

# Elide me bare: Null arguments in ASL

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Draft: Spring 2014

**Abstract:** In this paper, I argue that the traditional analysis of null arguments – subjects and objects – in American Sign Language needs to be re-evaluated. It is typically assumed that in the presence of agreement, the null argument is a silent pronoun (*pro*), while with lack thereof, the null argument is a topic-bound variable. I introduce novel data that pose a problem for the traditional view. As the null argument is subjected to a variety of diagnostics, I demonstrate that it is best analyzed as an instantiation of ‘surface anaphora’ – i.e., ellipsis of the bare NP argument of the verb.

**Keywords:** null argument, ASL, ellipsis, bare singular, articles

## 1. INTRODUCTION

American Sign Language (ASL) differentiates between two classes of verbs: agreeing (for person/number and location/manner of movement) and non-agreeing (a.k.a. plain, Padden 1988[1983]). Employing a basic definition of agreement as “a grammatical element X match[ing] a grammatical element Y in property Z within some grammatical configuration” (Barlow & Ferguson 1988), it has been argued that the two classes of verbs display different behaviors with respect to the referential use of space. The difference between the two types has traditionally been connected to the manual marking of the spatial relationship between the verb and its arguments. In short, by incorporating spatial loci of their arguments, ‘agreeing’ verbs mark their arguments’ referential properties; ‘plain’ verbs typically do not.<sup>1</sup> Importantly, agreeing verbs do not *necessarily* involve manual marking: typically agreeing verbs can sometimes be uttered without agreement morphology, and plain verbs can be moved in space (Padden 1988[1983]).<sup>2</sup> Analyses here have diverged. Some have argued that in non-agreeing contexts, syntactic phenomena associated with agreeing verbs (e.g. lack of verb movement) mirror syntactic processes ordinarily associated with plain verbs (Quadros & Lillo-Martin 2010, Braze 2004). On such an account, the reverse is also true: verbs that ordinarily do not display manual agreement behave syntactically as agreeing when spatially modified. Others have claimed that focus on the manual marking alone restricts the set of potential observations. If non-manual markings are acknowledged as crucial contributors to syntactic processes, then all verb contexts are necessarily agreeing. (Bahan et al. 2000). This paper does not aim to address all the issues that arise in the above debate. Rather, it contributes to the discussion of contexts where manual agreement is lacking. In particular, I re-examine the nature of argument omission in such contexts and show that neither of the traditional views account for the data introduced here. I propose an analysis of null subjects and objects which accommodates the new findings, but which also has far-reaching ramifications for manual vs. non-manual agreement as well as the syntax of the nominal domain in ASL. The paper is structured as follows: in section 2, I demonstrate the reason for another look at null arguments in ASL. Section 3 offers an account of the facts; section 4 presents other issues and directions; and section 5 concludes the paper.

## 2. WHY NULL ARGUMENTS AGAIN

### 2.1. Problem 1: A violation no more

Both types of verbs allow omission of subjects and objects. Following the widely adopted terminology, I mark their position with ‘Ø’ and, for the sake of uniformity, amend data from the literature accordingly.

- (1) a. A: Did John send Mary the paper?  
B: YES, Ø a-EMAIL-b Ø.  
‘Yes, (he) e-mailed (it) to (her).’
- b. A: Ø FINISH SEE 1-POSS CANDY<sup>v/n</sup>  
‘Have (you) seen my candy?’

- B: YES, Ø EAT-UP Ø<sup>3</sup>  
 ‘Yes, (I) ate (it) up.’

(adpt. Lillo-Martin 1986)

Although at first glance (1a) and (1b) appear indistinguishable in terms of argument omission (i.e. Ø occurs in both the subject and object positions in both), in her seminal work on the nature of null arguments in ASL, Lillo-Martin (1986, 1991) argues that Ø in (1) represents two typologically distinct varieties. In (1a), Ø is an argument of a manually agreeing verb *EMAIL*, and on various diagnostics, it behaves as a pronoun licensed/identified by the agreement affixes *a-* and *-b* respectively (as in McCloskey & Hale 1984 for Modern Irish, Rizzi 1986 for Italian, i.a.). However, in (2b), which lacks manual markings on the verb, such analysis cannot be easily applied: if manual markings instantiate agreement which licenses Ø, then Ø should be illicit. In such contexts, Lillo-Martin concludes, Ø must be licensed differently, but how? An additional question – and the one that at least at first glance is divorced from the licensure mechanism – arises: what type of element is Ø? Perhaps the first step towards elucidating the nature of the element is the set of contexts in which it is (dis)allowed.

It has been known for quite some time that in structures involving left dislocation across a wh-island (Ross 1977), a pronoun co-indexed with the dislocated element is required.<sup>4</sup> The aforementioned is illustrated in (2).

- (2) a. *This book*, to whom should we give \*(*it*)?  
 b. (As for) *John*, who do you think saw \*(*him*)?

(Chomsky 1977)

This situation arises when the relation between the binder and its variable is disrupted resulting in an intervention effect.<sup>5</sup> Lillo-Martin capitalizes on this observation and reasons thus: if the Ø without manual agreement is pronominal in nature, argument omission should be allowed in a case similar to (2); otherwise, a violation will ensue which can only be obviated by a pronoun. Under the assumption that the aforementioned is true, if Ø is a pronominal, it should be licit in such contexts; if it is not, an overt pronoun is expected. The fundamental division between the verb classes is obtained in (3): in such a configuration, Ø is allowed only in agreeing context.

- (3) a. a-MOTHER<sub>i</sub>, 1-IX DON'T-KNOW WHAT Ø a-SEND<sub>agr-1</sub>  
 ‘Mother, I don't know what (she) sent me’
- b. a-MOTHER<sub>i</sub>, 1-IX DON'T-KNOW WHAT {a-IX/\*Ø} LIKE<sub>plain</sub>  
 ‘Mother, I don't know what she likes’

This difference can be observed with both null subjects and objects and is reflected in various other constructions inducing intervention effects (and ordinarily associated with necessitating resumptive pronouns), such as topicalization out of an embedded clause.<sup>6</sup>

- (4) a. a-EXERCISE CLASS, 1-IX HOPE b-SISTER SUCCEED b-PERSUADE-c c-MOTHER TAKE-UP<sub>agr-a Ø</sub>  
 ‘The exercise class, I hope my sister manages to persuade my mother to take (it)’
- b. a-THE a-COOKIE, 1-IX HOPE b-SISTER SUCCEED b-PERSUADE-c c-MOTHER EAT<sub>plain</sub>{a-IX/\*Ø}  
 ‘That cookie, I hope my sister hope manages to persuade my mother to eat it.’

(Lillo-Martin 1986)

Lillo-Martin reasons thus: in (a) sentences, the verbs are agreeing. If agreement can identify/license a null pronoun (Chomsky 1982), Ø must be possible because it is such a pronoun. In (b) sentences, the verbs are plain and, while identical to the (a) sentences in all other relevant respects, become grammatical only with the presence of *IX* – typically assumed to be an overt pronoun. To the degree that her argument holds that Ø in agreeing contexts is pronominal licensed/identified in a particular manner (Lillo-Martin 1986: 421-427), it must be the case that in plain contexts it is not. Thus, Lillo-Martin concludes that Ø occurring with plain verbs must be something other than the agreement-licensed *pro*. The ensuing question is what exactly the null element is; the answer promises to shed light on its licensing requirements.

The most salient difference between (a) and (b) sentences above is the presence/absence of morphological agreement; it stands to reason then that a comparison of ASL and a language without morphological agreement is in

order. Such a comparison pays off: Lillo-Martin adopts Huang (1984) approach to the null arguments in Mandarin Chinese – i.e. a language without morphological agreement. On that approach (updated in Huang & Yang 2013), what is responsible for the presence of null arguments is not agreement per se but the (im)possibility of coindexing with the (base-generated) topic. This coindexing remains subject to intervention effects; therefore, while no agreement is necessary to license the  $\emptyset$  in (5), in apparent post-verbal islands (as in (6)), it is ungrammatical.<sup>7</sup>

- (5) A: Zhangsan kanjian Lisi le ma? [Mandarin Chinese]

*Zhangsan see Lisi LE Q*  
 ‘Did Zhangsan see Lisi?’

- B: wo cai [ $\emptyset$  kanjian  $\emptyset$  le].  
*I guess see LE*  
 ‘I guess (he) saw (him).’

(Huang 1984)

- (6) a. Zhangsan, [wo nian le bu shao [ $\emptyset$  xie de shu]]

*Zhangsan I read le not few write de book*  
 ‘Zhangsan, I have read many books that (he) has written’

- b. \* Zhangsan, [wo renshi hen duo [piping  $\emptyset$  de ren]]  
*Zhangsan I know very many criticize de person*  
 ‘Zhangsan, I know many people that criticize (him)’

(Huang & Yang 2013)

While Lillo-Martin’s conclusions regarding the licensing requirements of  $\emptyset$  (via Agr in (1a) and coindexing with a discourse topic in (1b)) have not gone unchallenged (cf. Bahar et al. 2000, Neidle et al. 2001, and Quer & Rosselló 2011), a close examination of (3)-(4) introduces an additional puzzle.

In both (a) and (b) sentences, the elements marked as topics are uttered in non-neutral<sup>8</sup> areas of space: the locus of the element that  $\emptyset$  refers to is established by articulating the NP itself in a locus<sup>9</sup> (**a**-MOTHER and **a**-[EXERCISE CLASS], respectively). However, it turns out that if the locus is removed and the NP in question is uttered in a neutral location instead (MOTHER and [EXERCISE CLASS] – i.e. if the loci are not assigned), the paradigm changes: the aforementioned asymmetry disappears, and the  $\emptyset$  becomes possible with either an agreeing or a plain verb. This difference is demonstrated in the (b) cases in (3)-(4) vis-à-vis (7)-(8).

- (7) a.  $\overline{\text{MOTHER}}^t$ , 1-IX DON’T-KNOW WHAT  $\emptyset$  **a**-SEND<sub>agr.-1</sub>.  
 ‘Mother, I don’t know what (she-) sent (-me).’

- b.  $\overline{\text{MOTHER}}^t$ , 1-IX DON’T-KNOW WHAT  $\emptyset$  LIKE<sub>plain</sub>.  
 ‘Mother, I don’t know what she likes.’

- (8) a.  $\overline{\text{EXERCISE CLASS}}^t$ , 1-IX HOPE **b**-SISTER SUCCEED **b**-PERSUADE-**c** **c**-MOTHER **a**-TAKE-UP<sub>agr.</sub>  $\emptyset$   
 ‘The exercise class, I hope my sister manages to persuade my mother to take (it)’

- b.  $\overline{\text{COOKIE}}^t$ , 1-IX HOPE **b**-SISTER SUCCEED **b**-PERSUADE-**c** **c**-MOTHER EAT<sub>plain</sub>  $\emptyset$   
 ‘That cookie, I hope my sister manages to persuade my mother to eat it.’

At least in these configurations then,  $\emptyset$  is allowed with both manually agreeing and non-agreeing verbs; the parallelism with Chinese is broken. If, as commonly assumed, overt locus is a phonological instantiation of the semantic index (Lillo-Martin & Klima 1990, Lillo-Martin 1995, Sandler & Lillo-Martin 2006, Schlenker 2010 et seq.), it is difficult to see why its presence or absence in the string might affect the grammaticality of the sentence. Therefore, a new explanation, or, at the very least, an accommodation of the difference between (3)-(4) and (7)-(8) is required.

I am not the first to question Lillo-Martin’s approach to null arguments of plain verbs. For instance, Bahar et al. (2000) claim that without some form of agreement (manual or non-manual),  $\emptyset$  is impossible. They argue that when manual incorporation of loci of the arguments is not present, the otherwise optional non-manual markings fulfill this function.<sup>10</sup>

- (9) Null Subject: *Agreeing verb*

- a.  $\emptyset_i [+agr_i]_{AgrS} [+agr_j]_{AgrO} iSHOOT_j FRANK_j$

‘(He/She) shoots Frank.’

- b.  $\overline{\emptyset}_i [+agr_i]_{AgrS} [+agr_j]_{AgrO} \overline{iSHOOT_j FRANK_j}$

(10) Null Subject: *Plain verb*

- a. \* $\overline{\emptyset}_i [+agr_i]_{AgrS} [+agr_j]_{AgrO} LOVE MOTHER_j$   
     ‘(He/She) loves mother.’

- b.  $\overline{\emptyset}_i [+agr_i]_{AgrS} [+agr_j]_{AgrO} \overline{LOVE MOTHER_j}$

(11) Null Object: *Agreeing verb*

- a.  $JOHN_i \overline{,BLAME_j \emptyset_j}$   
     ‘John blames (him/her).’
- b.  $JOHN_i \overline{,BLAME_j} \overline{\emptyset_j}$

(12) Null Object: *Plain verb*

- a. \* $JOHN_i LOVE \emptyset_j$   
     ‘John loves (him/her)’

- b.  $JOHN_i \overline{ [+agr_j]_{AgrO}} LOVE \overline{\emptyset_j}$

(Bahan et al. 2000)

On the basis on (9)-(11), the authors conclude that plain verbs are not really plain, if ‘plain’ means ‘to be devoid of agreement.’ This view approaches  $\emptyset$  in both (1a) and (1b) as the agreement-licensed *pro* (Rizzi 1986, i.a.).

While I abstain from general claims about the grammatical status of non-manual markings in ASL, it is not immediately clear how Bahan and colleagues would derive the difference between (3)-(4) vis-à-vis (7)-(8). Moreover, in what follows, I show that certain cases of the null argument in the absence of manual agreement (i.e. the  $\emptyset$  in (1b)) cannot be derived in the manner proposed by either Lillo-Martin or Bahan et al.

## 2.2. Problem 2: Non-strict readings

Null arguments in ASL present an additional puzzle: unlike their counterparts in languages like English and Spanish (overt pronouns and agreement-licensed *pro*),  $\emptyset$  occurring in non-agreeing contexts can have readings that are typically not associated with overt or null pronouns.

For instance, as shown below, ‘they’ and ‘it’ in (13) can only refer to the previously mentioned individuals: ‘they’ to the wizards that came to A’s (and not B’s) house, and ‘it’ to Peter’s (and not John’s) car. This is often referred to as the strict/non-quantificational reading of a pronoun .

- (13) a. A: [Three wizards], came to my house.

B: They<sub>i/\*j</sub> also came to my house.

(adpt. Takahashi 2010)

- b. Peter<sub>k</sub> washed his<sub>k</sub> car, and John<sub>l</sub> dried it<sub>k/\*l</sub>.

The same behavior is characteristic of *pro* (Oku 1998):  $\emptyset$  cannot refer to Juan’s proposal.

- (14) A: María cree que su propuesta será aceptada.

[Spanish]

*Maria believes that her proposal will-be accepted*

‘Maria believes that her proposal will be accepted.’

- B: Juan también cree que  $\emptyset$  será aceptada.

*Juan also believes that will-be accepted*

‘Juan also believes that [{Maria’s/\*Juan’s} proposal] will be accepted.’

(Oku 1998)

Let us see why that might be.

When appealing to agreement licensing of an (null) argument, one commits oneself to an idea that reaches into the distant past (see a historical overview, beginning with Apollonius Dyscolus on Ancient Greek, in Roberts &

Holmberg 2010) and which has taken various forms in the history of argument-drop research. It is based on the intuition that certain information encoded on the verb dispenses with the need for an overt argument. Spanish in (15) illustrates the point: morphemes **-o** and **-s** (1<sup>st</sup> or 2<sup>nd</sup> person singular, respectively) on the verb indicate the identity of the referent.<sup>14</sup> That is, the form of the verb (or, more accurately, the agreement affix, in bold for exposition purposes) specifies/identifies the referent.

- (15) a. Ø Quiero algo. [Spanish]  
*Want.1SG something*  
 ‘I want something’  
 b. i Ø Quieres algo?  
*Want.2SG something*  
 ‘Do **you** want anything?’

One commonly assumed instantiation of this view is that the morpheme licenses/identifies a silent pronoun *pro* found in the relevant argument position (cf. Rizzi 1982, 1986, Cardinaletti 1994, 2004, Holmberg 2005, Sheehan 2006, Roberts 2010, Holmberg 2010, i.a.).

- (16) María me recordó que Ø lo ha visto [Spanish]  
*Maria me remind.PAST.3SG that him have.3SG seen*  
 = ‘Maria<sub>i</sub> reminded me that she<sub>i</sub> saw him  
 = \*Maria told me that {they/I/we/you/other 3SG<sup>15</sup>} saw him

The status of the morpheme itself, as well as that of the silent argument, has been a locus of an ardent debate in the literature on null argument languages (see a detailed overview in Roberts & Holmberg 2010) with the following generalization: in languages in which agreement throughout the paradigm is doing the kind of work alluded to in (15)-(16), the silent argument is always a) ‘identifiable’ from the verbal affix and b) definite in reference. The aforementioned suggests that if the Ø in (17) is *pro* (a phonologically null pronoun licensed/identified by agreement), its reference is expected to be limited to what is ‘encoded’ by the agreement morpheme on the verb.<sup>16</sup>

What is special about the Ø in ASL – particularly on the view that it is the Spanish-style *pro* in (16) – is that it allows non-strict/quantificational reference: in (17), Jeff can hate either Peter’s, his own, or even somebody else’s students; either the same or different students have dropped B’s class. In other words, the null argument in (17) is ambiguous.<sup>17</sup>

- (17) a. A: a-PETER LIKE a-POSS STUDENT  
 ‘Peter likes his students’  
 B: b-JEFF HATE Ø  
 ‘Jeff hates \_\_\_\_\_,  
 i. Jeff hates Peter’s students  
 ii. Jeff hates Jeff’s students  
 iii. some other person’s (e.g. Mary’s) students
- b. A: THREE STUDENT JOIN 1-POSS CLASS  
 ‘Three students joined my class’  
 B: Ø DROP 1-POSS CLASS  
 ‘\_\_\_\_\_ dropped my class’  
 i. the same three students dropped B’s class  
 ii. different three students dropped B’s class  
 iii. some other number (e.g. ten) students dropped B’s class

The question arises: where do the additional readings come from? If the Ø is *pro*(noun) – i.e. a lexical item also found in languages like Spanish – then we expect its reference to be limited to the antecedent in the (A:) sentences, in parallel with Spanish in (14). Why is the seemingly quantificational/sloppy reading typically not associated with a (null) pronoun available?

Let me summarize the issues: the two standard accounts of the null argument equate it to an element (i) licensed by agreement across verb classes (Bahan et al. 2000) or (ii) with agreeing verbs only and a topic-bound variable with plain ones (in the relevant configuration, Lillo-Martin 1986, 1991). Only the former account predicts

the possibility of argument omission in manually non-agreeing contexts in an environment necessarily requiring a pronoun (since  $\emptyset$  there is *pro* licensed by non-manual markings); only the latter may allow non-strict readings of  $\emptyset$  in ellipsis configurations (if the topics binding  $\emptyset$  in (17) are [THREE STUDENT] and [POSS STUDENT], respectively). Neither account wholly subsumes the data presented thus far; therefore, a new account of the facts is in order. We have now arrived at the suggestion that at least in certain configurations,  $\emptyset$  does not behave as a pronoun or a topic-bound variable; presented differently, the data introduced in this section urge re-examination of  $\emptyset$  in contexts without manual markings. Ultimately, I propose that  $\emptyset$  in the absence of spatial identification of the verb's arguments is best described as an instance of ellipsis of a bare NP argument. The path of argumentation then must incorporate various claims: that  $\emptyset$  is indeed a case of ellipsis; that argument ellipsis is a viable possibility in the language; that bare singular NPs serve as arguments in ASL; and, finally, that  $\emptyset$  results from ellipsis of a bare singular NP argument. This view leads to an interesting consequence: contrary to standard syntactic (though perhaps not intuitive) assumptions, the lexical item typically glossed as the definite article in ASL is, in fact, something else. But before I lunge into the proposal, it seems prudent to survey the land a bit more in order to eliminate alternative analyses and set the stage for the one I will ultimately advocate.

### **2.3. A note on methodology**

Examples of ASL utterances, as well as those from other languages, have made their way into this paper in two independent (though often overlapping) ways. Some have been previously reported in the literature (and are cited as such), although the original conventions may have been amended for format consistency. At least three adult native signers were consulted on all of the examples: two Deaf and one hearing. Some of the data were presented to an additional four native consultants: three Deaf and one hearing. Most of the data were presented to the consultants on at least three separate occasions. The data were presented to various consultants in two ways: sentences were provided in ASL by both a native (video-taped) and a non-native (face-to-face conversations) signer during different sessions. Consultants were asked to judge the grammaticality of sentences both in general and in particular contexts in which such sentences might have been uttered. The grammaticality (general and in the provided context) was assessed as ‘AWFUL/CAN’T,’ ‘AWKWARD,’ or ‘ACCEPT/FINE.’ For the purposes of this paper, sentences judged AWKWARD were excluded from the discussion, unless judged AWFUL/CAN’T by different informants or by the same informant on a different occasion. This then left ‘AWFUL/CAN’T’ and ‘ACCEPT/FINE,’ corresponding, roughly, to the conventional ‘ungrammatical’/\* and ‘grammatical’/✓. Examples of utterances from languages other than ASL, to the exclusion of German and Akan (which were obtained from the literature), have been verified with two or more native language users.

## **3. OH, THE POSSIBILITIES**

### **3.1. A note on anaphoricity: What $\emptyset$ is not**

Having established a few reasons to the revisit the nature of the null argument in ASL, let us now take a closer look at the element. The first relevant observation about it is that it is fully productive and necessarily anaphoric. As (18) below demonstrates, it is illicit when it appears ‘out of the blue’ or, more accurately, without a suitable antecedent<sup>21</sup> (‘B’: sentences contain null subjects and ‘B?’: sentences contain null objects).

- (18) A: What are the plans for today/what all happened today?

- B: a. \* $\emptyset$  WILL SKIP CLASS  
       ‘\_\_\_\_\_ will skip class’  
     b. \* $\emptyset$  FINISH ASK-a QUESTION  
       ‘\_\_\_\_\_ have asked questions’  
     c. \* $\emptyset$  BUY CAR  
       ‘\_\_\_\_\_ bought a car’

- B’: a. \*PETER WILL SKIP  $\emptyset$   
       ‘Peter will skip \_\_\_\_\_’  
     b. \*1-IX FINISH ASK-a  $\emptyset$   
       ‘I have asked \_\_\_\_\_’  
     c. \*MOTHER BUY  $\emptyset$   
       ‘Mother bought \_\_\_\_\_’

Yet, with such an antecedent, sentences containing  $\emptyset$  become grammatical:

- (19) A: Is Peter going to class?  
 B: NO,  $\emptyset$  WILL SKIP  $\emptyset$  TODAY  
 ‘No, (he) will skip (it) today’  
 b. A: Any more questions (for me)?  
 B:  $\frac{y/n}{1-IX}$  NO.  $\emptyset$  FINISH ASK  $\emptyset$   
 ‘Me? No, (I) have asked ({my questions/you})’  
 c. A: Did your mother make a decision about the car?  
 B: YES. REMEMBER TWO PLACE TWO a-IX b-IX? PAH  $\emptyset$  DECIDE.  $\emptyset$  a-BUY  $\emptyset$   
 ‘Yes. Remember there were these two places? Finally, (she) decided. (She) bought (it) (at the first one)’

In other words (and as shown in much detail in Lillo-Martin 1991,  $\emptyset$  is necessarily anaphoric.<sup>22</sup> While this characteristic does not in itself constitute an argument against the pronominal nature of  $\emptyset$  in ASL (after all, pronouns are anaphoric), the observation does outline a path for a further analysis. It allows us to systematically check the characteristics of  $\emptyset$  against the inventory of null arguments described in the literature. The suggestion then is to begin with what  $\emptyset$  is not and thus to create a foundation for the account of what it actually is.

For instance, we can safely set aside the possibility that not all anaphoric elements must be overt, even in languages that typically disallow argument omission. English offers evidence here: although it ordinarily requires its subjects and objects to be pronounced, it also allows arguments of certain predicates to remain silent. These are typically referred to as ‘implicit arguments’ (see an overview in Bhatt & Pancheva 2006). As discussed originally in Fillmore (1969) and more recently in AnderBois (2011), predicates typically impose definiteness restrictions on their implicit arguments if such are possible: the ‘implicit argument’ of verbs like ‘eat’ is indefinite while the ‘implicit argument’ of verbs like ‘notice’ is not; it is necessarily anaphoric and definite.

- (20) a. John ate / read / drove {\*that thing / ✓something}  
 b. John noticed / skipped / visited {✓that place / \*something}

It is doubtful, however, that all cases of  $\emptyset$  in ASL can be subsumed under this analysis: the possibility, as well as the nature, of such arguments has been argued to be a property of the predicate itself. For instance, while certain predicates allow their arguments to remain unpronounced, others are notoriously transitive and require arguments to be overt. Compare (24) to (25):

- (21) John bought / loved / hated / took up / sent {\*that thing / \*something}

Yet, the ASL pattern in (18)–(19) is fully productive. Note, e.g., that ‘buy,’ ‘take-up,’ ‘send,’ and ‘hate’ require an overt object in (25); this object can be dropped in ASL (as in (18c)).<sup>23</sup> Similarly, the ‘implicit argument’ of ‘eat’ is not anaphoric (see (24)); however,  $\emptyset$  in (19b) it is. I take this to mean that the ‘implicit argument’ analysis of  $\emptyset$  in ASL in crucial cases (as arguments of *TAKE-UP*, *EAT*, *SEND*, *LIKE*, *HATE*, *VISIT*, *STAY*, etc., recorded above) does not suffice.

The possibility that the null argument is always the case of a null arbitrary pronoun (*arb*, Rizzi 1986) can also be dismissed with relative ease: while  $\emptyset$  in ASL is necessarily anaphoric, *arbs* are not.<sup>24</sup> In (22), e.g., *arb* cannot be coindexed with ‘sue.’ Instead, it refers to ‘people in general.’

- (22) Non so che cosa le sue parole possano indurre *arb* a PRO concludere. [Italian]  
 No know what thing the his words can lead to conclude  
 ‘I do not know what his words can lead \_\_\_\_ to conclude’  
 i. \*What his<sub>i</sub> words can lead him<sub>i</sub> to conclude  
 ii. What his<sub>i</sub> words can lead people to conclude  
 (adpt. Rizzi 1986)

Recall from the previous section that the approach to  $\emptyset$  in ASL along the lines of agreement licensed *pro* is problematic as well: unlike its  $\emptyset$  in ASL, Romance *pro* in (23), much like its over counterpart, is definite and cannot have non-strict readings in cases resembling (17).

- (23) a. Maria me dijo que {*pro/ella*} estaba enojada  
*Maria me told that she was annoyed*  
 ‘Maria told me that she was annoyed’
- i. *Out of the blue*: Maria (and not anyone else) was annoyed
  - ii. *In the context where we have been speaking of Julia*: Julia (and not Maria or anyone else) was annoyed.
- b. A: {Tres/mis} chicos visitaron mi casa  
*Three my kids visited my house*  
 ‘{Three/my} kids visited my house’
- B: {*pro/ellos*} visitaron mi casa tambien  
*they visited my house also*  
 ‘They also visited my house’
- i. The three children who visited A’s house visited B’s house = strict reading
  - ii. \*Different three children visited B’s house = quantificational reading

In (23a.i), the topic of the conversation is Maria while in (23a. ii), it is Julia; *pro* is bound by the topic (cf. Frascarelli 2007 for an account along the lines of Reinhart 1983). In (23b), there is only one set of children under discussion – those who visited A’s house. The paradigm does not change when the pronoun is overt: if ‘*ella*’ is added to (21a) in place of *pro*, or ‘*ellos*’ to (23b), the judgments regarding the available readings are unaffected. In other words, in interpretations other than strict/definite remain unavailable. Just like an English overt pronoun, the null element in Romance (standardly assumed to be *pro*) refers only to the previously mentioned entity; the non-sloppy/quantificational readings are lacking.<sup>25</sup>

Let me push the quantificational diagnostic further: Sakamoto (2013) shows that in configurations like (23), the non-arb null argument in Italian – i.e. *pro* – lacks of a true disjunctive reading.

- (24) a. Ieri, o Giovanni o Guglielmo has gridato Maria. [Italian]  
*yesterday either Giovanni or Guglielmo 3SG.have scolded Mary*  
 ‘Yesterday, either Giovanni or Guglielmo scolded Mary.’
- b. Oggi, Ø has gridato Lucia.  
*today 3SG.have scolded Lucy*  
 ‘Today, (he) scolded Lucy.’ [<sup>ˊ</sup>disjunctive E-type; \*disjunctive] (Sakamoto 2013)

Whoever scolded Mary in (24a) is necessarily the person who scolded Lucy in (24b); it is not possible for the scolder of Mary to be Giovanni and the scolder of Lucy to be Guglielmo. Here, *pro* and Ø behave differently as well: in ASL, both subjects and objects have the true disjunctive reading.

- (25) a. *Context: Mary (hearing) and Lucy (deaf) work in A’s and B’s lab.*
- A: MARY HEARING disj-shift LUCY DEAF DON’T-KNOW WHICH WILL COME MY HOUSE OUT FAST.  
 ‘Either Mary (who is hearing) or Lucy (who’s deaf)...I don’t know which one... will stop by my house. She’ll be out quickly.’
- B: LUCKY-IX2. Ø WILL COME MY HOUSE SAME<sub>trill</sub> Ø SIGN disj-shift TALK ALL-NIGHT  
 ‘Lucky you. (She) will also come by my house. Will wind up signing or talking all night.’ [<sup>ˊ</sup>disjunctive]
- b. A: 1-POSS SON ADD FOREGN LANGUAGE FRENCH disj-shift SPANISH REMEMBER WHICH<sup>neg</sup>  
 ‘My son added a foreign language [at school]... Either French or Spanish, I can’t remember which’
- B: LUCKY-IX2. 1-POSS DAUGHTER DECIDE DROP Ø  
 ‘Lucky you. My daughter decided to drop (it)’ [<sup>ˊ</sup>disjunctive]

Unlike (24b), B-sentences in (25) contain true disjunction – the possibility of Mary stopping by A’s house and Lucy by B’s house, A’s son adding Spanish and B’s son French. The presence of this second reading differentiates ASL from Spanish (and English). I therefore conclude that the null argument in ASL cannot be analyzed as the Romance-type *pro*(noun) without additional complications.

### 3.2. An argument for ellipsis: Ø as a case of ‘surface’ anaphora

Having set aside the possibility that all cases of the null argument in ASL are best viewed as *pro* (arbitrary or agreement-licensed) or ‘implicit arguments,’ let us tackle the issue of anaphoricity head on. The approach I suggest here rests on much discussed – if still not completely understood – notions of ‘deep’ vs. ‘surface’ anaphora, the latter of which involving ellipsis.

Hankamer & Sag (1976) observe that in English, the presence of an overt linguistic antecedent in the discourse licenses ellipsis of a formally (more or less) identical element in the subsequent sentence; this is ‘surface’ anaphora. Without such an antecedent, other elements must appear, such as *do it* or *do the same thing*; this is ‘deep’ anaphora.

- (26) a. A: I'm going to [VP stuff this ball thought this hoop].  
 B: It's not clear that you'll be able to [VP ~~stuff this ball thought this hoop~~] = ‘surface’ anaphor  
 B': It's not clear that you'll be able to **do it**.
- b. *Context: Hankamer attempts to stuff a 9-inch ball through a 6-inch hoop*  
 B: #It's not clear that you'll be able to [VP ~~stuff this ball thought this hoop~~] = ‘deep’ anaphor  
 B': It's not clear that you'll be able to **do it/the same thing**. (adpt. Hankamer & Sag 1976: 392)

The paradigm above has generated much subsequent research, the result of which, broadly speaking, is that a number of conditions on ellipsis originally envisioned by Hankamer & Sag have had to be re-examined, smearing the previously assumed to be sharp line between ‘deep’ and ‘surface.’ It turns out, for example, that the presence of the overt linguistic antecedent may not be required for ellipsis after all (see Bošković 1994). One thing seems to be clear, however: in order to be able to meet the truth-conditional requirements of (26B/B') (irrespective of whether the [*do {it/the same thing}*] is necessarily overt), the speaker must be able to find the unambiguously relevant entity in the world; i.e. a ‘deep’ anaphor must be referential. This approach suggests a potential disambiguation between ‘deep’ and ‘surface’ anaphora in terms of reference possibilities: i.e. as an element with a referential index “on its sleeve,” a ‘deep’ anaphor is, essentially, a referential/definite description (Johnson 2009). Capitalizing on this observation for the purposes of this paper leads to the following: as a referential/definite description, a deep-anaphoric element is not expected to be able to antecede a question. This means that we now have a diagnostic for ‘depth’ here: a follow-up question signals something other than a ‘deep’ anaphor in the anteceding clause.

Consider sluicing – a construction which is often assumed to involve ellipsis of the TP part of an embedded *wh*-question (Merchant 2000, i.a.). Since a *wh*-question is licit only if the information is not known, the inner antecedent of a sluice cannot be a referential element/definite description.<sup>26</sup> This is shown in (27).

- (27) a. *Context: A attempts to stuff a 9-inch ball through a 6-inch hoop*  
 B: \*It's clear that you'll be able to (do it/the same thing) but I don't  
 know [what<sub>i</sub> ~~you'll be able to do t<sub>i</sub>~~] (adpt. Hankamer & Sag 1976)  
 b. I think she kissed {someone/\*Jean/\*the guy/\*him}, but I don't know [who<sub>i</sub> ~~she kissed t<sub>i</sub>~~]  
 c. *Context: Looking at a car which exhibits signs of having been in an accident*  
 \*Do you know [who<sub>k</sub> ~~t<sub>k</sub> did it/hit the car~~]?]

In other words, all other defining features of ‘surface’ vs. ‘deep’ anaphora being orthogonal to the discussion at hand, ‘deep-anaphoric’ elements are not able to antecede a sluice.

As (28) shows, the null argument in ASL can serve as such an antecedent.<sup>27</sup>

- (28) a. *Context: Marie loves children; she never minds the noise. But today, she had a migraine. I don't really know what happened but...*  
 (1-IX) HEAR SAY MARIE FINISH SPANK Ø<sub>j</sub> BUT DON'T-KNOW [WHO MARIE SPANK ~~t<sub>i</sub>~~]  
 ‘I heard Marie spanked (someone), but I don't know who’
- b. *Context: When you were leaving the house, your child put on red lipstick. When you came back, the lipstick was smeared as if the child had kissed someone...*  
 (1-IX) SURE a-IX KISS Ø<sub>j</sub> BUT 1-IX DON'T-KNOW [WHO a-IX KISS ~~t<sub>i</sub>~~]  
 ‘I am sure he kissed (someone), but I don't know who’

Whatever identity requirements are satisfied for deriving cases like (27)-(27),<sup>28</sup> the internal antecedent of a sluice must be unknown.<sup>29</sup> At the same time, akin to the argument in (18)-(19), *SPANK* and *KISS* may not occur without an antecedent.

- (29) a. \*1-IX SPANK Ø  
‘I spanked (him)’
- b. \*  $\frac{\text{v/n}}{\text{2-IX KISS Ø}}$   
‘Did you kiss (her)?’

I thus conclude that Ø in ASL, albeit anaphoric, does not appear to behave on par with ‘deep’ anaphora. Following the line of reasoning advocated in Hankamer & Sag, let us turn to the alternative: ‘surface’ anaphora, i.e. ellipsis.

Adopting an ‘ellipsis’-based account of the puzzling cases is tempting. On such a view, the problem outlined in section 2.2 disappears since, as is well-known, ellipsis typically results in availability of non-strict readings. For instance, in the VP-ellipsis (VPE) cases below, B may refer to either the same or different set of children than A.

- (30) a. A: Jill loves her children
  - B: Mary does [~~love her children~~] too
    - i. Mary loves Jill’s children too = strict reading
    - ii. Mary loves Mary’s children too = sloppy reading
- b. A: I see three kids
  - B: I do [~~see three kids~~] too
    - i. B sees the same three children = strict reading
    - ii. B sees different three children = quantificational reading

The non-strict readings in (30) emerge via binding (Heim & Kratzer 1998): because the elided material in the ellipsis site contains a variable, this variable is bound by an NP in the *B:* sentence, just as it was bound by the antecedent NP in the *A:* sentence in (31).

- (31) A: Jill loves her children
  - = Jill { $x, x$  love  $x$ ’s children}
  - B: Mary does [~~love her children~~] too
    - = Mary { $x, x$  love *Jill*’s children} too = strict reading
    - = Mary { $x, x$  love  $x$ ’s children} too = sloppy reading

Since these readings are available in (17) (repeated here as (32)), and the phenomenon is fairly well attested cross-linguistically, it makes sense to appeal to ellipsis in the account of such cases.

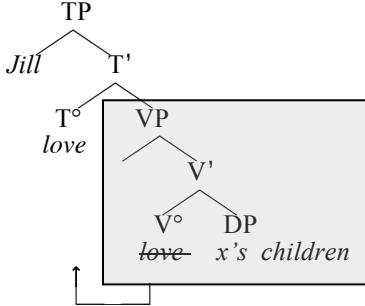
- (32) a. A: a-PETER LIKE a-POSS STUDENT  
‘Peter likes his students’
- B: b-JEFF HATE Ø  
‘Jeff hates ({Peter’s/Jeff’s} students)’
- 
- b. A: THREE STUDENT JOIN 1-POSS CLASS  
‘Three kids stopped by my house (last night)’
- B: Ø DROP 1-POSS CLASS  
‘({The same three/different three} students) dropped my class’

But then a reasonable question arises: ellipsis of what? While (30) demonstrates VPE, this is clearly not the only option possible.

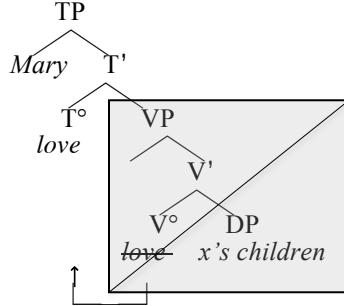
Literature suggests two principled ways of analyzing cases like (30) in terms of ellipsis. One of these elides the entire VP; the other – only a part of it. Allow me to illustrate with (30a), which I will amend to incorporate the relevant characteristic of ASL. The verb in (32B) is overt; therefore, it may be the case that only the argument (or a part thereof) is elided (as has been argued in Saito 2007, Takahashi 2008, i.a., for Japanese). The second possibility

is that the entire VP undergoes ellipsis (VPE), like in the English case in (34). However, due to an independent property of the language – namely V-movement – the verb raises out of the VP and, therefore, is actually overt in *B*: sentences.<sup>30</sup> This possibility is represented in (34) below and is discussed at length in Otani & Whitman (1991) for Japanese, Goldberg (2005) for Modern Irish, Hebrew, and Swahili, and Gribanova (2013, i.a.) for Russian.<sup>31</sup> The latter view is schematically represented in (33); the former in (34).

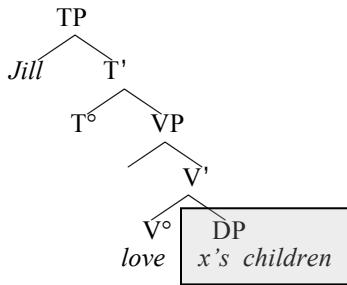
(33) A.



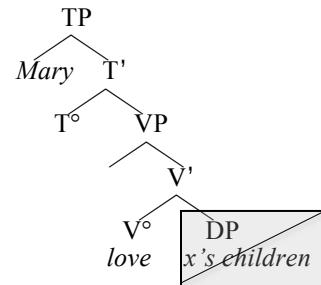
B.



(34) A.



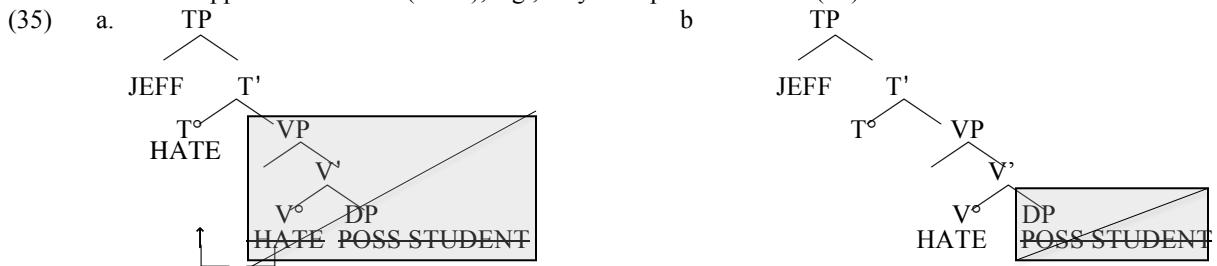
B.



Both of these analyses render the argument phonologically null, but the reasons for this outcome are very different. To elaborate: cases like (33) are standardly treated as VPE, which implies that the ellipsis site contains the entire VP, object included. However, if the verb is allowed to move out of the VP, one can easily envision a different scenario for (33): ellipsis site contains the VP with [*x's children*] and the trace/lower copy of *love*; *love* has moved higher up. The higher copy of *love* is overt (as higher copies of moved elements tend to be); thus, while the entire VP has undergone ellipsis, only the argument of the verb remains silent. The appeal is clear: nothing new needs to be explained, and ‘surface anaphoric’ effects fall out naturally from other properties of the language: the non-strict readings in (32) cease to be a puzzle, since sloppy readings result from the variable in the ellipsis site being bound by an element outside of the ellipsis site.

The two approaches to Ø in (32aB), e.g., may be represented as in (35).

(35)



I will return to the possibility in (35b) shortly. The aim of following section is to demonstrate that (35a) does not adequately capture the data.

### 3.3 Ø as VPE: Evidence against V-raising VPE (V-VPE)

The account schematized in (35a) has a few defining characteristics. The first one is a general possibility of VPE in the language. If the language does not allow VPE at all, then the structure consistent with (35) cannot be derived.

Therefore, the first step here is to check whether VPE exists in ASL. As soon as the presence of VPE has been detected, we can then proceed with the hypothesis that the null argument results from such ellipsis with the verb having moved out.

The second characteristic of V-VPE then is such a movement. That is, the structure in (35a) is possible only if the V moves out of the VP; what is found in the ellipsis site is its lower copy/trace, along with the argument.<sup>32</sup> The third characteristic of V-VPE is the retention of the adverb in the ellipsis site: if the anteceding VP is adjoined by an adverb, the meaning of the adverb should be retained in the ellipsis site.

- (36)a. Mary has always taken her children to the park
- b. Jill has [always taken her children to the park] too  
 ≠ Jill has taken her children to the park sometimes  
 = Jill has always taken her children to the park

Below, I appeal to the latter characteristic in order to expose VPE.<sup>33</sup>

With Lillo-Martin (1995) (see also Sandler & Lillo-Martin 2006), I assume that *SAME* signals VPE in It induces sloppy/quantificational readings.

- (37) a. a-ROSS a-GONE; b-JERRY b-SAME  
 ‘Ross is gone; Jerry is too’  
 (Lillo-Martin 1995)
- b. a-PETER BUILD {a-POSS/THREE} HOUSE, b-JEFF WILL SAME  
 ‘Peter built {his/three} house(s), Jeff will [build {his/three} house(s)] also’  
 = the set of house(s) that Jeff will build is different from the set of houses that Peter built<sup>34</sup>

Let me add a few pieces of evidence to that effect.

As evidenced by (39) below, ‘*FAST*’ is a low-adjoining adverb.

- (38)a. ‘John lost the paper fast’
  - i. JOHN FINISH LOSE PAPER FAST
  - ii. \*JOHN FAST LOSE PAPER
  - iii. \*JOHN LOSE FAST PAPER
- b. ‘I never sign papers fast [I read them first]’
  - i. 1-IX NEVER SIGN PAPER FAST...
  - ii. \*1-IX NEVER FAST SIGN PAPER...
  - iii. \*1-IX NEVER SIGN FAST PAPER

It is also possible to incorporate (used pre-theoretically here) the meaning of *FAST* into the verb itself: the segments of the sign *BUILD* each are shorter and uttered quicker. The outcome is a sign which yields something like ‘build quickly.’ We then expect that ‘*FAST*’ added to the anteceding clause will be interpreted under *SAME*. This prediction is confirmed: in (39), Jeff will build his own house(s) *necessarily* fast. Note that the aforementioned is true irrespective of the implausibility of the situation: Peter’s and Jeff’s building speed will likely not match since the latter is employing a noticeably more time-consuming method.

- (39) *Context: Peter always uses machines to build houses; Jeff builds houses by hand.*

- a. a-PETER BUILD {a-POSS/THREE} HOUSE FAST, b-JEFF WILL SAME. WILL READY ONE-WEEK.
- b. a-PETER {a-POSS/THREE} HOUSE BUILD-FAST, b-JEFF WILL SAME. WILL READY ONE-WEEK.  
 ‘Peter built {his/three} house(s) quickly, Jeff will do too [=build {his/three} house(s) quickly]. {It/they}’ll be ready in a week.’  
 = Jeff will build Jeff’s house(s) quickly: he will be done in one week.  
 ≠ Jeff will build Jeff’s house(s) (as long as it takes)
- c. \*a-PETER BUILD a-POSS HOUSE FAST, b-JEFF b-IX WILL SAME SLOW
- d. \*a-PETER {a-POSS/THREE} HOUSE BUILD-FAST, b-JEFF WILL SAME SLOW  
 ‘Peter built his house quickly, Jeff will do so [=build {his/three} house(s) quickly] slowly’

I therefore take (37) and (39) combined as evidence that ‘*SAME*’ signals VPE in ASL: the reading on which Jeff will build his own house(s) quickly is a natural interpretation of (39), with the ellipsis site containing the adjoined adverb.<sup>35</sup> Thus, echoing the literature (Lillo-Martin 1995), I conclude that VPE is possible in ASL. Now that we have established its possibility, the next question is whether VPE can derive the null argument construction – i.e. whether the Ø results from V-VPE as in (35a).

The first reason to suspect the (35a)-style analysis of the Ø in ASL is related to V-movement: Braze (2004) and others (cf. Quadros & Lillo-Martin 2010) show that in the absence of manual agreement, verbs do not move in ASL. For example, LOSE in (40) does not move past ALWAYS, the adverb of frequency/quantification, standardly assumed to mark the edge of VP.

- (40) a. JOHN ALWAYS LOSE PAPER  
 b. \*JOHN LOSE ALWAYS PAPER  
 ‘John always loses paper’ (Braze 2004)

But perhaps more importantly, on the heels of the previous discussion, low adverbs such as *FAST* in (39) do not get interpreted in the ellipsis site when the verb whose argument is mission is actually pronounced. Note the context in (41): since Jeff destroys houses by hand, the procedure takes significantly longer than machine-building; yet, the sentence is licit in the context. In stark contrast to (40), there is no *fast*-requirement in (41), and, therefore, addition of *SLOWLY* does not result in a contradiction.

- (41) *Context: Peter always uses machines to builds houses; Jeff destroys them by hand. Peter works full-time, Jeff – 2hrs a day*

- a. a-PETER BUILD a-POSS HOUSE FAST, b-JEFF WILL DESTROY Ø (SLOWLY)  
 b. a-PETER a-POSS HOUSE BUILD-FAST, b-JEFF WILL DESTROY Ø (SLOWLY)  
 ‘Peter built his (Peter’s) house quickly; Jeff will destroy \_\_\_\_.’  
 ≠ Jeff will destroy {Peter’s / Jeff’s} house quickly  
 = Jeff will destroy {Peter’s / Jeff’s} house as long as it takes him (or slowly)

The phenomenon is, once again, productive and occurs with other adverbials: there is no *sometimes*-requirement on the interpretation of the phonologically null element.

- (42) a. a-BOB BREAK a-POSS TOY SOMETIMES, b-MARY NO, NEVER b-IX KISS+ Ø EVERY-DAY+ LOVE Ø  
 ‘Bob always breaks his toys, but Mary – no, never, she kisses \_\_\_\_ every day, loves \_\_\_\_.’  
 ≠ Mary kisses her toys every day sometimes and loves them sometimes  
 = Mary kisses her toys every day and loves them

I conclude then that although VPE exists in ASL, Ø in the crucial cases (i.e. (41)) does not result from it: in the cases of VPE but not the alleged V-VPE, a low adverb adjoined to the anteceding VP is not interpreted. Coupled with the lack of V-movement (as in (40)), this evidence points away from the account of the null argument as resulting from V-raising VP ellipsis.

Let me offer an additional argument against the V-VPE analysis. It is typically assumed that negation marks the edge of the VP. This leads to the following prediction: since in V-VPE the verb moves past negation but the elided VP remains below, Ø is expected to interact with negation. Sakamoto (2013) uses this property of V-VPE against (35a)-style analysis of Japanese.

- (43) a. John-wa supeingo ka huransugo-o hanasanai.  
*John-TOP Spanish or French-ACC not.speak*  
 ‘John does not speak either Spanish or French.’ [‘obj>–;\*–>obj]  
 b. Hanako-mo Ø hanasanai.  
*Hanako-also not.speak*  
 ‘Hanako also does not speak Ø.’ [‘obj>–;\*–>obj] (Sakamoto 2013)

Let us now take a look at ASL. It turns out that it behaves on par with Japanese; both *PAPER BLUE* and  $\emptyset$  are interpreted above negation: the girl has drawn on a very particular piece of blue paper – namely the one that the teacher had worn not to paint.

- (44) A: TEACHER SAY PAPER BLUE NOT PAINT NOT-YET WILL INSIDE CLASS [‘obj>-\*>obj]  
           ‘The teacher said, don't paint to the blue paper yet; it'll be done in the class’
- B: GIRL WORRY PAINT  $\emptyset$  <sup>neg</sup> NO BUT DRAW  $\emptyset$  <sup>t</sup> YES. NOW STUCK [‘obj>-\*>obj]  
           ‘The girl is worried: she did not pain (it) but drew (on it). Now she is stuck’

While scopal interactions in ASL await formal inquiry (Author 2012), I interpret the parallelism between (43) and (44) as another argument against the V-VPE approach to  $\emptyset$  in ASL.

#### 4. ACCOUNT AND THE TOOLBOX

Let us take stock. I have demonstrated that the null argument in ASL behaves in a manner uncharacteristic of *pro* – it allows interpretations other than definite/strict (for more explicit arguments on the matter and data, see Author 2012, 2013). At the same time, it seems unlikely that the  $\emptyset$  in the puzzling cases is a topic-bound variable – it is allowed in island-like environments, from which it should otherwise be banned. The null argument behaves ‘surface-anaphorically’; yet, it does not seem to result from V-VPE. Therefore, the data presented above point to the direction of different analysis of  $\emptyset$ . Throughout the paper, I have alluded to the view I will be advocating: that  $\emptyset$  results from ellipsis of the argument. The literature provides at least two ways of accomplishing this: a syntactic and a semantic one. In what is to come, I demonstrate that neither of these in isolation will do the job for ASL; therefore, some combination of the two is required.<sup>36</sup> However, first, the tools are introduced.

##### 4.1 Syntactic (Saito 2007): Less than a VP but more than N'

The idea that an entire argument of the verb may elide is not novel. For instance, Saito (2007), Takahashi (2008) and (2010), i.a. have argued for this account of Japanese; Şener & Takahashi (2009) apply it to Turkish; Chen (2012) advocates it for Mandarin Chinese; and Quer (2011) tentatively adopts it for Catalan Sign language. The suggestion here is represented in (45): because the ellipsis site contains the argument ‘self’s mother’ (from *A*’s sentence), an additional reading arises, in which the binder of the reflexive is Ken and not Taro.

- (45) A: Taro-wa zibun-no hahaoya-o sonkeisteiru [Japanese]  
           Taro-TOP REFL-GEN mother-ACC respect  
           ‘Taro respects his mother’
- B: Ken-mo [zibun-no hahaoya- $\emptyset$ ] sonkeisteiru  
           Ken-also REFL-GEN mother-ACC respect  
           ‘Ken respects his ({Taro’s mother /Ken’s mother}) mother too’ (Oku 1998)

It has been suggested that such ellipsis results directly from the absence of morphological agreement in the relevant languages.<sup>37</sup> Following the aforementioned works, I assume the analysis advocated in Saito (2007): when  $T^\circ/v^\circ$  lack  $\phi$ -features (and, consequently, the language does not exhibit morphological agreement), the head does not undergo *Agree* with the argument. Consequently, the relevant uninterpretable features of the argument do not erase, and it can be ‘recycled’.

Such ‘recycling’ of a nominal argument (DP1 below) in Spanish vs. Japanese sentences in (46)-(49) illustrate the system.<sup>38</sup> ‘ $T1\{\phi\}$ ’ in (46A) represents the  $T^\circ$  with an uninterpretable  $\phi$ -feature (such as the one in Spanish). This feature gets checked by the DP1 (which carries an interpretable version thereof) and, as a result, the Case feature that makes the DP visible for *Agree* is erased. Therefore, if the DP1 is copied into the argument slot of another verb (e.g. in (46B)), the derivation will crash: the feature which would enable DP1 to undergo a relation with the  $T2\{\phi\}$  in (46Bii.) has been erased.

- (46) A: i. ...[<sub>TP</sub>  $T1\{\phi\}$  [<sub>vP</sub> ... DP1 $\{\phi, \text{Case}\} \dots$ ]] ... [Spanish]  
           ii. ...[<sub>TP</sub>  $T1\{\phi\}$  [<sub>vP</sub> ... DP1 $\{\phi, \text{Case}\} \dots$ ]] ...

- B:  
 iii. ...[<sub>TP</sub> DP1<sub>{}</sub>φ, <sub>case</sub>] [<sub>T'</sub> T1<sub>{}</sub>φ] [<sub>vP</sub> ... <sub>t<sub>DPI</sub></sub> ...]] ...  
 i. ...[<sub>TP</sub> T2<sub>{}</sub>φ] [<sub>vP</sub> ... \_\_\_\_\_ ...]] ...  
 ii. \*...[<sub>TP</sub> T2<sub>{}</sub>φ] [<sub>vP</sub> ... DP1<sub>{}</sub>φ, <sub>case</sub>] ...]] ...
- (Saito 2007)

- (47) A: María cree que su propuesta será aceptada.  
*Maria believes that her proposal will-be accepted*  
 ‘Maria believes that her proposal will be accepted.’  
 B: Juan también cree que Ø será aceptada.  
*Juan also believes that will-be accepted*  
 ‘Juan also believes that {Maria’s/\*Juan’s} proposal will be accepted.’<sup>39</sup>
- (Oku 1998)

In contrast, in (48), ‘T1<sub>{}</sub>’ represents the T° without uninterpretable φ-features (i.e. such as the one in Japanese). Since the T will not enter an *Agree* relation with the DP1, the above problem discussed with respect to the Spanish derivation does not arise in Japanese. The DP1 can be copied into the argument slot of another verb. As a result, argument ellipsis is possible, as evidenced by the presence of the sloppy reading in (49).

- (48) A: i. ...[<sub>TP</sub> T1<sub>{}</sub> [<sub>vP</sub> ... DP1<sub>{}</sub>φ, <sub>case</sub>] ...]] ... [Japanese]  
 ii. ...[<sub>TP</sub> T1<sub>{}</sub> [<sub>vP</sub> ... DP1<sub>{}</sub>φ, <sub>case</sub>] ...]] ...  
 iii. ...[<sub>TP</sub> DP1<sub>{}</sub>φ, <sub>case</sub>] [<sub>T'</sub> T1<sub>{}</sub> [<sub>vP</sub> ... <sub>t<sub>DPI</sub></sub> ...]] ...]] ...  
 B: i. ...[<sub>TP</sub> T2<sub>{}</sub> [<sub>vP</sub> ... \_\_\_\_\_ ...]] ...  
 ii. ...[<sub>TP</sub> T2<sub>{}</sub> [<sub>vP</sub> ... DP1<sub>{}</sub>φ, <sub>case</sub>] ...]] ...
- (Saito 2007)

- (49) A: Taro<sub>i</sub>-wa [zibun<sub>i</sub>-no kodomo-ga eigo-o sitteiru to] itta. [Japanese]  
*Taro-TOP self-GEN child-NOM English-ACC know C said*  
 ‘Taro<sub>i</sub> said that self’s<sub>i</sub> child knew English.’  
 B: Hanako<sub>j</sub>-wa [Ø<sub>i,j</sub> furansugo-o sitteiru to] itta.  
*Hanako-TOP French-ACC know C said*  
 ‘Hanako said that {Taro’s<sub>i</sub>/Hanako’s<sub>j</sub>} child knew French’
- (Oku 1998)

Thus, morphological agreement, defined in terms of the presence of the uninterpretable φ-features on the T°/v°, blocks such ‘recycling’ of the DP. None of this, however, occurs in the case of T<sub>{}</sub>: the DP does not enter *Agree* with the T°, and thus, the DP can be ‘recycled.’ In other words, verb-arguments in languages that have uninterpretable φ-features on T°/v° cannot be elliptic while verb-arguments in languages that do not – can.<sup>40</sup> The former results in a language which exhibits morphological agreement; argument ellipsis is unavailable. This, in turn, excludes the sloppy reading because the null elements are something other than ellipsis, e.g. null pronouns. In the latter case, due to the lack of morphological agreement, argument ellipsis is available and, thus, the non-strict readings are possible.<sup>41</sup>

The view that the Ø in ASL results from ellipsis of an entire argument unfolds thus along the lines of Saito (2007): we predict that in cases without agreement, T° does not have φ-features and, therefore, will not undergo *Agree* with the argument of the verb. The argument then can be ‘re-used’ (only the relevant steps of the derivation are represented):

- (50) A: i....[<sub>TP</sub> T1<sub>{}</sub> [<sub>vP</sub> ... [THREE STUDENT<sub>{}</sub>φ, <sub>case</sub>] JOIN 1-POSS CLASS]] = (17)  
 ii. ... [<sub>TP</sub> [THREE STUDENT<sub>{}</sub>φ, <sub>case</sub>]] [<sub>T'</sub> T1<sub>{}</sub> [<sub>vP</sub> ... <sub>t</sub> [THREE STUDENT<sub>{}</sub> ...]] ...]] ...  
 B: . i. ...[<sub>TP</sub> T2<sub>{}</sub> [<sub>vP</sub> ... \_\_\_\_\_ DROP 1-POSS CLASS...]] ...  
 ii. ...[<sub>TP</sub> T2<sub>{}</sub> [<sub>vP</sub> ... [QP THREE STUDENT<sub>{}</sub>φ, <sub>case</sub>] DROP 1-POSS CLASS...]] ...

This account of the original (17) allows the set of students dropping B’s class to be different from the set of students joining A’s class; therefore, the availability of the sloppy and quantificational (as well as the disjoint) readings has been captured and the first puzzle solved.

The view in (50) also carries independent consequences: since the presence/absence of argument ellipsis facts is contingent on the *Agree* relation between the T° and the argument of the verb, (i) adjuncts should not be subject to such ellipsis, and (ii) possessive/adjective stranding, which involves ellipsis of a *part* of an argument, may be impossible. As (51)-(52) below demonstrate, these predictions are borne out. In (51), adverbs *FAST* and

*YESTERDAY* are not found in the ellipsis site: the sentence is consistent with a scenario in which Jeff took a long time building the house, or that he built it 2 years ago.

- (51) a. *Context: Peter uses machines to build houses; Jeff always builds them by hand.*

a-PETER BUILD a-POSS HOUSE FAST, b-JEFF WILL BUILD b-POSS HOUSE <sup>t</sup>FAST WILL BUT SLOW

‘Peter built his house fast; Jeff built his house but slowly’

≠ \*Jeff will built his house fast slowly

= Jeff will build his house slowly

- b. *Context: Jeff's house is 2 years old* <sup>t</sup>

a-PETER BUILD a-POSS HOUSE YESTERDAY, b-JEFF FINISH BUILD b-POSS HOUSE <sup>t</sup>YESTERDAY  
FINISH<sup>42</sup>

‘Peter built his house yesterday; Jeff built his house’

≠ Jeff built his house yesterday

= Jeff built his house (whenever he built it)

In (52), stranding of a possessive<sup>43</sup> or an adjective<sup>44</sup> is impossible: either the entire argument must elide, or none of it.

- (52) a. A: a-PETER LIKE POSS STUDENT  $\approx (18)$

‘Peter likes his students’

B: b-JEFF HATE {\*[POSS [NP STUDENT]] / √ [POSS [NP STUDENT]] / √ [POSS [NP STUDENT]]}

‘Jeff hates {√ his students / \*his students / √ his students?’}

- b. A: Let’s split the class. Which students do you want?

B: (1-IX) WANT {\*[SMART[NP STUDENT]]/ √ [SMART [NP STUDENT]]}

‘I want {\*smart students/ √ smart students / \*the smart ones / √ the smart ones?’}

The data above corroborate the view that the null argument in ASL results from ellipsis of the entire argument – neither adjuncts nor parts of arguments are eligible. The next question, however, is if *any* argument is eligible. Here we run into a problem for the account just offered: the answer to this question is ‘no.’

The account à la (50) predicts possibility of ellipsis of various types of arguments, not just DPs with a Case feature. This prediction is confirmed by Japanese in (53): in (53a), a PP is elided, in (53b) – an AP, and in (53c) – a CP.

- (53) a. Taroo to Hanako-ga ottagai kara tegami-o moratta-ra, Ziroo to Yumiko-wa Ø densi meeru-o moratta  
*T. and H.-NOM each-other from letter-ACC received-when Z. and Y.-TOP email-ACC received*

‘When Taroo and Hanako received letters from each other, Ziroo and Yumiko received e-mail [from each other]’

- b. Taroo-ga zibun-ni kibisiku natta-ra, Hanako-mo natta Ø.

*Taroo-NOM self-with strict became-when Hanako-also became*

‘When Taroo became strict with himself, Hanako became [strict with herself] too’

- c. Taroo-wa zibun-ga tensai da to omotteiru ga Ken-wa Ø omotteinai

*Taroo-TOP self-NOM genius be that think while Ken-TOP think-not*

‘Taroo thinks that he is a genius while Ken does not think [that he is a genius]’

(Takahashi 2008)

This paradigm does not hold for ASL. If a null PP (via ellipsis) were a possibility in ASL as in Japanese, then the continuation in (54a) would have been unexpected: the elided PPs should have yielded either Peter’s or Jeff’s own boss. Instead, (54a) does not require the reward to have been given to Jeff by his own (or Peter’s) boss, and, therefore, the follow-up is licit. Similarly, if ellipsis could target AP or CP, then Ø in (54b-c) should have been grammatical.

- (54) a. A: a-PETER NOT RECEIVE-AWARD FROM a-POSS BOSS NOT-YET BUT

<sup>t</sup>  
b-JEFF YES, RECEIVE-AWARD \*<sup>neg</sup>[FROM a-POSS BOSS ]

‘Peter has not yet received an award from his boss, but Jeff has received an award’

B:  $\overline{\text{WHO GIVE-AWARD-b}} \overline{\text{WHO}}^{\text{wh}}$   
 ‘Who gave him (Jeff) an award?’

A:  $\overline{\text{DON'T-KNOW}}^{\text{neg}} \overline{\text{MAYBE OTHER PERSON}} \overline{\text{WHY POSS-b BOSS HATE-b}}^{\text{wh}}$   
 ‘I don’t know. Probably someone else, since his boss hates him’

- b. MARY FEEL HAPPY ABOUT neu-POSS TEST,  
 $\text{PAUL NOT FEEL } \{ \checkmark \text{THAT}/*[\text{HAPPY ABOUT neu-POSS TEST}] \}$   
 ‘Mary feels good about her test, Paul does not feel that/the same’
- c. MARY FEEL TEACHER a-IX PREFER BOOK PAPER,  
 $\text{PETER NOT FEEL } \{ \checkmark \text{THAT}/*[\text{TEACHER a-IX PREFER BOOK PAPER}] \}$   
 ‘Mary feels that the teacher prefers paper-made books, but Peter does not feel the that/ \_\_\_\_\_’

The paradigm above points toward the following conclusion: while ASL allows argument ellipsis, it is not the case that any argument is eligible for such ellipsis. Further, this account faces another complication: on Saito (2007), in the original (17) – i.e. (50) – the DP to be ‘re-cycled’ is  $[\text{DP}_1 \text{THREE STUDENT}]$ . We thus expect *necessarily* three students in the ellipsis cite. However, recall that an additional reading is possible – namely the one allowing a different number of students, or students in general. The account just outlined does not offer an immediate explanation for this fact either. I thus conclude that  $\emptyset$  in ASL is not drivable from Saito (2007) without additional machinery.

#### 4.2. Semantic (Tomioka 2003): A language without ‘the’

The other option on the table (and the one that has been recently appealed to in the account of partial null subject languages in Barbosa 2012, 2013) hinges on the possibility in the language of verbal arguments being of type  $\langle e, t \rangle$  – bare NPs.

It has been known for quite some time that languages differ with respect to whether they morphologically encode  $D^\circ$ . In languages like English, definiteness effects arise from the addition of the definite article to the NP, in languages like Russian, since it lacks articles, this difference must be obtained from other sources:

- (55) V komnate bili malchik i devochka. Ya obratilsya k malchiku. [Russian]  
*In room were boy and girl I turned to boy*  
 ‘In the room, there were a boy and a girl. I turned to the boy’ (Chierchia 1998)

One commonly appealed to account of such facts is Chierchia (1998) and, concomitantly, Sharvy (1980) and Partee (1987): a) nouns can type-shift between being arguments ( $\langle e \rangle$  or  $\langle \langle e, t \rangle t \rangle$ ) and predicates ( $\langle e, t \rangle$ ); b) unlike predicates, arguments are subject to maximization (i.e. ‘ $t$ ’, Frege 1960[1892], Russell 1905, Strawson 1950, i.a); and c) the otherwise free type-shift is constrained by the existence of a morphological exponent for the  $t$ -operator (the definite article).

- (56) a. *Existential Closure* (cf. Heim 1982; Diesing 1992):  $\exists$ -closure

For any  $P \in D_{\langle e \rangle}$   
 $\exists$ -closure ( $P$ ) =  $\exists x. P(x)$

- b. *Type-shifting of a predicate to an individual* (cf. Partee 1987): *Iota*

For any  $x \in D_{\langle e \rangle}$ ,  $P \in D_{\langle e \rangle}$   
 $Iota(P) = \lambda x. P(x)$  (= the unique  $x$  such that  $P(x)$ ) (Tomioka 2003)

- (57) Blocking Principle (‘Type Shifting as Last Resort’)

For any type shifting operation  $\tau$  and any  $X$ :

\*  $\tau(X)$

if there is a determiner  $D$  such that for any set  $X$  in its domain,

$D(X) = \tau(X)$  (Chierchia 1998)

The upshot of such a view is that in languages without an exponent for *i*-operator (and where the type-shift is thus freely accomplished), there is no semantic need to postulate the presence of  $D^\circ$ .<sup>45</sup> Further, an NP without a definite article in a language lacking one, since it type-shifts, can have three different readings: generic (corresponding to kind-reference, i.e. *dogs*), definite, and indefinite.

Tomioka (2003) capitalizes on the aforementioned: if there is no  $D(P)$  projected at all, when the NP is elided, nothing remains behind.<sup>46</sup> In other words, the null argument in languages without a morphological realization of *i* is reduced to the ellipsis of an NP in the absence of the overt  $D^\circ$ .<sup>47</sup> Concretely,  $\emptyset$  is, quite literally, a null NP argument of the verb, possibly precisely because the argument is not a DP. This account then predicts that in an NP-ellipsis configuration, the null NP in question should also have various readings: generic, definite, and indefinite. Following this route for ASL leads us to the various readings which appear to be available – a good thing. However, we have now arrived at a new problem: this maneuver commits us to a very particular view of the nature of the nominal arguments in ASL, or, rather, the lexical item ordinarily assumed to encode *i* – *IX*. Therefore, a short detour is in order.

#### 4.2.1. *IX* is not *the*

ASL has been argued to project a DP, the head of which is realized by prenominal '*IX*' and '*POSS*', among other lexical items (MacLaughlin 1998, Bernath 2009). Setting *POSS* aside (but see Abner 2013), let us focus on *IX*, which is uttered using an index finger and resembles a pointing gesture.<sup>48</sup> Importantly for the discussion in this paper, when used prenominally, *IX* has been argued to act as a definite determiner corresponding to something like the English '*the*' (Zimmer & Patschke 1990,<sup>49</sup> MacLaughlin 1997, Neidle et al. 2001, Bernath 2009). Following the literature, in (55), this element is glossed '*IX<sub>DET</sub>*'.

- (58) [IX<sub>DET</sub> WOMAN IX<sub>variable pathlength</sub>]<sub>DP</sub> BORROW VIDEOTAPE  
 ‘The woman (more or less far away) borrowed the videotape.’ (MacLaughlin 1997: 124)

Interestingly, as both MacLaughlin and Bernath (2009) note, what makes ASL typologically odd (among languages with definite articles) is the fact that the use of this determiner is fully optional; i.e. the NPs can always be bare.<sup>50</sup> In other words, the sentence in (55) can be uttered as (56) with no detectable change in meaning:

- (59) WOMAN IX<sub>variable pathlength</sub> BORROW VIDEOTAPE  
 ‘The woman (more or less far away) borrowed the videotape.’ (Bernath 2009)

Taking this observation as a point of departure, I suggest that the prenominal *IX* is not an ASL equivalent of the English '*the*' – i.e. it is not a definite article. Instead, I will pursue the intuition that the [IX<sub>DET</sub> WOMAN] in (58) is paraphrasable as ‘that woman’. On this view, IX<sub>DET</sub> is a demonstrative. Abstaining here from an involved discussion of ASL demonstratives (taken up in Author & Lillo-Martin 2013), one thing is clear: existence of a demonstrative in a language must be independent of the existence of a definite article. First, the two have been shown to have developed independently in a number of languages (see Frajzungier 1996 for the discussion of Chadic); second, while a vast number of languages lack definite articles, all attested languages have demonstratives (Wolter 2006); and third, the two cannot possibly have *exactly* the same semantics (cf. Löbner 1985,i.a.<sup>51</sup>) or syntax (Bošković 2007, i.a.). In many languages with definite articles, demonstratives and articles co-occur (cf. (60a)); in languages without articles, demonstratives exist (cf. (60b)).<sup>52</sup>

- (60) a. La chica esta me lo dijo. [Spanish]  
*The girl this me it said*  
 ‘This girl told me that’  
 b. Eta kukla mne nadojela [Russian]  
*This doll me fed-up-with*  
 ‘I am fed-up with this doll’

At the same time, contexts exist in which the demonstrative – though not a definite article – is anomalous. One such context is a set containing exactly one individual (singleton).

The original observation about the element encoding the *i* is that of uniqueness (cf. Frege 1960[1892]). Here, we might say that the prenominal *IX* is unambiguously a definite article in the sense of the English '*the*' if it

forces the uniqueness effect in a context in which the demonstrative is impossible. To be more specific: we need a scenario in which an element denoting *i*, if such exists, will (obligatorily) pick out *the unique x* in the set, even if the set consists of one individual, such as ‘the capital’ or ‘the Pope.’ In such a context, any other definite determiner (such as a demonstrative) is impossible/anomalous, and the definite article is expected.<sup>53</sup>

- (61) a. *¿Cuál es \*(la)/#esa capitula de Francia?* [Spanish]  
*Which is the this capital of France*  
‘What is \*(the)/#this capital of France?’
- b. *¿Quién ahora es \*(el)/#ese papa?*  
*Who now is the this pope*  
‘Who is \*(the)/#this Pope now?’

Let us now subject ASL to the aforementioned diagnostic. It turns out the prenominal *IX* (*IX<sub>DET</sub>* above), cannot be used in a construction that unambiguously involves the kind of uniqueness ordinarily attributed to *i*:

- (62) a. FRANCE<sup>t</sup> (\*IX) CAPITAL WHAT<sup>wh</sup>  
‘What’s \*(the) capital of France?’
- b. (\*IX) POPE NOW WHO<sup>wh</sup>  
‘Who is \*(the) Pope now?’

This case of uniqueness (a.k.a. ‘global uniqueness’) is discussed in much detail in Schwartz (2009) for German definite articles and, since, by Arkoh & Matthewson (2013) for the definite article in Akan – a Niger-Congo language (Kwa), which, incidentally, also appears to have an optional definite article. The relevant empirical observation for German is that in such contexts, the weak (and not strong) definite article is required.

- (63) *Context: Hans just came home from work and is talking to his wife about what’s new.*

- A: What did the mailman bring today?  
B: Für dich ist ein Brief vom Papst gekommen [German]  
*for you is a letter from-the<sub>weak</sub> pope come*  
‘You got a letter from the pope.’ (Schwarz 2009)

Adopting the line of reasoning in Schwarz (2009), Arkoh & Matthewson argue against the ‘optionality view’ for Akan: on their account, while German has both weak and strong definite articles, Akan has only one – the strong one. As such, it is not expected to occur in the ‘global uniqueness’ environments (such as (62)-(63)) and is found only in a subset of cases associated with the English *the* (Schwarz 2009). Thus, the use of ‘*no*’ only *appears* optional: since villages typically have only one blacksmith (a ‘global uniqueness’ case), the interpretation of the NP in (64a) is “quantificational. The existence of the NP is merely asserted.” (Arkoh & Matthewson 2013). However, if the blacksmith is familiar (as in (64b)), *no* is required<sup>54</sup>; i.e. *no* is a strong article encoding anaphoricity.

- (64) a. Ko`fi hu'-u' o`to`mfo' [Akan]  
*Kofi see-PAST blacksmith*  
‘Kofi saw a blacksmith.’
- b. Ko`fi hu'-u' o`to`mfo' no'  
*Kofi see-PAST blacksmith.FAM*  
‘Kofi saw the blacksmith.’ (Arkoh & Matthewson 2013)

The view just outlined offers an avenue for the analysis of prenominal *IX* in ASL: perhaps like ‘*no*’, it only *appears* optional and, as an element disallowed in the ‘global uniqueness’ cases (as in (62)), *IX* should be considered a strong definite article. This predicts prenominal *IX* in cases of familiarity.

As it turns out, this is a wrong maneuver after all. Much like the village typically has only one blacksmith, a church typically has only one priest. If prenominal *IX* is a weak definite article, it is expected to surface in not only in (62) but also in (65a); if it is a strong one, it is expected in (65b). Yet, irrespective of anaphoricity or the familiarity status of the priest to the signer, *PRIEST* below remains bare.

- (65) a. TODAY SUNDAY. DO-DO. GO CHURCH, SEE (\*IX) PRIEST.

- ‘Today is Sunday. What to do? I’ll go to church, see the priest.’
- b. TODAY SUNDAY. DO-DO. GO CHURCH, SEE (\*IX) PRIEST. NEW. NICE, SMART  
 ‘Today is Sunday. What to do? I’ll go to church, see {a/the} priest. He is new here. A nice guy, and smart.’
- c. HAVE THREE PEOPLE HERE COORD-L PRIEST TEACHER COOK. (\*IX) PRIEST HUMBLE [...]  
 ‘There are three people here: a priest, a teacher, and a cook. The priest is humble [...]’

Perhaps more importantly, presence vs. absence of *nø* induces different interpretations that the presence vs. absence of the prenominal *IX*: (65) uttered with *IX* in front of *PRIEST* could be made licit only if the priest is compared with someone else (perhaps another priest in the parish). By the same token, [*IX CAPITAL*] and [*IX POPE*], anomalous in (62), become felicitous in cases like (66), which Wolter (2006) labels ‘non-default situations’ and argues to be necessarily associated with demonstratives, not definite articles.<sup>55</sup>

- (66) a. BRAZIL<sup>t</sup> a-IX CAPITAL<sup>wh</sup> WHAT<sup>y/n</sup> RIO<sup>y/n</sup> BRASILIA<sup>y/n</sup> WHICH<sup>wh</sup>  
 ‘In Brazil, what’s **that** capital? Rio or Brasilia? Which?’
- b. Context: *in a gallery of Popes. The docent is describing achievements of Joan.*  
IX POPE<sup>wh</sup> NOW WHO. MISS NAME, SORRY.  
 ‘Who is **that** Pope now? I missed the name, sorry.’

The aforementioned casts a shadow of a doubt on its analysis as an element encoding *t* for the purposes of the Blocking Effect in (57).<sup>56</sup> As a consequence, we expect bare NPs (as in (63), e.g.) to be allowed, resulting in the possibility of applying Tomioka (2003) analysis of null arguments as ellipsis of such NPs – i.e. elements of type <et>.

#### 4.2.2. Bare singulars in ASL

Incidentally, this line of argumentation receives independent support from observations regarding ASL nouns in general: number marking appears optional. To elaborate: plurality may be expressed via ‘sign repetition’ (Cokely & Baker-Shenk 1980) – a process akin to reduplication found in many spoken languages. When the sign is uttered in this manner, it is necessarily interpreted as non-singular.

- (67) a. 1-POSS FATHER<sup>t</sup> TREE<sup>t</sup> CUT  
 ‘My father has cut {‘a tree/‘trees}’
- b. 1-POSS FATHER<sup>t</sup> TREE+++<sup>t</sup> CUT  
 ‘My father has cut {\*a tree/‘trees}’

However, while number marking exists in the language, Petronio (1995) shows that the element that determines the quantificational value of the NP is typically not encoded in the NP itself: the quantificational value of the NP is defined by the agreement morpheme on the verb (as in (68a)), by what is in the previous context (as in (68b)) and/or by what is more plausible given the knowledge of the world (as in (68c-d)). In addition, the event-type matters: unlike the accomplishment *GIVE* in (68e), each subsequent act of which introduces a new event, the activity *SHOW* in (68f) can merge with another act of the same type without introducing a new event (Vendler 1967). In such cases, the noun remains singular.<sup>57</sup>

- (68) a. a-NURSE, 1-IX FINISH INFORM<sub>agreeing-a</sub> {[singular]/[dual]/[multiple]/[exhaustive]}  
 ‘I informed {the nurse/two nurses/the nurses/all nurses}’
- b. STUDENT FRUSTRATE, TEACHER UPSET
- i. Context: *The Mastery Test is generally not well liked in the K-12 environment*  
 ‘Students are frustrated, teachers are upset’
  - ii. Context: *The argument between the teacher A and the student B needs to be resolved with a help of the Principal’s Office. At the moment...*  
 ‘The student is frustrated, the teacher is upset’

—t

- c. CAR, TWO STUDENT BUY
- i. ‘Two students together bought a car’ → more salient
  - ii. ‘Two students bought a car each’
- d. BOOK<sup>t</sup>, TWO STUDENT BUY
- i. ‘Two students each bought a book’ → more salient
  - ii. ‘Two students together bought a book’
- e. a-STUDENT<sup>t</sup>, BOOK ANN GIVE-a[exhaustive]  
‘Ann gave a (different) book to each student’
- f. a-STUDENT<sup>t</sup>, PICTURE ANN SHOW-a[exhaustive]  
‘Ann showed the (same) picture to each student’
- (Petronio 1995)

So, the quantificational value of bare singular NPs in ASL does not depend on the number morphology; bare singular NPs (whether interpreted as singular or plural) are productive in ASL as they are in some other languages without definite articles, such as Chinese and Korean (as in (69))<sup>58</sup> and can have both individual and kind readings (as in (70)).

- (69) a. Ma wo kanjian le [Chinese]  
*Horse I see PAST*  
 ‘I saw horse(es)’
- b. Mal-nin na-ka po-at- ta [Korean]  
*Horse-TOP I-NOM see-PAST-DECL.*  
 ‘I saw horse(s)’
- (70) a. DINOSAUR<sup>t</sup> EXTINCT  
 ‘Dinosaurs are extinct’ (after Chierchia 1998)
- b. WANT DINOSAUR NOW  
 ‘I want {a/the} dinosaur now!’

In light of the data in (67) and (70), coupled with the discussion in section 4.2.1, we now predict that if ASL has no lexical item exclusively denoting the *t*-operator, bare singular NPs should be able to have various readings associated with various types of arguments (Chierchia 1998, Dayal 2004, i.a.). This property differentiates languages with an exponent for the *t* from languages without it. In such a language, for instance, NPs should allow inverse wide scope interpretation, as well as definite, specific indefinite, and kind readings.

- (71) a. BOY (a-IX) RELIEVED, BECAUSE FINISH BUY DICTIONARY  
 ‘That boy is relieved because he bought {a dictionary/dictionaries}’
- i. ‘there is a dictionary, s.t. the boy bought it (and brought to school)’
  - ii. ‘the boy bought some kind of dictionary’
  - iii. ‘the boy bought (a bunch of) dictionaries’
- b. BOY (b-IX) WORRY, BECAUSE NOT BUY DICTIONARY  
 ‘That boy is worried because he did not buy {a dictionary/dictionaries}’
- i. ‘there is a particular dictionary, s.t. the boy did not buy it’
  - ii. ‘the boy did not buy any dictionaries’
- c. SUPPOSE COMPARE a-BUS b-CAR.<sup>59</sup> 1-IX PREFER CAR. WHY BUS SLOW  
 ‘If I compare a bus and a car, I prefer the car. Why? Because the bus is slow’
- i. there is a certain bus s.t. it is slow
  - ii. generally speaking, busses are slow

In this, ASL is expected to behave differently from languages which have definite articles but also allow bare singulars, e.g. Spanish and Norwegian in (72):

- (72) a. El niñito no trajo pelota. [Spanish]  
*The boy neg brought ball*

- ‘The boy didn’t bring a ball.’
- i. \*there is a certain/unique ball s.t. the boy did not bring it
  - ii. the boy did not bring any balls
- b. Tiger<sup>[bare singular]</sup> er i motsetning til løve<sup>[bare singular]</sup> en truet dyreart.
- ‘The tiger is, unlike the lion, an endangered species.’
- i. \*there is a certain/unique tiger s.t. it is unlike a certain/unique lion
  - ii. \*there is a certain/unique lion, s.t. it is unlike a certain/unique tiger
  - iii. \*there is a certain/unique tiger s.t. it is unlike lions in general
  - iv. \*there is a certain/unique lion, s.t. it is unlike tigers
  - v. generally speaking, tigers, unlike lions, are endangered species
- (adpt. Miller & Schmidt 2005)  
[Norwegian]
- (adpt. GrØnn 2006)

#### 4.3. Solution and directions

In other words, the data above show that not only is it the case that NPs in ASL remain bare in the environments typically requiring a definite article (if such exists in the language), but it is also true that while being bare and singular, NPs in ASL have a range of readings typically observable in languages without a morphological realization of the *t*-operator. This account then predicts that in an NP-ellipsis configuration, the null NP in question should also have various readings: definite, indefinite, and generic. This prediction is confirmed: the readings present in (71) are also present in (73).

(73) *Context: The teacher told students to bring all relevant books for this class to the test.*

- a. BOY (a-IX) RELIEVED, BECAUSE FINISH BRING Ø<sub>[BOOK]</sub>  
‘That boy is relieved because he brought a book’
  - i. ‘there is a book, s.t. the boy brought to school’
  - ii. ‘the boy brought some kind of book’
- b. BOY (b-IX) WORRY, BECAUSE NOT BRING Ø<sub>[BOOK]</sub>, FORGET  
‘That boy is worried because he did not bring a book, he forgot’
  - i. ‘there is a particular book, s.t. the boy did not bring it’
  - ii. ‘the boy did not bring any books’
- c. SUPPOSE COMPARE a-BUS b-CAR. 1-IX HATE BUS. WHY Ø<sub>[BUS]</sub> SLOW  
‘If I compare a bus and a car, I hate the bus. Why? Because the bus is slow’
  - i. there is a certain bus s.t. it is slow
  - ii. generally speaking, busses are slow

This observation inadvertently takes us back to the second puzzle discussed early in the paper – the non-strict readings which I argued to be uncharacteristic of *pro*. Recall that while the ‘non-strict readings are traditionally accounted for via ellipsis, the third reading remained unexpected (at least on Saito 2007). However, on the account advocated thus far (that the Ø is a null bare NP argument), this additional reading is expected as well: it is the generic/kind reading corresponding to *students*, and, thus, is compatible with some other referent. To summarize this section, then: when NPs in ASL are preceded by a lexical item typically glossed as *the*, the resulting phrase does not parallel ‘*the XP*.’ Data suggest that ASL lacks morphological realization for the *t*. In such a language, bare singular NPs (overt or elided) are expected to have definite, indefinite, and kind readings. Independent examination of bare NPs in ASL demonstrated this to be the case. Thus, it seems that Tomioka (2003) – the account of null arguments that is chiefly based on the denotation of NPs in languages without definite articles – will do just fine; nothing else to be said. For instance, if a language allows its arguments to type-shift freely not only are the various readings of the null NPs accounted for but so is the restriction on argument ellipsis: recall that, unlike Japanese, ASL disallows argument ellipsis of PPs and CPs (see (54a,c)), neither of which are of type <et>. Finally, this approach, in line with empirical observations, predicts that predicative adjectives (which do not change the semantic type of the noun) can be ignored entirely (74).

- (74) A: 1-IX WANT CAR RED  
‘I want a red car’
- B: 1-IX HATE Ø PREFER MOTORCYCLE  
‘I hate \_\_\_\_; I prefer a motorcycle’

- = B prefers motorcycles to red cars
- = B motorcycles to cars in general

The happy picture quickly fades, however. On this view, it is unclear why other predicates of type <et> (i.e. adjectives) are not eligible for ellipsis (as in (75a)), or why attributive adjective stranding, which would elide an NP<et> is disallowed (as in (75b)).

- (75)a. MARY FEEL HAPPY ABOUT neu-POSS TEST, = (54a)  
PAUL NOT FEEL {‘THAT/\*[HAPPY ABOUT neu-POSS TEST]}  
‘Mary feels good about her test, Paul does not feel that/the same’
- b. A: A: Let’s split the class. Which students do you want? = (52b)  
B: (1-IX) WANT {\*[SMART[NP STUDENT]]/ ‘[SMART [NP STUDENT]]}  
‘I want {\*smart students/ ‘smart students / \*the smart ones / ‘the smart ones}’

We have now arrived at another puzzle: I have methodically rejected various possibilities which held promise of accounting for argument omission in ASL. It seems that the argument ellipsis account offers the most potential. However, neither the purely (agreement-based) syntactic (i.e. Saito 2007) nor purely semantic (i.e. Tomioka 2003) versions of this account subsume all the relevant data. What I’d like to suggest then is that the solution relies on both syntax and semantics as described above.

Suppose that the crucial requirement is not <et> but, rather, the lack of the D°. Various syntactic consequences arise from this possibility, one of which is this: in such a language, NPs are maximal projections, and nouns are both heads and phrases. I have shown that NPs in ASL are necessarily bare singular, and that their null counterparts behave accordingly. Borer (2005) argues that such elements are non-branching; they are minimal elements/heads/X°. Yet, the entire argument of the verb must elide (and not its part), leaving no survivors (such as adjectives or quantifiers); thus, the elided element is also maximal/a phrase/X<sup>max</sup>. Being non-branching, bare singular NPs fit these requirements. In the bare phrase structure systems (Chomsky 1995), such elements have a special status in that these are ambiguous between being heads and phrases (see also Bošković 2002). I suggest that this is the defining property of Ø. In a sense, Ø in ASL is a sort of gapping – it elides a head, but this head is also the whole argument phrase; by being non-branching, the element in question is both. Here is what such a view buys in the long run. Recall also that ellipsis of arguments other than bare singulars is impossible in ASL. That is, neither PP, AP, or CP arguments can be elided on a par with NP arguments. All of these alternatives, however, are branching; thus, if only non-branching elements undergo ellipsis, PP, AP, and CP arguments are ineligible. The non-branching requirement then not only explains why bare singular NPs elide but also why arguments of other categories cannot. Yet, this restriction seems to be general – not NP- or <et> specific. Moreover, although the entire NP (with adjoined material) serves as an antecedent for ellipsis, only the non-branching part of it (i.e. the bare singular itself) is interpreted in the ellipsis site. These arguments are then interpreted as discussed in section 4.2: type-shift allows for the kind, definite, and indefinite readings. If this is what ellipsis targets, resulting in null arguments that can only satisfy this requirement, then syntax has its say in ellipsis after all, and the data presented here offer a diagnostic the lack of DP (as an addendum to Bošković 2007, *et seq.*). More research is needed here.

Another venue for research is syntax and semantics of quantifiers in ASL. In (17), while ellipsis targets [POSS STUDENT] and [THREE STUDENT], what is also found in the ellipsis site is simply [STUDENT] (hence the compatibility with other possessors and the number of students, respectively) – i.e. much like RED in (74), POSS and THREE can be ‘ignored,’ leading towards the hypothesis that quantifiers are adjectival in some sense. On the account advocated here, this is not entirely surprising: Ionin & Matushansky (2006), among many others, explicitly argue numbers to be elements combining with and returning properties – i.e. of type <<et><et>>. Note that FEW and MANY behave similarly, however. But then ASL is not alone here: Nishiguchi (2009) argues against the status of Japanese quantifiers as GQs and provides alternative entries for them; Bošković & Şener (2012) offer evidence for the adjunct nature of possessives and other ‘D’-elements in Turkish. Further exploration of syntax and semantics of these elements deserves further inquiry.

## 5. Speculations

Having spent much time in discussing cases without agreement – by hypothesis, sentences containing T°/v° without φ-features – let us now introduce agreement (i.e. the loci) into the structure. To offer further evidence for the

distinction between agreeing and non-agreeing contexts, when the loci of referents are present overtly in the configurations discussed throughout this paper, the ambiguity characteristic of the bare NP ellipsis disappears:

- (76) A: **a**-PETER LOVE-a a-POSS STUDENT  
          ‘Peter likes his students’  
 B: **b**-JEFF HATE-**b** Ø  
       ‘Jeff hates {\*Peter’s/\* Jeff’s/\*some other person’s} students’  
 B': b-JEFF HATE-**a** Ø  
       ‘Jeff hates { \* Peter’s/\*Jeff’s/\*some other person’s} students’
- (77) A: **a**-MARY FEEL COMMITTEE WILL ACCEPT FEW PROPOSAL  
          ‘Mary thinks: “The committee will accept my proposal”’  
 B: **b**-PETER FEELS NO REJECT-**b** Ø  
       ‘Peter thinks (the committee) will reject {\*Mary’s few/\* Peter’s few /\*some other person’s few} proposals’  
 B': b-PETER FEELS NO REJECT-**a** Ø  
       ‘Peter thinks (the committee) will reject { \* Mary’s few/\*Peter’s few/\*some other person’s few} proposals’

How can we account for cases such as (76)-(77)? One potential path leads to conceding to the view that the argument omission in contexts in which the verb ‘incorporates’ the loci of its arguments demonstrate that agreement-licensed *pro* exists in the language: *pro* surfaces in sentences exhibiting agreement but not in sentences without it. This, then, offers partial evidence for Lillo-Martin’s (1986, 1991) hybrid view of ASL (see section 2.1). This ‘concession’ creates an independent complication for the analysis advocated thus far, however. At least on the account assumed here (Saito 2007), ‘agreeing’ cases expose T°/v° with φ-features and the ‘recycling’ of [a-POSS STUDENT]/[FEW PROPOSAL] should be impossible. Therefore, Ø is something other than ellipsis – namely, *pro*, as in the Spanish cases discussed in section 2.3. Given this analysis, the non-strict readings in (76)-(77) may be derived if we assume (with Frascarelli 2007 for Italian, for example) that *pro* must be able to be bound by the aboutness topic. However, where does the disjunctive reading (as in (78)), argued independently to be uncharacteristic of *pro*, come from?

- (78) A: **a**-MARY FEEL COMMITTEE WILL ACCEPT BOOK disj-shift PAPER DOESN’T-MATTER WHICH  
          ‘Mary thinks the committee will accept either the book or the paper, doesn’t matter which’  
 B: **b**-PETER FEELS NO REJECT-**b** Ø  
       ‘Peter thinks (the committee) will reject (Mary’s book or Mary’s paper)’ [‘disjunctive’]  
 B': b-PETER FEELS NO REJECT-**a** Ø  
       ‘Peter thinks (the committee) will reject (Peter’s book or Peter’s paper)’ [‘disjunctive’]

These data tempt to pursue a unified account for the null arguments in ASL (at least as far as the NPs is concerned). This would mean that even in cases like (77), the Ø is, in fact, an elided NP [**1**-POSS PROPOSAL], not *pro*.

What is the contribution of locus then? Let us assume the view that overt locus is a morpho-phonological instantiation of the referential index (Lillo-Martin & Klima 1990, more recently Schlenker 2011, i.a.), i.e. a pronoun. This approach explains the impossibility of the null argument in a configuration involving reflexives *SELF* in (79) and *EACH-OTHER* in (80) – otherwise a logical extension of the account advocated here.

- (79) a. a-PETER LOVE a-SELF, b-JEFF NOT LOVE b-SELF/\*Ø, NOT-YET<sup>neg</sup>  
          ‘Peter loves himself, but Jeff does not love himself yet’  
 b. a-PETER LOVE a-SELF, b-JEFF HATE b-SELF/\*Ø STILL  
          ‘Peter loves himself, but Jeff still hates himself’
- (80) a. PETER AND SUSAN LOVE a-EACH-OTHER, JEFF AND JILL NOT LOVE b-EACH-OTHER/\*Ø NO<sup>t</sup>  
          ‘Peter and Susan love each other, but Jeff and Jill do not love each other’  
 b. ALL PEOPLE a-THEM FAMILY a-IX<sub>arc</sub> LOVE a-EACH-OTHER, PEOPLE b-IX<sub>arc</sub>  
          HATE b-EACH-OTHER/\*Ø  
          ‘All people in this family love each other, but people in that family hate each other’

Here is a possibility: if locus is a morphologically realized referential index – a (referential) pronoun, – then in an unambiguous bound-variable configuration, the interpretational index on the anaphor (i.e. *SELF/EACH-OTHER*), once uttered, becomes “attached” to it by this unique association. This rules out (79)-(80): if the antecedent NP *JEFF* is ‘recycled’, a Condition C violation ensues; if the ellipsis site were to contain a-*SELF*, a Condition A violation would occur.<sup>60</sup> Taking this view to its logical conclusion means this: loci signal pronouns, not agreement; when ‘attached’ to the verb, they are clitics (as in Nevins 2011). Note that the aforementioned approach, if on the right track, allows to dispense with Saito (2007) entirely, leaving at the view that ellipsis of this sort results from an ability of nouns in the language to serve as arguments – i.e. lacking the D-layer – while, at the same time, redefining the nature of ‘agreement’ (and its contributions) in ASL. More research is needed here.

On a slightly different note, despite the general availability of non-strict readings of the null argument in subject position, many signers find these readings less easily accessible as compared with their null object counterparts. Reasons for this remain unclear (syntactic, semantic and pragmatic accounts have been proposed) but are not unique to ASL – similar effects have been noted with bare NPs in other languages without definite articles, such as Russian and Hindi (81):

- (81) a. Rebenok igraet. [Russian]  
*child*      *plays*  
‘The child /\*a child is-playing’
- b. Bocca khel rahaai hai. [Hindi]  
*child* *play* PROG.  
‘The child/\*a child is playing.’ (Geist 2013)

Whatever the ultimate account of these effects, the parallelism between other language with bare NPs and ASL is reinforced.

Other interesting questions undoubtedly arise. At this point, however, a limitation overshadows the discussion in this paper. In a number of cases, I have shown what certain sentences cannot mean, and what situations they are compatible with. This paper serves as step towards an approach to ASL that challenges the traditional assumptions about the language. More research in syntax, semantics, and pragmatics of ASL which takes into consideration the data presented here is in order.

## 6. CONCLUSION

This paper addressed the nature of the null argument ( $\emptyset$ ) in ASL. I have demonstrated that the standard views of the null argument as agreement-licensed *pro* or a trace of topic do not capture the data introduced here; the nature of  $\emptyset$  merits further investigation: the NA of the plain verb can occur in an island (contrary to Lillo-Martin 1991) and have a non-strict reading in a surface-anaphoric scenario (contrary to Bahar et al. 2000). I have additionally argued that the null argument results from the ellipsis of something other than (V-)VPE – namely, an argument. At the same time, only nominal arguments (and not PPs or APs, e.g.) undergo this ellipsis. These nominal arguments behave as bare singular NPs in languages without overt definite articles and as such, null or overt, exhibit readings typically unavailable to bare singular NPs in languages with definite articles. The data then support the account of the null argument as the case of ellipsis of a bare NP, which, in turn, can serve as an argument of the verb in the absence of D° – i.e. ellipsis in the sense of Tomioka (2003) under the assumption that in such languages ellipsis is to be blamed on semantics, essentially: an element of type <*et*> can be ‘dropped’. Yet, Tomioka’s account alone does not explain the phenomenon either: we have seen that ellipsis of an element <*et*> does not subsume all the data either; a syntactic account that capitalizes on the lack of D° is in order ellipsis a la Saito (2007) can proceed. What this account will look like remains to be determined. I have suggested a possibility: that ellipsis targets a non-branching element. This view highlights the non-trivial roles of both syntax and semantics in ellipsis, at least for ASL. Among the consequences of the analysis are the nature of the nominal domain and the status of agreement in ASL.

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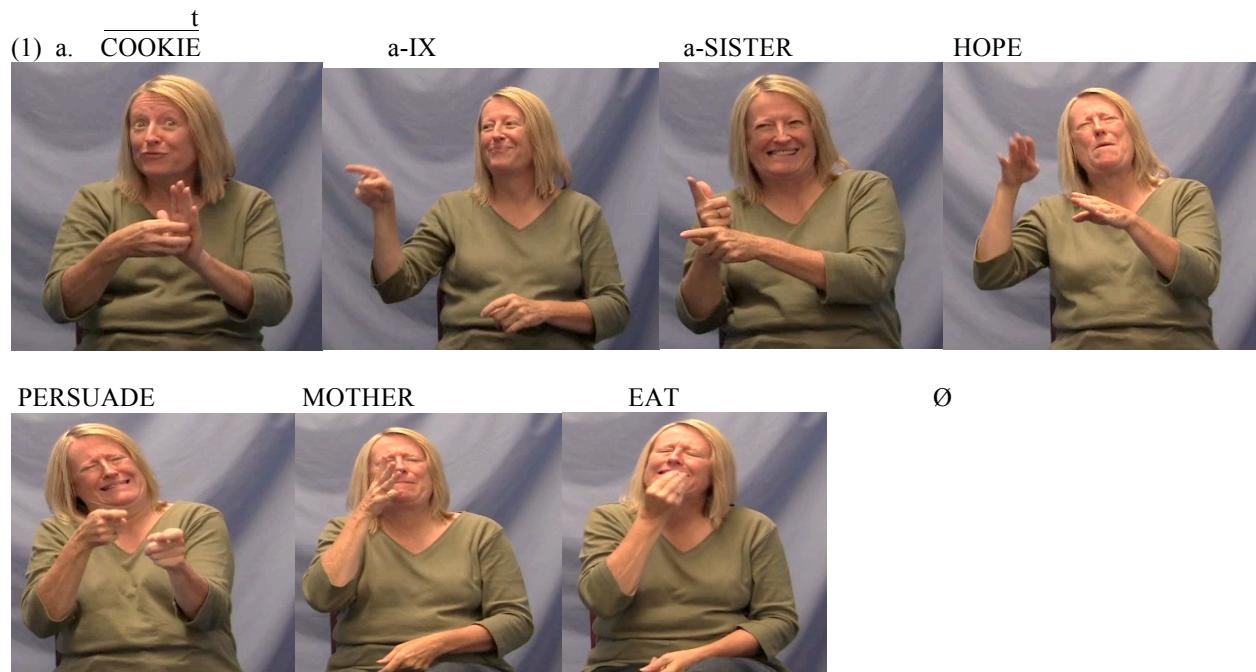
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#### APPENDIX:



b. (As for) {the/a} cookie, the sister hopes to persuade mother to eat {\* $\emptyset$ /it/one}

- (2) a. A: THREE STUDENT JOIN 1-POSS CLASS

B:  $\emptyset$



DROP

1-POSS



CLASS



- The set of students who joined A's class = the set of students who dropped B's class
- The set of students who joined A's class  $\neq$  the set of students who dropped B's class

b. A: Three students joined my class

B: They dropped my class

- i. The set of students who joined A's class = the set of students who dropped B's class
- ii. \*The set of students who joined A's class ≠ the set of students who dropped B's class (three or more students dropped B's class)

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<sup>1</sup> Much ink in Sign Language linguistics has been spilled over the nature of (non-)manual agreement (for an overview, see Lillo-Martin & Meier 2010). I return to the issues associated with the nature of this agreement in section 6.

<sup>2</sup> The fact that ‘agreeing’ verbs are sometimes uttered in a citation form while ‘plain’ verbs spatially agree suggests that the division of verbs into these classes is not lexically based. The nature of this classification lies outside the scope of this paper (see Sandler & Lillo-Martin 2006 for an overview of proposals). For the purposes of this paper, since typically agreeing verbs are sometimes uttered without manual agreement, and plain verbs are sometimes modified with respect to referents in the signing space, I adopt the following convention: when the verb is modified accordingly, a small-case letter, corresponding to the locus of the referent, is added to the verb itself but separated from it with the hyphen. In this, thus identified loci are noted separately from the semantic indices of referential expressions, which, by a common convention, are noted in subscript in *italics*.

<sup>3</sup> The following conventions are employed. In cases reported as ‘A:’ and ‘B:’, both *A* and *B* are engaged in a dialog. ASL lexical items are glossed in all caps: e.g. LOVE. Finger-spelling is indicated by dashes between capital letters: e.g. J-E-F-F; names that have not been finger-spelled are sign names (signs typically created specifically for and identified with particular individuals). A handshape involving pointing to a particular area of space (often, though not always, assumed to be a pronoun) is glossed as IX. The location of the sign in space (locus) is shown in small letters, connected to the lexical item by a dash: a-SELF; the interpretational index is given in subscript in *italics*: SELF<sub>i</sub>. This approach is somewhat non-traditional in Sign Linguistics; it is adopted here because both the presence/absence of locus and interpretational possibilities of the element are relevant for the discussion.

Non-manual markers (particular facial expressions associated with particular grammatical constructions) are indicated by a line above the lexical item(s) involved ending with the abbreviation for the type of constriction, e.g.

<sup>t</sup> for topicalization and <sup>wh/v/n</sup> for an interrogative:

(i) MARY<sup>t</sup>  
‘As for Mary...’

(ii) IX-2 KNOW<sup>v/n</sup> JEFF  
‘Do you know Jeff?’

If the sign is reported to be obligatorily two-handed (and might, in principle, involve more than one lexical items), ‘DH:’ and ‘NDH:’ stand for the dominant and the non-dominant hands, respectively:

(iii) DH: POSS  
NDH: IX  
‘This is yours’

<sup>4</sup> This pronoun is known as *resumptive* and is often assumed to rescue island violations quite generally (McCloskey 2006). However, see Heestand et al. (2011).

<sup>5</sup> Lillo-Martin discusses this phenomenon in terms of Strong Crossover.

<sup>6</sup> Lillo-Martin argues that embedded clauses are islands in ASL.

<sup>7</sup> I remain agnostic regarding the nature of the Ø in Mandarin Chinese. For an extensive discussion of various analyses, see Chen (2012).

<sup>8</sup> We take the area immediately in front of a signer to be a neutral location (Sandler & Lillo-Martin 2006).

<sup>9</sup> It is also possible to establish this locus by introducing a point (**a**-IX) earlier in the utterance.

<sup>10</sup> Bahan et al. adopt Bahan (1996) account of non-manuals: head-tilt as instantiating subject- and eye-gaze as instantiating object agreement in ASL. It should be noted, however, that subsequent experimental studies (cf. Thompson et al. 2008) have questioned the view of these non-manuals as markers of morphological agreement.

<sup>14</sup> Languages with this property differ with respect to whether overt referents are allowed. For instance, Spanish permits the use of an overt argument for cases like 0 (certain restrictions apply, see Barbosa 2009 for an overview), while Modern Irish does not (cf. McCloskey & Hale 1984). In particular, McCloskey & Hale argue that in Irish, the ‘agreement morpheme’ serves as the ‘(inflectional) argument’: for the sentence to be grammatical, either the referent must be overt and the morpheme absent, or vice versa.

<sup>15</sup> This last reading is possible if the 3SG person is the topic of the conversation. In such a case, the null argument necessarily refers to this person and reference to Maria is excluded. Thus, the main feature of this element – that Ø is necessarily definite in reference – remains.

<sup>16</sup> An alternative view is that there is no *pro* (in the relevant syntactic position), and *Agr* itself is pronominal (cf. Borer 1989, Alexiadou & Anagnostopoulou 1998, Barbosa 2009, i.a.). On this approach (i.e. *pro* does not exist, and the burden of the θ-role carrier must be placed on *Agr*), *Agr* itself is referential, and interpretations of the null argument that are other than definite (e.g. specific indefinite) remain unexpected.

<sup>17</sup> Such ambiguity is atypical of Sign Language discourse but may arise in special circumstances where spatial disambiguation is problematic/impossible. Once such circumstance is ‘whispering’ – signing below and to the side of the typical signing plane and with much reduced space – the identity of the referent is impossible to identify through the eye-gaze and head-tilt. Yet, the sentences are grammatical.

<sup>21</sup> (18)-(19) record a limited set of verbs and serve as a representative sample; however, this pattern is fully productive. A number of verbs has been examined (see Author 2012a): *LOVE, HATE, ANSWER, KISS, SEND, BUY, FORGET, REMEMBER, SKIP, JOIN, WORRY, REJECT*. The pattern remains the same. Additionally, ASL has been argued to differentiate between 1<sup>st</sup> vs. non-1<sup>st</sup> person pronouns (Meier 1990). The nature of the 1<sup>st</sup> person referring elements lies outside the scope of this paper. Empirically, the generalization (which does not extend to the non-1<sup>st</sup> person) is as follows: 1<sup>st</sup> person subject can be omitted if it is not obviously anaphoric but can be inferred – e.g. (18Bc.) on the *I-IX* reading (for a possible account, see Meir et al. 2007). But this generalization does not always hold either: my consultants report the necessity of *I-IX* in (i) (discussed in the main text as (68c)), where, in the absence of *I-IX*, the referent is inferable, yet the sentence is dispreferred:

- (i) SUPPOSE COMPARE a-BUS b-CAR. 1-IX PREFER CAR. WHY BUS SLOW  
 ‘If I compare a bus and a car, I prefer the car. Why? Because the bus is slow’

<sup>22</sup> Note that the anaphoricity of the null argument is exploited in Lillo-Martin (1991): the analysis of Ø as being bound by a topic upstairs allows for or even implies anaphoricity. On a related note, a reviewer questions whether this anaphoricity can be teased apart from the anaphoricity in the establishment of the spatial loci. The relation between anaphoricity and loci is independently complex and is briefly discussed in section 5. The key data offered in this paper demonstrate that at the heart of the generalization is something other than anaphoricity of spatial loci: examples below contain the NP *KID* is a body-anchored sign; yet, unless the anaphoricity requirement is met, (i)-(ii) below are ungrammatical. Otherwise, the range of readings remains available.

- |   |  |               |
|---|--|---------------|
| <p>(i) a. A: PETER LIKE a-POSS KID<br/>       ‘Peter likes his kid’</p> <p>B: JEFF HATE Ø<br/>       ‘Jeff hates ____’,</p>   | <p>b. A: WHAT’S-UP<br/>       ‘What’s up?’</p> <p>B: *JEFF HATE Ø<br/>       ‘Jeff hates ____’,</p>              | <p>≈ (17)</p> |
| <p>(ii) a. A: THREE KID JOIN 1-POSS CLASS<br/>       ‘Three kids stopped by my house (last night)’</p> <p>B: Ø DROP 1-POSS CLASS<br/>       ‘____ dropped my class’</p> | <p>b. A: WHAT’S-UP<br/>       ‘What’s up?’</p> <p>B: *Ø DROP 1-POSS CLASS<br/>       ‘____ dropped my class’</p> |               |

<sup>23</sup> Note that I am not suggesting that there are no implicit arguments in ASL; rather that it is not the case that all cases of Ø can be analyzed as such.

<sup>24</sup> In addition, Malamud (2012, i.a.) argues that semantically, *arbs* are definite plurals. In argumentation, she relies on the *arbs*’ lack of quantificational variability effects (QVE) that arise with indefinites. Thus, the fact that Ø in ASL allows for a reading other than definite further argues against the ‘*arb*’-style account.

<sup>25</sup> Before proceeding further, a note of caution must be issued: as an anonymous NLLT reviewer points out, Quer & Roselló (2011) have challenged the observation that pronouns cannot have a sloppy reading. This seems to be true, for example, with the object NP below.

- |   |   |                  |
|---|---|------------------|
| <p>(i)a. En Pere estima la sava mare i en Joan també l'estima<br/> <i>DET Pere loves DET POSS3 mother and DET Joan also CL.DET.FEM3 loves</i><br/>       ‘Pere loves his mother, and Joan also loves her’</p> <p>i. Joan loves Peter’s mother<br/>       ii. Joan loves Joan’s mother</p> | <p>= strict reading<br/>       = sloppy reading (Quer &amp; Roselló 2013)</p> | <p>[Catalan]</p> |
| <p>b. Juan le tiró una bola a la nena. Pedro le pasó un libro<br/> <i>Juan CL.FEM3 threw a ball to the girl. Pedro CL.FEM3 passed a book</i></p>  |   | <p>[Spanish]</p> |

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‘Juan threw a ball to the girl. Pedro passed her a book’

- i. Pedro passed a book to the girl Juan threw a ball to = strict reading
- ii. Pedro passed a book to a different girl = sloppy reading

The exact nature of the phenomenon in Spanish and Catalan lies outside of the scope of this paper; it suffices to note, however, that while the sloppy reading of an overt pronoun may be available, the quantificational one never is:

- (ii) Juan les tiró una bola a tres nenas. Pedro les pasó un libro [Spanish]  
Juan CL.FEM3 threw a ball to the girl. Pedro CL.FEM3 passed a book

‘Juan threw a ball to three girls. Pedro passed them a book’

- i. Pedro passed a book to the girls Juan threw a ball to = strict reading
- ii. Pedro passed a book to different girls = quantificational reading

At any rate, *pro* allows neither.

On a different note, considering the fact that Romance languages exhibit V-movement, the availability of the non-strict reading of Spanish/Catalan objects may well be the result of V-VPE (see (35)). Further research is in order here.

<sup>26</sup> For an extensive discussion on the matter, see AnderBois (2011).

<sup>27</sup> The verbs in (28) – *KISS* and *SPANK* – are notoriously transitive; therefore, they are used here to make the point. However, as an anonymous reviewer points out, both *KISS* and *SPANK* are two-handed. This means that it is potentially possible for the non-dominant hand to be serving an argument function in cases like (28). The paradigm remains the same with just as notoriously transitive but one-handed verbs *F-I-X* (a finger-spelled English loan) and *HATE* (a.k.a. *VOMIT-HATE*).

<sup>28</sup> A long-standing discussion in the field is whether this identity is semantic or syntactic in nature. Recent works (e.g. Merchant 2013 and Chung 2013) argue that both must be satisfied.

<sup>29</sup> To reinforce this conclusion, compare (27) with a true ‘deep-anaphoric’ scenario in (i):

- (i) *Context: Looking at a car which exhibits signs of having been in an accident*

\*TAP 2-IX KNOW WHO<sup>v|h</sup> ≈ (27c)  
‘Hey, do you know [who ~~did it hit the car~~]?’

While my informants report the sentence grammatical with the deferred ostension interpretation ‘*Do you know who this is (i.e. this car belongs to)?*’, (i) is impossible on the relevant reading, indicated by the strike-through in the brackets.

<sup>30</sup> Where precisely the verb moves is irrelevant here. In (32), the verb is schematized to have moved to T°, but the nature of the potential landing site is orthogonal to the claim advocated here, as long as the verb can move out of the VP.

<sup>31</sup> While this section focuses on null objects exclusively, the arguments extend to null subjects as well. The claim then would be that the null subject results from V-raising vP-ellipsis. Test cases would be amended slightly, but the trail of argumentation would remain unchanged, and, it turns out, so would the outcome. Therefore, I limit the discussion here to null objects.

<sup>32</sup> This account easily handles cases where the verb in *A*: sentences is identical to the verb in *B*: sentences, as in (i).

- (i) A: [TP PETER [T LOVE [VP ~~LOVE~~-POSS STUDENT]]]  
↑ \_\_\_\_\_ |

B: [TP JEFF [T LOVE [VP ~~LOVE~~-POSS STUDENT]]]

However, the Copy Theory of Movement may create an independent complication for this view of (35): the VP retains a copy of the verb (albeit a phonologically null one). Therefore, on the V-VPE analysis of (35), what we should find in the ellipsis site is actually [*LOVE POSS STUDENT*] instead.

- (ii) A: [TP PETER [T LOVE [VP ~~LOVE~~-POSS STUDENT]]]  
↑ \_\_\_\_\_ |

B: [TP JEFF [T HATE [VP ~~LOVE~~-POSS STUDENT]]]

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<sup>33</sup> The discussion of VPE offered here is brief – it is relevant to the main claim in the paper only insofar as VPE remains an alternative to the analysis advocated here. For a more detailed discussion of VPE effects in ASL, I refer the reader to Author (2012a), (in progress).

<sup>34</sup> This is not the only reading available here; I merely focus on the sloppy interpretation.

<sup>35</sup> *SAME* may be argued to warrant further examination. For instance, it might be analyzed as simply ‘*also*’ or a ‘deep’ anaphoric element best translated into ‘*do it/do the same thing*’ (see section 2.2). However, in such a case, the addition of ‘*SLOWLY*’ should result in a grammatical sentence – something like ‘*Peter also will build {his/three} house(s) but slowly*’ or ‘*Peter will do the same (thing) slowly*.’ However, as (39c-d) show, the resulting sentence is ruled out. Thus, with a focused study of VPE in ASL still pending, I tentatively conclude that the unacceptability of (41) results from the presence of both *FAST* (in the ellipsis site) and *SLOWLY* (overtly). The issue is discussed in Cecchetto et al. (2012) for Italian Sign Language (LIS); LIS appears to behave differently from ASL here. I thank an anonymous NLLT reviewer for pointing this out.

<sup>36</sup> The suggestion is not novel: see Chung 2013 and Merchant 2013 for the overview or arguments towards a mixed approach to ellipsis.

<sup>37</sup> The test case here is Turkish: a language with subject- but not object-agreement, Turkish is claimed to show effects of argument ellipsis for objects but not subjects (Şener & Takahashi 2009).

<sup>38</sup> While (46) and (48) schematize the null subject case, the analysis is identical with respect to object agreement (and lack thereof), with the relevant functional head being  $v^\circ$  (Saito 2007). Thus, the prediction is of the following form: null objects via argument ellipsis is impossible if  $v^\circ$  has an uninterpretable  $\phi$ -feature.

<sup>39</sup> Patricia Cabredo-Hofherr (p.c.) points out that independent issues arise with ‘*ser* passive’ constructions in Spanish, which may contribute to the presence or absence of some readings. However, as (i) below shows, the range of interpretations – or, rather, lack thereof – in (47B) cannot result from ‘*ser* passive’:

- (i) A: Maria cree que sus hijos son bonitos  
*Maria believe that her children are pretty*  
‘Maria believes that her children are pretty’
- B: Juan tambien cree que Ø son bonitos  
*Juan also believes that are pretty*  
‘Juan also believes that {Maria’s/\*Juan’s} children are pretty’

<sup>40</sup> It should be noted that Saito (2007) – appealed to in the literature on the East Asian and some Romance languages (cf. Takahashi 2010) -- has met some criticism with regards to English. This is because the account predicts a possibility PP-/AP-/CP-ellipsis in English. To elaborate: it is standardly assumed that the English  $T^\circ/v^\circ$  have  $\phi$ -features and undergo *Agree* with the argument of the verb. The ‘recycling’ of argument DP is excluded for the same reasons as in Spanish: the relevant uninterpretable feature of the DP is erased, and the DP cannot be ‘re-used.’ However, non-DP arguments do not face this problem. This now means that PP-/AP-/CP-ellipsis should be possible – a wrong prediction.

<sup>41</sup> Saito (2007) assumes LF-Copying; there is nothing in syntax in this position.

<sup>42</sup> *FINISH* is an aspect-/tense-marker in ASL and is doubled here (see Sandler & Lillo-Martin 2006 for an overview of the phenomenon).

<sup>43</sup> Consider, e.g., the English (i), involving, on standard accounts, NP-ellipsis – a part of the argument of the verb, licensed by the head of this argument, D, realized as the possessive –’s (Saito & Murasugi 1990, i.a.):

- (i) I have read Bill’s book, but I haven’t read [John’s [<sub>NP</sub>book]] (Jackendoff 1977)

As (i) demonstrates, ellipsis of a *part* of an argument is allowed in English, while the entirety of it is not. Matters are reversed for ASL.

<sup>44</sup> It should be pointed out that some adjectives (e.g. color) allow stranding:

- (ii) WANT BLUE  
‘I want blue/the blue one’

ASL is not alone here: a number of languages (including English) allow such stranding of color adjectives. The question, however, is how productive the phenomenon is. In this, ASL parallels French and English – outside of color (and, perhaps, size) adjectives, such stranding is impossible.

<sup>45</sup> This view resonates with independent syntactic proposals for languages with and without definite articles (cf. Fukui 1986 and, later, Bošković 2007, et seq.).

<sup>46</sup> Technically, Tomioka does not use the term ‘ellipsis’ but, rather, ‘drop.’ However, for the present purposes, his claim subsumes ellipsis cases.

<sup>47</sup> The prediction of this approach is that a language with an overt article, irrespective of its phonological nullness, will disallow this type of NP drop in principle. Therefore, it must be the case that the NO in Modern Greek, Brazilian Portuguese, and Hebrew, argued to arise only in the absence of a D-element in the overt string must be derived differently (cf. Barbosa 2011 for the discussion of the argument-drop effects in these languages). Since these languages actually possess a lexical item corresponding to the *t*-operator, and the type-shift should be blocked.

<sup>48</sup> Various other uses of ‘*IX*’, though perhaps not unrelated, lie outside the scope of this paper. It can be used as a demonstrative, a pronoun, and an adverbial (MacLaughlin 1997).

<sup>49</sup> Zimmer & Patschke (1990) view only a subclass of *IX* as corresponding to something like the English ‘*the*’: “signs that move slightly or not at all, never arc or jab, and most often point slightly upward” (p. 207). It should be noted that the authors also view this sign produced postnominally in the same terms. Importantly, however, for Zimmer & Patschke, this sign does not mark definiteness but, rather, specificity. MacLaughlin (1997) offers various arguments against the view outlined above. While the issues that arise from the ensuing discussion pertain to the nature of prenominal *IX*, they deserve much more room that can be allotted in this paper. See Author (2012b) for a further discussion.

<sup>50</sup> This observation requires a qualification. In oft-cited languages with definite articles, such as Romance and Germanic, the presence of the definite article is not optional – its absence corresponds to a predictable difference in meaning (e.g. individuals vs. kinds, cf. Chierchia 1998, i.a.). Matters differ in other languages. For instance, as an anonymous reviewer points out, in a number of Niger-Congo languages, a lexical item typically translated as ‘*the*’ and assumed to be located within the DP surfaces ‘optionally,’ at least from the point of view the Germanic and Romance. However, as the discussion below demonstrates, further inquiry into the nature of these elements reveals that the ‘optionality’ view is not entirely accurate.

<sup>51</sup> Although on a number of accounts the *t* is contained in the denotation of the demonstrative, there is additional material there as well, e.g. a situation variable (cf. Wolter 2006, Schwarz 2009, i.a.).

<sup>52</sup> Wolter (2006) points out that while many languages do not have a definite article, all languages examined thus far have demonstratives.

<sup>53</sup> I thank Phillip Schlenker for bringing this to my attention.

<sup>54</sup> A number of lexical items encoding familiarity in other Niger languages (both Chadic and Kwa) have been suggested to behave similarly (see Aboh 2010 for an overview).

<sup>55</sup> Zooming out of the specifics of Akan and its immediate comparison with ASL, one other relevant observation must be noted: although various lexical items in Niger languages are often labeled ‘definite articles,’ a number of them (*no* included) have been argued to be something other than the D°. While the relevant lexical items in other Niger languages behave differently than they do in Akan, as Ajiboye (2005) notes for Yoruba following Manfredi (1992), such ‘determiners’ behave more like deictics and demonstratives instead.

<sup>56</sup> As demonstrated in detail in Author (2012a), ASL as a language without a definite article along various other typological generalizations outlined Bošković (2007), *et seq.*

<sup>57</sup> As an NLLT reviewer points out, the term ‘singular’ is pre-theoretic here; at the moment, no evidence is offered that the number is specified (namely that it is singular), only that plurality is not morphologically encoded on the noun. Therefore, it may be best to label these nouns ‘bare non-plurals.’ Author (in progress) investigates this issue further.

<sup>58</sup> Incidentally, this property of nouns is used in Chierchia (1998) to argue for the argumental status of NPs.

<sup>59</sup> A reviewer points out that *BUS* and *CAR* in (71c) are marked for locus. Considering the initial puzzle discussed in the paper – that previously established loci offer an independent contribution to the null argument paradigm – a question arises whether the *a-* and *b-* in (71c) perform a similar function. This is because without *a-* and *b-*, the sentence is no good. Yet, I doubt that (71c) reveals the same property of spatial loci as discussed in this paper. Loci are also employed to set up an opposition/comparison relation (see Davidson 2012 on conjunctive/disjunctive shift); (71c) seems to be a case of such a relation (i.e. *BUS* versus *CAR*). The conclusion is substantiated by the removal of the ‘comparison’ in (i). The range of available readings is unaffected.

(i) 1-POSS CAR MASHINE-BREAK. DO-DO? MAYBE BUS? NO. HATE. WHY? SLOW  
‘My car broke down. What to do? Take a bus? No! I hate \_\_\_! Why? Too slow!’

<sup>60</sup> As I have demonstrated elsewhere (Author 2009), *SELF* in ASL is a local anaphor. For a discussion on syntactic/semantic/discourse binding in ASL, I refer the reader to Abner & Graff (2012), Schlenker (2011), *et seq.*