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Grammatical and Anaphoric Agreement in American Sign Language

by

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Thesis
Presented to the Faculty of the Graduate School of The University of Texas at Austin in Partial Fulfillment of the Requirements for the Degree of

Master of Arts

The University of Texas at Austin
August 1998
Grammatical and Anaphoric Agreement in American Sign Language

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Acknowledgements

I would like to thank my committee members, Richard Meier and Steve Wechsler, for their guidance and comments on this thesis and on many earlier drafts. I also owe a huge “thank you” to Gene Mirus for enduring my constant questions about his intuitions. I could not have collected information on so many verbs without his help.

Thanks to Perry Connolly for serving as my model in the illustrations and for providing me with his intuitions, and to Tony McGregor, the artist of the illustrations. I am also grateful to Karen Emmorey, Carol Neidle, and Ben Bahan for their comments on an earlier draft of this thesis. Any remaining errors are entirely mine.

Special thanks goes to my unofficial masters consultant, Adrianne Cheek, for her thorough and random knowledge of everything dealing with writing a thesis. Lastly, I would like to thank my family and Stepan for their love and support.

August 13, 1998
Abstract

Grammatical and Anaphoric Agreement in American Sign Language

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The University of Texas at Austin, 1998

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Previously, researchers of ASL have proposed that structural agreement exists in all ASL sentences (e.g., Aarons et al. 1992), or that agreement exists in sentences containing one type of verb but not with other types (Lillo-Martin 1986). Following Bresnan & Mchombo (1987), I suggest that there are two types of locus agreement that occur in ASL, depending on whether the verb has overt or non-overt arguments. These two types of agreement are referred to as grammatical and anaphoric agreement.

The interaction of the locus agreement feature with these types of agreement will be presented using an analysis within the framework of Head-driven Phrase Structure Grammar (HPSG). Using as a basis the HPSG analysis of locus agreement presented in Cormier, Wechsler & Meier (in press), I will use argument structure to account for grammatical agreement and adjunction to account for anaphoric agreement. This analysis captures the fact that either grammatical or anaphoric agreement can occur without significantly changing the meaning of the sentence. Thus the real difference between grammatical and anaphoric agreement lies simply in the overt/non-overt nature of the verb’s arguments.
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INTRODUCTION

For the past several years, syntacticians have used Head-driven Phrase Structure Grammar (HPSG) to analyze many of the world’s spoken languages. Recent syntactic analyses of signed languages have been based largely on Government and Binding theory (Aarons et al. 1992, 1994, 1995, Bahan et al. 1995, Bahan 1996, Lillo-Martin 1986, Lillo-Martin 1991); virtually no work has been done on a signed language within a constraint-based grammar. This thesis is part of a larger project in which I am examining the syntax and semantics of a signed language within the framework of HPSG (Cormier, Wechsler & Meier, in press). Aside from Cormier et al., signed languages have not been examined from this vantage. In this thesis I present an in-depth analysis of the agreement properties of one particular signed language, American Sign Language (ASL).

First, I will give a brief introduction to ASL, followed by a description of the formational properties of lexical items in ASL. Also included will be a description of how nominals are signed in space and how different classes of verbs “agree” with these nominals in different ways. Secondly, I will present an analysis of ASL grammatical agreement within the framework of HPSG, followed by a discussion of anaphoric agreement in ASL. Next, I will examine previous analyses of ASL agreement and compare them to the analysis presented here. This will be followed by the conclusion of the paper and the appendix, which explains the notation and coding procedures and gives a complete list of the verbs used in this study.
DESCRIPTION OF ASL

ASL: Introduction

ASL is a natural language used by most deaf people in the United States and Canada. For deaf children of deaf parents, ASL is acquired just as naturally as any spoken language (Newport & Meier 1985, Meier 1991). For deaf children of hearing parents, ASL is generally acquired through contact with other children at residential schools for the deaf. Structurally, ASL shares characteristics with many spoken languages. It is a topic-oriented language much like Chinese (cf. Lillo-Martin 1991) and has a classifier system comparable to that of Navajo (Klima & Bellugi 1979). ASL is typically SVO, but due to its agreement inflections, many other word orders are possible (Fischer 1975).

Lexical items

Loosely speaking, a manual sign (i.e., a lexical item) in ASL consists of a particular handshape, a location, a movement, and a palm orientation. Some signs maintain the same general handshape and location throughout the articulation of the sign. Other signs involve changes in handshape and/or movement and/or location. For example, the verb LIKE starts with a 5 handshape (all 5 fingers extended and spread) at or contacting the center of the chest, and closes to an 8 handshape (contact between middle finger and thumb, with other fingers extended) in the neutral space in front of the chest. (Neutral space is the area in front of the signer’s torso, within approximately a forearm’s length from the body.) This distinct change of location from the signer’s chest to the neutral space in front of the signer is an example of path movement, a feature of many
ASL signs including LIKE. Path movement will be relevant to the description of agreement morphology below.

**Nouns**

Before looking at the verbal system of ASL, it is important to understand how nominals are signed in space. An NP can consist of a noun by itself (e.g., DOG, CAT, BOY, etc.)\(^1\), or a pronominal pointing sign as shown in Illustration 1.\(^2\) When a pointing sign occurs in a construction with a noun, it functions as a determiner instead of a pronoun (Bahan 1996). The determiner can occur immediately before the noun, immediately after it (see Illustration 2), or perhaps even concurrently with the noun if that noun is one-handed.\(^3\)

---

\(^1\)As is conventional in the ASL literature, English glosses appear in small caps.

\(^2\)\(x\)PT is a pointing sign, with \(x\) being the location toward which the point is directed. In the illustrations containing more than one lexical sign (e.g., Illustration 2), the dotted lines indicate the sign that is articulated first, followed by the sign shown in solid lines.

\(^3\)Other researchers have claimed that pointing signs occurring before the noun function as determiners, while pointing signs occurring after the noun function “adverbially” (Bahan et al. 1995, Bahan 1996, MacLaughlin 1997). Bahan et al. present the following grammatical sentence (a) as evidence that pre-nominal and post-nominal pointing signs are not in free word order variation and therefore must function differently. Based on their translation of the post-nominal pointing sign as “there”, it appears that they interpret post-nominal pointing signs as locative adnominals rather than adverbials (nonmanual markers are omitted here for the sake of simplicity):

a. \([i\)PT WOMAN \(]\)PT \(j\)PT \(]\)ARRIVE EARLY
   ‘That woman (\(j\)there), (she) arrived early.’

Bahan et al. claim that the pre-nominal index (i.e., pointing sign) occurs in definite contexts, while the post-nominal index can occur in either definite or indefinite contexts. However, given that both types of index can be definite, it is not clear from their discussion why my example (c) below cannot mean ‘John saw the man’ as in their example (b):

b. JOHN SEE \([i\)PT MAN\]
   ‘John saw the man.’

c. JOHN SEE \([MAN]i\)PT\]
   ‘??: ‘John saw a man (\(there\)).’
The pointing sign (\text{\textasciitilde PT}), whether functioning as a pronoun or determiner, acts as a discourse marker. By using a pointing sign, a signer associates a noun or pronoun with a distinct location in space. Any subsequent signs that point to a location established in this manner are interpreted as being coreferential. If the in fact, their arguments suggest that examples (b) and (c) could both have a definite interpretation (i.e., 'John saw the man.'). Since the issue is unclear, I will assume for the purposes of this paper that both pre-nominal and post-nominal pointing signs can function as determiners.
referent is physically present, the signer points to the location of that referent. If
the referent is not physically present, the signer may arbitrarily choose a location
in neutral space for that referent. These locations remain throughout the
discourse until they are actively changed (Lillo-Martin 1986).

Verbs

Agreement Verbs

Some verbs in ASL, called agreement verbs, make use of the association
between NPs and distinct locations in the signing space (Padden 1983). Since
ASL lacks case marking and word order is fairly free, the agreement morphology
on the verb is often what identifies the subject and object. These verbs generally
distinguish subject and object in one of two ways: i) through palm orientation or
ii) through path movement between locations. STARE-AT is a verb that shows
agreement through changes in palm orientation, also termed facing of the palm
(Meir in press). In this sign, the palm is oriented toward the location associated
with the object NP and the back of the hand is oriented toward the location
associated with the subject NP. Subject and object information can also be
distinguished by differences in the location of the verb. Verbs such as HELP have
path movement that begins with the location associated with the subject NP and
ends with the location associated with the object NP, as in Illustration 3 where the
subject and object NPs refer to signer and addressee, respectively. The S and A

4 Other researchers have claimed that there are other factors that determine where a locus is
established in signing space (e.g., discourse factors, semantic affinity with another referent,
conventional location, etc.). Thus, the establishment of loci is rarely arbitrary (Engberg-Pedersen
1993).
subscripts on HELP indicate that the verb is marked for subject agreement with the signer and object agreement with the addressee.

Agreement verbs fall into two subclasses, referred to as single-agreement verbs and double-agreement verbs (Meier 1982, Supalla ms.). Single-agreement verbs agree only with the object, while double-agreement verbs can agree with both the subject and object. For example, HELP is a double-agreement verb and agrees with the subject and the object, as shown in Illustration 4. SEE (Illustration 5) is a single-agreement verb; it agrees only with the object. (The lack of an initial subscript on SEE in Illustration 5 indicates that this verb is not marked for subject agreement.) Single-agreement verbs tend to be body-anchored. That is, their articulation begins or ends on the signer’s body. For these verbs it is not possible for the initial location of the verb to match the location of the subject (i.e., *iSEEj). However, some single-agreement verbs are not body-anchored (e.g., TEACH, for some signers). This suggests that the verb classes (see Figure 2 below) are not completely predictable on the basis of phonological form.

Illustration 3: “I help you.”
Illustration 4: “She helps him.”

Illustration 5: “She sees him.”

Signer/addressee agreement works exactly the same way as third-person agreement shown above. The only difference is that for every signer, there is a particular location associated with the signer him/herself, and likewise for every

---

5Since the status of person in ASL is a matter of some controversy (Meier 1990, Lillo-Martin and Klima 1990), the terms "first person" and "second person" will not be used when referring to the speaker and addressee loci. "Third person" here simply means a location not associated with the speaker or addressee.
addressee there is a particular location that is associated with the addressee, as
shown in Illustration 6 and in Figure 1.⁶

Illustration 6: “I help you.”

Figure 1: “You help me.”

Within the subclasses of single-agreement and double-agreement verbs,
agreement verbs can be further broken down by transitivity (transitive vs.
ditransitive) and direction (forward vs. backward). Most agreement verbs are
either transitive (e.g., HELP) or ditransitive (e.g., GIVE)⁷. Ditransitive verbs (e.g.,
GIVE or TELL) agree with the goal argument. If there is no goal argument - as
with transitive verbs - then the verb agrees with the theme argument (e.g., HELP or

---

⁶ Some verbs (e.g., FINGERSPELL-TO and TEACH for some signers) lack a first-person object
form. For such verbs speaker agreement would need to be precluded.
⁷Some agreement verbs (such as COLLAPSE and DIE) are intransitive; for these verbs the subject
is typically the patient or theme. However, these verbs constitute a small minority of the set of
agreement verbs and are often difficult to distinguish from plain verbs (see Appendix). Therefore,
intransitive agreement verbs will not be discussed here.
Along with transitivity, each agreement verb also has a distinct direction, toward which it moves or is oriented as described above. The direction can be forward (from the subject and toward the object - e.g., HELP) or backward (from the object and toward the subject - e.g., CHOOSE). For example, Illustration 6 above shows a first person pronoun followed by the forward verb HELP moving away from the signer and toward the addressee. With a backwards verb (e.g., spt choose “I choose you”), the verb would move away from the addressee and toward the signer. Double-agreement verbs can be categorized into all four combinations of these features: forward transitive, forward ditransitive, backward transitive, and backward ditransitive. Single-agreement verbs can be categorized into three combinations of these features: forward transitive, forward ditransitive, and backward transitive. As of yet, there is no attested example of a backward ditransitive single-agreement verb.

The list of verbs in the appendix was compiled from various papers on ASL verbs -- specifically, Padden (1983), Supalla (ms.), and Brentari (1988). All three researchers classify verbs into the major classes of agreement verbs, plain verbs, and spatial verbs (although the labels used for each type of verb vary). Padden (1983) distinguishes between transitive and ditransitive verbs and between forward and backward verbs, but she does not use the single/double distinction. Supalla (ms.) distinguishes between single and double agreement. He also discusses direction and transitivity, but his list of verbs does not mark these last two classes. Brentari (1988) uses a much more complex system that distinguishes seven different classes of verbs, using the categories single/double, path/path only, and forward/backward. I am not convinced that she needs a
separate category for path/path only, so I have not used this category in my typology, shown below in Figure 2.

Figure 2: Types of ASL Agreement Verbs

I. single (object only)
   A. transitive
      1. forwards (e.g., SEE)
      2. backwards (e.g., INHALE)
   B. ditransitive
      1. forwards (e.g., TELL)
      2. backwards (so far unattested)

II. double (subject and object)
   A. transitive
      1. forwards (e.g., HELP)
      2. backwards (e.g., CHOOSE)
   B. ditransitive
      1. forwards (e.g., GIVE)
      2. backwards (e.g., TAKE)

Plain Verbs and Spatial Verbs

Agreement verbs make up one of three major classes of verbs in ASL: agreement verbs, plain verbs, and spatial verbs, as shown in Figure 3 (Padden 1983). Plain verbs show no agreement with the subject or the object; these verbs require subject and object arguments that are either overtly expressed or easily
retrievable from context. An example of a plain verb is LIKE, as described above in *Lexical Items*. Spatial verbs are verbs of motion and show agreement with locations associated with initial and final positions of the motion referred to by the sign, not with the subject or object. Spatial verbs include the set of classifier predicates, which use handshape classifiers to describe motion. An example of a spatial verb is the verb MOVE-FLAT-OBJECT, as shown in Illustration 7b (illustration from Liddell 1990). Notice that the spatial verb MOVE-FLAT-OBJECT is very similar in form to the double-agreement verb GIVE shown in Illustration 7a.

Figure 3: Types of ASL Verbs

I. agreement

II. plain (e.g., LIKE)

III. spatial (e.g., MOVE-FLAT-OBJECT)

Illustration 7: Comparison of agreement verb and spatial verb

Illustration 7a

Illustration 7b

¡GIVEj

she-give-him

¡MOVE-FLAT-OBJECTj

move-flat-object-from-i-to-j

---

8 Bahan et al. (1995) claim that plain verbs show nonmanual agreement -- i.e., agreement through non-manual signals such as body shift and eye gaze. For the purposes of this thesis, however, I will focus only on manual agreement.
For GIVE, the movement begins at the location associated with the subject and ends with the location associated with the object. For MOVE-FLAT-OBJECT, the beginning and ending points of movement represent the initial and final locations of the thing being moved. Despite this difference, both verbs agree with locations set up in the discourse. The locations happen to correspond to different types of arguments.

The verbs that make up each class of verbs cover several different semantic categories, as shown in the appendix. Agreement verbs tend to be agentive, but some are stative. Some plain verbs are stative, while some are agentive. In particular, it is interesting that the stative verb LIKE is a plain verb, whereas the stative verb HATE is a double-agreement verb. These two verbs are semantically very similar and yet fall into different verb classes. Spatial verbs fall into two classes: Motion + Path + Figure and Motion + Path.\(^9\) Classifier predicates (a subset of spatial verbs) fall into the Motion + Path + Figure class. These verbs express the occurrence of motion and the path of that motion together with a figure (an object acting or undergoing action). For example, MOVE-FLAT-OBJECT expresses a flat object as well as the motion of that flat object. Other non-classifier spatial verbs fall into the class Motion + Path, which expresses the fact of motion and the path of motion but not the thing moved (e.g., BRING). Taken together with the idiosyncratic formational characteristics of agreement verbs as described above, these facts further suggest that the ASL verb typology in Figure 2 is based on a distinction in lexical class rather than either phonological form or semantic class.

\(^9\)Terminology from Talm (1985).
In summary, agreement verbs in ASL involve either i) a distinct palm orientation in which the palm faces away from one location and toward another location, or ii) path movement from one location to another. For forward double-agreement verbs, these locations must be the subject location and the object location, respectively (vice-versa for backward verbs). For single-agreement verbs, the final location (for forward verbs) or the initial location (for backward verbs) must be associated with the object. Ditransitive verbs agree with the notional indirect object rather than the direct object. Plain verbs show no agreement at all, while spatial verbs agree with locative arguments.

**Overt vs. Non-overt Pronominal Arguments**

Each major verb class allows for non-overt pronominal arguments. The distribution of non-overt pronominal NPs for plain verbs is similar to the distribution of non-overt pronominal NPs in Chinese, as shown below in Figure 4 and Figure 5.10

Figure 4: Chinese (Lillo-Martin 1991, originally from Huang 1984)

a. pro came.
b. John saw pro.
c. pro saw pro.
d. John said that pro saw Bill.
e. John said that Bill saw pro.

---

10Lillo-Martin (1991) uses the example sentences shown here in Figures 4 and 5 to argue for different types of null pronominal categories in both ASL and Chinese, represented here by "pro" (Lillo-Martin uses "e"). I am arguing neither for nor against her analysis; rather, I am merely demonstrating that the distribution of non-overt arguments in ASL parallels that of Chinese. For the purposes of this paper, "pro" merely represents a non-overt argument whose antecedent must be understood in context.
Figure 5: ASL plain verbs (Lillo-Martin 1991)

a. pro THINK.
b. STEVE LIKE pro.
c. pro LIKE pro.
d. STEVE SAY pro LIKE JULIE.
e. STEVE SAY JULIE LIKE pro.

Thus for both Chinese and ASL plain verbs, neither subjects nor objects must be overt. ASL has been recognized by many researchers as a discourse-oriented, topic-prominent language like Chinese, as opposed to a sentence-oriented, subject-prominent language like English (Fischer 1975, Coulter 1979, Lillo-Martin 1991, Petronio 1993, Wilbur 1994). In topic-prominent languages, overt subjects and objects are not required if the topic -- usually the subject -- is clear from context (Lillo-Martin 1991).

As for agreement verbs, both single and double-agreement verbs can have non-overt pronominal subjects. This applies for forwards as well as backwards verbs. In both Illustrations 8a and 8b, for example, the verb HELP begins at the location of the subject and ends with the location of the object. The overt subject pronoun in Illustration 8b (iPT) is optional.
Non-overt pronominal subjects with single-agreement verbs are possible in exactly the same environments as non-overt subject and object pronouns with plain verbs as described above. That is, with single-agreement verbs the subject may be omitted if the referent is clear from context. Thus Figure 6b is possible only when the subject is clear from context.

Figure 6: “She sees him.”

a. \[\text{iPT \ SEE}_j\]  
   \[\text{she \ see-him}\]

b. \[\text{SEE}_j\]  
   \[\text{see-him}\]
Non-overt object pronouns are possible with all agreement verbs, whether single or double-agreement.\(^{11}\) Both single and double-agreement verbs must agree with any object that has been established at a certain location in the neutral space. However, the object referent need not be previously set up in the discourse. This is demonstrated below with the single-agreement verb SEE in Figure 7 and the double-agreement verb HELP in Figure 8. The marker “top” over a word or phrase indicates topic-marking on that constituent. Topics are marked in ASL nonmanually, specifically with raised eyebrows.

Figure 7: “She sees him.”

a. \(\text{iPT} \ \text{SEE}_j \ \text{jPT}\)

she \quad \text{see-him} \quad \text{him}

b. \(\text{SEE}_j \ \text{jPT}\)

\quad \text{see-him} \quad \text{him}

Figure 8: “She helps him.”

a. \(\text{iPT} \ \text{iHELP}_j\)

she \quad \text{she-help-him}

b. \(\text{iHELP}_j\)

\quad \text{she-help-him}

c. \(\text{iPT} \ \text{iHELP}_j \ \text{jPT}\)

she \quad \text{she-help-him} \quad \text{him}

\(^{11}\)The contexts which may favor overt object pronouns over non-overt object pronouns (and vice-versa) is not clear; I leave this issue for further research.
d. \( \text{iHELP}j \text{jPT} \)
   \( \text{she-help-him} \text{him} \)
   
   \( \_\text{top} \)

\( \text{jPT}, \text{iPT} \text{iHELP}j \)
\( \text{him}, \text{she} \text{she-help-him} \)
   
   \( \_\text{top} \)

f. \( \text{jPT}, \text{iHELP}j \)
\( \text{him}, \text{she} \text{she-help-him} \)

Figures 8c and 8d show that overt object pronouns are possible with double agreement verbs like HELP. In addition, Figures 8e and 8f show that even when the object pronoun is moved into topic position (as noted by the topic-marking “top”), the verb still agrees with the location of that object (as noted by the \( j \) locus marker on HELP).

Ditransitive verbs like GIVE also allow non-overt object pronouns, as shown in Figure 9. The pronominal object that the verb agrees with (i.e., the goal argument) can be a non-overt pronoun. The theme argument, which plays no part in agreement, can also be an overt pronoun, as shown in 9g through 9j. Both 9c and 9d are grammatical for some signers, but not to others. However, the grammaticality of 9e and 9f suggests that the possible ungrammaticality of 9c and 9d may be based on a restriction on multiple postverbal NPs rather than a restriction on overt direct objects.
Figure 9: “She gives him a ball.”

a. \( \text{iPT} \quad \text{jGIVEj} \quad \text{BALL} \)
   \( \text{she} \quad \text{she-give-him} \quad \text{ball} \)

b. \( \text{jGIVEj} \quad \text{BALL} \)
   \( \text{she-give-him} \quad \text{ball} \)

c. \( \% \quad \text{iPT} \quad \text{jGIVEj} \quad \text{jPT} \quad \text{BALL} \)
   \( \text{she} \quad \text{she-give-him} \quad \text{him} \quad \text{ball} \)

d. \( \% \quad \text{jGIVEj} \quad \text{jPT} \quad \text{BALL} \)
   \( \text{she-give-him} \quad \text{him} \quad \text{ball} \)

_top

e. \( \text{jPT}, \text{iPT} \quad \text{GIVEj} \quad \text{BALL} \)
   \( \text{him}, \text{she} \quad \text{she-give-him} \quad \text{ball} \)

_top

f. \( \text{jPT}, \text{jGIVEj} \quad \text{BALL} \)
   \( \text{him, she-give-him} \quad \text{ball} \)

g. \( \text{iPT} \quad \text{jGIVEj} \quad \text{kPT} \)
   \( \text{she} \quad \text{she-give-him} \quad \text{it(ref. present)}^{12} \)

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12The theme argument with a ditransitive verb can typically be an overt pronoun only when the referent is actually present. The oddity of Figures 9g through 9j when the referent is not present may be due to difficulty processing locations for too many non-specified referents at once. Note that the following examples with noun + determiner are fine, whether or not the referent is present.
Spatial verbs can have overt pronominal arguments (e.g., an overt subject pronoun - cf. Figure 10 below), but not overt pronominal locative arguments, as shown in Figures 10c through 10e with the spatial verb WALK. The subject pronoun need not be overt, however, as shown in Figure 10b.

Figure 10: “She walks from home to school.”

<table>
<thead>
<tr>
<th></th>
<th>kPT</th>
<th>jWALKj</th>
</tr>
</thead>
<tbody>
<tr>
<td>a.</td>
<td></td>
<td>she walk from home to school</td>
</tr>
<tr>
<td>b.</td>
<td>jWALKj</td>
<td></td>
</tr>
</tbody>
</table>

walk from home to school

<table>
<thead>
<tr>
<th>a.</th>
<th>iPT</th>
<th>iGIVEj</th>
<th>kPT</th>
<th>BALL</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>she</td>
<td>she-give-him</td>
<td>the</td>
<td>ball</td>
</tr>
<tr>
<td>b.</td>
<td>iGIVEj</td>
<td>kPT</td>
<td>BALL</td>
<td></td>
</tr>
<tr>
<td></td>
<td>she-give-him</td>
<td>the</td>
<td>ball</td>
<td></td>
</tr>
</tbody>
</table>

Assume that previously in the discourse, i has been associated with ‘home’ and j has been associated with ‘school’. For Figure 10b, assume that the subject has been previously established in the discourse.
c. * iPT \text{WALK}j
walk from that home to school

d. * \text{iWALK}j jPT
walk from home to that school

e. * iPT \text{iWALK}j jPT
walk from that home to that school

Thus, overt and non-overt pronominal subjects and objects are possible for
plain verbs as well as agreement verbs. Spatial verbs, on the other hand, cannot
have overt pronominal locative arguments.

**HPSG Analysis of ASL Agreement**

Agreement in HPSG depends on structure-sharing of the index value of
one expression with the index value of another expression. For most spoken
languages, these index values must include some combination of the categories
person, number and gender. But as we have seen in the above description, ASL
agreement depends heavily on location, or *locus*. Therefore I assume the sort
declaration for *index* shown in Figure 11 (first proposed in Cormier et al., in
press).\(^{14}\) Following Meier (1990), S and A will be used to refer to locations
associated with the signer and addressee, respectively. S(signer) is the location
directly in front of the signer’s chest. A(addressee) is the location within the

\(^{14}\)ASL also has number agreement, which may also be explained to a certain extent in terms of
locus agreement. However, this issue needs to be further analyzed.
signer’s own sign space but toward and associated with the addressee. The index values \( i, j, k, \ldots \) etc. represent distinct locations in neutral space.

Figure 11:  \[ index: [LOCUS locus] \]
\[ \text{Partition of } locus: S, A, \text{other} \]
\[ \text{Partition of other: } i, j, k, \ldots \]

Verbal Lexical Entries

Agreement Verbs

The lexical entry for an agreement verb stem specifies only the ARG-S list (not the SUBJ and COMPS list) and coindexes the NPs with their appropriate semantic roles in CONTENT. Thus the lexical entry represents the verb stem, unmarked for any agreement morphology. Each lexical entry simply gives the valence features of the verb and cross-references those valence features with the semantic roles that the verb takes. This applies for both transitive and ditransitive verbs. For transitive verbs like SEE and HELP, the subject and object are coindexed with the verb-specific argument roles (e.g., HELPER and HELPEE, respectively). For ditransitive verbs like GIVE, the subject is coindexed with GIVER, the first object with GIVEE, and the second object with GIVEN. The lexical entries also assign verbs to their appropriate agreement types, so that SEE is of the sort single-fwd-agr-vstem, HELP is of the sort double-fwd-agr-vstem, and GIVE is a double-fwd-ditrans-agr-vstem. Direction (forward vs. backward) is specified in the sort hierarchy of agreement verbs but otherwise plays no role in the lexical entries.
Plain and Spatial Verbs

The lexical entries for plain verbs are similar to those given above for agreement verbs. For example, the lexical entry for the verb LIKE coindexes the
subject and object with the LIKER and LIKEE, respectively. It also assigns LIKE to the sort *plain-vstem*.

![Figure 15: Lexical entry for LIKE](image)

The lexical entries for spatial verbs are similar to those of ditransitive agreement verbs, except that spatial verbs have four instead of three arguments. Recall that the spatial verb *MOVE-FLAT-OBJECT* is formationally very similar to the ditransitive verb *GIVE*. However, the semantic roles that correspond with the arguments are quite different. For spatial verbs, the subject NP corresponds to the agent. The source and goal of motion are coindexed with the initial and final positions of movement (respectively) but - beyond that - are not specified in the lexicon (see Figure 16).

23
Verbal Sort Declarations: Grammatical Agreement

To account for the pro-drop patterns mentioned above, I propose that ASL has two types of agreement: grammatical and anaphoric. These two types of agreement were first proposed in Bresnan & Mchombo’s (1987) analysis of Chichewa. Grammatical agreement is defined in their analysis as the following: “In grammatical agreement, a NP bears an argument relation to the verb, while the verbal affix expresses redundantly the person, number and gender class of the NP.” In ASL grammatical agreement, the verbal affix redundantly expresses the locus (instead of person, number\textsuperscript{15}, and gender) of the overt argument NP. In this section, I will describe how grammatical agreement works in ASL.

\textsuperscript{15}See Footnote 14.
**Agreement Verbs**

To account for grammatical agreement with agreement verbs, each type of verb has a sort declaration that specifies the argument structure and valence features of all possible surface forms. Below are the sort declarations for single-transitive-agreement, single-ditransitive-agreement, double-transitive-agreement, and double-ditransitive-agreement verbs.

Figure 17: Sort declaration for *single-trans-agr-verb* (e.g., SEEj, jINHALE)

\[
\text{PHON } F_{\text{single-trans}} ([3], y) \\
\text{SYNSEM } [4][\text{CAT}] \\
\text{VAL} \langle \text{SUBJ } \{[1]\text{NP}\} \rangle \\
\text{COMPS } \{[2]\text{NP}\} \\
\text{ARG -S } \langle [1]\text{NP}, [2]\text{NP}_{\text{LOCUS } y} \rangle \\
\text{STEM } \langle \text{single-trans-agr-vstem} \rangle \\
\text{PHON } [3] \\
\text{SYNSEM } [4]
\]

where \( F_{\text{single-trans}} (\alpha, \beta) = \alpha \beta \) if \( \alpha \) is a forward verb

\( = \beta \alpha \) if \( \alpha \) is a backward verb
Figure 18: Sort declaration for single-ditrans-agr-verb (e.g., TELLj)

\[
\begin{align*}
\text{PHON } & F_{\text{single-ditrans}}([3], y) \\
\text{SYNSEM } & [4]||\text{CAT} \\
\text{VAL } & \left[\text{SUBJ } \left\{\{1\}NP\right\}\right] \\
\text{COMPS } & \left[\{2\}NP, \{5\}NP\right] \\
\text{ARG - S } & \left[\{1\}NP, \{2\}NP|\text{LOCUS } y\}, \{5\}NP\right] \\
\text{STEM } & \text{single-ditrans - agr - vstem} \\
\text{PHON } & [3] \\
\text{SYNSEM } & [4] \\
\end{align*}
\]

where \( F_{\text{single-ditrans}}(\alpha, \beta) = \alpha \beta^{16} \)

Figure 19: Sort declaration for double-trans-agr-verb (e.g., iHELPj, jCHOOSEi)

\[
\begin{align*}
\text{PHON } & F_{\text{double-trans}}(x, [3], y) \\
\text{SYNSEM } & [4]||\text{CAT} \\
\text{VAL } & \left[\text{SUBJ } \left\{\{1\}NP\right\}\right] \\
\text{COMPS } & \left[\{2\}NP\right] \\
\text{ARG - S } & \left[\{1\}NP|\text{LOCUS } x\}, \{2\}NP|\text{LOCUS } y\right] \\
\text{STEM } & \text{double-trans - agr - vstem} \\
\text{PHON } & [3] \\
\text{SYNSEM } & [4] \\
\end{align*}
\]

where \( F_{\text{double-trans}}(\alpha, \beta, \gamma) = \alpha \beta \gamma \) if \( \beta \) is a forward verb

\[ = \gamma \beta \alpha \] if \( \beta \) is a backward verb

\[^{16}\text{Recall from Figure 2 that there are no attested backwards ditransitive verbs in ASL.}\]
Figure 20: Sort declaration for double-ditrans-agr-verb (e.g., iGIVEj, jTAKEi):

\[
\begin{align*}
&\text{PHON } F_{\text{double-ditrans}}(x[3], y) \\
&\text{SYNSEM } [4] || \text{CAT} \\
&\text{VAL} \begin{bmatrix}
\text{SUBJ } \{[1]NP\} \\
\text{COMPS } \{[2]NP, [5]NP\}
\end{bmatrix} \\
&\text{ARG} - S \begin{bmatrix}
\end{bmatrix} \\
&\text{STEM } \begin{bmatrix}
\text{double-ditrans-agr-vstem}
\end{bmatrix} \\
&\text{PHON } [3] \\
&\text{SYNSEM } [4]
\end{align*}
\]

where \( F_{\text{double-ditrans-trans}}(\alpha, \beta, \gamma) = \alpha \beta \gamma \) if \( \beta \) is a forward verb
\[= \gamma \beta \alpha \] if \( \beta \) is a backward verb

These sort declarations expand the lexical entries for the verbs.\(^{17}\) For both single and double-agreement verbs, the SUBJ list member as well as the first member of the COMPS list are optional. Unexpressed ARG-S list items (those which are not structure-shared with valence list items) are interpreted as pronouns. The sort declaration for a backwards agreement verb is the same as the corresponding forward agreement verb, except for the position of the locus markers in the phonology, e.g., s\(\text{PT CHOOSES} \) “I choose you” (lit: “I you-choose-I”). For double-agreement verbs, the initial and final locus positions are switched. For single-agreement verbs, the locus marker is in initial position instead of final position. These conditions on backwards verbs ensure that the verb moves from the object locus to the subject locus (for double-agreement verbs) or from the object locus to some location on the body (for single-

\(^{17}\) Other factors such as eye gaze, shift in body position, and other non-manual signals also play a part in ASL verb agreement (cf. Aarons et al. 1992). However, given the high degree of subtlety and variation associated with these non-manual signals, only manual information is included in the verbal sort declarations in this thesis.
agreement verbs). For ditransitive verbs like TELL and GIVE, the third argument NP (i.e., the second member of the COMPS list) plays no part in agreement.

Plain and Spatial Verbs

Plain verbs allow non-overt pronominal subjects as well as objects, but no locus-attaching functions are necessary since plain verbs show no agreement. Therefore, the sort declaration for a plain verb such as LIKE in Figure 21 need only specify that the SUBJ and COMPS members are optional.

Figure 21: Sort declaration for plain-verb (e.g., LIKE)

\[
\text{SYNSEM}||\text{CAT}\
\begin{align*}
\text{VAL} & \left[ \text{SUBJ} \{[1]\} \right] \\
\text{COMPS} & \{[2]\} \\
\text{ARG-S} & \{[1]\text{NP}, [2]\text{NP}\}
\end{align*}
\]

Spatial verbs must have non-overt locative arguments, as the sort declaration would reflect. However, these locative arguments are not part of the SUBJ or COMPS lists. Given the complexity of specifying locative arguments in an argument structure, I leave this issue for future research.

The functions $F_{\text{single-trans}}$, $F_{\text{single-ditrans}}$, $F_{\text{double-trans}}$, and $F_{\text{double-ditrans}}$ specify the morphological operations whereby loci associated with ARG-S list items are affixed to agreement verbs. The $x$ and $y$ tags represent items of sort locus, hence range over the full set of loci, \{$S, A, i, j, k...$\}. Thus, these sort declarations account for agreement with any locus. No separate specifications are needed for speaker and addressee agreement.
Origins of Locus Values

As mentioned above, NPs can be set up in space whether or not the referent is present. If the referent is present, the locus of the pronoun or determiner must correspond to the actual location of the referent. We can set up a separate restriction on the anchoring of indices to handle this; however, this issue will not be examined here.

If the referent is not present, then a locus is set up arbitrarily. Assuming that the pointing sign PT is the head, the index values originate within the CONTENT of jPT, not within the CONTENT of the noun; cf. Figures 22 and 23.

Figure 22: Lexical entry for pronoun/determiner jPT

Figure 23: Lexical entry for the noun BOY

Figure 24: Sort declaration for npro

18See Footnote 4.
The index, and hence the locus feature, lexically originates in the pronoun, while the common noun supplies only the relation (here, the boy relation). This means that an NP consisting of a noun without a determiner either lacks a locus value altogether or receives its locus in some manner other than through the determiner.\(^{19}\) In Figure 26b, I have assumed that no mechanism (pointing or otherwise) has assigned a locus value to the noun BOY.

To summarize, if \(iPT\) subcategorizes for a nonpronoun complement, then it is a determiner. If, on the other hand, \(iPT\) does not subcategorize for a complement, then it functions as a pronoun. Therefore the lexical entries in Figures 22 and 23 allow for three main types of NPs, shown in Figure 26.

\(^{19}\)Other methods of assigning a noun a locus value, apart from the use of a determiner, include body shift (i.e., shifting the body toward a locus), eye gaze (i.e., gazing at a certain location in space), and articulating the noun at a certain location in neutral space (this is particularly true of fingerspelled names and is not possible with body-anchored nouns).
Recall that with grammatical agreement, the verbal agreement marker redundantly marks the phi-features of the argument NP. However, in ASL the referent NP is often not an argument of the verb, but a sentential topic or topic of discourse. Agreement with this type of non-argument NP is called anaphoric agreement. Bresnan & Mchombo (1987) define anaphoric agreement as agreement in which "the verbal affix is an incorporated pronominal argument of the verb, and the coreferential NP has a non-argument function - either as an adjunct of the pronominal argument or as a topic or focus of the clause or discourse structure." In ASL anaphoric agreement, the verbal affix is an incorporated pronominal argument of the verb and the coreferential NP has a non-argument function as a topic of discourse. The verbal affixes express locus rather than person, number and gender. Therefore in a sentence like \textit{i}ASK\textit{j} “He/she/it asks him/her/it”, the \textit{i} and \textit{j} loci are not grammatical agreement markers at all, but incorporated pronouns.\textsuperscript{20} Each locus finds its antecedent either through deixis (as

\textsuperscript{20} According to Bresnan & Mchombo's analysis for Chichewa, subject markers can be used for either grammatical or anaphoric agreement, while object markers can only be used anaphoric agreement. Specifically, Chichewa has 18 gender classes, each with a subject marker (SM) and an object marker (OM). Bresnan & Mchombo note that "the OM has the same segmental form as the SM in every class but 1 and 2." Thus, the grammatical and anaphoric agreement markers are, for 16 of the 18 gender classes, the same.
mentioned earlier in *Origins of Locus Values* or from a previous discourse antecedent.

Some constructions can be analyzed as having either grammatical or anaphoric agreement, such as the topic construction in Figure 8f, repeated here as Figure 27.

Figure 27: “She helps him.”

```
_top
jPT, HELPj
him, she-help-him
```

Figure 27 can be analyzed as grammatical agreement plus wh-movement of the object to topic position, or as anaphoric agreement where the antecedent of the object locus \( j \) happens to be in the same sentence but in a non-argument (i.e., topic) position.

Let us assume that Figure 27 is an example of anaphoric agreement. Since the object NP is not an argument of the verb, we can posit that the object NP here is a TOPIC-DTR or ADJUNCT-DTR. A partial feature structure for Figure 27 is shown below in Figure 28.
In a head-adjunct phrase, the head of the phrase (in this case, the verb) cannot subcategorize for an NP because the NP (as a topic) is not in an argument relation to the verb. Instead, the adjunct noun - through the MOD feature - selects for an inflected verb which has an NP on its ARG-S list. Following Malouf (1994), the CONTENT of the adjunct noun is the same as the CONTENT of the verb except that the noun’s restriction on the feature \textit{locus} is unified with the restriction of the selected NP argument from the verb’s ARG-S list. This ensures that the locus features of the noun match the locus features encoded in the agreement markers of the selected argument.

The type of analysis in Figure 28 can be applied to cases where 1) the subject has been topicalized, 2) the object has been topicalized, as in Figure 27 above, or 3) both the subject and object have been topicalized. In fact, the notion of anaphoric agreement can also be applied on a grander scale to discourse topics. However, information from the context would play a larger role in an analysis of discourse topics. I leave this issue for future research.
To summarize, both types of agreement described by Bresnan & Mchombo (1987) occur in ASL. Grammatical agreement occurs with overt arguments, while anaphoric agreement occurs with non-overt arguments. For example, subject and object markers for agreement verbs can be used for either grammatical or anaphoric agreement, depending on whether the pronoun is overt or non-overt. If the pronoun is overt, the locus value of the verb will redundantly express the locus of the pronoun; this is grammatical agreement. If the pronoun is not overt, the verb will have an incorporated pronoun marked for locus which must agree in locus with some topic of discourse; this is anaphoric agreement. Additional support for this analysis comes from spatial verbs which cannot have overt locative arguments, yet they must agree with some locations previously specified in the discourse. We can posit that spatial verbs use only anaphoric, not grammatical, agreement.

**HPSG Analysis Compared to Previous Analyses of ASL Agreement**

The most recent GB analyses of ASL agreement are Aarons et al. (including Aarons et al. 1992, Aarons et al. 1995, Bahan et al. 1995, and Bahan 1996) and Lillo-Martin (1986 and 1991). Lillo-Martin (1991) discusses both agreement verbs and plain verbs. Under her analysis, structural agreement (AGR) is present only with agreeing verbs, specifically under the INFL node. It is this agreement (AGR) that sanctions null arguments with agreement verbs. Null arguments are also possible with plain verbs, even though no structural agreement exists with these verbs. These null arguments are licensed by discourse topics instead of AGR. This is similar in spirit to the proposal made here in the section
*Anaphoric Agreement*, that discourse topics “license” or occur with anaphoric agreement.

The difference between plain and agreement verbs in Lillo-Martin’s analysis hinges on the presence or absence of the AGR feature in INFL. But it is not clear from her explanation what exactly licenses the AGR feature; therefore it is not clear under her analysis why some verbs show agreement while others do not. This fact is easily accounted for in a lexicalist framework like HPSG, since verbs can be classified in a sort hierarchy as either plain verbs or agreement verbs.

Aarons et al. have a very different perspective on ASL agreement, even within the same GB framework. They contend that structural agreement (AGR) is present in all ASL sentences, specifically as both AGR_sP (Subject agreement phrase) and AGR_oP (Object agreement phrase). Their claim is that the difference between plain verbs and agreement verbs is “in the way that the syntactic agreement features are encoded morphologically” (Aarons et al. 1994). Specifically, they analyze ASL agreement morphology with plain verbs as similar to English subject-verb agreement with subjects that have so-called “zero plural” marking. For example, in the sentences (a) “The sheep was sheared” and (b) “The sheep were sheared”, the subject in (a) is clearly singular while the subject in (b) is clearly plural, even though the exact same form of the noun ‘sheep’ is used in each instance. Thus Aarons et al. conclude based on these data that structural agreement exists in all English sentences. They extend this analysis to ASL by claiming that even though plain verbs are “zero-marked” for agreement, structural agreement exists with all ASL verbs.
However, English zero-agreement marking and ASL plain verbs are not quite comparable. In the English examples above, for instance, the verbs ‘was’ and ‘were’ indicate that the subject is singular or plural, respectively. But in an ASL sentence with a plain verb (e.g., BOY LIKE ICE-CREAM), there may not be any locus available in the sentence for the verb to agree with.

Aarons et al. (1992) additionally claim that plain verbs do have agreement marking: “Throughout ASL, agreement is expressed morphologically by the affixation of a pronominal-type morpheme... With plain verbs, [subject agreement takes the form of] the signer’s head and upper torso” (Aarons et al. 1992); this is what they call the Role Prominence Marker (RPM). My informants agree that the RPM can occur as an agreement marker with both plain and agreement verbs, but that RPM is always optional. An optional agreement marker is not enough evidence to claim that structural agreement exists with all ASL sentences.

The analysis presented here takes advantage of the fact that HPSG can encode morphological information in the lexicon, allowing for interaction between morphology and syntax. According to the hierarchical model of the lexicon presented in Pollard & Sag (1994), lexical items can be classified based on any number of characteristics, morphological as well as syntactic.

Also, there is no concept in HPSG that corresponds to the GB notion of structural agreement. According to Pollard & Sag (1994), “agreement is simply the systematic variation in form that arises from the fact that information coming from two different sources about a single object must be compatible.”
Liddell (1995) proposes yet another (and very different) account of the way ASL verbs use space. He claims that the relationship between verbs and location is not linguistic (and therefore not what is normally considered “agreement”), that verbs point to people and objects the same way that hearing people normally use gestures to point to people and objects. One of his arguments against the existence of the feature *locus* is that for any given referent, different agreement verbs (or “indicating verbs”, as he calls them) are associated with different heights on the referent’s body. For example, with the verb glossed as HAVE-ESP-WITH (“have the same thought at the same time”), one hand is articulated near the signer’s head while the other hand is directed toward the head of the addressee (or other referent). The verb ASK is directed toward the object referent’s chin, and the verb GIVE is directed toward the object referent’s chest. Liddell claims that this shows there is no single locus value associated with a given referent.

However, there are some problems with Liddell’s analysis. Liddell’s verb height argument just described in fact contradicts his claim that verb agreement is not linguistic. Since the height of a verb cannot be predicted, this information would need to be encoded individually for each verb in the lexicon. Also, his analysis does not explain why some verbs (i.e., agreement or “indicating” verbs) have this pointing property while some do not (i.e., plain verbs). As mentioned above, the distribution of verbs into these two categories cannot be predicted on the basis of phonological form or semantic class.

Another argument Liddell has offered against ASL verb agreement (Liddell 1997, personal communication) is that in a sentence like ¡ASK¡ (with no
overt pronouns), there is nothing for the verb to agree with. In my analysis, however, this problem is accounted for by anaphoric agreement. The verb anaphorically agrees with whatever referents the loci $i$ and $j$ have been associated with earlier in the discourse.

**CONCLUSION**

The analysis presented here accounts for the agreement properties of this class of agreement verbs in ASL. The verbal sort declarations account for the pro-drop properties described above by allowing for different combinations of overt and non-overt pronominal arguments. The agreement functions specify the index value of certain members of the ARG-S list, regardless of the overt/non-overt nature of the arguments. These functions ensure that the locus values of the verb are token identical to the locus values of the verb’s arguments.

More importantly, this analysis lends support to Pollard & Sag’s (1994) account of index agreement, according to which agreement features attach to the index or discourse marker. The ASL locus functions exactly as a discourse marker (see Lillo-Martin & Klima 1990), even though locus is not normally considered a phi-feature like the other agreement features of person, number and gender (Bahan 1996). The fact that locus participates in verb agreement, particularly in both grammatical and anaphoric agreement, provides interesting evidence for index agreement.

Also, the fact that locus functions as a phi-feature in ASL but not in any spoken language suggests that phi-features as we know them are not universal. In
order to encompass both signed and spoken languages, the inventory of phi-
features would therefore need to be expanded to include these spatial loci.

Although ASL shares many characteristics with spoken languages, there
are many differences as well. One difference is the number of possible values for
agreement features in spoken languages versus locus in ASL. Person, number,
and gender each consist of a finite set of values. ASL can have an infinite number
of possible locus values (Lillo-Martin 1991, Meier 1990). The number of loci
that a signer might actually use is limited by perceptual and memory-related
constraints, but the grammar allows an infinite number of loci.

The properties of ASL presented here also raise some more general
questions about agreement as a universal property of languages. For instance,
Everett (1996) discusses the issue of thematic hierarchy prominence and claims
that languages that have “the grammatical role of primary object place goal above
theme in the hierarchy. In these languages the verb agrees with the indirect object
in ditransitive clauses.” He cites as an example the language Pacaas Novos, in
which the verb always agrees with indirect object if there is one; otherwise, the
verb agrees with the direct object. ASL also follows this crosslinguistic pattern.
However, in some ways ASL deviates from crosslinguistic patterns. For example,
most spoken languages prefer subject agreement over object agreement
(Greenberg 1966). In fact, some have claimed that this preference for subject
agreement is universal among all languages (Everett 1996). However, the data
presented here shows that ASL actually prefers object agreement over subject
agreement instead. This is an unexpected and quite interesting difference between
the signed and spoken modalities.
The question remains as to why these peculiarities of ASL exist. By examining agreement systems of other signed languages, we may find that the agreement properties described here are common to all signed languages and can therefore be attributed to the visual/gestural modality. I leave this matter for future research (see Engberg-Pedersen (1993) and Supalla (ms.) on agreement verbs in signed languages such as Danish Sign Language).
Appendix

NOTATION

The subscripts $S, A, i, j, k$, etc. represent distinct locations in space (see Figure 11). Verbs are translated in present tense for clarity. ASL does mark aspect and can mark tense (Aarons et al. 1995), but often tense is not marked if it is understood in context. Also, different genders are used here to distinguish between different locations, although ASL does not grammatically distinguish gender.

Table 1: Notation key

<table>
<thead>
<tr>
<th>VERB</th>
<th>A verb unmarked for agreement; verb stem</th>
</tr>
</thead>
<tbody>
<tr>
<td>$xVERBy$</td>
<td>A verb marked for subject and object agreement</td>
</tr>
<tr>
<td>VERBy</td>
<td>A verb marked for only object agreement</td>
</tr>
</tbody>
</table>

DATA

Coding Procedure

Based on three inflected forms of each verb (I-VERB-YOU, YOU-VERB-ME, and SHE-VERB-HIM), each verb was coded for single vs. double agreement and direction of movement. Transitivity was determined from the semantics of each verb. Single vs. double agreement was determined by movement; movement from subject to object was coded as double agreement, while movement from non-subject location - e.g., location on signer’s body - to the object position was coded as single agreement. Direction was coded in terms of the notional source
and goal: movement from source to goal was coded as forward while movement from goal to source was coded as backward. Single intransitive verbs are defined as agreement verbs with only one argument, namely, a subject. Single intransitive verbs are not discussed in this paper because they are often difficult to distinguish from plain verbs. Finally, some of the verbs elicited were plain verbs (i.e., verbs that do not agree with any argument). None of the verbs elicited were spatial verbs.

The verb classifications given below in *Example Verbs* are based on my own preliminary qualitative coding of videotaped data from a native signer. The excerpt shown in Figure 29 is taken from the coding manual written in order to allow for reliability coding in the future.

Figure 29: Description of fields coded

*Double Fwd* (e.g., GIVE)
These verbs inflect for subject and object. Movement (or palm orientation) from source to goal.

*Double Bkwd* (e.g., TAKE)
These verbs also inflect for subject and object. Movement (or palm orientation) from goal to source.

*Single Fwd* (e.g., SEE)
These verbs inflect only for object, specifically goal. Typically these include verbs that have initial body contact, although body contact is not
necessary. For example, for some signers TEACH is a single fwd agreement verb.

*Single Bkwd*

These verbs inflect only for object, specifically source. I’m not sure if these exist at all in ASL. Supalla (ms.) claims that OVERHEAR is an example, but my sources claim otherwise.

*Single Intrans* (e.g., DIE)

These are intransitive verbs that can inflect for subject. Note: These verbs typically have plain verb versions as well; these verbs should be coded as *Single Intrans* only if the signer on tape chooses to inflect it.

*Plain* (e.g., LIKE)

Some of the verbs in this database may not be agreement verbs at all. If the verb shows no agreement, it’s a plain verb.

*Unclear*

Obviously, there may be some problems. The camera angle might make it difficult to see the path movement or the palm orientation. Or, the verb may look like one type of verb in some forms (e.g., single fwd) and a different type of verb in other forms (e.g., double fwd). If you have strong doubts about which type of verb it is, choose unclear and specify why it’s unclear in the *Comments* box. If you’re fairly sure and only a bit doubtful, choose whatever agreement type and then give more specific information in the *Comments* box.
Example Verbs

Table 2 below contains a list of all verbs that were elicited, plus some that were not elicited but are classified as plain verbs in Padden (1983) - these verbs are marked $N$ under Elicited?. Transitivity (transitive vs. ditransitive) is marked only for agreement verbs (hence N.A. in the Trans column for plain verbs).

*Strict Trans* indicates a verb that takes one object, while *Ditransitive* (or *Ditrans*) indicates a verb that takes two objects. Transitivity was determined based on the English gloss for these verbs. Verbal aspect class was determined by grammatical tests from Chierchia and McConnell-Ginet (1990). Some verbs are marked as *Agentive (T.E.).* *T.E.* (Telic Eventuality) merely indicates that the verb takes place over a certain period of time and has a definite starting and ending point (Chierchia & McConnell-Ginet, 1990).

Table 2: Sample of ASL verbs

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References


Wechsler, Stephen and Larissa Zlatic. (Dis)agreement in Serbo-Croatian. Manuscript, University of Texas at Austin, Austin, TX.


Vita

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