of prescriptive norms for that language. We might guess that MSL is genetically related to RSL, given the history of the first deaf school, but it is hard to know this for certain[5] because we do not know what MSL looked like before the deaf school was founded and thus before there was persistent contact with RSL. What is more clear is that MSL is still relatively young, a characteristic Israel & Sandler suggested might result in more variation, and still seems to be experiencing rapid changes, something our consultants were very conscious of. Related to these changes is the emergence of some amount of prescriptive norms. Numerous times there were discussions among our consultants that were resolved by one of them stating they had seen a particular sign in the dictionary and therefore it was the right one.

4.1.3 Functions of languages in contact situations and attitudes about contact
With respect to the final two foci in (1c) and (1d) above, the role of deaf education in Mongolia and also the role of these consultants' education at Gallaudet's ELI are particularly important. As we mentioned before, MSL has lower status than Mongolian in the diglossic situation at the 29th special school. The function of Mongolian is one of formality, hence its perception as the higher language, while the function of MSL is more casual because it is not used for classroom instruction. The situation at Gallaudet is more complicated still. ELI instructors admonish students to never use their home sign languages and to use ASL at all times. The function of ASL is for instruction and for casual conversation. This attitude projected by ELI instructors is so strong that even during elicitation sessions, consultants were sometimes wary of using MSL.

4.2 Implications of language variation among our consultants

Quinto-Pozos (2007) noted an important consideration for the study of sign languages in contact is the role of education and foreign assistance in sign language development. As we have attempted to stress here, we are documenting variation in MSL, much of which is related to contact phenomena in three consultants in particular, who were studying at Gallaudet. Woll, Sutton-Spence & Elton (2001) noted that Gallaudet and its students have quite a lot of influence on the behavior of sign languages in contact because students come from all over the world to study and then return to their home countries, bringing with them their newly acquired knowledge and language (ASL). It is not implausible that when these students return to Mongolia, they will be seen as leaders in the deaf community and thus introduce more variation and potentially encourage more changes in the coming years.

5. Conclusions

We have attempted to illustrate a snapshot of the type of language variation in MSL among three consultants studying at the English Language Institute at Gallaudet University. While we acknowledge that it may not be appropriate to generalize the variation evidenced in the data we collected as part of our course in Field Methods to variation present in users of MSL in Mongolia who have never studied in the United

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[5] Woodward (2011) pointed out some challenges in determining relatedness of sign languages, but also offered general guidelines.

States, there are clearly interesting trends that unfolded in our analysis and encourage future work. We sincerely hope that in the future, researchers are able to go to Mongolia and perform wide and systematic sampling of MSL (in much the same manner as the larger-scale studies of variation listed in the introduction section) in an effort to document language variation that is more representative of the entire language-using community.

References

Baljinnyam, N. (2007). *A study of the developing Mongolian Sign Language*. Master's thesis, Mongolian State University of Education, Ulaanbaatar.

Ferguson, C. (1966). National sociolinguistics profile formulas. In W. Bright (Ed.), *Sociolinguistics*, (pp 309–315). Mouton, The Hague.

Ferguson, C. (1959). Diglossia. *Word*, 15:325–340.

Geer, L. (2011). Kinship in Mongolian Sign Language. *Sign Language Studies*, 11(4):594–605.

Israel, A. & Sandler, W. (2011). Phonological category resolution in a new sign language: A comparative study of handshapes. In R. Channon & H. van der Hulst (Eds), *Formational Units in Sign Languages*, (pp 177–201). De Gruyter, Nijmegen, The Netherlands.

Lucas, C., Bayley, R., & Valli, C. (1991). *Sociolinguistic Variation in American Sign Language*. Gallaudet University Press, Washington, DC.

Lucas, C. & Valli, C. (1992). *Language Contact in the American Deaf Community*. Academic Press, San Diego.

McKee, R. & McKee, D. (2011). Old signs, new signs, whose signs? Sociolinguistic variation in the NZSL lexicon. *Sign Language Studies*, 11(4):485–527.

Mougeon, R. & Beniak, E. (1987). The extra-linguistic correlates of core lexical borrowing. In K.M. Denning et al. (Eds.), *Variation in Language NWAV-XV at Stanford*, (pp 337–347). Stanford University Press, Stanford, CA.

Quinto-Pozos, D. (2007). Outlining considerations for the study of signed language contact. In D. Quinto-Pozos (Ed), *Sign Languages in Contact*, (pp 1–22). Gallaudet University Press, Washington, DC.

Schembri, A. & Johnston, T. (2006). Sociolinguistic variation in Australian Sign Language project: Grammatical and lexical variation. In *Proceedings of the Ninth International Conference on Theoretical Issues in Sign Language Research*, Universitdade Federal de Santa Catarina, Florianopolis, SC, Brazil.

Schembri, A. & Johnston, T. (2007). Sociolinguistic variation in the use of fingerspelling in Australian Sign Language (Auslan): A pilot study. *Sign Language Studies*, 7(3): 319–347.

Schembri, A., Johnston, T., & Goswell, D. (2006). NAME dropping: Location variation in Australian Sign Language. In C. Lucas (Ed), *Multilingualism and Sign Languages: from the Great Plains to Australia*. Gallaudet University Press, Washington, DC.

Thomason, S. & Kaufman, T. (1988). *Language Contact Creolization and Genetic Linguistics*. University of California Press, Berkeley, CA.

Weinreich, U. (1968). *Languages in Contact*. Mouton, The Hague.

Woll, B., Sutton-Spence, R., & Elton, F. (2001). Multilingualism: The global approach to sign languages. In C. Lucas (Ed), *Sociolinguistics of Sign Languages*, (pp 8–32). Cambridge University Press, New York.

Woodward, J. (2011). Response: Some observations on research methodology in lexicostatistical studies of sign languages. In G. Mathur & D.J. Napoli (Eds), *Deaf Around the World: The Impact of Language*, (pp 38–53). Oxford University Press, New York.