

Issues in Sign Language Translation, with Special Reference to Bible Translation

Mark Penner

WorldVenture and University of North Dakota

Sign Language (SL) translation is a field of growing interest to major groups involved in translation, but many SL translation projects are encountering difficulties. In examining these, I argue that the Deaf community occupies a unique sociolinguistic context as it relates to translation, and that this makes Deaf ownership of translation projects and training of Deaf people a high priority. I then look at three other salient issues in SL translation: personnel, exegesis, and the question of signing style, offering tentative solutions. In addition, I suggest that projects might benefit from: 1) engaging in discourse studies early in the SL translation process, 2) a single-line approach to glossing that works well with analytical software, 3) maintaining a pure sign language environment, and 4) implementing effective comprehension testing methods.

1. Introduction

Though poems, songs, folk tales, and other stories have been rendered in signed languages¹ for a long time, systematic, published translation of literature into signed languages began quite recently. Most translation work has been motivated by religious concerns, though some educational institutions have been involved with translation as well. In the field of Bible translation, Deaf Mission's Omega Project American Sign Language (ASL) translation² was the first, beginning in 1980. Following the model developed by them, the Japanese Sign Language (JSL) project began in 1993, and the Australian Sign Language (Auslan) project formally commenced in 1998.³ To date, these three projects have published 45 percent, 12 percent, and 13 percent of the Bible, respectively, with the ASL project having finished translating the complete New Testament. In addition, in Colombia, Denmark, Finland, Germany, Norway, Romania, and Sweden, one book or several portions amounting to up to five percent of the whole Bible have been published in their various sign languages. At least ten countries, then, have some portions of scripture published in a signed language. Another forty countries have begun work, ranging all the way from pre-translation organizational work to actual publication of pilot projects. In 2007, a selection of Buddhist holy writings was published in JSL.

These efforts have not been without their difficulties, to the extent that in some cases, the whole endeavor of Sign Language translation has been called into question. In this paper, I address some of these difficulties in the light of concepts learned in linguistics classes at the University of North Dakota

¹ There is some possibility of confusion over whether "sign language" or "signed language" is the most appropriate wording to use. In this paper, I have chosen to use "signed language" or "signed languages" when more than one language is in view, and "sign language" when a specific variety is in view. For set phrases such as "sign language linguistics" or "sign language Bible translation," either would be possible, but perhaps because research or translation is generally in one signed language, "sign language" seems to have become the stock phrase, and will thus be used regardless of whether the context is singular or plural.

² See Appendix A for more details.

³ Harris, 2002:233

on the one hand, and my actual field experience as a translation consultant⁴ on several sign language translation projects on the other hand. This experience was gained through participation in a training workshop for translation consultants, held in Bagabag and Manila, Philippines, from February 25 to March 19, 2008, and also through a mentored training experience connected with a translation workshop that took place in Kenya in September 2007, through my participation in the Asia Pacific Sign Language Multi-Agency Meeting in Bangkok in November 2007, and through my involvement with the Japanese Sign Language (JSL) Bible translation project since 1993.

In the next section, I argue that the Deaf community occupies a unique sociolinguistic context as it relates to translation, and that this makes Deaf ownership of translation projects and training of Deaf people a high priority. In the sections after that, I look at three other salient issues in SL translation: personnel, source-text exegesis⁵, and the question of signing style, offering tentative solutions. Finally, I suggest that projects might benefit from: 1) engaging in discourse studies early in the SL translation process, 2) a single-line approach to glossing that works well with analytical software, 3) maintaining a pure sign language environment, and 4) implementing effective comprehension testing methods. At the end of the paper, I add two appendices. Appendix A details the steps of the translation processes followed in six different projects. Appendix B lists my proposals for an interlinear glossing system.

2. Sociolinguistic aspects of sign language translation

Signed languages are generally minority languages⁶ used by a community defined by the signed language it uses and the Deafness of most of its users. They differ from spoken minority languages in one important aspect though; participation is only hereditary in 5-10 percent of the population,⁷ thus true native speakers are not the norm, and never have been in this community. In addition, although this varies from country to country depending on the educational system, in many cases, Deaf people are not even exposed to the signed language until quite late in life, long after the primary language learning years of ages 0-6, or sometimes even the secondary period of ages 6-12 are past. Language oppression is common, as educational institutions are most commonly started, run, and overseen by hearing people who, though well-intentioned, have little understanding of linguistics and tend to focus on making Deaf people fit into the hearing world rather than on education per se. Even Deaf associations, particularly those connected at the national level, tend to be dominated by hard-of-hearing or late-deafened members of the community, since their knowledge of the language of wider communication (LWC) and the hearing culture give them a political edge over others in the community. These factors must be taken into account in the search for mother tongue translators (MTTs) to do the translation work. They will also affect the level or kind of signing used in the translation itself. For example, the Auslan translation project uses native Deaf translators, but deliberately chose to reject the “pure” form of their language used by the Deaf of Deaf,

⁴ The job of translation consultant (TC) varies from group to group, but generally denotes a person with expertise in areas such as translation studies, linguistics, or Biblical studies that will be of benefit to the group doing the actual translation work. In some systems, the TC gives final approval for the publication of the translation work.

⁵ Exegesis is a term common in biblical studies but also used in literary studies in general. In the translation context it refers to the process of determining the meaning or interpretation of the text being translated.

⁶ One exception might be islands or villages with an unusually high percentage of Deaf people, such as Martha's Vineyard, U.S.A. in the 18th and 19th centuries (Sacks 2000:28) or Adamorobe, Ghana (Nyst 2007:22-25), but even these are generally surrounded by a language of wider communication (LWC).

⁷ Sacks (2000:48) quotes a figure of 10 percent, but gives no source, and Nyst (2007:32) gives a 5 percent figure, but again, does not cite the source.

CODAs,⁸ and other early exposure signers in favor of a more widely familiar form that is strongly influenced by English.⁹

2.1 Linguistic awareness

One immediate challenge of minority language translation projects in general is a lack of awareness on the part of the community of their language as a language, much less how it actually functions. This is certainly the case with many signed languages, though in the U.S., Japan, and many other countries, Deaf people have dramatically increased their linguistic and cultural awareness in the past 20 years. Although linguistic research on signed languages has been proceeding with increasing pace after the 1990s, it is still quite limited, especially in developing countries. This points to a need for doing a certain amount of linguistic research into the target signed language, ascertaining the level of linguistic awareness in the MTTs and finding ways to improve it, and/or finding other ways (informal retellings, for example) to achieve naturalness in the translation.

2.2 Training issues

The educational level of people in the Deaf community tends across the board to be substantially lower than that of the general population. This is not the place to examine causes, but suffice it to say that lack of opportunity is certainly a factor. In many countries, Deaf people with sufficient ability in the LWC have already attained high levels of education, and in most of these countries, it remains to be seen what would be possible if the education took place in the first language of the Deaf community. When hearing people are involved in SL translation efforts, they will need to go beyond mere inclusion of Deaf people in the translation process and work instead toward their establishment as the leaders of their translation projects. Particularly in countries with less well-developed Deaf schooling systems and other social infrastructures, this may take time, and involve a substantial effort and expense, but it is certainly crucial for the ongoing progress of the Deaf community, if not the translation process itself.

2.3 Religion, power, and linguistics

In translating religious literature in particular, translators need to be aware of the dynamics that Deaf communities share with many oppressed minority groups. With all of their previous religious experience mediated through the LWC, the LWC text itself often becomes a deep part of the community's culture, even if unintelligible to most adherents.¹⁰ Departures from that text base can be deeply suspect, even if the result is well-understood, and in line with the teaching of the group. Also, since information flow to the pre-translation religious community is mediated through readers of the LWC, a translation that is accessible to the larger community has the potential to disturb power balances inside and outside of the community. All these dynamics are active in Deaf religious communities as well. At the very least, gatekeepers will judge a translation by how well it conforms to the LWC text they are familiar with. In the extreme, this results in a situation where only a "Signed LWC" rendering will be acceptable, which generally again excludes the bulk of the community.

⁸ CODA began as an acronym for Children Of Deaf Adults, but is now used as a general term to indicate hearing children of Deaf parents.

⁹ Personal conversation with Peter Bonser at the Sign Language Multi-Agency Meetings in Bangkok, Nov. 20, 2008.

¹⁰ Of course, one must not assume that intelligibility is even a value, much less a high value, with any given faith tradition, but if translation (or adaptation/explanation) is being undertaken at all, one might be forgiven for assuming that intelligibility is a value at some level.

Once these issues begin to resolve, there is still the question of who will take the lead in making it happen. For most, if not all, Deaf communities, Deaf leadership will greatly enhance the process of translation. On a worldwide scale, training Deaf people as translators and translation consultants is of course indispensable, but beyond that, there is the question of how these leaders will gain parity in long established organizations with entrenched hearing leadership.¹¹ Perhaps an international organization focused on Bible translation and led by Deaf people themselves will be necessary to facilitate fully international SL translation.

Other religious groups will have their own dynamics, but limiting the discussion for a moment to the Christian community with which I am familiar, such an organization, were it to be established, would need strong leadership to negotiate the deep divides in the Deaf communities they serve. Differences in approach have led to divides along several scales. There are translation projects that favor a closer adherence to the LWC spoken language grammar patterns over against those that favor a “pure sign language” approach. There are projects that favor a “Chronological Bible Storying” approach which will translate selected Bible portions, sometimes even skipping verses or phrases within a selected portion over against projects that translate whole books, sometimes even on a strict verse-by-verse basis. Behind these translation efforts are churches that are divided along hearing-led versus Deaf-led lines, or polarized between traditional worship with similar forms to hearing churches versus a more free-form approach that is said to conform to Deaf culture. Individuals and groups fall on different places along these various divides, leading to a wide variety of approaches. Each group has reasons for the choices they make that may or may not be understood and/or honored by other groups they relate to, and have often struggled long and hard to gain and uphold these approaches. Any overarching association that attempts to span these divides should certainly be careful to represent as many factions as possible, and might eventually even provide a place for rigorous but respectful debates that will lead to mutual benefit for all concerned. Politics should specifically aim at humility and inclusion.

3. Personnel issues and animation options

Most translations at the time of this writing are being published solely or predominantly in video format. This adds multiple levels of complexity to the choice of signers. On the one hand, the visual presence mandated by the media, like voice in recorded texts of spoken languages, makes it all the more imperative that translators be native speakers. This, however, presents a challenge to the translation team, as only 5-10 percent of the Deaf population have Deaf parents, drastically reducing the pool of potential translators. Add to this the need to have presentational skills in front of a camera, and the pre-conditions become quite severely limiting. At the same time, visual presence also carries with it the community’s knowledge of the signer. In a faith-based project, this entails expectations that the signer will conform to the norms of the faith group. Highly skilled translators are likely to be highly known, and if what is known does not conform to the expectations of (or toward) the faith group, this can become an issue that further shrinks the pool of prospective translators.¹²

¹¹ Integrating Deaf people into hearing-led institutions, particularly giving them access to leadership roles, can be difficult. Similar circumstances doubtlessly exist with other oppressed minorities, but in this case, differences are exacerbated by the fact that they can only have access to hearing discussions by interpretation, and for all practical purposes lack the opportunity of learning the LWC at all except in written form.

¹² In a country like Japan, where the acceptability issue requires the signer to be a church member, but the Christian presence is very small, this becomes a severely limiting issue. Even so, our experience with translators of both hearing and Deaf family backgrounds shows a clear difference in translation quality that makes it worth pursuing the latter.

One answer that several groups are researching is the possibility of using animation as a solution to the problem of face recognition. Two approaches are being considered. One is using a live signer and then “morphing” her into an unrecognizable person. This can be done so that the final product looks like a real (but unknown) person, or so that it looks like an animation. The other option is to use animation software from the ground up to input all the signing.

With regard to the latter, it will certainly have to go beyond what is commonly seen on the internet and in some banks and other institutions, where the signing generated is still tied closely to the LWC. Non-manuals and signing rhythm will need to be taken into account, and unless the animation is done as a close copy of a naturally signed draft, the animators will need not only native language ability, but also a deep understanding of the linguistics of their language. Market research will also be needed to determine the minimal level of linguistic information needed for understandability and where the acceptability parameters lie. Steve Parkhurst (personal communication) in Spain has generated some signing with low-end, inexpensive animation software which, though it does not mimic human movement entirely, is quite understandable. Though production has proven to be time-consuming, as more vocabulary is input and available, the time required should decrease substantially. It remains to be seen, however, whether input with this interface will prove to be less time-consuming and expensive than live recording. There is also a new program, Sign Smith, specifically aimed at sign language animation that looks promising.¹³ I have not had a chance to look at the interface, nor do I know much about the input time needed to produce materials, but the Deaf people I know were impressed with the results.¹⁴

As mentioned above, given the level of linguistic studies in most Deaf communities in the world, it would seem that some drafting is going to have to be done on video to form the basis of a natural text, which can then be emulated by whatever software is developed. This being the case, live-drafting with morphing seems to be the quickest option at this point, if the software can be tracked down, and if it turns out to be adequate for the job. I have seen a demonstration of pre-publication versions of software that can take a series of still pictures and combine them into a video sequence on a standard laptop computer. It can also create virtual people that either match existing people exactly, or combine elements of various people to make an entirely new person.¹⁵ This would allow signer anonymity in projects that need it, while still providing all of the naturalness of live signing. In addition, if even the rough drafts are produced with a lighting level and a backdrop that will allow for morphing, and care is taken to maintain the exact position of camera and signer, any draft could be spliced in easily where needed and then morphed to specifications. Presumably, even when jump-cuts are necessary, they could be smoothed out by software such as this. The video editor could then take some of the pressure off of the presenter for long and perfect performances. The latest word, however, is that the software company is focusing on cell phone applications, and has no plans to market their work beyond that.

¹³ Sign Smith is being developed by Vcom3D and the Laurent Clerc National Deaf Education Center of Gallaudet University. Details may be found at: <http://www.vcom3d.com> .

¹⁴ It is not clear whether the video I saw was created with Sign Smith version 3.0, or with a version that is yet to be released. According to the company’s blog site (<http://www.vcom3d.com/blog/2007/06/29/vcom3d-introduces-sign-smithtm-studio-30/>), Sign Smith v3.0 was released in June of 2007, but the text of March 2008 that accompanies the video clip “The Forest” (http://www.vcom3d.com/vault_files/forest_asl/) refers to the project as proof-of-concept for a product that will be available in the future.

¹⁵ The website for the company that was developing the software is <http://www.morphoinc.com/eng/>, but as can be seen from the site, morphing capability for video editing does not appear to be in process at all.

4. Exegetical issues

Getting exegetical materials to Deaf translators in a form they can understand is a major issue. Since the best translators¹⁶ cannot learn the LWC as a native language, or even use various natural methods for second-language acquisition, their reading skills can be quite limited. Bridge people, either skilled Deaf LWC readers or CODAs, are often needed on the translation team to give the signers full access to the text they are translating, and to the various resources that help to decipher the meaning of that text. It will also help to have materials prepared by Deaf people in their sign language with accompanying pictures or videos, both of locations and also of common implements and their methods of use. Not only will this help them understand the text, it will help them visualize it, an important step in the sign language translation process. The SL translation team's need for information relating to the physical and cultural environment surrounding and informing the text stems from the fact that signed languages, being in a visual modality, often require this information as part of the syntax. For instance, in the story of Joseph's release from prison in Egypt (Genesis 41:14), one signer wanted to know what kind of implements Egyptian barbers were likely to have used when they gave Joseph a makeover to prepare him to meet the king, since he was quite sure they did not use hair clippers, or even scissors back then. When we found pictures of ancient Egyptian barbers implements, he incorporated them quite easily into his signing.

This leads to the next consideration. One aspect of signing that must be considered from the start is the amount of material that will be made explicit which may not be clearly stated in the source text. For instance, though it is possible to sign a passage in an emotionally neutral fashion, in many cases this produces an unnatural translation that is difficult to understand. Natural signing uses the face to convey not only adverbials, but information regarding the attitude of the speaker toward the content of her speech. This actually parallels somewhat issues faced in audio translations. There, it is tone of voice that will mandate that the presenter make certain exegetical decisions about the text. Given the fact that the original text was written in a milieu that was far less literate than our own, a certain amount of this was undoubtedly anticipated by the writers themselves. That is, the texts may well have been spoken to scribes by the author to begin with, and even if not, were certainly intended to be read aloud. David Rhoads gives a fascinating account of the intersection of performance and exegesis (Rhoads 2006). He writes: "Perhaps the most significant feature of performance is that of the 'subtext.' The subtext refers to the message that the performer gives in the way a line is delivered. This is a level of exegesis largely unexplored in biblical studies. Yet all performers have to decide what they will convey by *how* they say a line. Consider, for example, Jesus' manner of relating to the disciples in Mark (for example, the line 'Don't you understand yet?' in Mark 8:17) – inquiry, patience, impatience, sarcasm, disappointment, disdain, resignation? There is no way to do a performance without conveying a subtext message with each and every line, no matter how badly done or ill-informed it is" (Rhoads 2006:176-77).

In addition, natural signing, particularly storytelling, takes every opportunity to use the signing space as an ever shifting stage upon which players and objects in the drama interact with each other using either directional verbs or poly-componential verbs (also known as Classifiers (CL) or Classifier predicates). Role Shift (RS), where the narrator takes on the persona of a player and represents their speech or action or attitude, also requires at times that certain types of information not available in a written text be made explicit. This presents challenges to the translator that are similar to those faced by moviemakers. In a movie or theatre production, far more material must be made explicit. As a simple example, just by casting, the height, weight, beauty or lack thereof, overall demeanor, etc. of any given role must be made explicit in these media. Though sign language translation does not require the inclusion of all this detail, naturalness does demand at times that visual material be made explicit, and in these cases, exegetical accuracy becomes an issue. For instance, when Jonah "goes down to Joppa" (Jonah 1:3), it could be sufficient to have a slight downward movement incorporated into a generic sign

¹⁶ With the exception of CODAs

“go-to”, but the signer, in a natural retelling, will often render Jonah as a CL character on the signing stage “going-down-to” Joppa. With incorrect background assumptions about “go-down”, she might have Jonah walking along a level plain until just before going down to the ship in the harbor. In reality, it is far more likely that Jonah went down early in his journey onto the broad plain between the mountains and Joppa. For exegetical decisions such as these, the translation team needs access to a broad information base.

5. Observations on differences between translated and natural text

My original design was to include here a detailed comparison of natural and translated texts, but this effort ran into several roadblocks. As these are illustrative of the general state of affairs in SL translation, I will mention them here. First, I was not able to secure a glossed natural text for comparison. Thus, I was limited to observing the interactions of the Filipino Sign Language (FSL) community, both in a formal Deaf church situation where the communication of both story and hortatory material, similar to the translated material, was mainly one-way, and in informal Deaf interactions. I was also unable, outside the laboratory setting, to ascertain whether or not all those I observed were native signers in the strictest sense of the word, but they were all Deaf, and most were leaders in the community, had good presentation skills, and were readily understood by their audiences. Although my observations were undoubtedly hampered by my limited understanding of FSL, I was able to notice differences in the signing of natural presentations vis-à-vis the translation I was checking, and these observations seemed to be appreciated by the translation team. The second and equally limiting barrier to comparison was that the translation I was checking during the Philippines workshop had only the bare minimum of information included in the gloss—a lexical equivalent in English of each FSL manual sign. Although in many cases, I could extrapolate missing information from my JSL experience, and sometimes from the back-translation (though this, too, was hurriedly done by a non-native speaker and missing a lot of information), it could not have formed a sufficient base for comparison.

I used observations of informal conversations mainly to help the translation team understand that literal movement on the actual recording stage is not necessary for clarity in role-shifting (RS). Because this is something that Deaf preachers or entertainers often do when talking to a crowd, translation teams sometimes see it as a necessary part of their storytelling. Yet when they tell stories to each other informally around a dinner table, very little movement is necessary to convey RS, major character movement, and mimetic elements, even in very dramatic stories. Stories told naturally in informal settings actually seemed less staged and more intense and dramatic than in their “stage style”, though of course testing would be necessary to confirm my impressions. The other drawback of the “stage style” has to do with framing the video shot. This style requires a distant framing that allows the signer plenty of room for movement. However, because the final products of the translation team are most often played back on a TV screen or computer monitor, the target audience is generally a small group—often only one person—as opposed to the large audience of the “stage style.” Thus, a closer, more intimate framing fits the medium better, and also allows the best view of the most crucial meaning-bearing element, the face.¹⁷ In Japan, viewers much preferred the closer framing, even though the signer’s hands would go off the screen slightly now and then. Viewers could easily fill in the miniscule information gaps caused by hand-departures, but the distance created between them and the signer was somehow disturbing, especially when compared with the closer framing. This will not, of course, be the case with every signed language.

¹⁷ In an attempt to help a signer learn to re-sign his own story using a video cue, after repeated failure we once cropped the video until just his face was visible. The hands only entered the screen now and then. With this as his cue, his signing of the story came to life again, and looked very much like the original. Of course, by that time, he knew the story well, but all the same, the crucial information for naturalness was in the face, not the hands.

Not every signed language in the world has the same signing space. Some have been found where the information load is weighted farther toward the edge of the signing space, or where the actual signing space is larger, but this often indicates an early stage in the development of the sign language, and seems to be the exception rather than the rule.¹⁸ In FSL, at any rate, the signing space was clearly not large enough, nor foot movement important enough to necessitate the large framing. The framing and the style seemed to be rather prompted by inaccurate pre-understandings about their language, or perhaps by the influence of translation projects in other languages.¹⁹

Observations of formal settings also provided information that was helpful to the translation team. In the story I checked, the signer did some of his RSs by turning his head, and sometimes his whole body, almost 90 degrees to the camera. This highly over-dramatized, hyper-real acting out of two people facing each other in dialogue is something I saw a preacher do on a stage in front of an audience, but even in that setting, it is certainly not a requirement of FSL. Another signer, one who, by the questions and answers and other interaction with the audience was clearly well-understood, never engaged in this kind of signing. She appeared to be the better communicator of the two. (Of course, I bring my own biases to the analysis. In Japan, this kind of signing is most commonly used by hearing people in their first attempts at role-shifting, or by linguistically naïve Deaf signers either trying to help hearing people learn sign language or in their first attempts at on-stage signing. It is also used by some preachers—generally the ones whose preaching style tends toward the Signed Japanese end of the spectrum.) It is certainly possible that this style of signing stems from a point early in the history of the sign language where a large proportion of the signers were still encountering the sign language for the first time as adults, and where signing “pure FSL”, if such a thing even existed, would not be understood. Both the age of the sign language and the interpretive skill of the target audience will have to be taken into account by the translation team when determining the kind of sign language to use. In places, it may be necessary to use a less finessed variety of the language that is readily understood by more people (though it is admittedly hard to imagine translating tightly argued hortatory texts in this limited variety of sign language). In the FSL situation, my judgment, based on what I saw of people interacting with each other, is that the great majority, if not all, were fluent in FSL, and that this preaching style may have been passed down from an earlier era, or influenced by the preacher’s exposure to situations where the FSL fluency is far less than in his congregation. Be that as it may, due to the parameters mentioned above, the translation team did not appear to be intending this style of signing—rather it was a lack of awareness on the part of the presenter that was corrected by the other members of the translation team. Certainly the presenter himself did not naturally use this kind of signing in informal communication situations.

6. Some observations on the SL translation process

6.1 *Importance of beginning with discourse studies*

I strongly recommend that projects begin by recording natural texts by native signers in a scenario similar to the one they envision for the primary users of their translation project. It might even be wise to have several contexts prepared for the same story—telling it to a large group, telling it to a small circle of people, telling it to one person. Ideally these texts will include third person narratives that the storyteller is familiar with, explanations of processes or ideas, and exhortations to action (these latter two could conceivably be included in the matrix of a story). This corpus, well glossed and back-translated, will provide a baseline for questions that come up in translation regarding participant activation strategies,

¹⁸ Adamorobe Sign Language, a village sign language in Ghana, has a larger signing space than most. See Nyst (2007:47-49, 88 and 214-217) for a fuller discussion.

¹⁹ Genre is another factor that must be taken into consideration when determining the style and the video framing needs of the translation.

reported speech strategies, and other discourse related parameters. It will also provide a good source for grammatical information from a natural base, and not just elicited material. In Japan, discourse studies are the least well developed of the linguistic areas, and simple explorations of this area have already done much to make our translation work look more natural.

In looking at translation work from Kenya and the Philippines, I have certainly had questions about the discourse, but apart from observations of informal signing situations looking for specific pieces of information,²⁰ there has been no way to track down answers. Also, observations are limited to questions I already have, and among those questions, to those for which the answers can be ascertained with a limited vocabulary. New discoveries of how a given signed language might work are ruled out completely.²¹

6.2 *Glossing and translation checking*

If the consultant is not a fluent signer of any signed language, then glosses must be very detailed, or important information from the signing will be missed. It is fairly common in the initial checking process to see simple glosses of one word per sign. This has worked to a degree with consultants who are familiar with signed languages, perhaps because some aspects of signed languages are universal (though this has yet to be studied in depth, and we must be very tentative in how we express it). For instance, a consultant might safely interpret an expression of intensity accompanying a sign, coupled with a certain sharpness of the movement of the manual sign itself as an equivalent of “very”. Still, it would seem better to have this written into the gloss in some fashion, and it should certainly be in the back-translation, as assumptions always have the potential of misleading. Getting top quality bilingual workers to do the back-translation and glossing and training them well will be an important part of the checking process. If a discourse analysis component is included as part of the translation process, this would be an ideal training opportunity, and would of course lead to a deeper understanding of the signed language in question on the part of the glosser/back-translator. The insights gained should always be passed on to and discussed with the translators as well, since a strong theoretical base will support their instincts as native signers, and give them added confidence in their work.

6.3 *Glossing strategies and ELAN*

There are two approaches to glossing in signed languages, the two-tiered and the single-line methods. Though the two-tiered approach is effective and has proven popular in sign language linguistics literature, it has one major drawback for the purposes of translation checking—it is difficult, if not impossible at this point, to output two-tiered glossing from ELAN, an annotation software that has proven quite useful and increasingly popular in analyzing signed languages. In the two tiered approach, glosses of manual components are characteristically input in all capital letters in an LWC equivalent on the bottom line, and non-manual signs are input on the top line, with the extent of their scope or duration indicated by a line over the glosses. The free translation is commonly placed below this. The information that fits in the top line is often defined by the scope of the investigation at hand, and has the potential of causing confusion when two different scopes are at work at once. For example:

²⁰ For instance, even as an outsider to FSL, I was able to question the repeated use of the full noun phrase for God in Genesis 1, and gather a limited amount of informal data to verify my suspicions as to whether or not this was natural in FSL discourse structure.

²¹ A side benefit to this endeavor would be training people in both glossing and back-translation. Without being able to depend on previous knowledge, or having an authoritative source text to “peek” at for “the right answer”, trainees would be forced to depend on their knowledge of the signed language itself, and those who were unable to work at this level would recognize their inability and be more likely to see the need for qualified personnel.

	(shi)tta ynq
ALL.OF.YOU	KNOW MOVIE,
<i>The movie you all know . . .</i>	

Here “ynq” (Yes/No question marker) extends over the whole phrase, but the mouth movement (which happened to be under investigation in this paper) only occurs with the manual sign for “know”. Though it is certainly possible to get around this problem by adding multiple lines, the single-line method avoids the problem entirely. For my purposes, it also had the advantage of being in line with discourse studies notation systems. The fact that it follows the Leipzig Glossing Rules guidelines,²² and is already required by at least one linguistics publisher for articles on signed languages²³ also made it attractive.

In the one-line glossing system that I recommend for use in ELAN, glossed words are in lower-case, with periods separating multi-word glosses of a single sign. Letters or numbers before and after the verb, separated from the verb by periods (e.g. x.verb.y), are used to indicate directional verbs, and verbs involving three locations are notated thus: verb.x.to.y.to.z.²⁴ Grammatical markers are indicated with capital letters in abbreviated form. To the standard convention of using a hyphen to separate morphemes that occur sequentially, I have added the convention of using the “plus” sign for morphemes that occur simultaneously (common enough in signed languages, but apparently not common enough in spoken languages to warrant a notation convention).²⁵

The resulting notation looks like the following:

RefS.2+PT.2Pm+TOP know+TOP+EYGZ.2 movie+TOP+EYGZ.2

For the sake of readability, it might be advisable to render some of the spatial references with pronouns or with their antecedents in the discourse, so that the above would be rendered:

RefS.2+you.P+TOP know+TOP+EYGZ.2 movie+TOP+EYGZ.2

For beginning readers of this notation, having the LWC equivalent of the manual sign first might be better, but in the flow of the signing, the more intuitive rendering for me was to have the RS and RefS first, as they seem to precede the manuals slightly in the signing. More study is needed to verify this, but ultimately it might come down to the judgments of the various teams using the notations. As long as there is a consistent application of glossing principles adopted, the reading, a tenuous substitute at best for seeing the actual signing, will be possible.

6.4 Pure sign language translation environment

Ideally, non-native signers should be kept out of the translation environment. Though they can be valuable resources to a translation team, it is better that communication take place via truly bilingual

²² <http://www.eva.mpg.de/lingua/resources/glossing-rules.php>

²³ John Benjamins Publishers give their Guidelines for contributors to sign language and linguistics at: http://www.benjamins.com/cgi-bin/show_html.cgi?file=%2Fjbp%2Fseries%2FSL%26L%2Fguidelines.html&back=overview .

²⁴ Although subscript numbers are the norm in publications, input in ELAN is much quicker with items simply separated from the verb by periods, and though reading this format might be a touch less intuitive than subscript, ease of input, particularly for new glossers, will probably be more important at this stage. It may cause additional work down the road when publication time approaches, but it also makes it more likely that we will have glossed texts to analyze and write papers about. The learning curve is going to be hard enough as it is.

²⁵ For more details on my proposals, see Appendix B.

translators. Despite the best efforts of the non-native member to persuade the team not to take what they sign as a suggestion for translation, it inevitably happens.²⁶

On the other hand, though it may sound odd, in theory, a Deaf person is not the ideal translator either. The ideal translator is truly bilingual—that is, a native speaker of both the source and the target language. Since native Deaf signers by definition are not native in the spoken LWC, that is, they cannot acquire it naturally, they are not truly bilingual.²⁷ Late-deafened signers may be native in the LWC, but not in their sign language. Thus, some sort of team approach is necessary to bring together the worlds of the source language and the target language.²⁸ The best signers in the Deaf community are not always the most skilled in LWC reading, and thus do not always have access to the broad range of exegetical material that they should ideally have. Whether the exegetical material comes in the form of corrections to the translation or in a solid pre-understanding of the source text material, this component must be present.

As the only truly bi-lingual persons available to the team, it would seem that CODAs are an important piece of the SL translation puzzle. As hearing adult children of Deaf parents, many of them have the ability to be a solid, core part of the Deaf community, but there is still some ambivalence. Though they are “our children” to the Deaf, they are still at some level “hearing.” They went to hearing schools, work in the hearing world, know the hearing ways. Though some belong in the Sign Language community, they are still not Deaf, and finding their way through the maze of conflicting expectations and attitudes can be tricky. Also, being a CODA does not automatically qualify a person as a sign language expert. A wide variation of sign language ability exists among CODAs, even in the same family. Parent’s attitudes toward their own language, the child’s position in the family, their life experiences and resultant language attitudes, and their continued presence in (or separation from) the Deaf community as adults all play a part in determining their fluency. Nevertheless, on the whole, they still have major potential advantages over non-native signers, and should at least be considered for a place in the SL translation picture as bridge people.²⁹

As to whether or not a CODA could be a translator, this, too, is somewhat complicated. It is certainly not impossible. Lou Fant is an example of a CODA who is well-known in the ASL world, a highly skilled signer, with strong presenter skills and a well-developed linguistic awareness, whose translation work has been accepted. As a rule, though, the acceptability of a CODA as the “face” of the translation can be problematic and must be carefully considered. Though some are sought after as interpreters, they do not tend to be chosen as spokespeople of the Deaf community.

6.5 *Comprehension checking*

Most of the translation projects I am familiar with include some kind of comprehension checking in their translation process to verify what is actually communicated to their chosen target audience.³⁰ From my limited experience with group comprehension checking in Kenya and the Philippines, and extensive experience with the single-respondent method in Japan, I strongly favor the latter method for a detailed, dependable comprehension check. In the one-checker environment, if the person leading the session is

²⁶ Much to my chagrin, people who know me well have been known to say “that looks like a ‘Mark’ sign” when watching some of our early translation work, even though my face is of course never seen.

²⁷ In terms of educational strategy, “bilingual” is a byword among the Deaf, but this should not be confused with bilingualism as a linguistic phenomenon.

²⁸ Though some source texts may be written in ancient languages that no one has native access to, scholarship on these languages is accessed via the LWC, making fluency an issue.

²⁹ For more information on the CODA phenomenon, see Preston (1995).

³⁰ Methods vary, but a quick glance through Appendix A will verify this.

part of the translation team and understands the purpose of the checking, it is not difficult to teach them the basics of getting information without giving away the answers by the content of the questions. If the respondent is carefully chosen, every piece of information they give comes only from the translation, and you can have a clear picture of exactly what they understand it to mean. Without the peer pressure of others who “know more”, people can be made to feel free to “get it wrong”, because the mistake is always with the translation—they are just telling us what they see it to be saying. This is not always easy or instantaneous, but particularly if the tester’s attitude consistently affirms this, it has almost always proven possible. If a wider range of input is needed, multiple one-on-one sessions are possible.

On the other hand, controlling the information flow in a group, even for an experienced leader, can be difficult. Often one person who has background knowledge will dominate the discussion, giving away information that may not have been clear in the translation, but once the information is out there, people can see how it might have been clear, or just assume it was. People with less previous knowledge—the very ones we need input from the most—are hesitant to speak up for fear of being wrong, and it becomes increasingly difficult to draw them out even if the stronger participants are asked to hold back and let them speak first.

As to method, I have found that moving from the big picture down to the details provides the best information. In Japan, we start with the largest discourse unit—the whole story. After one viewing, the respondent retells from memory what they have just seen. This step is an important clue as to the general integrity of the discourse. Of course, individual memory capacity varies, but if the main chunks of discourse are re-told, even with some minor inaccuracies, it is a good clue that the basic framing of the story is solidly structured, and that key points are clear. At this stage, we generally take what they tell us from memory, ask a few clarifying questions or jog their memory with a word or two if necessary, and move on. From there, we show a paragraph at a time. If the respondent requests it, we will repeat the viewing, and then once again start with the retelling. Any important pieces of information not included in the retelling are requested in carefully crafted questions, ordered in such a way as to give away as little information as possible. Often picking a word out of the translation and asking about it gives good results. After all the information that can be gained is in, we then, if more details are missing, move to the level of one or two sentence portions and repeat the process. At this stage, the misunderstandings found in previous retellings sometimes correct themselves upon closer examination of the signing. If after three repetitions of a sentence, the meaning is still not clear or is misunderstood, we mark the passage for further translation work. If the translator is present (highly recommended whenever possible) she may have ideas for retranslation that can be tested then and there. Also, when all the available information has been gleaned from the respondent, and we are able to explain what it was we were trying to say, we sometimes get translation hints from the process of explaining the meaning, and sometimes the respondent’s feedback (e.g. “oh, you mean _____?”) contains translation ideas as well.

This is not to rule out group testing entirely, of course. The FSL group check, though producing mixed results in determining how well their translation was understood, was very helpful in determining lexical scope of several words in the FSL checking process. It also gave the FSL team good input on the acceptability of their work, particularly at the lexical level. Groups have proven essential in Japan for discussion of key words, where finding a wide variety of possible expressions and then narrowing them down is an important part of the process. Another benefit of group testing, not validated in our experience but explained in one of the TCDW sessions is pre-exposure of the community to the translation, and a pre-disposition on the part of the community to want to use it when published. Group “checking” of this kind can also be useful in providing the community a template of how the translation can be used. The concept of studying a book is a fairly widespread and well-understood idea, but studying a video or DVD is far less intuitive. Community testing can help bridge this gap by giving people from the community experience in actual study of the translated materials. And although not quite as detailed and controlled, if in a check of this kind, a portion of the translation were to prove incomprehensible or misleading to the whole group, revision would certainly be indicated.

7. Conclusion

We have seen that the SL translation situation is difficult and complex, although it should be noted that most of the issues dealt with here relate to the sociolinguistic situation of the Deaf community rather than to the difficulty of using the language itself to express the needed concepts. Signed language translation shares many of the challenges of other oppressed minority language translation, but also has the added twist that only a small proportion of the language community has access to their first language from infancy, and many do not encounter natural sign language until well past their optimal language learning years. This can complicate the choosing of signing style and shrinks the potential pool of translators. Complicating personnel issues further is the fact that the Deaf community often has a “small town” feel (even though its members may be scattered throughout a large metropolis), and care must be taken to either “remove” the face via animation or video editing, or find a translator that will be acceptable to the community. In the exegetical arena, we saw not only sociolinguistic factors, but also the visual nature of signed languages themselves adding to the difficulty of the task. Only when we get to observations on the SL translation process do we encounter issues that are related to the nature of the language itself, though even here, the difficulties in preserving a pure language environment for the translation team had a distinct sociolinguistic side.

Nonetheless, underlying the whole discussion is the assumption that the task, though difficult, is certainly possible. A good start has been made in several countries, and with each new start-up, the SL translation community will have better models to follow and less necessity for the trial and error that has characterized the process so far.

Appendix A: Examples of actual SL translation processes³¹

*Australian translation process*³²

- 1) A front translation is prepared by a CODA based on English versions, with input from a Bible scholar.
- 2) A Deaf team with a Deaf-of-Deaf translator makes a first draft based on the front translation and LWC texts, sometimes using the front translation as their cue while signing.³³
- 3) The TC (translation consultant) views the translation with a CODA interpreter and checks it for accuracy. When possible, the interpreter is an uninitiated native speaker (UNS),³⁴ so that this step doubles as a comprehension check.
- 4) Suggestions for change and points for discussion are sent to the translation team, who make a revised draft. After revisions are agreed upon, they are often recorded using the previous draft as a cue, with the signer replacing flawed portions with new material on the fly.
- 5) The new draft is checked by the TC.
- 6) Steps 4 and 5 repeated until a final draft is approved.
- 7) Recording takes place in a professional rented studio with blue-screen technology to allow for insertion of various backdrops into the final product.

³¹ These descriptions have not yet been checked or approved by the teams involved except in the case of Japan. In places where I assume steps without explicit input, I have placed the step in parentheses and surrounded them with double question marks: (?? *Description of Step* ??)

³² Information gleaned from Auslan project report of the first Asia Pacific Sign Language Multi-Agency meeting in Bangkok, Thailand, November 20-22, 2007.

³³ Australia was the first to use video as a cue for the signer in the SL translation process

³⁴ An uninitiated native speaker is a native speaker of the target language who is unfamiliar with the text being translated, and thus limited to the text itself for all their input.

- 8) Final draft checked by consultant.
- 9) Final video editing, including voice-over, backdrop insertion, subtitles, and verse references.
- 10) DVD authoring.
- 11) Final check.
- 12) Publication.

*Costa Rican translation process for pilot project*³⁵

- 1) Text Study: A team of four Deaf people, an interpreter (LESCO-Spanish), and a translation consultant studied the text together.
- 2) Deaf community perspective: The Deaf members reflected on the relevance of the text for the Deaf community in order to prepare a commentary³⁶, with the consultant present as an observer.
- 3) Translation: The Deaf members translated the text. When exegetical questions arose, the coordinator (Deaf) met with the translation consultant for clarification. The coordinator was also responsible for drafting the commentaries.
- 4) First Draft: After each story was translated, the coordinator prepared schemas as memorization aids, and then worked with the on-camera signers, using schemas to help with memorization. After the text was memorized, the coordinator recorded the first draft using home video equipment.
- 5) Review: The full team analyzed the first draft, with the interpreter back-translating into Spanish for the translation consultant.
- 6) Second Draft: Deaf members of the team worked through the corrections and suggestions and recorded a second draft based on them.
- 7) Review: The translation consultant checked the second draft via the interpreter's back-translation.
- 8) LESCO Committee Review: The coordinator showed the second draft to the National Committee of LESCO, who made lexical corrections and gave important input on the presentation and the commentaries.
- 9) Third Draft: A third draft was recorded incorporating the corrections and suggestions of the National Committee of LESCO.
- 10) Review: The translation consultant checked the third draft.
- 11) Church Review: A meeting was held at the Costa Rican Bible Society where the third draft was presented to Deaf representatives from different churches, meeting an enthusiastic response and gaining valuable presentational suggestions that were incorporated into the final recording.
- 12) Pre-recording Preparations: Backdrops and signers clothing were purchased in preparation for recording.
- 13) Recording: A professional team was hired to record every morning for five days. Standing under bright lights and in front of several cameras, some of the signers had trouble remembering their lines and had to repeat the same scene many times. The translation consultant was on-site in a separate room, reviewing the translation via interpretation.
- 14) Audio: The LESCO was back-translated into Spanish and recorded for inclusion in the final product, with input from the translation consultant.
- 15) Final Editing: The video editor was hearing, but the Deaf coordinator took the lead (via the interpreter) in making the sign language editing decisions. The interpreter was the point person for the matching of signs to audio and subtitles. The translation consultant was also present.
- 16) Final Review: The finished product, including audio and subtitles, was reviewed by the translation consultant.

³⁵ Distilled from Tamez 2008: 64-65.

³⁶ A commentary, in this context, is a set of notes or explanations apart from the text itself that gives background information and offers explanations to help the audience understand the meaning and relevance of the text to their individual and/or community life.

- 17) Packaging: The DVD cover is designed with input from the Deaf team given primary consideration.
 18) Publication.

Japanese translation process

- 1) The Deaf team records a first draft on videotape. (Chapter and verse references, date, and “take number” are shown on a laptop recorded in the corner of the screen.) Their resources are the Japan Bible Society translation, three or four other Japanese language translations, and, when available, an interlinear Hebrew/Greek³⁷ to Japanese text, with Bible dictionaries, commentaries, and other helps available in Japanese as needed for reference.
- 2) The consultant checks the first draft for accuracy, noting also possible comprehension and naturalness issues, and offering possible solutions. His three main resources are BibleWorks, Translators Workplace, and Japanese Bible software. He reports the results to the team, either in writing, face-to-face, or when necessary by internet web cam.
- 3) When the team agrees that a correction is needed, they videotape a new rendering of the problem portion (again including chapter and verse references, date, and “take number” as above) and edit it into the first draft, creating draft two.
- 4) The consultant checks the second draft in the same way as the first. With the big problems solved, he sometimes notices less noticeable errors, so checks the whole portion, not just the parts that were repaired. He reports the results to the team as before.
- 5) When the team agrees that a correction is needed, they videotape a new rendering of the problem portion and edit it into the second draft, creating draft three.
- 6) The above process is repeated until all issues are resolved. At the same time, others on the team and the translator himself check the work for naturalness and understandability, and changes are recorded and edited into the working draft.
- 7) If not done as part of the above process, the signer (or potentially another person on the team) goes over the draft with the editing software and fine-tunes the edits so that the signing flows as naturally as possible. The idea is to make it seamless, each pause the appropriate length, no slowing down or hesitation in the signing. This is done by choosing a tiny clip and either speeding it up or slowing it down to the appropriate percentage, resulting in a draft that looks entirely natural.
- 8) With the above as a cue, using 8 monitors to allow for natural eyegaze without missing information, the signer makes a new, clean draft.
- 9) This draft is used for comprehension checks with a non-churched Deaf person. (Comprehension testing is also useful for translator training, so especially with new translators, we make sure they are present at the comprehension check.) We first play an entire section (chapter, or logical chunk of discourse) and listen to what they can tell us about it. This information is useful for understanding the overall difficulty of the portion. We then narrow down to paragraphs and get similar information. If at the paragraph level, the respondent is able to feed back everything in the text, we may elect to skip the next step, which is the verse-by-verse checking. If after three viewings of a verse (or similar sized chunk for large or very small verses), there is clearly a misunderstanding, or inability to comprehend the content, we tag that portion for re-translation. If the translator is present, by this time she will have ideas on what the problem might be, and can, on the fly, give alternate renderings. (When possible, comprehension checks are recorded in whole, as the retellings sometimes give us hints for improvement, but if not, we at least record the translator’s alternate renderings at this point.) Immediate feedback is then available regarding the meaning of the new rendering. If the meaning is still not accurately understood, and it can be done without sacrificing the integrity of checks on

³⁷ The original biblical texts being translated were written in ancient Hebrew, Greek, and Aramaic, but the translators are usually not familiar with those languages. Interlinear versions, if used with care, can sometimes help them see past the LWC text they are looking at to the real text behind it.

following portions, we explain to the respondent what we are trying to communicate in our translation. Recording the explanation and the respondents' response can help give ideas for translation as well.

- 10) Based on comprehension checks, more recording and editing is done.
- 11) Consultant checks all changes made based on comprehension checks.
- 12) At this point, depending on the experience of the translator and our confidence in their skill, we sometimes call in sign language specialists from the Deaf community for input on naturalness and other sign language issues, and make changes as necessary based on their input.
- 13) Consultant checks all changes based on sign language specialist check.
- 14) The translator practices signing off of the final edited draft. These practice runs are sometimes recorded, and if they are better than the edited draft, they are used as the cue draft for the final recording.
- 15) Consultant makes a final check of the draft that will be used to cue the signer during the final recording session.
- 16) Recording session.
- 17) Accuracy check of final draft.
- 18) Video editing, adding verse numbers and other captions (new words, first time only).
- 19) Post-edit accuracy check and verification check.
- 20) DVD authoring.
- 21) DVD check (we burn a DVD and check each link on every menu on a commercial DVD player or computer DVD player to make sure it works properly).
- 22) Publication.

Kenyan translation process

- 1) A team of five Deaf people make a rough draft of the translation, with staff available to answer questions. Their resources are LWC texts and the "International ASL"³⁸ version.
- 2) The draft is brought into ELAN, glossed, and back-translated by a staff person (not a native KSL speaker).
- 3) The ELAN file is sent to a translation consultant who checks it, writes up the needed corrections and points for further discussion in CONNOT³⁹ format, and sends it back to the team. (If possible, the consultant is present when CONNOTs are presented to the team.)
- 4) A new draft is made based on input from the consultant.
- 5) (??Steps 2-4 are repeated until a mutually agreeable draft is finished??)
- 6) Comprehension check.
- 7) Revisions.
- 8) (??Steps 2-4 are repeated??)
- 9) Recording Session.
- 10) Final check.
- 11) Portions with mistakes re-recorded and checked.
- 12) Video editing.
- 13) Final check.
- 14) Publication.

³⁸ "International ASL" is not a language per se, but a kind of ASL used by DOOR (Deaf Opportunity Outreach) International to translate selected scripture passages using a vocabulary that is more accessible to a wider range of other signed language users than standard ASL would be.

³⁹ CONNOT (short for "Consultant Notes") is a standard text format that is used in some translation projects for recording the observations and advice of a translation consultant on a translated draft.

Philippine translation process

- 1) A team of three Deaf people and one translation assistant exegete the passage, storyboard the translation, and record the first draft of the translation.
- 2) The draft is brought into ELAN, glossed, and back-translated by the translation assistant (not a native FSL speaker).
- 3) The ELAN file is sent to a translation consultant who checks it, writes up the needed corrections and points for further discussion in CONNOT format, and sends it back to the team. (If possible, the consultant is present when CONNOTs are presented to the team.)
- 4) A new draft is made based on input from the consultant.
- 5) (??Steps 2-4 are repeated until a mutually agreeable draft is finished??)
- 6) Comprehension check.
- 7) Revisions.
- 8) (??Steps 2-4 are repeated??)
- 9) Recording Session.
- 10) Final consultant check.
- 11) Portions with mistakes re-recorded and checked.
- 12) Video editing.
- 13) Final check.
- 14) Publication.

Some information from the Deaf Missions website on the United States translation process⁴⁰

“For years, many Deaf and hearing Christians were convinced that an ASL translation of the Bible was needed, but no serious attempts were made to launch a sustained effort because of the enormity of the task. However, in 1981, Deaf Missions determined to step out in faith and pursue the first translation of the Bible into ASL with no established principles or guidelines to follow. The first few years were spent searching for a process that would produce an accurate and dynamic visual translation from the original Greek, Hebrew, and Aramaic languages. In the beginning Dr. Harold Noe worked with the on-camera presenter to prepare a simple English "front translation," from which the signed version was prepared. These first draft translations were then sent to a Translation Committee of key Deaf and hearing leaders from several denominations for review and critique. Many of the early efforts produced translations in Pidgin Signed English (PSE), which looks similar to ASL, but uses English grammar and order. However, in later years, the translations were completed in true ASL with Deaf signers.”

“A turning point came in 1984, when we realized the wisdom of using a team approach in the translation process. The team approach helped produce a more accurate and understandable translation in ASL. Since then, teams consisting of an ASL Translator (Deaf), ASL Consultant (Deaf), Bi-Lingual Consultant (hearing with ASL skills), and an Original Language Consultant (hearing or Deaf) have been formed for each book of the Bible. These teams work together, analyzing the English model text while back checking to the original Hebrew and Greek texts, to translate the Scriptures. The ASL Translator then serves as the on-camera presenter for the translation.”

Appendix B: Details of the proposed signed language discourse notation system

- xxx-yyy = morphemes that follow each other in time.
- xxx.yyy = glosses that cannot be conveyed in a single English word.
- xxx+yyy+zzz = simultaneously occurring morphemes, where the first entry is a manual sign(MAN), with non-manuals (NM) following in top-down order, such that “?” would be before “EYGZ.ru”, since it utilizes the whole head, whereas “you” uses eyes only.

⁴⁰ From: <http://www.deafmissions.com/?PageID=29>.

- PT1 = Point to self.
- PT2 = Point to 2nd person.
- PTx = Point to 3rd person in x position.
- PT. Pm Point to 3rd person plural middle of sign space (P= plural, m= middle). Following this syntax, S= singular, D= dual, T= triple, r= right, l= left, m=middle, u= up, d= down, n=near signer, d=distant from signer, b=behind signer 0=neutral (used for EYGZ and RefS), p=person present in signers space.
- PTxxx = Point to the position occupied by or hand shape representing xxx.
- -PTx=Clitic PT.
- (When “point” is used as a verb as in “they pointed . . .”, it is spelled out to distinguish it from pronominal, indexing, and other grammatical usage.)
- EYGZ.x = Eyegaze, with x filled in with same parameters as for PT above.
- rh/lh= Right hand, left hand, when they act separately on signing stage (see #26).
- x.V.x = Directional verb with ACTOR and/or UNDERGOER included as part of the V (e.g. ru.command.Pm = “He/she (previously established in ru position) commands them (people in the m position)).
- RSxxx = Role Shift, wherein the signer assumes the role of one or more participants in the story, with xxx indicating the participant. Although this is a set of NMs that cover an extended piece of communication, it will only be noted at the beginning, with the shift to the next character or back to narrator noted as the end point.
- RefS Reference Shift, wherein the signer maintains previous role, but directs the persona toward a different participant.
Note: In order to avoid unnecessary duplication, if Ref._ is noted, EYGZ._ can be assumed, as Ref. is generally indicated by eyegaze.
- xx-yy⁴¹ Finger-spelled word (xx- -yy Finger-spelled word with dash).
- CL = Classifier.⁴²
- MIME = mimetic depiction with no classifier or hand shape involved.
- +YNQ = NM Yes/No question.
- +WQ = NM WH question.
- +NEG negative head shake simultaneous with manual sign.
- -NEG negative head shake after MAN and NM sign cluster.
- +POS positive head nods simultaneous with manual sign.
- -POS positive head nods after MAN and NM sign cluster (not to be confused with the sentence or clause final head nod).
- +REP Reported speech marker simultaneous with MAN.
- - REP Reported speech marker following MAN.

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⁴¹ In JSL, most finger-spelled letters need two Roman letters, thus the notation above. In ASL, it would of course be “x-y”.

⁴² Also, and perhaps more accurately, called poly-componential verb, poly-componential predicate, or classifier predicate.

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Mark Penner
1-2-12-106 Shinkawa Cho
Higashi Kurume Shi
Tokyo, Japan 203-0013
penner@worldventure.net