3-15-2013

Keeping it vague: a study of vague language in an American sign language corpus and implications for interpreting between American Sign Language and English

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EVALUATION

The undersigned members of the Graduate Faculty of Western Oregon University
have examined the enclosed thesis entitled:

Keeping it Vague:
A Study of Vague Language in an American Sign Language Corpus
and Implications for Interpreting between American Sign Language and English

Presented by: Daniel James Greene

A candidate for the degree of: Master of Arts, Interpreting Studies
with an Emphasis in Teaching Interpreting

And hereby certify that in our opinion it is worthy of acceptance
in partial fulfillment of the requirements for this master's degree.

Date: March 15, 2013

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By

Daniel Greene

A thesis submitted to Western Oregon University

In partial fulfillment of the requirements for the degree of:

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ACKNOWLEDGEMENTS

Marie Lejeune, who guided me in discovering my research question, scope, and instrument for this study.

My learning and teaching about VL was encouraged by the following organizations and businesses that hired me to present workshops on interpreting vague language: the Arizona chapter of the Registry of Interpreters for the Deaf (Arizona RID), and their Professional Development Committee headed by Bob Caccioppo, who hosted my first VL workshop in 2009; the National Alliance of Black Interpreters (NAOBI) and their professional development chair, Noah Butler, who hosted my VL workshop during NAOBI's 2010 conference in Phoenix, Arizona; Nevada RID and their secretary, Merideth Aurs, who attended my workshop on genre recognition at RID Region V conference in 2010 and asked me to teach VL to her RID chapter in 2011; the Western Regional Interpreter Education Center (WRIEC) and its director, C. M. Hall, who hosted my VL workshop during their Silent Weekend on the campus of Western Oregon University, which they scheduled to coincide with the end of the first summer colloquium of the Master of Arts in Interpreting Studies program; Laura Safranski, who encouraged me to submit a workshop proposal to the Aloha Association of the Deaf (ASAD) and Hawaii RID, who hosted my workshop on VL at their state conference in 2011; the Newport News Public Schools and Rebecca Hillegass, who invited me to present a workshop on VL to the Virginia Beach ASL-English interpreting community in 2011; Professional Interpreting Enterprise (PIE) and Carol Goeldner, who invited me to present a workshop on VL to the Milwaukee ASL-English interpreting community in 2011; Dynamic Communications, Inc. / ASL Interpreting Services, and Jacquie Williams, who invited me to propose a workshop, and then hosted my VL workshop, for the Minneapolis ASL-English interpreting community in 2012; Windy Kellems, who invited me to guest lecture on VL in her ASL-English interpreting classes several times between 2010

and 2013; Michelle Monahan, who allowed me to complete my master's degree student teaching assignment as her co-teacher in the Introduction to Interpreting course at Phoenix College in 2012, and for welcoming my lecture on VL during that course; Kay Hilder, director of the Interpreter Preparation Program (IPP) at Phoenix College, who gave me my first two IPP teaching opportunities and encouraged me to join the Conference of Interpreter Trainers (CIT).

I will be forever grateful to CIT and their leadership for creating a space for interpreter educators like me to network, learn, and grow. CIT conferences are rich learning and networking experiences. Fellow teachers at CIT have comforted me by letting me know I am not alone, and inspired me to build on the progress they have made in elevating the interpreting and interpreter training field. I very well might never have found writings about "fuzzy language" if I had not met Xiaoyan Xiao, a US-China Fulbright Visiting Research Scholar from the Department of Interpretation at Gallaudet University, at CIT 2012. Xiaoyan attended my poster session on this thesis and tipped me off to the existence of literature on interpreting and translating spoken language vagueness referred to as "fuzzy language." When I searched the Internet for "fuzzy language," I found that the only writers who used that term were Chinese. Thanks to Xiaoyan Xiao and the Fulbright Scholarship for helping to bridge the US-China divide!

With all my heart I thank my family who encouraged me, supported me, and loved me through the process of completing my coursework and writing this thesis. I thank my husband, Andy Smithers, for his patience with me while I gave my time to this project and not to him; I thank him for the iced lattes, fruit smoothies, and snacks he brought me while I sat at my desk for hours pounding away. I thank him for the meals he fixed and laundry he washed. I thank him for reading and editing this paper and questioning my statements until I could articulate them to someone unfamiliar with VL. I thank my father, Andy Greene, for paying for my tuition so I

could focus less on money and more on learning. I thank him, also, for seeing the PhD in me before I even completed my MA. He encourages me to become what he already knows I am.

I dedicate this thesis paper to my mother, Jonni Greene, who died of cancer while I was completing my master's degree. She said I was the best thing she had ever done with her life. She showed me her love and pride, and she never let me push this project aside for her sake.

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ABSTRACT

Keeping it Vague:
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By

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March 15, 2013

Vague Language (VL) seems to be a universal feature of language, and American Sign Language (ASL) has been shown to have all the properties of language; therefore, it is natural that VL would appear in ASL. This thesis is the first study of VL in ASL, and provides evidence that VL occurs in ASL and is used to express meanings equivalent to those of VL in English. The findings of this study document yet another property that ASL shares with other languages, and contribute yet another language to the body of languages that have been studied for VL.

The investigator of this study analyzed the National Center for Sign Language and Gesture Resources (NCSLGR) Corpus for vagueness and found that the corpus contained vagueness in signs, gestures, and non-manual markers (NMMs). Hedging, approximation, and lack of specificity were the predominant types of vagueness found in the NCSLGR Corpus. The findings of this study, in addition to the literature reviewed, have implications for ASL teachers, ASL-English interpreters, and interpreter trainers. Previous literature has shown a need for explicit metalinguistic instruction about VL to second language (L2) learners, interpreters and translators. The ability to be vague has been shown in previous research to be a form of

pragmalinguistic competence. This study contributes to the knowledge of the forms and functions of VL in English and ASL so that ASL students may improve their pragmalinguistic competence in ASL, and ASL-English interpreters may improve the pragmalinguistic equivalence of their interpretations.

INTRODUCTION

Background

Interpreters who work between American Sign Language (ASL) and English encounter vague language (VL) in both languages, whether they know it or not. This study fills that knowledge gap to help ASL-English interpreters understand the functions of VL in communication and the forms of VL in ASL and English. There has been some research on translating vague language (Olohan & Baker, 2000; Razuaité, 2010), otherwise known as "fuzzy language" (Tie-ping, 1999; Zhang, 2007; Cao, 2008; Ning, Wang, and Zhang, 2012; Chinos, 2012) in spoken languages. After an article on VL in English, ASL, and ASL-English interpreting (Greene, 2011b), this is the second paper to disseminate information about VL to the ASL-English interpreting field and the first to document VL in an ASL corpus.

Statement of the Problem

Interpreters are faced with the challenge of interpreting the human gamut of expressions, among which are expressions of vagueness. To grasp and convey the full intent and meaning of the consumers they serve, interpreters need to recognize VL and have strategies for transferring its meaning from one language to another. Interpreters who do not recognize VL and understand its pragmatic force may do harm. If interlocutors are vague in an interpreted interaction, and the interpreter is unable to convey the social meaning of their vagueness, the interpreter may cause the interlocutors to feel awkward at best and insulted at worst.

Both Deaf and hearing people have perceived vague language as a bad thing. Grammarians have written textbooks deprecating the use of vague language (Esser, 1999, as cited in Cheng, 2007, p. 163; Dowhan, Dowhan, & Kaufman, 2009, and Shurter, 1911, as cited in Nordquist, n.d. to name but a few). Of Deaf culture, it has been said, "Hinting and vague talk

in an effort to be polite are inappropriate and even offensive" (Lane, 1992, p. 16 as cited in Mindess et al., 2006, p. 85). Likewise, as reported by two prominent interpreter educators, one of whom is a native ASL user, Deaf people see vague language as obfuscating and oppressive (anonymous, personal communication, October 20, 2012).

Generalizations about Deaf culture are widely accepted by ASL students and teachers, ASL-English interpreting students and teachers, and ASL-English interpreters. Unfortunately, the danger of these generalizations is that people may accept and perpetuate stereotypes about Deaf Culture that disregard linguistic evidence to the contrary. Hoza (2007) notes one of these generalizations:

DEAF / topic, BE-DIRECT. HEARING / topic, BE-VAGUE.

[*translation: Deaf people are direct, and hearing (non-Deaf) people are indirect (or vague).*] (Hoza, 2007, p. 1 [original emphasis])

There is a lack of literature on VL in ASL, and what is known about VL and its implications for interpreting and translating has not been promulgated in the ASL-English interpreting field. VL researchers in disciplines other than ASL and ASL/English interpreting have said that VL needs to be included in second language learner curricula (Evison, McCarthy, & O'Keeffe, 2007; Koester, 2007; Terraschke and Holmes, 2007; Warren, 2007), yet these recommendations do not appear to have reached the ASL teaching and ASL/English interpreter training field. Thus far, VL is not included in ASL and ASL/English interpreter education curricula.

Purpose of the Study

The purpose of this study is to document VL in ASL with the hope that this knowledge will improve the process and product of ASL-English interpreters' work; that is, interpreters will

have a better experience interpreting vague language, and consumers of interpreting services will have better experiences expressing and receiving vague language. This study counters generalizations about Deaf culture with linguistic data about ASL. The goal is not to take away from what is known about Deaf culture but to add to what is known about ASL. While the primary languages concerning this study are ASL and English, there is information herein about the functions of VL that apply to language in general, and it is hoped that students, teachers, interpreters and translators of all languages will benefit from the knowledge presented here.

The present study responds to the call from other authors for further research of VL in different languages. Channell (1994) suggested that "the analysis of vagueness in languages other than English offers rich potential for further study" (p. 208). More recently, other researchers wrote, "Corpus-based cross-linguistic comparisons of VCMs [vague category markers] are needed, especially for less-researched languages, both in terms of syntax and semantics and pragmatics" (Evison et al., 2007, p. 156). The present study, the first examination of VL in ASL, aims to contribute a "less-researched" language to the body of corpus-based cross-linguistic comparisons of VL.

Theoretical Bases and Organization

This thesis holds that understanding the forms and functions of language (i.e., what people say and why they say it that way) helps interpreters recognize the text, context, and subtext of human communication. The basis for this thesis is that understanding the meaning of and behind words and signs helps interpreters choose equivalent expressions that convey speakers' intent. This understanding of how people use language to accomplish social goals, and this ability to implement that language to accomplish those goals, is called *sociopragmatic competence*, and is especially vital for second language learners (Harlow, 1990). It is well known,

though not well documented, that most ASL-English interpreters are second language learners of ASL; hence, sociopragmatic competencies like VL are skills that must be studied to be mastered.

The approach taken in this study is empirical and linguistic, not anecdotal and anthropological like much of the literature on Deaf culture. The author's view is that Deaf culture is not monolithic, that there are as many different kinds of Deaf people as there are hearing people. Language may be tied to culture, but language and culture are two different phenomena. Cultural stereotypes do not limit people's ability to use language to express an infinite range of thoughts and feelings, but such stereotypes may keep people from recognizing properties of language that go against those stereotypes. The research presented here does not attempt to show ways in which Deaf culture differs from "mainstream" or "hearing" culture, or to show how Deaf people express themselves differently in ASL than non-Deaf people express themselves in English. On the contrary, the approach taken in this study is a cross-linguistic view of parallels between ASL and other languages that have been studied for the presence and properties of VL. The theoretical stance taken here is that languages, though they differ in details, share the same basic forms and functions that serve social interests common to all people. Although the point of this paper is not to describe Deaf culture, it refutes the cultural generalization that Deaf people are not vague.

The present study is corpus-based and follows in a tradition of corpus-based studies of VL, several of which are cited in the literature review later in this paper. Corpus linguistics is the study of language using computer databases of transcribed utterances and written texts. In this study, the corpus is a collection of English-transcribed video recordings of Deaf people using ASL. The author took both a qualitative and quantitative approach to identify, count, and compare the use of VL among Deaf signers in an ASL corpus.

Limitations of the Study

        Limitations of Corpus-Based Studies. Most studies of VL have been corpus studies, and the findings of corpus studies can indeed be empirical and informative. However, since it behooves a researcher to acknowledge the limitations of their study, it must be admitted that no corpus can reflect all the features of a language; a corpus is limited by the variety of registers, discourse genres, topics, sentence types, vocabulary, range of emotional expression, dialects, number and variety of participants (including such factors as age, race, ethnicity, education, and socio-economic status), and other factors beyond the control of the investigator. Noam Chomsky was originally opposed to corpus studies, arguing that the appearance of language use in a corpus does not make it grammatical (Chomsky, 1957). Even in the 2000s, Chomsky claimed that "corpus linguistics doesn't mean anything" and that it is more efficient to make deductions from experimentation than observation (Chomsky, 2004 as cited in Andor, 2004, p. 97). However, Chomsky admitted that while a corpus may not yield a total picture of a language, it may be observed as a microcosm of the language under investigation:

> If you want to use hints from data that you acquire by looking at large corpuses, fine. That's useful information for you, fine. I mean, Galileo might have gotten some hints from looking at events that were happening in the world. In fact, he did. He observed the tides—that's like corpus linguistics. You're observing the tides. And from the general observations about the tides you see regularities and so on and that leads you to construct experimental frameworks including highly abstract situations. (p. 99)

Researchers and readers can compare a corpus to their personal observations of language to see what is missing in the corpus that exists in the language as it is used in other contexts. The present study uses a descriptive, corpus-based methodology since it is a first step toward

documenting VL in ASL, and serves to pave the way for future studies that may delve deeper

into certain aspects introduced here. More data and insights may be gained from experimental

studies, such as the ones proposed in the Recommendations section at the end of this paper.

Limitations of signed language corpora. Several features unique to signed languages

present challenges not faced in the development of spoken language corpora. Signed languages

are visual-gestural; they require viewing.[1]

Unlike spoken languages, which can be appreciated by listening to faceless audio

recordings, signed languages cannot be directly received without seeing the signer's face.

Participant anonymity is not possible in a signed language corpus since the faces of the signers

give away their identities, and it is not feasible to blur faces in signed language videos to protect

anonymity because an indispensable amount of signed language occurs on the face. Signed

languages have no written form, so transcribing signed languages necessitates one of two

orthographic conventions: assigning spoken language glosses to signs and gestures, or using

arcane symbol systems (see Stokoe Notation and Sutton's SignWriting®). In signed languages,

signers express themselves using several articulators simultaneously, including, but not limited

to, handshape, palm orientation, movement, location (Baker-Shenk & Cokely, 1980), body tilt,

head tilt, head nod, head shake, nose movement, eye aperture, eye gaze, eyebrow movement

(Neidle, 2002), and mouthing that takes many shapes and movements, also called *mouth*

morphemes (see Bickford & Fraychineaud, 2006). This makes a signed language as multilayered

as a symphony; like notes stacked on staves, a signed language must be notated with several

---

[1] The exception to this rule is tactile signing, in which case a Deaf-Blind person receives
communication through touch, directly from a speaker/signer or by way of a tactile interpreter. In
the case of signed language corpora, a Deaf-Blind listener would have to receive the language in
the corpus through an interpreter, and they would not be able to observe the unique behaviors of
the signer in the video recording.

lines of concomitant articulations, as is done in the corpus studied for this paper:

Figure 1: Full Gloss for accident.xml-14
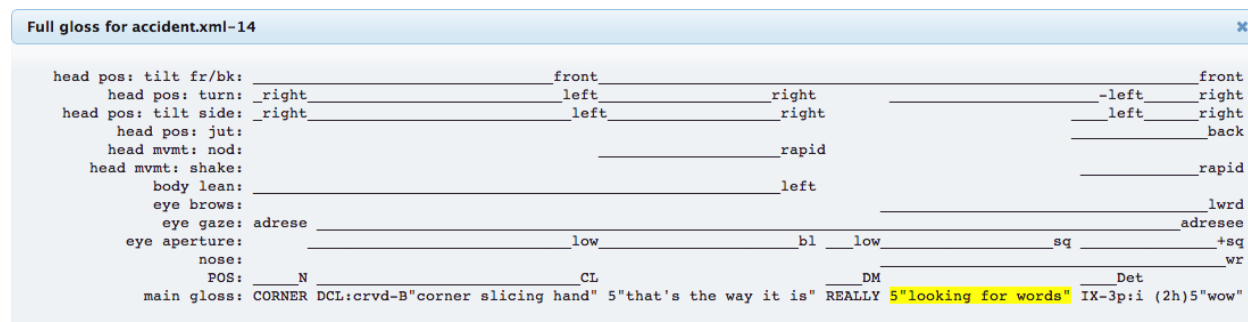
Figure 1. From http://secrets.rutgers.edu/dai/queryPages/. Reprinted with permission.

In the case of dialogue with overlapping utterances from two or more signers, signed language transcription would have to emulate orchestral sheet music. As with multiple staves for multiple instruments, each signer would have to have their own multilayered annotation. This makes annotating signed languages more intensive and time-consuming than annotating spoken languages, even when vocal inflection is annotated with diacritical marks.

It must be understood that spoken language glosses are approximations of the meaning of signs, and that transcribed signs and gestures have meanings that may exceed or differ from the glosses assigned to them. Transcription does not fully convey all of the nuances of a signed language. Comprehending signed language requires viewing and proficiency in that language. Glosses alone do not do justice to signed languages, and may befuddle the uninitiated.

Limitations of the present study. The present study analyzed the only available ASL corpus recorded and annotated for linguistic research: the National Center for Sign Language and Gesture Resources Corpus (hereafter referred to as the NCSLGR Corpus). The NCSLGR Corpus is a collection of studio-recorded narratives and elicited utterances by Deaf native signers of ASL. The entire corpus is transcribed and annotated using English glosses to represent signs, gestures,

classifiers, and nonmanual markers (NMMs).[1] The participants knew they were being videotaped, and are looking directly at the camera, so these narratives and utterances are performances to imaginary audiences, not candid communications to present listeners. There appear to have been other people in the recording studio, as there are a few times in the corpus, at the end of the narratives, when the participants turn slightly to address someone behind or to the side of the camera. On the whole, the participants appear to have addressed their narratives and utterances to the camera, not to someone else in the studio. All of the narratives and utterances are monologic; there are no videos in the corpus of Deaf people talking with each other. VL is a pragmatic phenomenon found mostly in conversation (Channell, 1994), so the fact that there are no conversations in this corpus may limit the amount and variety of vagueness to be found. Hoza (2007) observed politeness, one of the functions of VL, in utterances elicited from Deaf ASL signers asked to make requests and rejections of requests of an imaginary interlocutor, but the NCSLGR Corpus contains no utterances elicited by prompting the participant to imagine what they might ask of or say to an interlocutor in a scenario. The only questions in the NCSLGR Corpus are queries, not requests.

Another limitation of the NCSLGR Corpus is that the participant pool includes five men and only three women. Moreover, one of the women participated in one narrative only, and two of the women participated in elicited utterances only; furthermore, one of those two women participated in only one elicited utterance video out of 19. The 15 full narrative videos produced specifically for the corpus involved only men, one who told three stories and the other who told 11 stories, one of which was split into two videos. All participants in the corpus were white, so

---

[1] Also known as nonmanual modifiers (NMMs), nonmanual signals (NMS), nonmanuals (NMs), and nonmanual behaviors, NMMs include every expression a signer makes with parts of the body other than the hands. NMMs involve the face and body, including the eyes, eyebrows, nose, mouth, head, and torso.

the corpus involved no people of color. No information is given as to whether the participants attended Deaf schools or mainstream schools or have college degrees, but based on autobiographies within the stories and biographies available elsewhere, it is evident that the participants were college-educated; therefore, the corpus can be said to involve no *grassroots* participants (i.e., "blue collar" Deaf people who are fluent in ASL and active in the Deaf community). The age range appears to be early twenties to early fifties, so the corpus involved no child or elderly participants. Four of the videos were from Dawn Sign Press, not made expressly for this corpus. The signers in the Dawn Sign Press videos were not participants in the video recording of the corpus, and the videos appear to be geared more toward entertainment and language modeling than linguistic research. The original videos made specifically for the corpus include various camera angles and foci, such as front, face, side, and stereoscopic, while the videos produced by Dawn Sign Press do not.

In terms of annotation, there is extensive annotation of NMMs, but there is limited annotation of "the phonological and morphological characteristics of signing" (Neidle, 2002, p. 2); that is, there is limited annotation of variation in the parameters of sign production: handshape, palm orientation, movement, and location. This limits the searchability of vague variants of definite signs, such as equivalents of *pretty good* as opposed to *good* and *threeish* as opposed to *three*. The developers of the NCSLGR Corpus admit to the existence of "incomplete information," "incomplete transcriptions," "imperfect translations," "ambiguity," and "human error" (Neidle, et al., 2002, p. 1). There is also no annotation of English mouthing and ASL mouth morphemes.

A further limitation of this study, although it may be considered a positive attribute, is that all the participants in the NCSLGR Corpus were "native Deaf signers" in the strictest sense

of the term (i.e., fluent Deaf ASL users with Deaf parents whose primary language was ASL).

The "native speaker" (NS), or "speaker-listener in a completely homogenous speech-community,

who knows its language perfectly" (Chomsky, 1965, p. 3, as cited in Kiernan, 2005, p. 62), has

long been portrayed as a language model for second language (L2) learners, and has been used

almost exclusively in language corpora (Sinclair, 1991). Some writers have pointed out the

limitations of using NS models to teach L2 learners (Davies, 1991; Cook, 2000), and others have

considered the idealization of the NS to be an exercise of power and status (Holliday, 1994). The

power and status of the NS in Deaf culture may be seen in a linguistic and ethnic hierarchy (see

Kannapell, 1993, and Davis, 2007) based on how long a Deaf person and their family has been

fluent in ASL. The hierarchy may be ranked thus:

Deaf-of-Deaf-of-Deaf (Deaf ASL NS children of Deaf ASL NS parents)
Deaf-of-Deaf (Deaf ASL NS children of Deaf ASL L2 parents)
Deaf-of-Hearing (Deaf ASL L2 children of hearing parents)
Deaf Late ASL Learners (Deaf ASL L2 who acquired ASL after childhood)

The reality is that most Deaf signers are at the bottom two rungs of this hierarchy. Studies

show that less than 5% of deaf people have at least one deaf parent, and less than 3.5% of deaf

people have two deaf parents (Mitchell & Karchmer, 2004, p. 155). Mitchell and Karchmer point

out that households with only one deaf parent might revert to the majority language of the

hearing parent (i.e., spoken language), so Deaf people whose native language is ASL may only

account for 3.5% of the Deaf ASL signing community. Since the participants in the NCSLGR

Corpus are native signers, they rank among the ninety-fifth to ninety-seventh percentile of Deaf

ASL users.

Aside from the questionable idealization of NS language models, the fact is that even

native Deaf signers do not live in "a completely homogenous speech-community" (or "signing-

community," as the case may be). Deaf people live in the larger "speech-community" of spoken

and written language. By and large, Deaf Americans are bilingual, not monolingual. There is a great deal of language contact between English and ASL; hence, Deaf Americans' signing shows influences of English in sentence structure, mouthing, and fingerspelling. Even Deaf native signers of ASL do not fit Chomsky's definition of the "native speaker" because they are not monolingual: "In Chomskyan linguistics, monolingualism is part of the abstraction involved in obtaining the idealized native speaker:

> We exclude, for example, a speech community of uniform speakers, each of whom speaks a mixture of Russian and French (say, an idealised version of the nineteenth-century Russian aristocracy). (Chomsky, 1986, p. 17, as cited in Cook, 1999, p. 187)

> Members of the American Deaf culture may socialize with other Deaf people or share a home with other Deaf people, and Deaf children may even live at a residential school for the Deaf; nevertheless, ASL is not their only language, and most Deaf people do not have Deaf parents, thus, Deaf Americans do not fit the definition of NS. It is questionable, therefore, whether a study of ASL should recruit only Deaf ASL signers with Deaf ASL-signing parents.

Another limitation of the NCSLGR Corpus is that it comprises two types of data sets that are not segregated for subset study: narratives and elicited utterances. Ideally, to discover how VL appears in naturally occurring ASL, one would examine narratives, not disconnected sentences; however, the Web-based interface for the NCSLGR Corpus, the American Sign Language Linguistics Research Project Database Access Interface (ASLLRP DAI), does not segregate narrative data from elicited utterance data. The statistics given for the number of unique signs, gestures, and classifiers, and the number of tokens altogether, are calculated for the entire corpus, so an investigator cannot segregate the corpus into narrative and utterance subsets to determine the percentage of VL usage in each subset.

To give the reader an idea of the elicited utterances in the NCSLGR Corpus, here are four

discrete, sequential, and not, in all cases, related sentences (ncslgr10r.xml-8—ncslgr10r.xml-11):

```
•   SOMETHING/ONE BOAT part:indef SINK ns-CAPE-COD
•   THINK fs-JOHN (1h)SICK+ (1h)part:indef
•   SEEM TEACH+AGENT LIKE MOVIE part:indef
•   MAYBE TEACH+AGENT FUTURE LIKE MOVIE part:indef
```

The methodology for producing the elicited utterances in the NCSLGR entailed

interviews with participants/informants to discuss specific types of ASL constructions and to

construct ASL sentences that were grammatical and natural. The notebooks the participants held

on their laps during the recording of the utterances contained ASL glosses to remind them of the

ASL sentences that had just been discussed:

> They knew they did not need to produce the exact sentence represented in the glosses, but
>
> could modify it in any way; the main thing was to produce sentences that were natural,
>
> illustrating the types of construction under consideration (e.g., yes/no question, wh-
>
> question, or whatever). They were not tied at all to what was specified on the page (and
>
> they had the freedom to simply reject any sentence rather than reproducing it). (C. Neidle,
>
> personal communication, February 11, 2013)

This methodology implies a sufficient, though not ideal, level of naturalness that justifies

including the elicited utterances in this study of naturally occurring VL in ASL. The limitation of

including these utterances is that they are not as contemporaneous and discursive as the

narratives; however, not including these utterances would limit this study to two male

participants producing multiple narratives, and three male participants and one female participant

producing one narrative each. Since it is not feasible to segregate the two kinds of data, this

study considers the whole corpus.

In terms of access to the NCSLGR Corpus, the present study was limited to the Web-

based ASLLRP DAI. There was a computer application called SignStream™ 2.2, created in

2000 (SignStream, n.d.) that ran only in Mac OS 8 and 9 or *Classic Mode* in Mac OS X versions

10.0 to 10.4. Apple stopped developing Mac OS 9 in 2001, and stopped making computers and

operating systems capable of opening applications in Classic Mode in 2007. The present study

was conducted between 2012 and 2013, and the investigator did not have an old enough Mac to

run SignStream™ 2.2, the only available version; hence, none of the features of SignStream™

2.2, such as multi-pane and frame-by-frame viewing of higher-resolution videos, were available

for this study.

One final limitation of the NCSLGR Corpus is that the videos were recorded in the early

1990s and early 2000s, one and two decades before the present study. Since language evolves,

the usage recorded in the NCSLGR Corpus might vary slightly from the usage of today.

All these limitations notwithstanding, the NCSLGR Corpus is a meticulously recorded

and transcribed corpus of fluent ASL signers. It is accessible without complex technology, and

the data are rich and varied enough to answer the queries of this study.

Personal limitations. I was the sole investigator in this study. The NCSLGR Corpus was

developed with Deaf and hearing ASL-fluent investigators, but I did not personally work

alongside another fluent signer, either Deaf or hearing; therefore, I had no other viewers with

whom to compare observations. As can be said of any researcher, I have a unique set of

qualifications and limitations. My field of expertise is ASL-English interpreting and the teaching

of the same; my specialty is not linguistics *per se*. I am hearing, born to hearing parents, a native

speaker of American English, and a second language learner of ASL. I have been signing ASL

since 1989 and interpreting ASL-English since 1990. I earned a National Association of the Deaf

(NAD) Level 4 (Advanced) interpreting certificate in 1991, the Registry of Interpreters for the

Deaf (RID) Certificate of Interpretation and Certificate of Transliteration in 1998 and 1999,

respectively, and the NAD-RID National Interpreter Certification (NIC) Master in 2011. I am white, college-educated of college-educated parents, male, and forty-five years old. Balancing my limitations with my qualifications, I feel qualified to analyze an ASL corpus, especially one that was recorded and transcribed in collaboration with Deaf people who were fluent in ASL.

Definition of Terms

VL encompasses several categories of expressions that serve related pragmatic functions such as naturalness, politeness, and rapport. Hence, the definition of VL needs to be broad enough to include expressions that serve these functions, yet limited enough to exclude expressions of what laymen might call "vague language" that do not meet the criteria for VL. Before coming to a working definition of VL for this paper, here are some types of "vague" language that this thesis does not consider to be VL.

Dysfluency. When a speaker does not use language fluently, this is called *dysfluency*. Speaker/signer dysfluency is a challenge for interpreters who do not know what the speaker/signer is trying to say. VL, on the other hand, is a sign of fluency. VL may not be clear, but it is not confusing. This thesis does not consider dysfluent language to be VL.

Complexity. When a speaker delivers a convoluted or complicated procedural description, an interpreter who does not follow along due to lack of expertise in the area might say the speaker was using "confusing language." Complex language may be confusing, but it is not vague; if anything, it contains too many specifics to follow. This thesis does not consider complex language to be VL.

Ambiguity. A word or phrase is said to be ambiguous when it can be taken to mean more than one thing. Consider the difference between the expressions *of age* and *of a certain age*. *Of age* has more than one meaning out of context, but in context its meaning is singular. The age

implied by *of age* can vary from bar/bat mitzvah age (13) to debutante age (15 or 16) to age of majority (18) to drinking age (21). (These are just examples; these milestones vary based on culture and law.) The important thing to realize is that in any given context, *of age* is unambiguous. "You're not of age" means "you're not 18" at a military recruiting station and "you're not 21" at a bar. These are statements of fact, not innuendo.

On the other hand, the word *certain* in the phrase *of a certain age* is anything but certain. When someone says, "of a certain age," they refuse to be specific; instead, they invite the listener to share in the creation of a positive or negative judgment. A person *of a certain age* could be anywhere from their 30s to their 90s. *Of a certain age* reflects the attitude of the speaker, while *of age* is neutral. *Of age* is a social construct; *of a certain age* is a social statement.

In short, *of age* is ambiguous but not vague, while *of a certain age* is vague but not ambiguous.

Ambiguous language may be a challenge to interpret out of context, but is usually not a challenge in context. For example, if someone cooking a chicken says, "The chicken is ready to eat," they probably mean it is time to eat the chicken. On the other hand, if someone raising a chicken says, "the chicken is ready to eat," they probably mean it is time to feed the chicken. If an interpreter had to interpret "the chicken is ready to eat" without knowing the context, they might want to retain ambiguity rather than explicating; for example, an equally ambiguous but grammatically correct ASL translation might be BIRD READY EAT. If the interpreter chose a more specific interpretation, such as BIRD HUNGRY, READY PECK or BIRD DELICIOUS, READY CL:XT"eat with fork", they risk committing to what might not be the intended meaning. Ambiguity may be challenging to interpret, but it does not fulfill the functions of VL (e.g., naturalness, politeness, or rapport). This thesis does not consider ambiguity to be VL.

Working definition of vague language (VL). The definition of VL in this thesis is:

VL is a set of linguistic forms people employ to moderate the accuracy, certainty, clarity or specificity of a statement.

This definition is based on the writer's synthesis of VL literature, and is inspired by this definition of VL:

… any purposive choice of language designed to make the degree of accuracy, preciseness, certainty or clarity with which a referent or situation (event, state, process) is described less than it might have been. (Trappes-Lomax, 2007, p. 122)

The purpose of adapting Trappes-Lomax's definition was to make it more succinct, parallel (viz., *specificity* ends with the same sound as the other three words, whereas *preciseness* does not), and accessible to the professionals to whom this thesis is aimed (viz., ASL teachers and students, ASL-English interpreting teachers and students, and ASL-English interpreters).

The functions of VL include being polite, not committing to specifics or certainty, protecting individual identity, maintaining anonymity, promoting group identity and cohesion, reducing social distance, including insiders, excluding outsiders, sharing credit or blame, focusing on the action instead of the agent, leaving something to the listener's imagination, reserving commitment as to the truth of a statement, skipping past unimportant details to get to the main point, and other functions that fulfill a speaker's /signer's pragmatic goals. People use VL to follow (or flout) Grice's Politeness Principle and Conversational Maxims, the summary of which is: "Make your contribution such as it is required, at the stage at which it occurs, by the accepted purpose or direction of the talk exchange in which you are engaged" (Grice, 1975). Crystal and Davy gave four reasons speakers use vague language:

(a) memory loss—the speaker forgets the correct word;

(b) the language has no suitable exact word, or the speaker does not know it;

(c) the subject of the conversation is not such that it requires precision, and an approximation or characterization will do; and,

(d) the choice of a vague item is deliberate to maintain the atmosphere. (Crystal & Davy, 1975, as cited in Channel, 1994, p. 8).

Categories of VL. This study categorizes VL using the following terms defined below: *approximators, detail dismissives, general extenders (GEs) / vague category markers (VCMs), hedges, vague agents, vague quantifiers, vague adjectives, vague nouns, vague verbs, vague numbers, rounding, vague pronouns, vague determiners,* and *vague adverbs*. Unless otherwise specified, these categories are the same categories outlined by Channell (1994).

Approximators. Words that moderate the accuracy of numbers they precede or follow. English examples are *about, approximately*, and *or so,* as in *around eight, approximately one-third*, and *seventeen or so*. An ASL equivalent is AROUND.

Detail dismissives. This is an area for future research that I introduce briefly in this study. I call *detail dismissives* the NMMs signers use to de-emphasize or dismiss details as unimportant, unknown, or so well known that they are taken for granted. I identify the following NMMs in the NCSLGR Corpus as detail dismissives: *head movement: shake*, *eye aperture: squinted*, and *nose: tensed*. I know of no previous research or literature on these behaviors; I coined the term "detail dismissives" for the sake of discussing a phenomenon I have observed. There is published research on *focus constructions* and emphasis in ASL and Língua de Sinais Brasileira (LSB) (de Quadros & Lillo-Martin, 2005), but I found no literature on de-emphasis in ASL. Lack of documented studies notwithstanding, it is natural that speakers/signers of every language have

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ways of de-emphasizing parts of their discourse. Without de-emphasis, every utterance would seem equally important, and it would not be clear what warranted especial attention. An example of de-emphasis in spoken English would be, "So I'm doing my morning rou*tine*— brushing my *teeth*… taking a *show*er… doing my *hair*... when all of a sudden the **lights** go out!" (*Italics* indicate moderate emphasis: falling pitch and longer sustain; **bold italics** indicate strong emphasis: spiking pitch.) In a sentence like this, the speaker de-emphasizes the morning routine by modulating their voice, patterning their cadence, and affecting a bored tone to indicate routines with which they expect their listener to be familiar. Anyone who has a morning routine knows it entails more than just brushing one's teeth, taking a shower, and doing one's hair. The speaker dismisses the details of the already known; in so doing, they respect the shared experience of their interlocutor, get to the point, and emphasize what matters. Such recitation of routine and dismissiveness of detail can also serve as a discourse marker to signal the end of a discursive segment. An example sentence in the NCSLGR Corpus appears when the signer recounts the doctor's discharge instructions (accident.xml-62):

`#SO 5"you see?" GIFT-2p EXPLAIN ETC EVERYTHING IX-2p FINE 5"so, all set"`

[Translation: "So, the doctor checked to make sure I got all his instructions on everything and I was good to go."]

Hedges. Words like "well…," "maybe," and "I think" that indicate a lack of commitment as to the truth of a matter. Hedges are often used for the sake of self-protection and face-saving. ASL examples are WELL, MAYBE, and THINK. Hedges also occur in ASL in the form of the NMMs *polite grimace* (*Pg*), and *body teeter* (*Bt*) (Hoza, 2007).

Vague adjectives. There are many words that describe things vaguely, such as *dark, light, considerable*, and *nothing to sneeze at*. Examples in ASL are SMALL and GOOD+. (The plus after the sign GOOD indicates the sign is repeated, which makes it less emphatic than if it were

signed with a single movement. GOOD+ may be translated as *pretty good*.)

Vague adverbs. Adverbs modify verbs and adjectives, usually making them more defined; vague adverbs broaden the definition of the action or descriptions. English examples are *somehow, sometimes, sort of*, and *somewhere*. ASL examples are GOING-ALONG, *part:indef*, and SOMETIMES.

Vague agents. This is a working term I included in my original VL checklist (see Appendix A). I define vague agents as vague terms for individuals or groups, such as *representative, resource, committee*, and *employer*, to name a few. ASL examples are DEAF, HEARING, GROUP, ORGANIZATION, and BOSS.

Vague category markers (VCMs). VCMs are terminal tags that *mark* the preceding words as exemplars of a *vague category*. VCMs go by various names:

 'general extenders' (Overstreet and Yule 1997a, 1997b); 'generalized list completers' (Jefferson 1990); 'tags' (Ward and Birner 1992); 'terminal tags' (Dines 1980; Macaulay 1991); 'extension particles' (Dubois 1993); 'vague category identifiers' (Channell, 1994; Jucker *et al*. 2003); and 'vague category markers' (O'Keeffe 2003). (Evison et al., 2007, p. 140)

 English examples of VCMs are "and things like that" and "or something"; German equivalents are "und solche Sachen" and "oder so was" (Terraschke & Holmes, 2007, p. 199). ASL examples are ETC, LONG-LIST, and TIME-PASSING. This thesis uses the term Vague Category Marker (VCM) because it is the most up-to-date term and contains the word *vague*.

Vague determiners. These precede a noun or noun phrase, and refer to an indefinite element of its class. English examples are *that one* and *some girl*. The vague determiner *some* may serve to cast doubt upon the legitimacy of the noun after it. *Just a girl* sounds exculpatory,

like "She's just a girl; she doesn't know any better," while *just some girl* sounds derogatory, like "She's just some girl; she means nothing to me." ASL examples are SOMETHING/ONE MAN to mean *some guy* and SOMETHING/ONE RESTAURANT to mean *this restaurant* (as in the past tense retelling "we saw this restaurant on the side of the road," not the present tense statement "I come to this restaurant often").

Vague nouns. Also called *dummy nouns* and *placeholders*. English Examples are *device, widget, part, garment, item,* and *stuff.* Examples in other languages are *cosas* (Spanish), *truc* (French), and *da kine* (Hawaiian Pidgin). ASL examples are THING, FRUIT, VEGETABLE, DRINK+ (any beverage), EAT+ (any food), and DRESS+ (any garment).

Vague numbers. Words like *threeish, thirties,* and *thirtysomething* are vague versions of the numbers they are based on, like three and thirty. In ASL, number dyads like "THREE FOUR" and number triads like "85 88 90," when accompanied by vague NMMs, are also vague numbers. In ASL, numbers for times that are not exact are waved from side to side (like waving "hello" with a number handshape), and numbers like *thirtysomething* are shaken/waved outward from the body. The time marker NOONISH is signed with the same side-to-side waving motion as other times, except with the palm facing toward the midline as it does with NOON. The NCSLGR Corpus considers NOONISH an adverb, not a number, even though they consider EIGHT (as a time of day) a number. For the purposes of this study, NOONISH is counted as a vague number.

Rounding. Related to vague numbers. People often round numbers to the nearest five or multiple of ten, so even numbers that do not seem vague may be rounded; for example, 7:00 may be a specific time, but if the context is vague and minutes do not count, someone might say their plane arrived at "seven" when it actually arrived at 6:56. *Base 10* rounding yields *a hundred /*

hundreds, a thousand / thousands, and so on. English examples other than base 10 are *a couple, dozens,* and *umpteen.* French examples are *douzaine* [*a* dozen when rounding; cf. *a baker's dozen*], *centaine* [*a hundred* when rounding], and *millier* [*a thousand* when rounding]. ASL examples in the NCSLGR Corpus are TIME+SEVEN+FORTY+FIVE and MILLION.

Exaggeration. Related to vague numbers and rounding. People may use large rounded numbers, such as *ten thousand* when they know the exact number might not be that high, but they want to boost the count for emphasis or humor. An English example is *a hundred million dollars.* An ASL example is TEN THOUSAND COW.

Vague pronouns. Ways of referring to people without naming them. English examples are *him, her,* and *they* (especially when used as a singular pronoun). ASL indexing for singular pronouns is vague if no referent is established (e.g., if a signer points to a referent without first signing WOMAN, BROTHER, or something that identifies gender, the English equivalent is the generic singular pronoun *they*). Another ASL example is SOMETHING/ONE to mean *someone.*

Vague quantifiers. Words like *bit, lot, few, some,* and *many* offer vague ideas of quantities. ASL equivalents are LITTLE-BIT, A-LOT, FEW, SOME, and MANY.

Vague verbs. Unspecified actions that imply any number of activities. English examples are *taking care of business, running errands,* and *tying up loose ends.* ASL examples are DO-DO+++(*circling*), TIME-PASSING, and STAY-AWAKE-ALL-NIGHT.

REVIEW OF THE LITERATURE

Researchers of VL come from multiple disciplines: Teaching English to Speakers of Other Languages (TESOL), mathematics, teaching, communications and media studies, computational linguistics, sociolinguistics, and applied linguistics. They use research methods such as corpus study, correlation, description, quantification, experimentation, interviews, and stimulus-response tests. VL is an active area of research examining an increasing number of groups, genres, and languages with a greater variety of methods.

Cross-Linguistic Comparisons

It can be supposed that VL exists in all languages in varying degrees, and there is evidence of VL in each language researchers have examined for its presence. Previous researchers have found vagueness in Chinese (Tie-ping, 1999; Cheng & Warren, 2001; Cheng, 2005, 2007; Zhang, 2007; Cao, 2008; Chinos, 2012; Ning, Wang, & Zhang, 2012), French (Sankoff, Thibault, & Berubé, 1978; Bérard & Lavenne, 1991; and McVeagh, 1991, as cited in Channell, 1994), German (Terraschke & Holmes, 2007), Lithuanian (Razuaité, 2010), and several varieties of English including British English, Irish English (O'Keeffe, 2007), New Zealand English (Terraschke & Holmes, 2007), and North American English (Koester, 2000, 2002, 2004, 2006, 2006). In addition to seeing VL in ASL and English, this author sees VL in two other languages in which he is conversant, French and Spanish. Anyone who knows a second language can probably think of vague terms in that language, and "will find it instructive to create sets of comparative data for each type of expression analysed for English" (Channell, 1994, p. 74).

Spoken / Written Language Corpora

Researchers have studied VL in numerous corpora of English and other spoken / written

languages. Some have studied VL in written literature (Cao, 2008; Cook, 2007), some have

analyzed their own recorded and transcribed corpora for VL (Koester, 2000; Cutting, 2007;

Terraschke & Holmes, 2007; Trappes-Lomax, 2007), and some have examined VL in publicly

available corpora, including but not limited to:

- Birmingham Collection of English Text

- Cambridge and Nottingham Corpus of Discourse in English (CANCODE)

- Cambridge and Nottingham Corpus of Academic English (CANCAD)

- Cambridge and Nottingham Subset of Corpus (CANSOC)

- Collins Birmingham University International Language Database (COBUILD)

- COURTCORP (trial talk in UK courts)

- Hong Kong Corpus of Spoken English (HKCSE)

- Limerick Corpus of Irish English (LCIE)

- Limerick and Belfast Corpus of Spoken Academic Discourse (LIBEL)

- Nottingham Health Communication Corpus (NHCC)

- Oxford Corpus of the English Language

- Parallel Corpus of the Lithuanian Language

Signed Language Corpora

The NCSLGR Corpus is the only corpus of ASL, but there are corpora of other signed

languages. The Air Travel Information System (ATIS) Sign Language Corpus is based on the

ATIS dataset of English phrases and sentences recorded in phone calls from customers booking

flights and getting travel information; these have been translated into Irish Sign Language (ISL),

German Sign Language (DGS), and South African Sign Language (SASL) (Bungeroth et al.,

2008). According to Johnston (2008, p. 28), other signed language corpora include:

- Australian Sign Language Corpus (Auslan Corpus)

- British Sign Language Corpus Project (BSLCP)

- German Sign Language Corpus (DGS-Korpus)

- Netherlands Sign Language Corpus (Corpus NGT)

To this author's knowledge, there have been no studies of VL in any of these corpora.

ASL and Deaf Culture Studies Relevant to VL

Aside from the theory and practice of interpreting, ASL and Deaf Culture are the mainstays of ASL-English interpreter education. ASL is considered "the backbone of Deaf Culture" (National Association of the Deaf, n.d.). It is commonly accepted that language and culture are inseparable, but a contrary opinion is articulated thus:

> Language is communication; while usually verbal, language can also be visual … Culture, on the other hand, is a specific set of ideas, practices, customs and beliefs which make up a functioning society as distinct. … Finally, languages are not solely defined by their developing culture. (Robin, n.d.)

The very word "inseparable" implies the adhesion or intertwining of individual entities. Even if regarded as inseparable, ASL and Deaf culture are two different things, so what has been written about Deaf culture (much of which is anecdotal, not empirical) should not be confused with what has been written about ASL (much of which is empirical, not anecdotal). It seems to this author that literature on Deaf culture, especially Deaf discourse and communication, has affected the way ASL-English interpreters view ASL. The "Deaf way" of communicating has been described in ways that are seemingly contradictory. One pair of words, *direct* and *indirect*, may cause particular confusion. Deaf *discourse* has been described as "indirect" (Smith, 1996), and Deaf *communication* has been described as "direct" (Mindess, 1999). One type of discourse

Smith refers to as "indirect" is "stories with no ostensible point" (p. 212), yet Smith comes to see "the scene as context" and "the context as point" (p. 211). Smith also says that, in the Deaf ASL storytelling she observed, she observed less indirect discourse among "more articulate speakers" than among the young. Smith also emphasizes that discourse and language are not the same. About *directness*, Mindess writes, "Deaf people have no patience for ambiguity … straight talk is an expression of intimacy and solidarity between the Deaf" (Mindess, 1999, p.151, as cited in MacDougall, 2009, pp. 51-52). The *directness* and *indirectness* that Mindess and Smith write about are characterizations of two different phenomena. Smith writes about discourse style and Mindess writes about communication style; the two phenomena should not be confused. An additional source of confusion might be that while Smith categorizes Deaf discourse as *implicit* (Smith, 1996, p. 210), and Lawrence (1995) outlines ASL discourse *expansions*. Though none of these various descriptions are contradictory, it may be difficult for students of ASL, Deaf culture, and interpreting to discern the differences between Deaf culture and ASL, which are not one and the same.

Much of the literature on Deaf culture is qualitative. For instance, Smith's (1996) dissertation entails auto-ethnography of her immersion in the Deaf community as a hearing ASL learner, near-native signer, and interpreter; it also entails ethnography of the Seattle Deaf community. Prefacing her comparison of Deaf and "Mainstream" (i.e., non-Deaf or "hearing") cultures, Smith cites authors who theorize that different cultures can be divided into dichotomies. These dichotomies include "polychromic/monochromic" and "high context/low context" (Hall, 1992, as cited in Smith, 1996, p. 7), "hot/cool" (McLuhan, 1962, as cited in Smith, 1996, p. 8), "orality/literacy" (Goody & Watt, 1970, and Ong, 1982, as cited in Smith, 1996, p. 8), and "high involvement/low involvement" (Tannen, 1989, as cited in Smith, 1996, p. 9). Smith describes

Deaf culture as "high context / sociocentric" as opposed to "Mainstream" culture, which she describes as "low context/individualistic" (Smith, 1996, p. 210). Smith lists characteristics of the opposing "interaction/discourse style[s]" in two columns, and one of the dichotomies is "indirect/direct." Smith writes, "Deaf discourse can generally be said to [be] indirect," (p. 210) and in a footnote, "some of the descriptors below will seem to be on the 'wrong' side" [of the two columns] (footnote 1). Also interesting is the next footnote:

> I have shown an original list of such characteristics to over 200 working interpreters who have largely agreed with my characterizations. On the single characteristic ("indirect vs. direct") where they have not agreed, I eliminated the marker. (footnote 2)

> That the interpreters did not agree upon the characteristic dichotomy "indirect vs. direct" is noteworthy considering the potential confusion between direct discourse and direct communication. What is important to recognize when considering VL in ASL is that Smith describes Deaf *discourse*, not ASL, and Mindess describes Deaf *communication*, not ASL.

Although previous ASL researchers did not use the terms "vague language" and "VL," there is literature about vagueness in ASL based on empirical evidence. Researchers have documented how Deaf ASL signers employ politeness strategies, such as indirectness and face-saving, which also involve hedging (Hoza, 1997, 1999, 2007; Roush, 1999, as cited in Hoza, 2007). Other researchers studied hedging (McIntire & Sanderson, 1995; Feyne, 2002, and MacDougall, 2006, as cited in Hoza, 2007) in interpreters' ASL-to-English interpretations. The literature on hedging mainly warns female interpreters (who predominate in the ASL/English interpreting field) of the hazards of using "gendered" (viz., female) or "powerless" language when they interpret for Deaf men (MacDougall, 2009; McIntire & Sanderson, 1995). Conversely, in a workshop presented at Grossmont College in 2001, Sanderson said that male interpreters

should be sensitive to interpreting female language. He gave an example of a male interpreter who omitted all of the women's hedges from his interpretation in a women's study group, turned all statements into declarative sentences, and "sucked all the cooperativeness out of the room" (paraphrase of Sanderson, March 10, 2001).

Aside from studies of hedging, there have been studies of a vague gesture / sign in ASL. Conlin, Hagstrom, and Neidle (2003) write about an indefinite focus particle in ASL they gloss "part:indef." They observe that this *indefinite particle* looks similar to the signs WELL and WHAT but is actually a gesture that expresses uncertainty and has a "domain-widening effect" similar to the word *any* (Kadmon & Landman, 1993, as cited in Conlin et al., 2003). Since *any* has a domain-widening effect, and domain widening has been closely compared with *domain vagueness* (Chierchia & Gennaro, 2006), *any* may be considered a vague term; thus, *part:indef* may be considered a vague gesture. However, though *part:indef* may be akin to *any*, Conlin et al. say that *part:indef* cannot be glossed ANY, and does not translate to any particular word or phrase in English. Conlin et al. found that *part:indef* can occur at several places in ASL sentences, modifying the signs before and after it, and can also be used at the end of a yes/no question. They give the following example in ASL with English translation (p. 7, Example 14):

```
                          y/n
IX-2p SEE SOMETHING/ONE part:indef
```
'Did you see something (or someone)?'

Other authors describe a similar sign. Hoza (2007) says one of the strategies ASL signers use when making requests and rejections is "the sign glossed as 'WELL' (which Roush terms *5HPU*, '5' handshape palm up)" (Roush, 1999, as cited in Hoza, 2007). The sign Roush terms *5HPU* and Hoza glosses "WELL" appears in Hoza's book (2007) in photographs of a native Deaf signer. The examples in Hoza's book include ASL sentences that end with WELL, followed by English translations that do not end with *well* (Hoza, 2007, pp. 78-79, 82, 175-177).

One example is:

> **"WELL"(one-hand; circular movement), FEEL A-LITTLE/pg-frown** AWKWARD,
> I/tight lips, "WELL"/pg-frown. REALLY I TIGHT-BUDGET/pg. **DON'T-MIND I**
> **BORROW FIFTY DOLLAR, "WELL"(two hands; circular movement)/pg-frown,q.**
> #IF/cond, CHECK NEXT WEEK/t, I WILL PAY-YOU NEXT-WEEK, WILL, I/nod.
> *[translation: **Well, um. This feels a little** awkward, really. My budget's really tight.*
> ***Would you mind letting me borrow 50 dollars? Is there any way you could do that?** If*
> *you can, I'll pay you back on payday next week, really I will.]* (Hoza, p. 177 [original
> emphasis])

Hoza writes:

The sign "WELL" is a *natural gesture* [emphasis added] that is used in ASL to hedge or
to indicate reluctance. The sign is produced by extending one or both hands palm up
(usually) to the side(s) of the body. … See Roush (1999) for a typology of five meanings
this sign can convey in ASL conversations. (Hoza, p. 79)

Hoza calls WELL a natural gesture. Conlin et al. call *part:indef* a sign that looks a bit like
the sign WELL and WHAT, and they equate *part:indef* with what Emmorey (1999) calls a
gesture glossed "/well-what/" (as cited in Conlin et al., 2003, p. 19). Hoza also says WELL,
"looks like a reduced form of the ASL sign, SUGGEST" (Hoza, 2007, p. 177). Greene (2009)
recognized the gesture as VL, and noted the similarity to the sign glossed HONORIFIC-*you*
(Baker-Shenk & Cokely, 1980, p. 207).

Conlin et al. also observed *part:indef* in "constructions that involve uncertainty," such as
MAYBE, SEEM, THINK, HOPE, and WISH (Conlin et al., 2003, pp. 10-11). In addition, the
authors note that when *part:indef* occurs before or after a noun, it reduces the typicality of the

noun. When *part:indef* precedes a noun, it modifies the noun in a way that could be translated

kind of; for example, (p. 20, Example 56):

> ```
> SOMETHING/ONE (2h)part:indef BOAT SINK CAPE COD IX
> ```
> 'Some (kind of) boat sank (off) Cape Cod (over there).'

When *part:indef* follows a noun, it modifies the noun in a way that could be translated *or*

something; for example (p. 20, Example 57):

> ```
> SOMETHING/ONE BOAT (2h)part:indef SINK CAPE COD IX
> ```
> 'Some boat (or something) sank (off) Cape Cod (over there).'

Another previous researcher found vagueness in ASL. Villanueva (2010) researched

agent defocusing in English and ASL. Her literature review describes the ways in which agents

are defocused in English, such as by the use of passive voice, gerunds, modals, and other

impersonalization strategies. Villanueva devised an experiment in which native ASL signers

who were fluent in English were asked to translate agent-defocused texts from ASL into English

and vice versa. As with similar studies, the independent variables were the original texts and the

dependent variables were the translations. Results indicated what impersonalization strategies

were used and how often they were used.

Villanueva hypothesized that Deaf native signers would translate English passive voice

utterances in ways that "evoke a parallel construal" in ASL (Villanueva, 2010, p. 7). She posed

four possibilities:

1. That native ASL users would refer explicitly to the agent and turn passive voice into
   active voice

2. That ASL has a passive form that would be consistent in all translations

3. That ASL had no way of defocusing the agent, and that native ASL signers would
   produce tortuous translations that explain rather than express; and

4. That native ASL users, "could have established ways of evoking agent defocused

construals that have hitherto not been identified as such, and the analysis of the

elicited data would reveal these patterns" (p. 7).

Villanueva's basis stemmed from the research question, "does ASL have structures that

evoke a defocused agent construal?" (p. 5). Her research goal was to help teachers of the Deaf

use non-agent constructions in ASL to teach passive voice, one of the most difficult parts of

English for Deaf students to learn and non-native ASL users to teach. Villanueva used a design

in which a Deaf research assistant presented text prompts to four native Deaf signers who were

fluently bilingual. The assistant asked the participants to translate the prompts from ASL to

English and vice versa, beginning with whole discourses and ending with single sentences.

Villanueva kept herself out of the room so that the participants, the Deaf signers, would not use

more English-like syntax and mouthing for her benefit. She found that ASL, like English, has

ways to express a range of agent focus and that these forms take multiple grammatical

constructions. The finding that sets this research apart from previous research is that the

participants defocused the agent from the beginning of the discourse, belying the notion that

agents must be focused on before they can be defocused. Villanueva concludes that non-agent

constructions in ASL are as varied as in English, and that understanding them in both languages

will help teachers of the Deaf and interpreters for the Deaf.

Although the above researchers did not categorize their research findings as VL, they

nevertheless contributed to what may be understood as VL in ASL. Recently, an ASL-English

interpreter and interpreter educator taught workshops about VL in English, ASL and ASL-

English interpreting (Greene, 2009, 2010, 2011a, 2011c, 2011d, 2011e, 2011f, 2011g, 2012) to

ASL-English interpreters and published an article on VL in the ASL-English interpreters'

professional journal (Greene, 2011b). The present study is a continuation of the effort to inform

ASL teachers and ASL-English interpreters and interpreter educators about VL in ASL and other languages, and to explicate the implications of this knowledge for ASL learning and ASL-English interpreting.

Corpus Studies of Vagueness in Spoken Languages

Researchers of spoken languages have made discoveries about vague language that may be applied to signed languages. The goal of most research on vagueness seems to be to describe vagueness in a language so that teachers know how to teach that language to L2 learners as it is actually spoken by native users. Much of the early literature on vagueness was descriptive, answering such questions as "what words and phrases in this language are vague?" and "under what circumstances do people communicate vaguely, and what purpose does their vagueness seem to serve?" (Channell, 1994; Adolphs, Atkins & Harvey, 2007; Cook, 2007; Cotterill, 2007; Cutting, 2007; Evison, McCarthy & O'Keefe, 2007; Koester, 2007; Trappes-Lomax, 2007). These linguists, interested in teaching to second language learners, recognized the importance of teaching both vague and specific language explicitly. In order to teach L2 learners to understand VL and its usage, teachers must move beyond NS intuition into evidence-based methods. These researchers studied corpora; they then documented the use of VL and reported the vague words, phrases, and ellipses, as well as interlocutors' responses to such expressions. Some researchers documented the use of VL in two different languages and between native speakers and non-native speakers. Such studies show us how vagueness exists in various contexts and languages, and inform linguists, sociologists, teachers, interpreters, and translators how and why people use VL.

There is also a body of literature on vague language written by Chinese authors using the term *fuzzy language* (Tie-ping, 1999; Zhang, 2007; Cao, 2008; Ning, Wang, & Zhang, 2012;

Chinos, 2012), and the way they define fuzzy language is the same as the way other researchers (Channell, 1994; Cutting, 2007; and others) define vague language.

Comparative Studies

Terraschke and Holmes (2007) collected their own corpus of conversations between native Speakers of New Zealand English (NSNZE) and native speakers of German (NSG) who were second language learners of New Zealand English (i.e., German non-native speakers of English, or GNNSE). They paired their participants into three different dyadic combinations: NSNZE and NSNZE speaking English; NSG and NSG speaking German; and NSNZE and GNNSE speaking English. They focused specifically on the use of general extenders (GEs). They found that all three dyadic combinations yielded GEs such as *or something* in English and *oder so* in German (Terraschke & Holmes, 2007, pp. 204-205).

Some researchers compared original texts from two languages to compare vagueness between genres (Quaglio, 2009), languages, ages, and genders (Cheng, 2007; Zhao & Zhang, 2010), native and non-native speakers (Collentine & Asención-Delaney, 2010). Zhao and Zhang's research went beyond Cheng's (2007) studies of isolated words and phrases in that it described whole sequences of VL used in turn-holding, turn-giving, turn-taking, and other discourse routines. In general, researchers used spoken language corpora recorded in natural situations and transcribed into searchable texts; they then analyzed these corpora for vague terms. These studies reveal correlations between languages, age groups, and genders. People can apply the findings of these studies to improve interpersonal communication, and teachers can apply these findings to show second language learners how native language users of their age group and gender speak the language.

Adolphs et al. (2007) studied VL in medical settings and found that nurses used VCMs

like *and things like that* to signal that the examples they listed in their questions about symptoms were just that: examples, not exhaustive lists of limited options. Evison et al. (2007) studied several spoken English corpora, including CANCODE, CANCAD, CANSOC, and LCIE. They analyzed the way people used VCMs such as *and all the rest* to extend the meaning potential of phrases and promote a sense of group identity by implicitly inviting listeners to fill in details based on shared experience. Cheng (2007) studied VL in an intercultural corpus of Hong Kong Chinese, and Warren (2007) studied VL in vocal intonation. Cheng & Warren conducted studies with another partner previously (Drave, Cheng, & Warren, 1996), comparing aspects of Hong Kong Chinese and English to see which language had which kinds of VL, and which genders used which kinds of VL. They studied whole dialogues to get a sense of how VL imbued the discourse, not just the sentences. Cutting (2007) studied VL in a self-made corpus of audio-recorded casual conversations among students; she also studied dialogues from CANCODE. What she found from analyzing her own corpus, which was a longitudinal study, was that the longer the participants knew each other, the more VL they used with each other. Koester (2007) studied vagueness in conversations among business associates in offices in North America and the UK. Cotterill (2007) described VL used in UK courtroom settings by lawyers seeking to obfuscate witnesses, and by witnesses seeking either to give honest testimony, such as, "Roughly, to be honest, I can't know" (p. 100) or avoid admitting culpability, such as, "I could see that once I had put pressure on with my hand that Mr. F was going a bit red and making some sort of noise from his throat" (p. 110). Quaglio (2009) conducted a cross-generic corpus study and described ways in which dialogue in the sitcom *Friends* was humorous for having more vague language than in naturally occurring discourse.

Cook (2007) analyzed vagueness in public relations, poetry, and song lyrics. He pointed

out Bob Dylan's insistence upon the indeterminacy of the eponymous lyric in his song "A Hard Rain's A-Gonna Fall." In a song whose lyrics included many inexplicably precise details such as "twelve misty mountains" and "six crooked highways," the chorus, "And it's a hard rain's a-gonna fall" is inexplicably vague. Cook retells how an interviewer tried to get Dylan to specify what he meant by "a hard rain," and if he meant an atomic rain. Dylan simply maintained he meant "hard rain" (Cook, 2007, p. 26).

Experimental Studies of Vagueness in Spoken Language

Ripley (2009) studied how people used vague language to describe pictures shown to them. Pictographs of two objects placed at various distances from each other were shown to participants who were asked to select a phrase to describe the proximity of the objects. In addition to quantifying the results of the number of answers given by a number of people, Ripley also tested the logic of various kinds of vague language theorists to see how their explanations of vagueness could be reconciled with his results (i.e., he criticized previous researchers' thought processes on why people use vague language). He traced logical proofs to show how other researcher's explanations of vague language use did not make sense. Ripley takes a more logical, philosophical approach than the sociolinguistic approach taken by other authors. His study offers another view of what some scholars think of as vague language.

Rowland (2007) came to the conclusion that vague language was actually key to thinking aloud while in the prediction phase of solving a math problem: what Rowland calls *mathematizing* (p. 80). His method involved conducting interviews with pairs of children in the form of teacher-student and student-student mathematical discourses. In the course of solving math problems, Rowland listened to the students' naturally occurring hedges, such as *I think* and *maybe about 18*. He mirrored and encouraged their hedges himself, saying, for example, "Let's

just see. Runi thinks *maybe* 14 ways, and I think you suggested 12 Rebecca, yeah?" (p. 90 [original emphasis]). He concluded that hedges help people communicate propositional attitudes and articulate predictions and generalizations. Borba & Nunes (2001), on the other hand, did not favor vague language in mathematics learning; rather, they wanted to see if a certain teaching method would help children make their understanding of a certain feature of mathematics explicit. Their experiment involved administering an identical pretest and posttest to a classroom of students. Between the pretest and posttest, the researchers taught an *explicitation* technique to an experimental group while teaching an unrelated topic to a control group. Their results indicated that teaching their technique helped the children in the experimental group be less vague and more explicit.

Studies of Vague Language in Translations

Some researchers have quantified the faithfulness of translations of vague language (Olohan & Baker, 2000; Razuaité, 2010). These authors noted that translated texts seemed to be less vague than original texts. They conducted quantitative corpus studies in which they chose a few words or phrases as variables to compare between original texts and translated texts. The researchers identified specific terms and counted how many times they appeared in each corpus. Vague terms did appear significantly more often in original texts than in translated texts, so this supported the hypothesis that the translations would be more explicit than the original texts.

Greene (2009, 2010, 2011a, 2011b, 2011c, 2011d, 2011e, 2011f, 2011g, 2012) suggested that interpreters develop strategies for retaining vagueness in interpretations of vague language. The authors of a recent article in the journal *Asian Social Science* describe the positive pragmatic functions of fuzzy language, such as: "improving accuracy," "improving flexibility," "conveying information efficiently," and "conveying information politely and appropriately" (Ning et al.,

2012, pp. 255-256). The authors say the negative functions of fuzzy language arise when the hearer is harmed by not knowing the exact meaning of the speaker, and consumers may be deceived by vague language in advertisements (p. 256). The authors propose strategies for interpreters who convey vague language from one language to another: "fuzziness to fuzziness," "deletion of fuzziness," and "addition of fuzziness" (p. 256-257).

Summary

Vagueness in language has been written about since the turn of the twentieth century (Peirce, 1902), and the study of VL has gained momentum in the past two decades. After Channell's (1994) book Vague Language, Cutting's (2007) compilation Exploring Vague Language was the largest volume about VL in a single book.

The terms *vague language* and *VL* serve to comprehend separate terms (*politeness*, *gendered/powerless language*, *indefiniteness* and *hedging*) within one theoretical framework.

METHODOLOGY

Design of the Investigation

      I designed this investigation to document the existence and prevalence of VL in ASL. I had already identified several vague signs and gestures in my ASL-English interpreting work, and I had shown these forms to participants in my VL workshops (Greene 2009, 2010, 2011a, 2011c, 2011d, 2011e, 2011f, 2011g, 2012). Many workshop participants, including Deaf interpreters, agreed with my identification of these terms as vague. My plan for this investigation was to validate personal observations with corpus documentation and to search for vague terms I had yet to identify. I first planned to look for approximators, hedges, VCMs, and vague parts of speech including pronouns, nouns, adjectives, and verbs. I then planned to search for vague terms analogous to those found by researchers in English corpora. To this end, I searched for an ASL corpus.

      I found that the only ASL corpus recorded and annotated for linguistic research was the NCSLGR Corpus. Before I chose the NCSLGR Corpus for my study, I emailed the ASLLRP DAI developer to ask him if he knew of any vague language in the corpus. I told him I was looking for certain vague terms I did not know how to search the ASLLRP DAI for in terms of glosses:

> I can't search for things like -ish, -esque, -like, sort-of, approximately (or ABOUT as in "approximately"), pretty good or GOOD++ as "pretty good"), thirtysomething as opposed to THIRTY, etc. (D. Greene to C. Vogler, personal communication, June 25, 2012)

      Vogler referred me to Neidle (C. Neidle, personal communication, June 26, 2012), who referred me to Joan Nash. Nash gave me some suggestions for locating vague utterances in the ASLLRP DAI:

- ABOUT as in "approximately" is glossed AROUND. There are three tokens.

- NOONISH occurs once.

- SO-SO occurs once.

- MAYBE (occurs 30 times) will lead you to some vagueness.

- 5 "looking for words" will lead you to vagueness

- The five-page list of gestures will lead you to other potentially vague utterances.

  (J. Nash, personal communication, June 26, 2012)

I followed all of these leads, typing each gloss into the ASLLRP DAI search field, making sure all of the other selectors in the interface allowed for maximum results with no narrowing of terms. I also downloaded and viewed complete narratives to see if I saw VL in them. These searches and viewings helped me decide to use the NCSLGR Corpus.

Population and/or Sample

The NCSLGR Corpus comprises 15 narratives in 14 videos of an average of four minutes each, four videos of an average of 2.5 minutes each, and 19 elicited utterance videos split into 885 video clips demonstrating various sentence types. The corpus contains 11,861 sign, gesture, and classifier tokens consisting of 1,894 distinct canonical signs, gestures and classifiers (NCSLGR Corpus download info, n.d.). Most of the corpus videos were recorded between the years 2000 and 2001 by the ASLLRP, a collaborative effort by Boston University, Gallaudet University, Rutgers University, and the University of Texas, Arlington. The videos that compose the NCSLGR Corpus are housed on the ASLLRP's Boston University website, http://www.bu.edu/asllrp/, and are accessible through the ASLLRP Database Access Interface (DAI), located at http://secrets.rutgers.edu/dai/queryPages/querySelection.php.

The NCSLGR Corpus is transcribed into English glosses and tags that describe facial and

body grammar (see Figure 1). The English words in the *main gloss* are approximations of the

meanings of the signs and gestures they represent. Signs are glossed in UPPERCASE and

gestures are glossed in lowercase. The words inside quotes are a rough translation of what the

signer seems to show with their face and body as they make the gesture with their hands. Gesture

glosses begin with letters and/or numbers that describe approximately what ASL handshape the

hands are in while making the gesture. For instance, "5"looking for words"" means that the

signer's hands are open with fingers apart, almost like the number "5" handshape, but in this case

the fingers are not spread as wide as they would be in signing the number five. Each video and

transcription form a *data source* named with the filename convention [filename].xml, and each

sentence gets its own clip file named with the filename convention [filename].xml-n. Since ASL

is more than signs and gestures, and involves facial expressions and body movements concurrent

with signs, the transcriptions in the NCSLGR Corpus contain several stacked lines to show other

grammatical features occurring simultaneously. The corpus is searchable by sign, type of sign

(lexical, index, fingerspelled, name signs, loan signs), gesture, hand (i.e., dominant or non-

dominant hand) classifier, part of speech, data source (video/transcription), and participant.

Below is a screenshot of the ASLLRP DAI main page:

Figure 2: ASLLRP DAI Search Page

Figure 2. From http://secrets.rutgers.edu/dai/queryPages/. Reprinted with permission.

The population in my sample, the NCSLGR Corpus, is composed of eight native Deaf ASL signers: Benjamin Bahan, Freda Norman, Lana Cook, Marlon Kuntze, Michael Schlang, Norma Bowers Tourangeau, Sam Supalla, and Steve McCullough. As mentioned earlier, anonymity is not possible in a signed language corpus. All participants agreed to have their names and likenesses published in still and motion images when the ASLLRP collected the NCSLGR Corpus, so the participants in the present study are not anonymized.

Treatment

I used the ASLLRP DAI (Neidle & Vogler, 2012) to download the videos and search the NCSLGR Corpus for vague terms. Anyone can use the ASLLRP DAI to view individual video clips in the NCSLGR Corpus, but due to technical limitations, I had to get confidential instructions from the ASLLRP DAI maintainer in order to download the narrative videos in their entirety (C. Vogler, personal communication, August 15, 2012).

I began by viewing each of the 18 full narratives with a checklist in front of me (see Appendix A), looking for the following types of VL: approximators, detail dismissives, general extenders, hedges, vague verbs, vague adjectives, vague nouns, and vague agents (cf. Lessard, 2010; Villanueva, 2010). In addition to forms of VL I was familiar with, I observed my subjective response to the stories: I noted when the signer made statements I sensed they were unsure of, when they were more approximate or less detailed than they could have been, when they skipped over details to get to a point, when they left something to my imagination, when I felt comfortable with limited detail or grateful they were not explicit, and any other time when I noticed they could have been more accurate, certain, clear, or specific. Each time I recognized vagueness, I paused the video and noted the timestamp and the vague sign, gesture, or phrase in English glosses. After doing a bit of rough transcription for my own recollection, I searched the

ASLLRP DAI for a gloss within the data source. The search result would take me to a *rough gloss* (the NCSLGR Corpus term for transcription without annotation of NMMs) and a link to reveal a popup window of the *full gloss* (the NCSLGR Corpus term for transcription complete with annotation of NMMs). For each phrase in which I identified vagueness in a video, I copied and pasted the full gloss into a separate document and highlighted the particular expression of vagueness. I substituted the NCSLGR Corpus transcriptions for my notes, except when my observations were not reflected in their transcriptions. At first, I was not sure I would find enough VL. However, upon second, and in some cases, third viewings of the videos, I found more and more VL. I used the same checklist papers with all viewings of each video and wrote with different colored pens each time so I would know what I noted in each viewing. Below is an example of my annotations, showing more identification of VL with each successive viewing:

Figure 3: Checklist for Three Viewings of *Accident*

APPENDIX A

Video Title: ~~_____~~ *Accident*

Signer's Name: *Michael Schlang*

Date (if applicable): *7/24/2001* Observed/notated *8/25/12 , 9/24, 10/14*

URL (if applicable): *ali.xml   ali.xml-1   accident.xml*

Approximators:

    AROUND

    LIKE

    MORE-LESS

Detail Dismissives:

    ① Pn (pinched nose) — *17:02:50* EXPLAIN ←

    Hw (head wobble) — *17:03:0* ⊘ INCLUDE

    Pl (pursed lips)   *ASLLRP calls this EVERYTHING*

General Extenders:

    ETC.

    ① (1h lf) 5-CL (1h rt)*"down the list"*

    (2h) 5↓-CL (palms down)++ *"and all that"*   → *ASLLRP calls this ETC*

Hedges: *5"everything in order"*   *accident.xml-28, 67*
(to me this looks more like a tentative

    WELL/W-E-L-L

    MAYBE   *"uh" or "well" or "eh..."}*

THINK
5"I don't know"

Once I became familiar with and confident of the glosses the NCSLGR Corpus used, I shifted my methodology to a more computerized one. I typed the gloss of each vague term I was seeking in the search field of the ASLLRP DAI to find the number of tokens of each vague term in the search results. This helped me search the elicited utterances I could not view in their entirety. I double-checked the numbers by viewing the pages of utterance and sign videos in the search results to see where the tokens appeared in context, and I judged by context whether the token was really a vague expression. Some of my search terms were vague terms described by Channell (1994). I searched for these terms for as part of my cross-linguistic investigation so I could discover whether there were vague ASL signs in the corpus glossed with the words of vague terms in English. In most cases, I knew from my study of ASL and English glosses for signs which of the vague terms in English matched glosses for signs. For example, I searched for these *neutral quantifiers* (Channell, 1994, p. 96) that I knew were also glosses for ASL signs:

- Some

- Several

- Sometimes

I also searched for these "vague quantifiers" (Channell, 1994, pp. 111):

- Many

- More

- Most

- Several

- Some

- Few

- Umpteen

I knew of no sign glossed UMPTEEN, but I searched for it anyway, just to be thorough. I did know there was a sign that indicates a *long list* of things, similar in concept to *umpteen*. This *long list* sign tends to come at the end of an ASL sentence, though, so I considered it a VCM like *and the list goes on*. I was not sure how the NCSLGR Corpus glossed this sign, but I discovered its gloss when I looked at the rough gloss for one of the search results for MANY. Next to MANY+, I saw the gloss LONG-LIST (football.xml-59). That revealed to me the NCSLGR Corpus gloss for the sign I knew. By viewing the full gloss, I found that the NCSLGR assigns LONG-LIST the part of speech *quantifier*. Below is a screenshot of the ASLLRP DAI search result for LONG-LIST showing the linguistic data annotated in the rough gloss and full gloss (LONG-LIST was automatically highlighted because it was the search term):

Figure 4: Detail Page for football.xml-59

Figure 4. From http://secrets.rutgers.edu/dai/queryPages/. Reprinted with permission.

The second line from bottom of the full gloss, just above the main gloss, is labeled "POS," short for part of speech. Looking at the POS line, I learned what part of speech the NCSLGR Corpus assigned each sign or gesture I examined. In this case, I could see the POS above LONG-LIST was "Quant," short for quantifier. As with much of my methodology, one thing led to another, and I looked for vague quantifiers by searching solely for the "Quantifier" part of speech in the ASLLRP DAI. I then compared those search results to other types of vague quantifiers listed by Channell such as neutral quantifiers, plural quantifiers, and single quantifiers (Channell, 1994, pp. 96-108). Channell lists some vague quantifiers uncommon in American English (e.g., *bags of*), or not glossed by the same name in ASL (e.g., *oodles*). One particular vague plural quantifier I knew in ASL is not listed in Channell's book, so I searched the ASLLRP DAI for the sign glossed HORDE or SCADS. In addition to searching for vague quantifiers, I searched for vague adjectives related to size, such as BIG and SMALL. I also searched for the vague quantifier PLENTY.

I searched the NCSLGR Corpus for vague references to time, such as LONG-AGO, LONG-TIME-AGO, TWO-DAYS-AGO, THREE-DAYS-AGO (which may be translated *the other day*), SOON, SOMETIMES, OFTEN, FREQUENTLY, ONCE-IN-A-WHILE, ALL-DAY, ALL-NIGHT, ALL-MORNING, ALL-AFTERNOON. In relation to time, I also searched for vague references to age, such as YOUNG and OLD. I searched for terms that are sometimes used as hedges in English, such as HOPE, WISH (which the NCSLGR Corpus glosses HUNGRY/WISH), and REALLY, and SAME (as in *like*). I also searched for vague verbs such as GO, DO, and DO+++ (which means *to do a lot of things / run errands*).

I searched for adjectives and adverbs that were compounds in English, like *somewhat, somehow*, and *somewhere*. I knew from experience with ASL and glossing conventions that there

was no sign for *somehow* or *somewhere*, but I also knew that some Deaf people produced

compound signs like SOME+HOW and SOME+WHERE. I searched for these, in addition to

other compounds such as ANY+ONE, ANY+THING, ANY+WHERE, EVERY+WHERE,

EVERY+ONE, and EVERY+THING. (Note to future researchers: I found out after several

separate searches that all I had to do was search the first part of the compound, such as ANY,

and the search results would return every sign containing ANY, such as ANY+ONE,

ANY+THING, ANY+WHERE, and even MANY and ns-GERMANY.)

I searched for GOOD to see if I could find GOOD++ as *pretty good,* and I searched for

WELL to see if I could find *well* as a lexicalized sign or gesture. I also searched for *part:indef*.

After I had been working on this thesis for eight months, I made a discovery as I searched

the ASLLRP DAI so I could make screenshots to show readers the difference between various

gestures made with the "5" handshape. What I found in the ASLLRP DAI search results was that

the NCSLGR Corpus contained many gestures with the "5" handshape, and most of them were

produced by Schlang, the same participant who produced most of the vague terms in the corpus.

It made me wonder how many gestures appeared in the NCSLGR Corpus, and which participants

produced them. This time, rather than searching for a certain gesture (e.g., typing "reluctance"

into the search field), I left the search field empty and I deselected all kinds of signs except

"Gestures." I selected "Don't Care" for "Hand" so the search results would include gestures

made by either the dominant or non-dominant hand. I deselected "Classifiers" and made no

selection of "Data Source" or "Participant." Below is a screenshot of my search parameters:

Figure 5: ASLLRP DAI Search Parameters for Gestures Only

Figure 5. I found out later that when I selected "Hand: Don't Care" I got duplicate search results for the same sign made by each hand. This skewed my data, and I repaired the error by returning to the ASLLRP DAI and searching with the default parameter "Hand: Dominant." From http://secrets.rutgers.edu/dai/queryPages/. Reprinted with permission.

To see how many gestures in the NCSLGR Corpus were produced by Schlang only, I performed the gesture-only search I shown above, and selected "Participant": "Limit to…": Michael Schlang. I then noted the number in the "Occurrences" column on a spreadsheet and compared it to the number in the "Michael Schlang" column. If the number of occurrences was 1, I knew it was by Schlang alone because I had sorted my spreadsheet on his column. If the numbers were the same (e.g., the number of occurrences was 6 occurrences and the number of tokens by Schlang was 6), I counted that as a gesture ascribed only to Schlang. The number of tokens is revealed in my Findings section.

Data Analysis Procedures

To quantify vague terms in the NCSLGR Corpus by category, I searched the ASLLRP DAI only for signs in that category; for example, I selected only Parts of Speech: Number, and deselected every other POS. When I got the results, I clicked on the Occurrences numerical hyperlink next to the term. This brought up a separate page listing the filename-utterance, utterance video, sign video, rough gloss, and link to the full gloss for each utterance. I also checked the search results against my knowledge of ASL and English by watching the video clips and/or reading the transcripts. When I was satisfied that a particular occurrence of a sign or gesture was vague within context, I counted it as a token of that vague term.

I entered the resulting data in my spreadsheet. In the first column, I listed all of the vague terms I identified, and in the next column, I numbered how many tokens of each term appeared in the corpus. I organized these tokens into columns by part of speech. I created columns for each of the participants and numbered how many tokens each one had produced of each term. I used a "SUM" formula in my spreadsheet to automatically add all the numbers in each column to find the number of tokens of each vague term in the corpus, the number in each part of speech,

and the number produced by each participant. I used a formula to automatically calculate averages so I could compare the prevalence of categories of vague terms and the prevalence of VL usage by individual participants in relation to all the vague terms and participants in the corpus. Below is a screenshot of the first spreadsheet I used to tabulate and total all the data:

Figure 6: Screenshot of Author's First Tabulation of Vague Terms in NCSLGR Corpus Data

Vague Term	Tokens	Hedge	Quantifier	Pronoun	Number	Noun	Determiner	Adverb	GE/VCM	Verb	Schlang	Tourangeau	Bahan	Kuntze	Cook	McCullough	Supalla	Norman
(2h)5"I don't know"	7	7									7							
100 110 DEGREE	1				1						1							
45 50 fs-MPH	1				1						1							
5"I don't know"	30	30									30							
5"looking for words"	70	70									66		4					
5"reluctance"	7	7									7							
5"you know"	29	29									29							
50s 60s [decades]	1				1						1							
70+ 75+ [degrees Farenheit]	1				1						1							
70+ 80+	1				1						1							
75++ 80[++] DEGREE	1				1						1							
80 90 fs-MPH	1				1						1							
85 88 90 fs-MPH	1				1						1							
85++	1				1						1							
A-LOT	7		7								5	1	1					
AGE-FOUR AGE-FIVE	1				1						1							
AGE-THREE HALF AGE-FOUR	1				1						1							
ANY	2		2								2							
ANY+ONE	5			5							5							
ANY+THING	3					3					3							
ANY+WHERE	1							1			1							
AREA	11					11					7		4					
AROUND	3							3			1		2					
BCL:C"thinking"	3	3											3					
COUNT-ON-FINGERS	1								1		1							
EIGHT[ish]	1				1									1				
ETC	9								9		9							
EVERYDAY+fs-DAY	6							6			6							
EVERYTHING	5					5					5							
FALL-INTO-PLACE	3									3	3							
FEW	4		4								4							
FIFTEEN 5"I don't know" FIFTEEN fs-HOURS	1				1						1							
FOUR-DOLLARS [approx]	2				2						2							
FOUR-THIRTY FIVE [4:30-5]	1				1						1							
GOING-ALONG	1							1								1		
LCL:5"area of state"	1					1					1							
LITTLE-BIT	12		12								11			1				
LONG-LIST	1								1		1							
MANY	25		25								18	3	2				2	
MAYBE	30	30									28			1				1
MILLION[s]	1				1						1							
NINETY[something]	1				1									1				
NOONISH	1				1										1			
NOT-KNOW [out of 18]	11	11									11							
ONE #OR TWO	1				1						1							
ONE TWO 5"I don't know" FEW HOUR	1				1						1							
ONE-DOLLAR FIFTY TWO-DOLLARS	1				1						1							
ONE-THOUSAND fs-PLAYS [base 10 rounding]	1				1						1							
ONE+HUNDRED 150 (flat-O) DOLLAR	1				1						1							
SIX SEVEN MORNING	1				1						1							
SOME [quantifier]	14		14															
SOME+WHERE	1							1			1							
SOMETHING/ONE [determiner]	18						18					12	4		2			
SOMETHING/ONE [pronoun]	45			45							27	13	3		2			
SOMETIMES	5							5			5							
TEN FIFTEEN DEGREE	1				1						1							
TEN THOUSAND COW [base 10 rounding]	1				1						1							
THAT	1								1		1							
THINK [uncertainty]	15	15									11	1	2		1			
THREE-DOLLARS[approx]	2				2						2							
TIME THREE FOUR MORNING	1				1						1							
TIME-PASSING	2									2				1		1		
TIME+FIVE [quarter-hour rounding]	1				1									1				
TIME+NINE[ish]	1				1									1				
TIME+NINE+THIRTY [quarter-hour rounding]	1				1									1				
TIME+SEVEN+FORTY-FIVE [quarter-hour rounding]	1				1									1				
	422	202	64	50	34	20	18	17	12	5	333	30	25	9	6	2	2	1

Figure 6. This figure is intended only as an insight into my methodology; the data are presented more clearly in tables in my Results and Discussion chapter. The tables include more recently found data.

In the final stages of writing this thesis, I reread literature on VL and searched for vague terms I had not searched for. I looked at the gestures again to see if they conveyed vagueness. I

double-checked my counts and discovered some duplication in the results I had gotten from the

ASLLRP DAI in my first searches. I revised my tables and charts to reflect the corrected data.

RESULTS AND DISCUSSION

Presentation of the Findings

Eleven of the eighteen narratives are told by the same participant, Michael Schlang; three are told by Ben Bahan, and four are told by one participant each: Marlon Kuntz, Steve McCullough, Freda Norman, and Sam Supalla. In the 19 sets of elicited utterances, the signers are Bahan, Bowers Tourangeau, Cook, and Schlang. The breakdown of participant to video is:

Table 1

Signers per Data Source

Data Source	Signer
accident.xml	Michael Schlang
biker.xml	Michael Schlang
boston-la.xml	Michael Schlang
close call.xml	Benjamin Bahan
dorm prank.xml	Michael Schlang
DSP Dead Dog Story.xml	Freda Norman
DSP Immigrants Story.xml	Steve McCullough
DSP Intro to a Story.xml	Sam Supalla
DSP Ski Trip Story.xml	Marlon Kuntze
football.xml	Michael Schlang
lapd.xml	Michael Schlang
muhammed ali.xml	Michael Schlang
ncslgr10a.xml – ncslgr10b.xml	Benjamin Bahan
ncslgr10c.xml	Benjamin Bahan, Norma Bowers Tourangeau

Data Source	Signer
ncslgr10d.xml – ncslgr10n.xml	Norma Bowers Tourangeau
ncslgr10p.xml – ncslgr10q.xml	Michael Schlang
ncslgr10r.xml	Lana Cook
ncslgr10s.xml – ncslgr10t.xml	Michael Schlang
roadtrip1.xml	Michael Schlang
roadtrip2.xml	Michael Schlang
scarystory.xml	Michael Schlang
siblings.xml	Michael Schlang
speeding.xml	Benjamin Bahan
three pigs.xml	Benjamin Bahan
whitewater.xml	Michael Schlang

Note. The data sources with titles beginning ncslgr10 contain elicited utterances; each utterance has a number following a hyphen after the file extension "xml" (e.g., "ncslgr10c.xml-1" is the first clip of that video).
[a]Bahan was the signer in ncslgr10c.xml-1–ncslgr10c.xml-27 and Bowers Tourangeau was the signer in ncslgr10c.xml-28–ncslgr10c.xml-40.

For the purpose of comparing the prevalence of vague terms among participants, the

tokens of vague terms produced by each of the signers are counted and compared in this table:

Table 2

Number and Percentage of Vague Tokens per Participant, in Order of Prevalence

Participant	Vague Tokens	Percentage of Vague Tokens in Corpus
Michael Schlang	341	79%
Norma Bowers Tourangeau	30	7%
Benjamin Bahan	25	6%

Participant	Vague Tokens	Percentage of Vague Tokens in Corpus
Marlon Kuntze	18	4%
Lana Cook	9	2%
Steve McCullough	4	1%
Sam Supalla	3	1%
Freda Norman	2	< 1%
Totals	432	100%

I found 432 tokens of 85 vague terms in 10 categories (listed in order of prevalence): hedges, quantifiers, adverbs, pronouns, numbers, nouns, verbs, adjectives, determiners, and VCMs.

Table 3

Vague Terms, Categories, and Tokens, in Order of Prevalence

Vague Term	Category	Tokens
SOMETHING/ONE [as pronoun]	Pronoun	42
5"I don't know"	Hedge	31
MAYBE	Hedge	30
MANY	Quantifier	25
#DO	Verb	18
SOMETHING/ONE [as determiner]	Determiner	18
THING	Noun	18
NOT-KNOW	Hedge	17
OLD	Adjective	16

Vague Term	Category	Tokens
SOME [as quantifier]	Quantifier	15
THINK [as uncertainty]	Hedge	15
LITTLE-BIT	Quantifier	12
ALL-NIGHT	Adverb	11
AREA	Noun	11
RECENT-PAST	Adverb	11
DO	Verb	10
ETC	VCM	9
A-LOT	Quantifier	7
EVERYDAY+fs-DAY	Adverb	6
ANY+ONE	Pronoun	5
SOMETIMES	Adverb	5
5"reluctance"	Hedge	4
FEW	Quantifier	4
FIFTEEN [rounding]	Number	4
SOON	Adverb	4
80[+ degrees Fahrenheit]	Number	3
ANY+THING	Noun	3
AROUND	Adverb	3
EVERYTHING [standard gloss]	Noun	3
FALL-INTO-PLACE	VCM	3
OLD+MOST	Adjective	3

Vague Term	Category	Tokens
VARIOUS	VCM	3
YOUNG	Adjective	3
70+ [degrees Fahrenheit]	Number	2
ALL-MORNING	Adverb	2
ANY	Quantifier	2
EVERYTHING [elsewhere glossed INCLUDE]	VCM	2
GENERATIONS-AGO	Adverb	2
SMALL	Adjective	2
STAY-AWAKE-ALL-NIGHT	Verb	2
TIME-PASSING	Verb	2
100 110 DEGREE	Number	1
45 50 fs-MPH	Number	1
50s [decade]	Number	1
60s [decade]	Number	1
75+ [degrees Fahrenheit]	Number	1
75++ DEGREE	Number	1
80 90 fs-MPH	Number	1
85 88 90 fs-MPH	Number	1
85+ [degrees Fahrenheit]	Number	1
AGE-FOUR AGE-FIVE	Number	1
AGE-THREE HALF AGE-FOUR	Number	1
ALL-AFTERNOON	Adverb	1

Vague Term	Category	Tokens
ANY+WHERE	Adverb	1
COUNT-ON-FINGERS	VCM	1
EIGHT [as approximation]	Number	1
EVERY+THING	Noun	1
FINGERSPELL [as K-something]	Noun	1
FOUR-DAY THREE-DAY FOUR-DAY	Number	1
FOUR-THIRTY FIVE [as "4:30-5"]	Number	1
GOING-ALONG	Adverb	1
LCL:5"area of state"	Noun	1
LONG-LIST	VCM	1
MILLION [as "millions"]	Number	1
NINETY [as approximation]	Number	1
NOONISH	Number	1
ONCE-IN-A-WHILE	Adverb	1
ONE #OR TWO	Number	1
ONE TWO 5"I don't know" FEW HOUR	Number	1
ONE-DOLLAR FIFTY TWO-DOLLARS	Number	1
ONE-THOUSAND fs-PLAYS	Number	1
ONE+HUNDRED 150 (flat-O) DOLLAR	Number	1
SIX SEVEN MORNING	Number	1
SO-SO	Hedge	1
SOME+WHERE	Adverb	1

Vague Term	Category	Tokens
TEN FIFTEEN DEGREE	Number	1
TEN THOUSAND [rounding]	Number	1
THAT [as "and that"]	VCM	1
THREE-DAY FOUR-DAY	Number	1
THREE-DOLLARS FOUR-DOLLARS	Number	1
TIME THREE FOUR MORNING	Number	1
TIME+FIVE [as approximation]	Number	1
TIME+NINE [as approximation]	Number	1
TIME+NINE+THIRTY [rounding]	Number	1
TIME+SEVEN+FORTY-FIVE [rounding]	Number	1
Total		432

Note: The data above are organized by category in the Appendices (see Table A2).

For the purpose of comparing the prevalence of various categories of VL, below is a chart showing the share of vague terms by category, including the number and percentage of tokens in each:

Figure 7: Relative share of vague terms by category
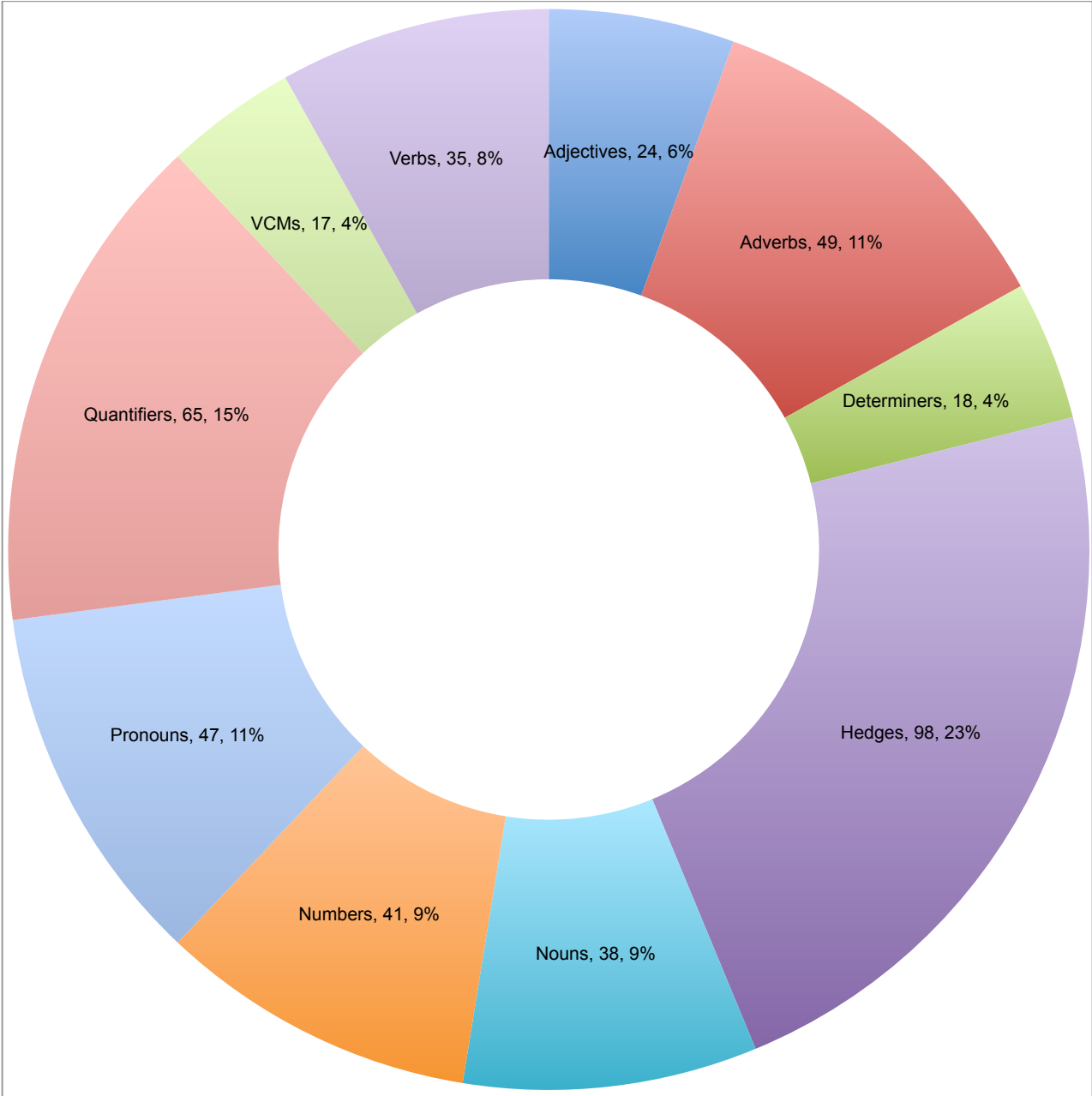
The top 20 vague terms in the NCSLGR Corpus were as follows:

Table 4

20 Most Prevalent Vague Terms in the NCSLGR Corpus

Vague Term	Tokens
SOMETHING/ONE [as pronoun]	42
5"I don't know"	31
MAYBE	30
MANY	25
#DO	18
SOMETHING/ONE [as determiner]	18
THING	18
NOT-KNOW	17
OLD	16
SOME [as quantifier]	15
THINK [as uncertainty]	15
LITTLE-BIT	12
ALL-NIGHT	11
AREA	11
RECENT-PAST	11
DO	10
ETC	9
A-LOT	7
EVERYDAY+fs-DAY	6
ANY+ONE	5
SOMETIMES	5

Discussion of the Findings

After documenting the VL I observed by watching the full narratives, I followed the leads given to me by a staff member of the ASLLRP (J. Nash, personal communication, June 26, 2012), I searched the ASLLRP DAI for the terms AROUND and NOONISH. For AROUND, the search results yielded the same results I had found in Kuntze's story about how he and a friend had won a free ski trip (DSP Ski Trip Story.xml-10):

`SKI++ AROUND TIME+NINE TIME SKI++ ALL-MORNING`

[Translation: "…Skiing. Around nine, it was time to ski! We skied all morning."]

I noticed that after AROUND, the signer also signed NINE with a waving movement that indicates approximation. I would not translate this *around nineish*, because *nineish* sounds redundant after *around*. I would, however translate the waved NINE sign, by itself, *nineish*.

Another utterance in *Ski Trip* includes the sign AROUND (DSP Ski Trip Story.xml-23):

`ARRIVE HOME AROUND EIGHT WOW GREAT WEEK+END #FUN`

[Translation: "Got home around eight. Wow, wonderful weekend! Fun!"]

I noted that in both instances, the signer waved the number in addition to signing AROUND. There seems to be no annotation in the NCSLGR Corpus to transcribe the waving movement that modifies the value of the sign to make it approximate.

NOONISH, a variation of the sign NOON with a waving movement that makes it approximate, occurs in the same story by the same signer (DSP Ski Trip Story.xml-21 [truncated]):

`ALL-MORNING NOONISH (2h)alt.PACK+++`

[Translation: "…all morning. Around noon, we packed up all our stuff."]

This time, the signer did not sign AROUND; however, he had just signed ALL-MORNING, a sign that sweeps the hand up from MORNING to NOON, and the fact that his

hand was already in the NOON position gives the signer reason to assimilate NOON into

NOONISH.

Watching *Ski Trip* also led me to vague nouns (DSP Ski Trip Story.xml-11):

`NOON STOP "hands up" EAT LIGHT-WEIGHT FRUIT VEGETABLE DIFFERENT+++-arc "hands up"`

[Translation: "At noon, we broke for a light meal of fruits and veggies."]

I would call FRUIT VEGETABLE DIFFERENT+++-arc a cluster of vague nouns, since

the signer does not give details about what kinds of fruits and vegetables there were. My guess as

to why he would not go into detail is because this is a story about skiing, not eating. The story's

momentum is built up on skiing, and goes right back to skiing after this light lunch; therefore, it

would be counter to the speaker's discourse genre and goal to spend too long on the food.

There are also vague verbs in this story. He talks about the nighttime social (DSP Ski

Trip Story.xml-17):

`DIFFERENT+ DCL"extensive food on table" DRINK BEER WINE (2h)alt.EAT+ (2h)alt.DRINK++`

[Translation: "They laid out a big spread, beer, wine, cocktails, and everyone was eating

and drinking."]

The signer describes a similar event earlier in the story (DSP Ski Trip Story.xml-7,

annotation split and stacked to fit within margins):

`(2h)alt.ICL"drinking"++ (2h)alt.EAT+ SOCIALIZE 1p:MEET-distributive-3p-pl-arc ALL-NIGHT`

[Translation: "…eating, drinking, hanging out, and meeting new people all night."]

Expressions like these are shorthand for specific foods, beverages, social behaviors, and

time frames. The NCSLGR Corpus calls the sign ALL-NIGHT an adverb; I would add that it is a

vague adverb, since it is not an "accurate" depiction of time. "All night" could mean until 11pm,

midnight, 2am, the next morning, or anywhere in between. The signer's cadence and facial

expression indicate contented relaxation, and the VL he uses helps him convey his meaning. If

he were specific about the foods and drinks, the number of people he met, and how long he socialized, his attention to detail would defeat the purpose of his casual register. This demonstrates the importance of VL. If there were no VL in ASL, a signer would not be able to tell this story the way he does.

Another instance of movement modifying a sign to make its value approximate is the shaking of a cardinal number. In ASL, cardinal numbers are signed with the palm orientation toward the signer's body. Dollar amounts are signed with a single twist of the wrist that brings the number handshape from facing the signer's midline to facing their chest. Approximate dollar amounts involve a rapid twisting of the wrist several times. This makes the difference between *three dollars* and *about three dollars*. There is no annotation system in the NCSLGR Corpus to reflect this sign movement.

Sometimes in viewing the search results for typically vague terms, I found that certain tokens were not vague at all. For instance, when I saw the sign EIGHTY had three tokens, I clicked on the numerical hyperlink "3" and looked at the three video clips and glosses. In the case of EIGHTY, all three tokens are about Highway 80, an exact highway number, not an approximation of an amount, or "vague quantifier," a term I adopted from Channell (1994). The three glossed phrases are HIGHWAY EIGHTY (close call.xml-3), EIGHTY HIGHWAY (close call.xml-49), and SCL:3"vehicle onto I-80" ON EIGHTY (close call.xml-51).[1]

One of the challenges of searching a signed language corpus with glosses as search terms is that signs can be glossed with English words that are a different part of speech in English than

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[1] The corpus also has the sign glossed "80" and the difference does not seem to be in how the sign is produced; instead, it seems the quantifier, or cardinal number, is glossed "80," and the non-quantifier, or nominal number, is glossed "EIGHTY." To check this pattern, I looked at the difference between the glosses "50" and "FIFTY" and it was not readily apparent. The NCSLGR Corpus glosses speed in miles per hour as "50," but dollar amount as "FIFTY" in "ONE-DOLLAR FIFTY TWO-DOLLARS" (boston-la.xml-71).

in ASL. In English, for example, the word *anyway* can be an adverb (e.g., "You should do it anyway.") It can also be a discourse marker or transition in English, such as, "Anyway, we will discuss that later." In ASL, however, the sign glossed ANYWAY/NOT-MATTER is generally used as a discourse marker. When I searched for instances of ANYWAY in the NCSLGR Corpus, I found that ANYWAY/NOT-MATTER appears only nine times (eight times by Schlang and once by Bahan), and its part of speech is always discourse marker (written "DM" in the "POS" line of each full gloss). If it were used as an adverb, I would have categorized it as a vague adverb, but since it is not, I did not include it as a vague term. There is one other form in which *anyway* appears in the corpus, and that is as a gesture glossed "5"anyway"." Schlang produced all three of the tokens of this gesture, and in each case they have the sense of "but whatever," or "be that as it may" (football.xml-14, roadtrip1.xml-5, and roadtrip2.xml-8). I did not count "5"anyway"" as a vague term, either.

My categorization of hedges and VCMs differed from the part of speech the NCSLGR Corpus assigned. This was because I felt it was important for a study of VL to identify hedges and VCMs, and I wanted to break down the categories into percentages of the whole. It would not have been mathematically sound to include tokens in more than one category, so I did not count the signs I labeled hedges and VCMs as any part of speech.

The prevalence of VL varied widely by participant. One participant, Michael Schlang, signed 63% of the narrative videos and 42% of all the videos combined, including elicited utterance videos. It was not feasible in the present study to count the runtime of the elicited utterance videos, but counting the narrative videos by seconds, I found that this participant signed 78% of narrative runtime in the NCSLGR Corpus. Not only was he the predominant participant in the corpus; he was disproportionately the predominant producer of vague language.

This participant produced 341 out of the 432 tokens, or 79%, of the vague terms I identified. The same participant was the sole producer of 59 out of 85, or 69%, of the vague terms I identified; he was also the sole producer of 96 out of 128, or 75%, of the gestures in the NCSLGR Corpus. In other words, 1/8 of the participants produced 3/4 of the gestures. Of the few gestures produced by other participants, most were cases of using the non-dominant hand to point to and/or stabilize the dominant arm while the participant spelled a proper noun with the dominant hand.

This phenomenal disparity between participants made me wonder whether this one participant had indeed produced signs and gestures no one else in the NCSLGR Corpus had produced, or whether there might have been inconsistencies in the way his utterances were transcribed compared to other participants. I checked my concerns by returning to the notes I made on my checklists (see Appendix A) during my first viewings of the full narrative videos. I found that I myself had documented more VL in this one participant than any of the others, even before I searched the ASLLRP DAI for specific vague terms. Thus I was reassured of the validity of the NCSLGR Corpus transcriptions, especially of the language produced by Schlang.

The participant who produced the least vague language, Freda Norman, produced only four terms that might be considered vague: #DO, MAYBE, *part:indef*, and THINK. Each she signs with such confidence she seems certain. For example, she signs MAYBE (DSP Dead Dog Story.xml-11 [truncated]):

```
MAYBE ON AIRPLANE IX-loc:h
```

[Translation: "Maybe on the next arrival."]

She winks and opens her mouth on a slant as if to say, "you betcha." Conlin et al. notice Norman's emphatic way of signing *part:indef* (Conlin et al., p. 12, Example 34):

```
POSS-1p Classifier:"pet carrier, open door" #DOG
Classifier:"close door and pick-up" MISSING (2h)part:indef
```
'My pet-carrier with my dog in it is missing!'

Conlin et al. suppose "Here the uncertainty presumably relates to how this could have happened" (p. 12).

Norman also signs #DO and THINK emphatically in one sentence (DSP Dead Dog Story.xml-22):

```
#DO "pray" THINK IDEA "WHAT"
```

[Translation: "What should I do? … I know!"]

I debated whether to consider this token of #DO as vague, since it is framed as a question, but I decided #DO might be counted as a vague term in another question in the corpus (three pigs.xml-49), so I decided to count this token as vague as well. I did not count this as a vague token of THINK, and I would not include *think* in my translation of this sentence, because the sign THINK merely marks an *occurring thought*.

I found two other cases of THINK as occurring thoughts. One was (close-call.xml-7):

```
IX-1p DRIVE IX-1p THINK WHY^NOT TURN-OFF:i
```

[Translation: "I thought, 'why not turn off?'"]

Another occurring thought was (speeding.xml-44 [truncated]):

```
… THINK COPY DO DEAF
```

[Translation: "I think I'll copy him and act deaf."]

In these cases, THINK is an *idea* that occurs to the character, a proposition like "why don't I," rather than a lack of commitment to the proposition.

Determining which occurrences of THINK were vague was a time-consuming deliberation. I almost gave up on including THINK in my data at all, but I persevered because there were enough occurrences I was sure were hedges that I felt THINK was worth counting. Much of the difficulty lay not in my judgment but in my ability to rationalize how I came to my conclusions. As with other vague terms in the NCSLGR Corpus, the sign THINK is one that

cannot be counted by computer alone. There is no particular pattern I can point to such as part of speech to make the search easier for future researchers. This is a case of computer-based corpus study in which the operative word is "based," because it is not conducted by computer alone. There is a qualitative human element that must complement the quantitative computer element.

As I continued to search for tokens of THINK that expressed the uncertainty I expected the sign to convey, I found other tokens of THINK that were not vague. For instance, I found a token of THINK as an *inner thought* (lapd.xml-69):

… IX-1p THINK POSS-1p GOD

[Translation: "I thought, 'my God!'"]

I found a token of THINK[1] that connoted *mindfulness* (accident.xml-69):

… IX-1p NOT THINK (open-B)IX-loc:i DCL:5"shampoo all over hand" IX-1p 5"resignation"

[Translation: "…I wasn't thinking. I got shampoo all over my hand. Ugh!"]

In addition to discounting occurring thoughts, inner thoughts, and mindfulness, I found I had to discount occurrences of THINK that referred to *perception* and *opinion*. An instance of perception was (ali.xml-22):

SAME THINK+VISION SELF-3p+:k STILL BOXING REALLY STILL THINK IN fs-RING

[Translation: "Like he sees himself still boxing… he still thinks he's in the ring."]

An instance of opinion was (football.xml-44):

SELF-1p++ IX-1p THINK IX-1p BETTER ON fs-COACH THAN PLAY+AGENT

[Translation: "Personally, I think I'm a better coach than player."]

I determined the sign THINK lacked vagueness in this last sentence by how confident the signer appeared when he said it. I observed no NMMs consistent with hedging, such as polite

---

[1] This token is a variation of THINK that denotes "think about." The citation form of THINK simply points once to the temple, while this variation moves the same handshape, location, and palm orientation in a movement of small circles forward.

grimace or body teeter. I suppose it could be argued that the signer is hedging his statement about himself so as to appear modest, or that he is hedging because he is not sure he is a better coach than player, but I determined that he was stating a fact: that he is of the opinion that he is a better coach than player.

The sign THINK also appeared several times in the NCSLGR Corpus coupled to other signs. For example, "THINK HOPE" [*sic*] is the way the corpus authors transcribed a phrase meaning *expect* (ncslgr10g.xml-6). I could tell the signer means *expect* because I could see the signer mouthing "expect" as he signs THINK HOPE. The context, that the teacher expects John to read a lot of books, makes it clear that "hope" is not the appropriate meaning. The sign THINK is only half of the construction of THINK HOPE, and is not to be construed in isolation. Likewise, I did not count the word pair "THINK POSITIVE" [*sic*] (to be optimistic), because THINK is just half of its construction. I did not count any of the compound signs in the corpus that start with THINK, such as THINK+DECIDE (to decide), THINK+POP-UP (to think of something suddenly), THINK+SHOCK (to be shocked), or THINK+VISION (to envision). I also did not count THINK-OVER (to contemplate), because it is a single sign glossed with two words, one of which just happens to be THINK.

After much pondering over non-vague instances of THINK, I noticed that the vague instances of THINK in the narratives co-occurred with other vague terms, such as: 5"I don't know", 5"looking for words", MAYBE, and NOT-KNOW. In the elicited utterances, I noticed that THINK was obviously vague because it was marked with vague NMMs such as: eye aperture: squinting; nose: wrinkled; neck: tensed. Each production of the sign THINK in the elicited utterances was held longer than the other signs, indicating emphasis of THINK as opposed to KNOW. With this new "rule" requiring co-occurrence with vague terms and forms in

addition to my previous method of ruling out non-vague occurrences of THINK, I made my final

determinations (see Table A1).

As opposed to the polysemy of the sign glossed THINK, the sign glossed NOT-KNOW

has only one meaning in this corpus. Each time the sign appears it is in the context of not

knowing *something* rather than not knowing *someone*. The way the sign is used in corpus might

be compared to the French verb *savior*, as in *savior faire* or *je ne sais quoi*, not the verb

connaître, as in *connoisseur* and *reconnaissance*. The first implies certainty or lack thereof while

the second implies familiarity or lack thereof. None of the tokens of NOT-KNOW in this corpus

express not knowing someone (e.g., the imaginary sentence JOHN NOT-KNOW MARY.)

In search of other vague verbs, I looked up DO and analyzed the 15 results to see which

occurrences were vague. I discounted DO as a helper verb in sentences like (accident.xml-46):

…PLASTIC SURGERY+AGENT DO STITCH:i ON IX-1p

[Translation: "…plastic surgeon do stitching on me."]

and (whitewater.xml-58):

IX-3p:o COUGH+ THINK MAYBE MUST DO fs-CPR ON IX-3p:o

[Translation: "…coughing so much I thought maybe [I] should do CPR on her."]

I also did not count DO when it was used as *act* or *action* as in DO DEAF (speeding.xml-

44) meaning *act deaf* and DISCIPLINE DO (dorm prank.xml-48) meaning *disciplinary action*. I

did count DO as a vague verb in sentences such as (accident.xml-47):

IX-1p THINK REGULAR DOCTOR fs-OR MAYBE fs-EVEN NURSE CAN DO fs-IT part:indef…

[Translation: "I thought a regular doctor or maybe even a nurse could do it."]

I counted that occurrence of DO as vague because the signer had specified *it* as *stitching*

in the previous sentence and was referring to shared knowledge with an anaphoric pronoun,

something Cotterill (2007, p. 106) considers VL.

I searched the ASLLRP DAI for #DO, and found some occurrences in which it meant *what to do?* as in (three pigs.xml-49):

```
5"panic" (2h)#DO++…
```

[Translation: "What are we going to do?"]

I thought about not including #DO when it occurred as a question, but then I realized the question itself indicates an uncertain future, and *to do* could be any action. I also determined that #DO was vague in statements as well, such as (biker.xml-3):

```
…#DO ANY+THING FOR MOTORCYCLE
```

[Translation: "…do anything for a motorcycle."]

Searching for #DO reminded me to search for #GO, since some writing teachers say *to go* is a weak (if not vague) verb. Once I saw the search results, however, I determined neither #GO nor GO were vague enough to be called vague. Yes, there are many ways to go somewhere (walk, fly, drive, sail), but the omission of detail alone is not enough to make a statement vague. For example, the sentence fs-JOHN CAN #GO CAN may be vague in that it does not indicate where John can go, but the verb go could be replaced with a more specific (and still directional) sign such as *rt*-DRIVE-*lf*, and the destination would still be unknown, thus leaving the sentence just as vague. After looking at both occurrences of #GO and all 49 occurrence of GO, I determined GO did not count as a vague term.

Some vague terms were only vague in one part of speech; for example, the sign SOME can either be a quantifier or a noun. As a noun, it can mean *part* as in ONE SOME (DSP Intro to a Story.xml-12), meaning *one part*, or *piece(s)* as in DCL:5-C"tire split" IN TWO SOME (roadtrip1.xml-13), meaning *tire split in two pieces*. I only counted SOME as vague when it occurred as a quantifier.

Part of determining whether a sign was vague involved identifying whether the sign was

used conceptually or as a homonym for an English word with another meaning. For example, searching for RECENT yielded results for RECENT-PAST. Among the 13 results were two occurrences of RECENT-PAST to mean *just* as in *simply* rather than *recently*. For example (lapd.xml-30):

```
MAYBE IX-1p CAN RECENT-PAST 5"nah" INFORM SAY SORRY
```

[Translation: "Maybe I could just… say sorry."]

The signer mouths "just" when signing RECENT-PAST. There were two sentences like this, and I did not count them as vague references to time.

Other vague time-related references are to age. I searched for YOUNG and OLD. The results for OLD included OLD+(1h)MOST (OLD+MOST in simple transcription), which in all three tokens meant *older* rather than *oldest*. One example was (accident.xml-39):

```
…IX-1p TRUST YOUNG DOCTOR IX-1p FAVORITE/PREFER OLD+(1h)MOST…
```

[Translation: "I trust young doctors, but prefer older [ones]."]

The age of *older doctors* is unclear; therefore, I counted OLD+MOST as a vague term.

I found that hesitation alone does not constitute hedging. There is a gesture in the NCSLGR Corpus transcribed "5"hesitation"." I expected that gesture to indicate vagueness, but in the corpus it appears as a moment of indecision followed by decisive action. At first thought it might sometimes be a hedge, especially in cases of constructed dialogue, such as in one story when the storyteller reconstructs the way he responded after someone scolded him (dorm prank.xml-27). After reviewing the video, though, I realized the speaker was not role shifting as himself hedging to his interlocutor. I could tell this not only by watching the video again, but by reading the full gloss that shows that the eye gaze is to the *addressee,* which means the viewer of the video; i.e., not his interlocutor. He is telling us, the audience, he felt bad; he was not telling the person who scolded him he felt bad. In viewing the other tokens of "5"hesitation"," I realized

I could not count any of them as hedges. Sometimes, the storyteller merely has a moment of hesitation while trying to remember what he wanted to say (boston-la.xml-10). Another example of this is when the speaker makes a false start and stops himself mid-phrase (boston-la.xml-58). False starts are dysfluency, not vagueness.

In addition, there are gestures that are categorized into parts of speech and glossed in ways that do not seem quite right to me. One of them is transcribed "5"everything in order"." This gesture appears five times in the NCSLGR Corpus, all by the same signer, and in only three out of the twelve stories he tells in this corpus. One instance is (accident.xml-67):

```
IX-1p 5"everything in order" WATER LCL:4"liquid running down" 5"wash body" (1h)FRUGAL
BCL:5"holding hand up" 5"wash body" IX-3p:i CANNOT USE IX-3p:i IX-1p 5"that's the way it is"
```

[Translation: "Aaaallrighty then... so I took a shower, washing with *only one* hand 'cause I couldn't use this one, you know."]

The gesture "5"everything in order"" to me is more like a discourse marker that suggests reluctant acceptance (cf. accident.xml-28). I suppose this gesture is not vague *per se*; however, it would require a corresponding vocalization if interpreted for an auditory-only audience, like a hearing person on the phone in a video relay service (VRS) interpreted call. The gesture is vague in the sense that it has no particular translation other than a vocal interjection. Other such gestures I found were:

- 5"I don't know" (e.g., lapd.xml-50)

- 5"you know" (e.g., accident.xml-4)

- 5"everything in order" (e.g., accident.xml-67)

- 5"hesitation" (e.g., three pigs.xml-61)

- 5"reluctance" (e.g., accident.xml-48)

The "5" represents a variation the *5 handshape*, an open hand with fingers slightly spread.

These are all similar, openhanded gestures taken by the NCSLGR Corpus developers (Neidle et al., 2002) to mean different things depending on nuances of facial / body grammar and context. Below are some examples of gestures made with the 5 handshape and various meanings:

Figure 8: A selection of gestures in the NCSLGR Corpus made with the "5" handshape
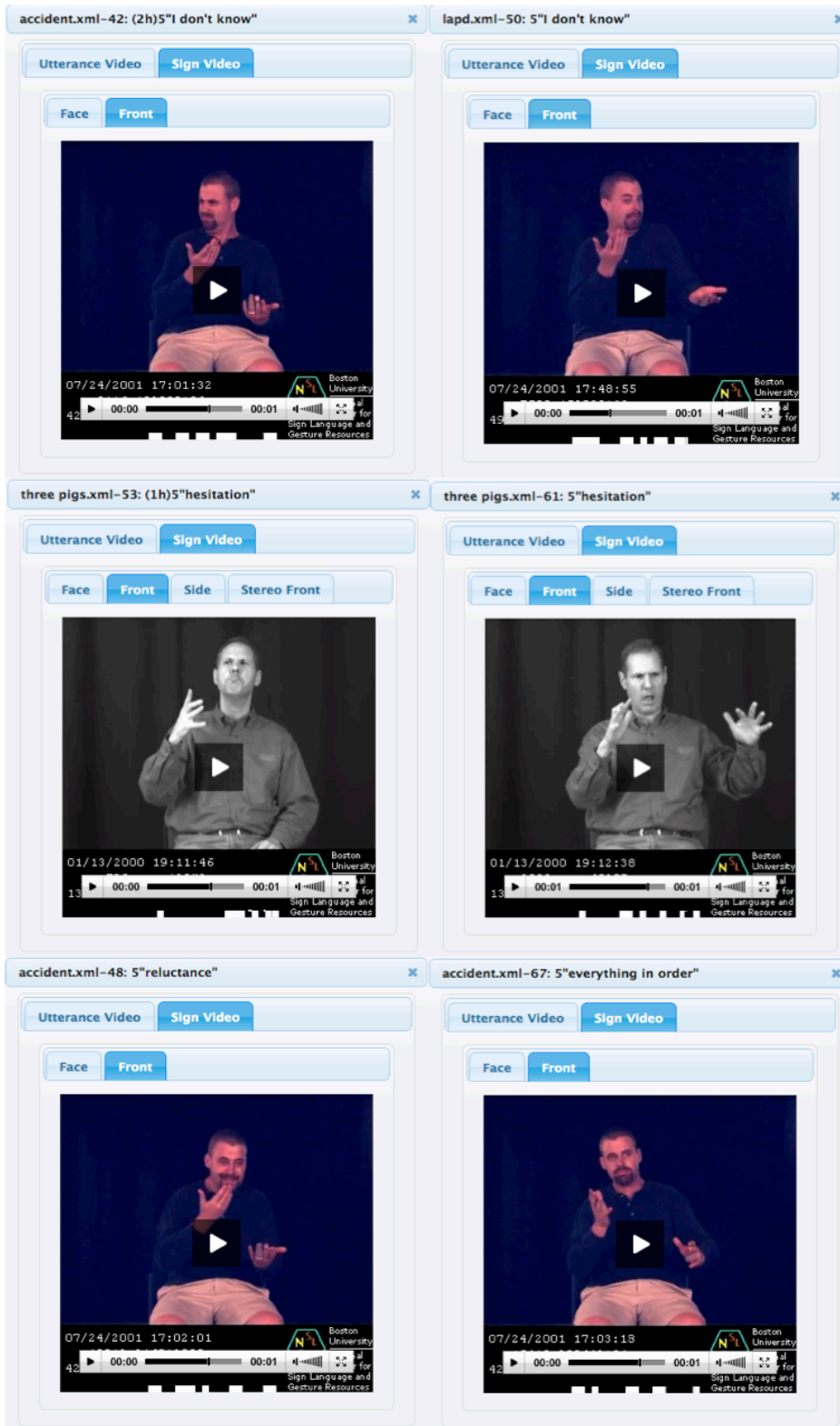
Figure 8. From http://secrets.rutgers.edu/dai/queryPages/. Reprinted with permission.

Here is a table of eight of these gestures, which of two participants signed them, and number of tokens of each gesture:

Table 5

A Selection of Gestures with the "5" Handshape Signed by Two Participants

Gesture	Benjamin Bahan	Michael Schlang
5"I don't know"	0	30
5"you know"	0	29
5"hesitation"	2	11
(2h)5"I don't know"	0	7
5"reluctance"	0	7
5"everything in order"	0	5
"you know"	0	1
(1h) 5"hesitation"	1	0

Notes:
[a] I could not discern any difference between "5"I don't know"" and "(2h)5"I don't know"." I watched all 30 tokens of "5"I don't know"" and all 7 tokens of "(2h)5"I don't know"," and in every one, Michael Schlang uses two hands (which is what "(2h)" stands for). There were some of those 30 utterances in which the non-dominant hand was lower than the other, but in all cases there was a corresponding movement and 5 handshape with both hands; in fact, in some of the "(2h)5"I don't know"" tokens, the non-dominant hand was just as low as in the "5"I don't know"" tokens. I do not know whether this is a difference between what the transcriber saw and what I saw, or if there are unintentional inconsistencies in the transcription.
[b] I could not discern any difference between "5"you know"" and ""you know"." They both have the same 5 handshape. Again, I wonder if this is a difference between what the transcriber saw and what I saw, or if there are unintentional inconsistencies in the transcription.

While searching for gestures and signs, I found that I got some duplicate search results if I searched the ASLLRP DAI selecting "Hand: Don't Care." Apparently, if the signer produced the same sign or gesture with two hands, it was sometimes counted for each hand rather than

once. I revised my search to select only the default: "Hand: Dominant."

Vague number clusters may be contrasted with definite number clusters. In one case of a vague number cluster, the narrator keeps his options open as to how long he will stay and have a good time (roadtrip1.xml-9):

HAVE GOOD TIME+ FOR ONE TWO 5"I do not know" FEW HOUR

[Translation: "…have a good time for a couple few hours."]

It is clear by the insertion of the gesture glossed "5"I do not know"" that he is not sure how long he will stay; besides that, he ends the proposal with *a few*. In contrast, Bahan in *Three Pigs* retells how the wolf counts to three (three pigs.xml-58):

ONE TWO THREE DCL:5"air inhaled and blown out"

[Translation: "One, two, three— [blowing]"]

This number triad is not vague; it fits the story's motif of threes and the familiar count-to-three as a warning.

I found examples of detail dismissive NMMs in *Accident*. Here, Schlang dismisses the details of his hospital intake (accident.xml-33):

Figure 9: Full gloss for accident-xml.33
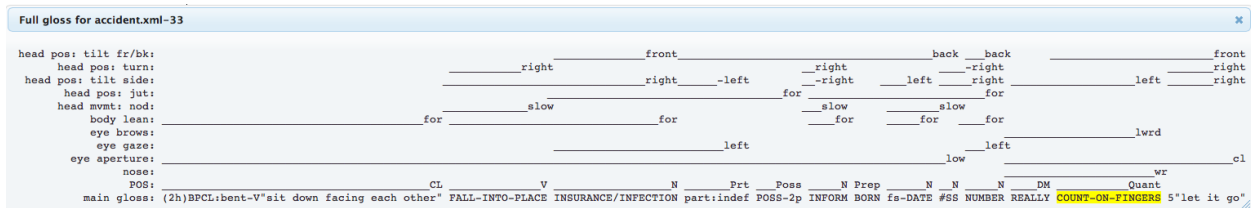
Figure 9: Apologies for the small text. Fixed width font is necessary to show the full gloss with the transcription of NMMs lined up vertically on top of the main gloss, and this main gloss is too wide to typeset on a page, even when split into three phrases, which I identified by points in the full gloss when there are breaks in the concurrent NMMs. From http://secrets.rutgers.edu/dai/queryPages/. Reprinted with permission.

The main gloss, split and stacked in three phrases, is (accident.xml-33):

```
(2h)BPCL:bent-V"sit down facing each other"

FALL-INTO-PLACE INSURANCE/INFECTION part:indef POSS-2p INFORM BORN fs-DATE #SS NUMBER

REALLY COUNT-ON-FINGERS 5"let it go"
```

[Translation: "[You] sit down with them to work out insurance, give your information…

you know, birthdate, social security number… all that."]

To put this in context, the signer has just told the audience (accident.xml-32):

```
IX-1p GO:n HOSPITAL IX-1p 5"resignation" REALLY 5"resignation" KNOW HOSPITAL TEND FOREVER
```

[Translation: "You know how it takes forever when you walk into a hospital…."]

The signer says this with an annoyed expression. I can tell he is dismissing the details,

perhaps not as unimportant, but annoying, because of his eye aperture. From the beginning ("sit

down facing each other") to the end of the phrase ("#SS"), his eyelids are "low," short for

lowered lids (Neidle, 2002, p. 29). From REALLY (as discourse marker) to the end of the

utterance ("5"let it go""), his eyes are closed. Another eye aperture I believe is detail dismissive

is *squinting eyes*. In *Accident*, Schlang dismisses the details of the hospital discharge

(accident.xml-62):

```
head pos: tilt fr/bk:    _____front         _____-front
      head pos: turn:     _____right      _____left
 head pos: tilt side: -rig           _____left           _____left
      head pos: jut:               _____back
      head mvmt: nod:             _____rapid              _____single
          body lean:      _____-for      _____-for
          eye brows: lwrd___-raised _____lwrd
           eye gaze: _____left_____adresee_____left
      eye aperture: __sq       _____cl_____+sq__bl_____sq           _____cl
              nose: _____wr _____wr
        role shift:      ____doctor       _____doctor
               POS: Con          _____V _____V _DM _____V __Pro __DM
        main gloss: #SO 5"you see" GIFT-2p EXPLAIN ETC EVERYTHING IX-1p FINE 5"so, all set"
```

[Translation: "So, the doctor checked to make sure I got all his instructions on everything

and I was good to go."]

The transcription "eye aperture: sq" represents squinting eyes (Neidle, 2002, p. 29). This

annotation matches what I was looking for with my checklist when I first watched the videos. I

am not sure about the NCSLGR Corpus annotation of the role shift, though. I think the signer

shifts into the role of the doctor during the gesture "5"you see"," but I do not think he shifts into the role of the doctor when he signs EXPLAIN ETC EVERYTHING, because the signer's eye gaze is to the addressee (the camera) and he is using the detail dismissive NMMs wrinkled nose, squinting eyes, rapid head nodding, and head jutting back. This phrase does not appear to be a role shift or *constructed dialogue*, the ASL equivalent of direct quotation. The phrase does not have the NMMs associated with role shifting, such as a turn of the torso and eye gaze to the side.

In addition to my doubts about the role shift, I struggled a bit with the glosses in the transcription. I have never seen the sign in the sentence above (accident.xml-62) glossed ETC (Neidle, 2002, p. 71). Usually, I have seen the gloss ETC given to the sign the NCSLGR glosses VARIOUS (see http://www.handspeak.com/word/index.php?dict=en&signID=3842). I had no problem searching for VARIOUS because I have seen both VARIOUS and ETC as alternative glosses for the same sign (cf. http://www.lifeprint.com/asl101/pages-signs/v/various.htm and http://www.lifeprint.com/asl101/pages-signs/e/etcetera.htm), but to me, the 9 tokens of the sign glossed ETC in the NCSLGR Corpus look the same as the 2 tokens of the sign in the NCSLGR corpus glossed TIME-PASSING. I have also never seen the gloss EVERYTHING given to the sign that appears in accident.xml-28 and accident.xml-62; I have always seen this sign glossed INVOLVE (cf. http://www.signingsavvy.com/sign/INVOLVE/3727/1 and http://lifeprint.com/asl101/pages-signs/i/involved.htm). There are 4 other tokens in the NCSLGR Corpus glossed EVERYTHING, and they look to me like the 1 token of the sign in the NCSLGR Corpus glossed EVERY+THING. I understand that different transcribers may use different glosses; I just want to be sure people understand which signs I am discussing in this paper.

Exploring other possibly vague terms, I searched the ASLLAP DAI for *part:indef.* One of the search results led me to a vague verb as well as several vague NMMs (DSP Immigrants

Story.xml-7):

```
       head pos: turn: _____right
      head mvmt: shake: _____-rapid
            shoulders: _____-right
            eye brows: _____-lwrd
             eye gaze: _____right
         eye aperture: _____sq
                 nose: _____tns
      Non-dominant POS: _____DM _____Prt
non-dominant hand gloss: GOING-ALONG (1h)part:indef
```

"Head mvmt: shake: -rapid" is how the NCSLGR Corpus transcribes the NMM I had

listed in Appendix A as *head wobble*. I had been calling it head wobble instead of *head shake*

because I observed a tilting as well as a shaking. Another NMM I identified as detail dismissive

is transcribed in the NCSLGR Corpus as "nose:tns," meaning *tensed nose* (Neidle, 2002, p. 35).

The way I interpret NMMs like the head shake (what I termed *head wobble*) and tensed nose

(what I termed *pinched nose*) is that they imply the details are unknown and/or unimportant.

Interestingly, Neidle identifies an NMM on the nose that indicates the opposite of vagueness:

> There is a particular wrinkling of the nose that indicates definite reference or specificity.
>
> This also frequently co-occurs with certain mouth gestures (such as 'cs'). As illustrated in
>
> Figure 18, this is distinct from what we have coded as tense ('tns'). (p. 35)

If the tensed nose is distinct from the wrinkled nose, perhaps the tensed nose indicates a

lack of definite reference or specificity (i.e., vagueness). The tensed nose, along with the head

tilted back and the eyes closed, matches the detail dismissive NMMs in the other utterances I

analyzed, and seems to say, *Eh, don't worry about it:*

Figure 10: Wrinkled vs. Tensed Nose as documented by Neidle (2002)
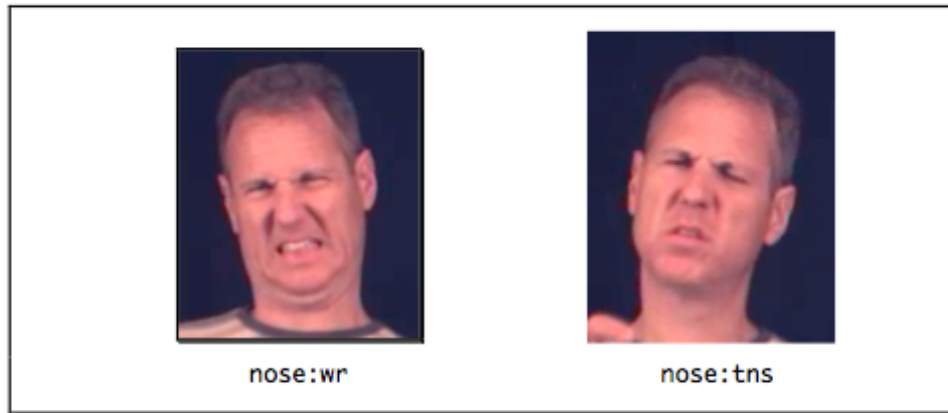
Figure 18. Wrinkled vs. tensed nose

Figure 10. From Neidle, 2002, p. 36, Figure 18. Reprinted with permission.

I went back to *Accident* to see if there was any annotation of head shake or tensed nose, and I found this (accident.xml-62):

```
head pos: tilt fr/bk:      _____front          _____-front
       head pos: turn:      _____right          _____left
  head pos: tilt side: -rig               _____left              _____left
      head pos: jut:                            _____back
      head mvmt: nod:                      _____rapid              _____single
          body lean:        _____-for       _____-for
          eye brows: lwrd___-raised _____lwrd
            eye gaze: _____left_____adresee_____left
       eye aperture: __sq            _____cl_____+sq__bl_____sq          _____cl
               nose: _____wr _____wr
          role shift:     ____doctor        _____doctor
                POS: Con              _____V _____V _DM _____V __Pro __DM
          main gloss: #SO 5"you see" GIFT-2p EXPLAIN ETC EVERYTHING IX-1p FINE 5"so, all set"
```

[Translation: "So, the doctor checked to make sure I got all his instructions on everything and I was good to go."]

I did not find what I was looking for; however, I did find what has elsewhere been termed *body/head teeter (bt)* (Hoza, 2007, p. 172). In the NCSLGR Corpus, it is annotated: "head pos: tilt side: -rig left [sic]" (accident.xml-62). Although there is no tensed nose, there is a wrinkled nose that I believe is a detail dismissive.

I found another instance of *wrinkled nose* in *Muhammed Ali* (ali.xml-1):

```
  head pos: tilt fr/bk: _____back
       head pos: turn:       ___right      _____left          _____right
  head pos: tilt side: -right_____-left         _____-right
       head pos: jut:                   ____-back
       head mvmt: nod:                   ___single
            body lean:                                  _____for
            eye brows:              _____-lwrd_____lwrd
             eye gaze: _____adresee____left
         eye aperture:              _____cl_____+sq
                 nose:                              _____wr
                  POS: __Pro ____DM __Pro _____Adv __Pro _____Num _____Num
           main gloss: IX-1p REALLY IX-1p FORMERLY IX-1p AGE-FOUR AGE-FIVE
```

[Translation: "When I was about four or five."]

When the speaker relays this vague memory, he wrinkles his nose and squints his eyes. There are other times in ASL discourse when signers wrinkle their nose and squint their eyes, but it is still useful to recognize that expressing vagueness is one of them.

During my first viewing of *Boston—L.A.*, I noted some VL around 17:57:12-13 and 17:58:16-17. I looked up the transcription for boston-la.xml-28 and I caught some gestures/signs that were not glossed or transcribed. I saw a wiggling fingers variant of the sign I annotated on my checklist (see Appendix A) as "(2h) 5↓-CL (palms down)++ "and all that"," which the NCSLGR Corpus glosses TIME-PASSING, between FLOWERS and GROW++ (which means *plants*, in this case). After GROW++, I see THAT as a VCM, like *and that* or *and that sort of thing*. It is not transcribed in the corpus, and it is barely noticeable, but at around 17:58:16, if you freeze the frame, you can see the Y handshape for the sign THAT. In spoken English, people of some dialects, including, I believe, Boston, say "and that" at the end of a list of one or two things of the same category. The signer is from Boston, and I saw him mouthing "and that." The phrase *and that* is a VCM. In ASL, the sign THAT can be used by itself in the same way, as if to say, *and that sort of thing*, or *that's what I'm talking about*. I should point out that this token of the sign THAT is done only with one hand; the version of the sign THAT with the Y handshape of the dominant hand landing on the B handshape of the base hand is a definite expression, not a vague expression. The NCSLGR Corpus assigns THAT the "pronoun" part of speech, and

glosses the two-handed variation "(2h)THAT" (e.g., ncslgr10f.xml-32).

In *Boston-L.A.*, there is vagueness about the seasons, the weather, and California laws. Here, the signer talks about how many seasons Los Angeles has compared to the four seasons in Boston (boston-la.xml-21):

```
Main gloss for boston-la.xml-21
DURING/WHILE ns-#LA MAYBE (1h)HAVE ONE #OR TWO FINISH-shake 5"that's the way it is"
```

[Translation: "…while L.A. has maybe only one or two."]

The speaker might be vague for at least two reasons; 1) he is not presenting as a meteorologist giving a lecture on the weather; he is just sharing his experience as someone who has lived in both cities, and 2) he might be allowing for variation, such as one year when it feels like there are two seasons and other years when it feels like only one.

I also found a VCM in the same story (boston-la.xml-16):

```
#OR ANY+WHERE OTHER LCL:5"area of state" BECAUSE IX-3p:j fs-VERY STRICT WITH CHEMISTRY MAKE REALLY
ETC FALL-INTO-PLACE
```

I would interpret this "or anywhere else in the state because they have strict chemical standards and make sure everything is on the up-and-up" to match the speaker's VL (ETC, FALL-INTO-PLACE) with equally vague idiomatic English. In terms of NMMs, I notice the signer's eyes go from wide to squinting from fs-VERY to FALL-INTO-PLACE (boston-la.xml-16).

Here, the signer talks about the temperature in L.A. (boston-la.xml-22):

```
FINE+ IX-loc:j ns-#LA EVERYDAY+fs-DAY UP-TO-NOW TEND 5"I do not know" 75++ 80 DEGREE EVERYDAY+fs-
DAY DCL"flat temperature" 5"looking for words" SUNNY fs-DRY 5"you know" SIMPLE
```

[Translation: Fine, so in L.A. every day has been about, oh, 75, 80 degrees day in, day out… you know, sunny, dry— that's it.]

Looking for hedges in ASL, I searched the ASLLRP DAI for REALLY, SIMILAR, and WELL. There was not a single instance of WELL, or even GOOD, in the NCSLGR Corpus. The

DAI returned 264 search results for REALLY; 2 by Bahan, 2 by Supalla, and 260 by Schlang. Of the two by Bahan, one of them meant *sure* in the expression REALLY ENOUGH (speeding.xml-42), which I would translate as *sure enough*. The other meant *really* in the phrase REALLY SPEED (speeding.xml-42), which I would translate as *really fast*. The NCSLGR Corpus categorized both of Bahan's tokens of REALLY as adverbs. I found only one of them to be a vague adverb, since *really fast* is a vague speed. Of Supalla's two tokens of REALLY, one of them is in the phrase REALLY FULL DRAMA (DSP Intro to a Story.xml-5), which I would translate as *complete plays*. The other token appeared in the phrase REALLY BPCL:2"stand on stage" LECTURE TO/UNTIL AUDIENCE (DSP Intro to a Story.xml-5), which I would translate as *delivered to the audience*. The NCSLGR Corpus categorized both of Supalla's tokens of REALLY as adverbs as well. I did not find either token to be vague. Turning to Schlang's 260 tokens of REALLY, I tried to devise a pattern that would help me determine which tokens were vague. I noticed that most of the tokens fell into two categories: adverbs (of which there were 64) and discourse markers (of which there were 175). Just looking at the first of several pages of search results for each part of speech, it was hard to find any obviously vague tokens. One possibly vague phrase was (accident.xml-42):

    REALLY (2h)5"I don't know" IX-1p IX-1p FINISH SAME FOUR-THIRTY FIVE

[Translation: "Really, I was there at 2[1] and I [*sic*] was already, like, 4:30."]

The co-occurrence of REALLY with (2h)5"I don't know" might support its inclusion as a hedge, but to me the REALLY seemed more like a polite expletive, an "oath" of a gentle variety. I could not confidently count that occurrence as a hedge. With 260 tokens to analyze individually, I decided to leave the analysis of REALLY to another study.

Another sign that can be a hedge in ASL is glossed SIMILAR (elsewhere) or SAME (in

---

[1] The transcription is incomplete; it omits the "THERE 2" the signer signs with his left hand.

the NCSLGR Corpus), which can mean *like* as an approximation. This is another sign produced almost exclusively by Schlang, who produced 70 of the 72 tokens of SAME in the NCSLGR Corpus. In Schlang's usage, I found that most of his tokens meant *like*. In a preliminary search, I found a token that I determined was used as a hedge (accident.xml-42):

REALLY (2h)5"I don't know" IX-1p IX-1p FINISH SAME FOUR-THIRTY FIVE

[Translation: "Really, I was there at 2 and I [*sic*] was already, like, 4:30."]

This token of SAME is equivalent to the hedge *like*, and also modifies the time *4:30* to make it a vague number. It was outside the scope of this study to analyze all 70 of Schlang's tokens of SAME to determine which were hedges, so I did not count SAME as a vague term in my data. Analyzing the possible vagueness of SAME is another task for further study.

There are 2 tokens of SAME in the NCSLGR Corpus that are clearly not vague. Norman signs one token (DSP Dead Dog Story.xml-30):

ENTER LOOK-AT EXACT FACE (2h)SAME (2h)alt.FUR+ BLACK DCL:G"stripes" DCL"dog's snout" "clap-hands"

[Translation: "I saw the dog, and — ah! — it looked *just* like the other one! The same black streaks, the same smooshed nose. Yay!"]

I emphasize *just* because Norman herself signs it emphatically and because this variant of the sign, made with two hands moving side by side across the body with a hold-move-hold movement, means *identical*. Norman is the only participant in the corpus who produces this variant of the sign. The only other two-handed SAME token was produced by Schlang, who signed a variation from his body outward and to the right in constructed dialogue, role-playing his Deaf mother telling his Deaf sister not to worry about whether or not she will have a Deaf sibling. (siblings.xml-13):

5"you know" BUT IX-1p HOPE DEAF (2h)SAME HOPE 5"reassure"

[Translation: "You know, but I hope it'll be deaf like us."]

Clearly, this token of SAME cannot be construed as a hedge. Other than those two-handed tokens of SAME, the only participant who signs SAME with one hand is Schlang. It is remarkable that the only two participants who produce this possibly vague sign produce the most and least vague language in the corpus, respectively, and the participant who is the least vague produces an emphatic token of the sign. The same thing happens with the sign MAYBE: Norman signs it once, so emphatically that it appears certain, while Schlang signs it 28 times as an expression of uncertainty. The only other participant in the corpus who signs MAYBE is Cook, and only once.

I observed an interesting phenomenon that put to rest my concerns about including the elicited utterances in my methodology: the participants tend to be as vague in their elicited utterances as they were in their narratives. This supports Neidle's (2013) claim that the NCSLGR Corpus methodology for elicited utterances was participant-driven. One cannot know how much VL Bowers Tourangeau and Cook would have produced if they had participated in narratives, but one can compare the VL produced by Bahan and Schlang in narratives only by excluding elicited utterances. The results were that, for each participant, the prevalence of VL was about the same whether or not elicited utterances were included in the calculations: Excluding the elicited utterances, Bahan produced 6%, and Schlang produced 86% of the vague terms I found in the corpus; including the elicited utterances, Bahan produced 6%, and Schlang produced 79%.

SUMMARY, CONCLUSIONS, AND RECOMMENDATIONS

Summary

Previous research has shown that VL exists in multiple spoken languages, and this study shows that VL also occurs in ASL, offering more evidence that VL is probably a universal feature of language. It may be generalized that human beings use vagueness intentionally for similar reasons regardless of the language they speak.

This study has drawn attention to vagueness in ASL, the language of a culture that some people have characterized as explicit and direct. The import for teachers of ASL, teachers of ASL/English interpreting, and for ASL/English interpreters is that ASL expresses a range of vagueness and specificity that has hitherto been underestimated.

Conclusions

Hedging, approximation, and lack of specificity were the predominant types of vagueness found in the NCSLGR Corpus. The narrative genre of the language produced in the corpus precludes types of VL that occur in other discourse genres. The lack of vagueness for the sake of politeness in the NCSLGR Corpus should not be taken as evidence that Deaf people are not vague for the sake of politeness; rather, it is the lack of dialogues, requests, and rejections in the corpus that precludes politeness. Likewise, the lack of vagueness for the sake of withholding information in the NCSLGR Corpus should not be taken as evidence that Deaf people do not withhold information; rather, it is the lack of public relations and adversarial discourse genres in the corpus that precludes the withholding of information. The absence of dialogue in the NCSLGR Corpus precludes questions to which a participant might coyly decline comment or give cursory reply. The casual register and narrative discourse in the NCSLGR Corpus limit vagueness to these purposes: admitting uncertainty, giving no more detail than is necessary or

known, and, above all, maintaining a casual atmosphere.

Hoza (2007) showed that, despite what people say about hearing people being polite and Deaf people being direct, Deaf people are polite as well, and he documented the ways they use ASL to be polite. Some of the forms of politeness Hoza described fall into categories of VL such as hedges, so Hoza showed there is VL in ASL. Villanueva documented how Deaf people use ASL to defocus agents similar to the way people use passive voice in English. Passive voice is a form of VL; therefore, Villanueva showed there is VL in ASL. Conlin et al. discovered a particle of indefiniteness, *part:indef*. Indefiniteness is a form of VL; therefore, Conlin et al. showed there is VL in ASL. My cross-linguistic comparison of VL in English and ASL, and my finding many vague terms in ASL shows that there is VL in ASL.

Interpreters and translators need to understand VL in order to render accurate, clear, and natural translations. This knowledge can allow an interpreter to interpret VL more consciously; whether or not they decide to retain vagueness while transferring meaning will be an informed decision. Interpreters who lack knowledge of VL may be limited to a state of unconscious incompetence since they do not know what they are missing and how their interpretation does not match the intent of the speaker. Interpreters risk derailing conversations by taking them in a specific direction when the interlocutors are on a different train of thought, or have not yet narrowed down their topic. How is the interpreter to determine the direction when the direction is indeterminate? Interlocutors keep avenues open, options free, meanings multiple, and lists unlimited so conversation flows and meanders of its own accord. An effective interpreter can allow the consumers to control the direction of what may seem like a vague conversation. If the interpreter determines what is indeterminate, the interlocutors may find their conversation drifting into an area they did not intend merely because it is what the interpreter determined. If

the interpreter is uncomfortable with not knowing where the conversation is going, and their

need for clarity causes them to "devagueify" what is vague, they risk taking control of the

conversation away from the participants.

Recommendations

This study answered the question: "Does VL exist in ASL, and if so, how does it appear

in an ASL corpus?" This study documented VL in an ASL Corpus by identifying and counting

vague terms, calculating numbers of tokens produced of each vague term, and categorizing

vague terms into eight parts of speech plus hedges and VCMs. This study also showed how the

production of VL varied greatly among corpus participants. This study lays the groundwork for

future studies of VL in ASL, and many questions remain to be answered.

One question for further research is whether the participants in the NCSLGR Corpus are

representative of the general population. It would be instructive to take a larger sample with

more participants producing equal amounts of language, and it would be beneficial to have more

than only one ASL corpus available to linguistic researchers.

Another question for further study is whether there is any connection between VL usage

and English inclusion in ASL. One of the participants in the NCSLGR Corpus produced more

English constructions than other participants, yet also produced far more gestures and VL than

any of the other participants combined. Since all the participants in this study were fluent signers

of ASL, this one participant could not have been signing a different language all his own;

certainly, he was signing the same language as the rest of the participants: ASL. Even if his ASL

included English idioms, it does not necessarily make it any less "ASL." It has been said "the

outcome of language contact" is "one of the major sociolinguistic issues in the deaf community"

(Lucas & Valli, 1989, p. 542). Language contact in the Deaf community is a fact of life that

would be unrealistic to ignore. Linguistic studies of what makes ASL different from other languages have taught the world much, but "an unfortunate side to the otherwise marvelous wealth of new information about ASL was that the focus of the linguistic analysis was unbalanced" (Kuntze, 1990, p.76, as cited in Schick et al., 2006, p. 13). Historically, and perhaps even recently, "linguistic study has focused on those aspects of ASL that seemed more ASL-like and put aside aspects of signing that seem to be influenced by English" (Schick, Marschark, & Spencer, 2006, p. 13). Judging by sign glossary alone, it is clear that ASL contains signs of vagueness in its lexicon. What "English-like ASL" and "ASL-like ASL" have to do with the production of VL is a question for further study.

Researchers could study how interpreters are already incorporating VL in their interpretations. If a benchmark could be obtained for how interpreters are incorporating VL, the state of the practice would be established. It would also be enlightening to determine whether instruction on VL would improve interpreters' rendering of VL. It would be beneficial to get perspectives from all stakeholders— how interpreters rate the effectiveness of their interpretations of VL and how the consumers rate the effectiveness of the interpretations of VL in their respective languages. An experimental study to answer these questions is proposed below.

An experiment to measure interpretation of vagueness before and after VL training. The following experiment could be conducted to determine whether ASL-English interpreting students show marked improvement in conveying vagueness after they are instructed in recognizing and using VL. This study could be replicated at a number of interpreter education programs to see if the results are similar in various regions of the United States.

Hypothesis. After receiving instruction in recognizing VL, interpreting students will interpret vague utterances in ASL into utterances that are equally as vague in English.

Description of participants. The experiment would involve approximately 30 ASL-English interpreting students.

Instrument design. The test stimulus would be a video-recorded narrative presented by a native Deaf person in ASL. A native English-speaking hearing interpreter / trainer and a native ASL-signing Deaf interpreter / trainer would write the ASL narrative with twenty vague statements interspersed throughout the narrative in a naturalistic way. The same pair would list the twenty vague terms they had incorporated into the ASL narrative. The pair would translate the list of vague terms into English equivalents, allowing as many English terms as they judge to be equivalent to each vague term in ASL. The native ASL user who presents the narrative would create a separate video of the vague terms in ASL.

Two videos would be made: one the complete narrative with no pauses for the participants to interpret, and another with pauses after each vague term for those rating the participants to mark whether or not each participant renders each vague term in ASL into one of the possible equivalent terms in English. Each vague term in ASL interpreted into one of the correct choices would be given 5 points, the total possible score adding to 100.

Research design. An identical pretest and posttest would be administered to the same 30 participants in one day. Between the pretest and posttest, the 30 participants would be split into two groups of 15, an experimental group and a control group. The experimental group would receive three hours of instruction on VL in ASL and English, and the control group would receive three hours of instruction on an unrelated skill (e.g., interpreting math) to keep them occupied and give them a reciprocal advantage to participating in the study. After receiving instruction, all 30 participants would take the same posttest; raters would then score the interpretations, and the primary investigator or research assistants would calculate the data.

Procedure. Invitations and participation permissions would be distributed among all RID certified interpreters in an interpreting area, such as Arizona. Interpreters would be asked to return forms consenting to participate in "a study to test the effectiveness of a workshop in ASL-English interpreting." The participants should be split into two groups as evenly as possible, with every attempt made to balance demographic features such as NS/L2 status, ethnicity, age, and gender. On the day of the pretest, training, and subsequent posttest, all 30 students would be audio-recorded interpreting the same narrative into spoken English. This would produce 60 recordings of ASL-English interpretations. The audio recordings would be identified by participant number and the letter *a* for pretest and *b* for posttest. The 60 recordings would then be randomized by number and assigned to 10 raters, each of whom would get 6 recordings to rate. The raters would score the interpretations according to the instrument and return them to the research team. The investigators would then calculate and organize the data by pretest, posttest, control group, and experimental group.

I would expect the mean scores of each group to show that both groups performed equally on the pretest. The experimental group should perform better on the posttest while the control group shows little or no improvement. While it might be found that native ASL users have higher pretest and posttest scores, the other demographic factors should make no significant difference, and the experiment should support the hypothesis that teaching interpreting students about VL helps them interpret it as vaguely as it was expressed by the signer.

Including VL in ASL teaching. Where exactly teachers should place VL in their curricula is an area for further strategy and action research, but others have recommended that pragmatic competence be taught throughout curricula rather than at the end. Kasper (1997) writes: "Pragmatic competence is not extra or ornamental, like icing on the cake." Since VL is a

pragmatic competency, it makes sense to teach it from the beginning of ASL instruction. I

recommend that VL be taught explicitly throughout the curriculum of ASL. Studies have shown

that pragmatic competence, which includes VL, is integral to second language mastery (Bouton,

1998; Bardovi-Harlig & Hartford, 1990). In ASL courses, students should learn about the

functions of VL as sociopragmatic competencies so they know why fluent signers use VL in

ASL and why they should as well. ASL students should learn the forms of VL, such as the

phonology and morphology that differentiate NOONISH from NOON and

THIRTYSOMETHING from THIRTY as well as the VL functions of signs like AROUND,

MAYBE, THINK, SOMETHING/ONE, MANY, A-LOT, and A-LITTLE. It is essential that

ASL students understand both the forms and functions, both the *what* and the *why*, of VL.

    Including VL in ASL-English interpreter training. Candidates entering interpreter

education programs (IEPs) should already have knowledge of the forms and functions of VL.

Interpreter educators should contrive utterances that include VL so interpreting students can

exercise their ability to produce interpretations in varying degrees of vagueness. One of the

examples I have used in my VL workshops is the English sentence, "All this Mexican food

should make for an interesting afternoon." This was an actual statement made at lunch by one of

the participants in my VL workshop in Las Vegas (Greene, 2011a). I seized upon that statement

to prompt the participants to practice producing a range of ASL sentences from the most explicit

to the most vague. I post some possible ASL translations below[1]. The most explicit translation

might be:

    <u>MEXICAN FOOD EAT++/t</u> FART++ ALL-AFTERNOON

    [Back-translation: "After eating all this Mexican food, we'll be farting all afternoon."]

---

[1] ASL has a sentence structure called *topic/comment*. I annotate the topic using the transcription
convention of underlining the topic and marking the end of the topic with /t.

A less explicit translation might be:

```
MEXICAN FOOD NOW/t, AFTERNOON hands-on-belly "bloated"
```

[Back-translation: "We're going to be bloated all afternoon with this Mexican food."]

A vague translation might be:

```
MEXICAN FOOD NOW/t, AFTERNOON SEE-SEE
```

[Back-translation: "We'll see how the afternoon goes after all this Mexican food."]

Another example of finding a range of interpretations might be for the English phrase *She's something else*. The most explicit (but possibly inaccurate) translation might be:

```
eye gaze toward person who just left
                              CRAZY
```

[Back-translation: "She's crazy."]

A less explicit translation might be:

```
eye gaze toward person who just left
                              ODD
```

[Back-translation: "She's a character."]

A vague translation might be:

```
eye gaze toward person who just left
                              WOW
```

[Back-translation: "Wow."]

To teach VL in English, one of the instructional methods I have used is to ask students, at the beginning of my VL workshop, to pair up and fill in the blanks in a *Mad Libs* story "as vaguely as possible." Almost invariably, the results from the first exercise show that the participants do not give vague words for various parts of speech. Their words in this "pretest" are actually very specific; they give actual names for *name of a famous person*; they give "index finger" for *part of the body*, and so on. In my workshop, I teach them vague terms such as *garment* for *piece of clothing*, *limb* for *part of the body*, *sort of* for *adverb*, and *that guy in all those romantic comedies* for *name of a famous person*. After the students and I have

brainstormed lists of vague words for every part of speech, I have them complete another *Mad Libs* story as vaguely as possible as a "posttest." Each time, the words they use fill in the blanks demonstrate that the students have become aware of the vocabulary they already possess of VL words in English.

Agreeing on *part:indef*. Having reviewed the literature on *part:indef* and other names for this gesture, I maintain that Emmorey, Roush, Conlin et al., Hoza, and I are referring to the same gesture/sign, a form of VL in ASL that performs the same functions. Since this gesture/sign does not definitively mean any particular word, I agree with the gloss assigned by Conlin et al.: *part:indef*. It seems to me this indefinite particle provides the most definitive gloss by being the most indefinite. The gloss itself is an example of how VL is sometimes the most accurate because it is the least specific, and therefore the least inaccurate.

Incorporating *part:indef* into ASL interpretations of English VCMs. Based on the Adolphs et al. (2007) study of VL used by nurses, I equate *part:indef* to the English expression *or anything* used to elicit symptom reports from patients. In the corpus Adolphs et al. collected, the nurses' questions to the patients often ended in *or anything*. Some questions were:

NHS Nurse: Er. any intense headache or mental confusion or anything?

NHS Nurse: No shortness of breath or gasping for breath or anything? (p. 66)

I believe I was already doing something like this in ASL before I started studying VL, but since reading the above study, I have incorporated such VCMs into my interpretations, and the results seem to have been positive. Translations that would correlate with the samples above are:

Interpreter: part:indef HEADACHE, CONFUSE, part:indef?

Interpreter: BREATHE ("shallow in-and-out"), BREATHE-IN ("gasping"), part:indef?

Conlin et al. write that "there is no natural way in English to convey [*part:indef*]" (Conlin

et. al, p. 7), giving the following ASL example and English translation (p. 7, Example 14):

```
                                  y/n
IX-2p SEE SOMETHING/ONE part:indef
```
'Did you see something (or someone)?'

I agree that there is no English word with which one could replace *part:indef*; however, based on this sentence, I can imagine a context and some spoken English interpretations. For example, if something goes missing and a speaker says they think someone stole it, a listener might challenge the speaker's credibility as a witness. The challenger's voice could rise in a high pitch that lends an incredulous tone to their question. Alternatively, the questioner could challenge the logic of the witness's thought process by beginning their question with the word *well*, which queries how the witness might have come to their conclusion: "Well, did you *see* someone?" Another appropriate interpretation of this particle of indefiniteness might be, "Did you *see* anyone?" The word *anyone* may be rendered with the compound sign ANY+ONE, produced 5 times by Schlang in the NCSLGR Corpus, but the sign SOMETHING/ONE can also mean *anyone*. I might choose the word *anyone* in this interpretation because it is less definite than the word *someone*. In short, I posit that the particle of indefiniteness, *part:indef*, is sometimes a form of VL in ASL, and interpreters can employ vocal intonation and word choice to convey its meaning, at least on the sentential level. I recommend that future researchers consider glossing this gesture "part:indef."

A question for further research is: how many of the 169 occurrences of *part:indef* in the NCSLGR Corpus indicate indefiniteness?

Recommendations for expanding ASL corpora. There are currently no corpora of Deaf Americans using ASL with each other in unscripted dialogue. Most VL in other studies has appeared in immediate, interpersonal communication. In order to get a good gauge of VL use in ASL, it needs to be studied in discourse genres other than unidirectional, monologic texts that are

entertaining, hortatory, informative, and procedural. One way such a study might be conducted is to have two people converse facing each other in a small room with hidden cameras behind each person recording the person facing them. One video camera would have to be pointed at each participant's front in order for the viewer to have the best look at every feature of their visual language — face, hands, body, and head. The cameras would be less obvious if there are walls behind each participant with hidden cameras facing the opposing signer. If the participants forget the cameras are on them and get into the flow of a conversation, the corpus may yield more VL than was collected from individual participants telling stories in the NCSLGR Corpus.

Text searchability of vague terms in ASL corpora could be improved. Some of the VL in the NCSLGR Corpus is not searchable in the ASLLSP DAI unless one knows what to look for. It would be more accurate to establish annotation conventions for signs whose movement modifies their meaning toward vagueness. The annotation for NMMs in the NCSLGR Corpus is extensive, but the annotation of sign variation is limited. Suffices such as + or ++ after English glosses would indicate the extra movement of signs modified to show approximation. THREE++ DOLLARS could indicate additional movement of THREE, equivalent to the English expression *about three bucks*. Those who know what this additional movement signifies in ASL would have a text-searchable way to find repeated signs whose value is approximate.

Cross-linguistic studies of signed language corpora. One question for future research is how VL compares between various signed languages. Since there are several signed language corpora, such cross-linguistic corpus-based studies are possible. In addition, if signed language corpora from English-speaking countries are glossed with English words, investigators familiar with English may be able to quantify the presence of vague terms. Investigators who know at least one signed language may be able to qualify English-annotated signed utterances to

determine whether terms that are vague in English appear vague in the signer's expression. An investigator who is fluent in that particular signed language may be necessary to validate these observations.

 Cross-linguistic studies between English and ASL corpora. This study compared vague English terms described in previous literature with vague ASL terms in an ASL corpus. A future study could compare VL in a spoken English corpus with VL in an ASL corpus.

 Cross-modality studies between signed and spoken language corpora. English and ASL are not only different languages; they are different modalities: one aural-oral and the other visual-gestural. A rich area of study could be how VL compares between spoken and signed language using aggregated data from several spoken language corpora and several signed language corpora. Such broad comparisons would teach us more about the similarities and differences between signed and spoken languages.

 Participant demographics. Since most Deaf ASL signers are L2 learners, a corpus that included Deaf L2 ASL signers would be representative of the 95-97% of Deaf ASL signers who are not NS. Recruiting participants who are non-white, child, and elderly would help diversify the sample. Including a 50/50 balance of male and female participants would make the sample more representative of the Deaf ASL signing population. It might even be instructive to include CODAs in an ASL corpus. This would go against the belief that only Deaf people should represent ASL, but it would be a realistic depiction of ASL usage in the Deaf community by native signers. At some point, a corpus might even include hearing L2 ASL signers, if for no other reason than to compare language use between NS and L2, Deaf and hearing signers. In addition to varying age, gender, race, hearing status, and language acquisition, it would be enlightening to vary the educational level of participants. Rather than recruiting university

students, faculty, and staff, it would diversify the participant pool by recruiting participants that are not college educated. Such a balance would be more realistically representative of the wider signing population.

Think Aloud Protocols (TAPs). TAPs (Ericsson & Simon, 1984) have been used in interpretation and translation studies to gain insight into the decision-making processes of translators (see Færch & Kasper, 1987; Jääskeläinen, 1990, among many others). It would be enlightening to see what interpreters do when they encounter VL in a source text. TAPs might show us whether interpreters recognize VL, and when they do, how they choose to render it in a target text translation.

Elicited utterances. How to elicit VL from ASL users is a question for future research. Perhaps a test could be designed to elicit VL by asking a bilingual Deaf person to "answer me as if you don't want me to know that you agree or disagree" or "sign something that says, in effect, 'I will meet you around three'."

Politeness, hedges, powerless language, and indirectness can be comprehended within the theoretical framework of VL, and such a comprehensive lens helps interpreter trainers teach interpreting students how to recognize VL and convey its meaning. Awareness of VL helps interpreters analyze more of the messages they interpret so they can interpret those messages more faithfully. It is important for interpreters to understand *speakers' goals*, or *pragmatics*, in order to interpret not just the semantic meaning of the words, but to render an interpretation that conveys the social meaning of the utterances encountered in source texts.

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Video Title:

Signer's Name:

Date (if applicable):

URL (if applicable):

Approximators:

    AROUND

    LIKE

    MORE-LESS

Detail Dismissives:

    Pn (pinched nose)

    Hw (head wobble)

    Pl (pursed lips)

General Extenders:

    ETC.

    (1h lf) 5-CL (1h rt)"*down the list*"

    (2h) 5↓-CL (palms down)++ "*and all that*"

Hedges:

    WELL/W-E-L-L

    MAYBE

    Pg (polite grimace)

    Bt (body teeter)

Vague Agents:

SOMEONE/SOMETHING

(1h)Index (agentless verb)

Vague Adjectives:

NOONISH/No-ISH

GOOD++

OK-OK

SO-SO

Vague Nouns:

THING++

SOMEONE/SOMETHING

Vague Verbs:

BANTER

DO-DO++

Table A1

Occurrences of THINK and Presence of Vagueness

Presence of Vagueness	Occurrence of THINK
No	accident.xml-69
	ali.xml-22
	boston-la.xml-41
	boston-la.xml-5
	close call.xml-7
	dorm prank.xml-41
	DSP Dead Dog Story.xml-22
	lapd.xml-28
	lapd.xml-28
	lapd.xml-69
	lapd.xml-93
	ncslgr10g.xml-6
	speeding.xml-44
	whitewater.xml-15
	whitewater.xml-24
Yes	accident.xml-20
	accident.xml-47
	boston-la.xml-69
	boston-la.xml-77
	dorm prank.xml-30
	football.xml-42
	football.xml-44
	football.xml-59
	lapd.xml-27
	lapd.xml-37
	lapd.xml-48
	lapd.xml-50
	lapd.xml-72
	lapd.xml-75
	ncslgr10l.xml-36
	ncslgr10l.xml-37
	ncslgr10l.xml-38
	ncslgr10r.xml-9
	ncslgr10t.xml-126
	whitewater.xml-58

Table A2

Vague Terms and Tokens by Category

Vague Term	Category	Tokens
OLD	Adjective	16
OLD+MOST	Adjective	3
YOUNG	Adjective	3
SMALL	Adjective	2
ALL-NIGHT	Adverb	11
RECENT-PAST	Adverb	11
EVERYDAY+fs-DAY	Adverb	6
SOMETIMES	Adverb	5
SOON	Adverb	4
AROUND	Adverb	3
ALL-MORNING	Adverb	2
GENERATIONS-AGO	Adverb	2
ALL-AFTERNOON	Adverb	1
ANY+WHERE	Adverb	1
GOING-ALONG	Adverb	1
ONCE-IN-A-WHILE	Adverb	1
SOME+WHERE	Adverb	1
SOMETHING/ONE [as determiner]	Determiner	18
5"I don't know"	Hedge	31
MAYBE	Hedge	30

Vague Term	Category	Tokens
NOT-KNOW	Hedge	17
THINK [as uncertainty]	Hedge	15
5"reluctance"	Hedge	4
SO-SO	Hedge	1
THING	Noun	18
AREA	Noun	11
ANY+THING	Noun	3
EVERYTHING [standard gloss]	Noun	3
EVERY+THING	Noun	1
FINGERSPELL [as K-something]	Noun	1
LCL:5"area of state"	Noun	1
FIFTEEN [rounding]	Number	4
80[+ degrees Fahrenheit]	Number	3
70+ [degrees Fahrenheit]	Number	2
100 110 DEGREE	Number	1
45 50 fs-MPH	Number	1
50s [decade]	Number	1
60s [decade]	Number	1
75+ [degrees Fahrenheit]	Number	1
75++ DEGREE	Number	1
80 90 fs-MPH	Number	1
85 88 90 fs-MPH	Number	1

Vague Term	Category	Tokens
85+ [degrees Fahrenheit]	Number	1
AGE-FOUR AGE-FIVE	Number	1
AGE-THREE HALF AGE-FOUR	Number	1
EIGHT [as approximation]	Number	1
FOUR-DAY THREE-DAY FOUR-DAY	Number	1
FOUR-THIRTY FIVE [as "4:30-5"]	Number	1
MILLION [as "millions"]	Number	1
NINETY [as approximation]	Number	1
NOONISH	Number	1
ONE #OR TWO	Number	1
ONE TWO 5"I don't know" FEW HOUR	Number	1
ONE-DOLLAR FIFTY TWO-DOLLARS	Number	1
ONE-THOUSAND fs-PLAYS	Number	1
ONE+HUNDRED 150 (flat-O) DOLLAR	Number	1
SIX SEVEN MORNING	Number	1
TEN FIFTEEN DEGREE	Number	1
TEN THOUSAND [rounding]	Number	1
THREE-DAY FOUR-DAY	Number	1
THREE-DOLLARS FOUR-DOLLARS	Number	1
TIME THREE FOUR MORNING	Number	1
TIME+FIVE [as approximation]	Number	1
TIME+NINE [as approximation]	Number	1

Vague Term	Category	Tokens
TIME+NINE+THIRTY [rounding]	Number	1
TIME+SEVEN+FORTY-FIVE [rounding]	Number	1
SOMETHING/ONE [as pronoun]	Pronoun	42
ANY+ONE	Pronoun	5
MANY	Quantifier	25
SOME [as quantifier]	Quantifier	15
LITTLE-BIT	Quantifier	12
A-LOT	Quantifier	7
FEW	Quantifier	4
ANY	Quantifier	2
ETC	VCM	9
FALL-INTO-PLACE	VCM	3
VARIOUS	VCM	3
EVERYTHING [elsewhere glossed INCLUDE]	VCM	2
COUNT-ON-FINGERS	VCM	1
LONG-LIST	VCM	1
THAT [as "and that"]	VCM	1
#DO	Verb	18
DO	Verb	10
STAY-AWAKE-ALL-NIGHT	Verb	2
TIME-PASSING	Verb	2
Total		432