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## Null Arguments and Ellipsis – Theoretical Perspectives

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### 13. Null arguments and ellipsis – theoretical perspectives

Carlo Cecchetto

#### 1. Introduction

In natural languages, including sign languages, some categories do not need to be overtly expressed, although they are active both syntactically and semantically. For example, while some languages, including English, always require an overt subject in a finite clause, even when it does not provide a semantic contribution (1), other languages allow a null subject much more freely, as illustrated for Italian in (2) and (3). Chinese is even more extreme because both the subject and the object can remain unpronounced (cf. the answer in (4)). In this chapter, the symbol ‘Ø’ is used to indicate a category which is syntactically present but is phonologically null.

(1) \* Ø rains.

(2) Ø Piove. (Italian)  
rains  
‘It is raining.’

(3) Ø Sta arrivando. (Italian)  
is coming  
‘(S)he is coming.’

(4) Question: Zhangsan kanjian Lisi le ma?  
Zhangsan see Lisi LE<sup>1</sup> Q  
‘Did Zhangsan see Lisi?’  
Answer: Ø kanjian Ø le.  
he see he LE  
‘He saw him.’ (Chinese, Huang 1984: 433)

Another example of missing categories involves constituents bigger than a single argument. For example, the VP ‘read War and Peace’ is unpronounced in the second clause in (5) because its content can be recovered under (near) identity with the VP in the first clause.

(5) John read War and Peace and Mary did Ø too.

In earlier work in the generative tradition, null arguments and VP ellipsis were considered separate phenomena. However, more recently, the approaches initially developed to analyze

VP ellipsis have been applied to the analysis of null arguments, both in spoken and in sign languages. This development in the field is reflected in the organization of this chapter. In Section 1, I report earlier work on null arguments in spoken and sign languages. Section 2 deals with VP ellipsis and more generally with ellipsis of constituents bigger than a single argument. Finally, in Section 3, I discuss the more recent VP ellipsis approach to null arguments. Section 4 is a short conclusion.

## 2. Earlier work on null arguments in sign languages

### 2.1. Null arguments in spoken languages

In this section, I briefly summarize two types of analyses of null arguments that were initially proposed in the generative tradition for spoken languages (cf. Biberauer et al. (2010) for an overview). I do that because the literature on sign languages initially built on this debate.

A pretty clear fact is that when an argument is null, there must be some way to identify its semantic contribution to the clause. Two distinct mechanisms have been identified. The first one is morpho-syntactic and can be exemplified by those Romance languages (Italian, Romanian, Spanish, among others) that have a rich paradigm for subject agreement. For example, as illustrated in (6), in Italian, there is a one-to-one correspondence between the morphological termination on the finite verb and the person and number feature of the pronominal subject.

(6)	(Io) mangio	I eat	
	(Tu) mangi	you eat	
	(Lui/lei) mangia	he/she eats	
	(Noi) mangiamo	we eat	
	(Voi ) mangiate	you eat	
	(Loro) mangiano	they eat	(Italian)

Given this redundancy of information, the pronominal subject can remain null with no loss of relevant information. For convenience, I will call these null subjects ‘Italian-type null categories’. Two technical implementations are possible for Italian-type null categories. In one implementation (fully developed by Rizzi (1986)), the subject is a null pronoun (labelled *pro*) which sits in the canonical position for overt subjects. In principle, *pro* is identical to an overt pronoun, but for the fact that it is phonologically null, although in practice the fact that it is not pronounced creates some differences; for example, it cannot be stressed, and thus it is typically not a focus in the discourse. In the second implementation, it is the agreement morpheme on the verb that acts as if it were a pronominal subject; therefore, no independent null pronominal category needs to be postulated (Alexiadou & Anagnostopoulou 1998). Two comments are relevant for the following discussion on sign languages. First, whatever implementation is chosen, there is a consensus in the literature that null subjects of the Italian-

type are pronominal in nature, either because a fully-fledged pronoun (*pro*) is postulated, or because the morpheme on the verb acts as a pronoun. The second comment is that null objects are correctly predicted to be much more restricted in these languages, since the finite verb typically does not agree with the object in the relevant Romance varieties.

However, the Italian-type mechanism cannot be the only mechanism that allows null arguments. The reason is that there are other languages, including Chinese, Japanese, and Korean, that allow null arguments, although the verb does not carry any agreement morphemes. These languages are sometimes called ‘topic-drop languages’. The reason is that once a topic has been introduced, it is possible not to express it in subsequent sentences, as it is understood to remain the same, until another topic is either explicitly or implicitly introduced. The basic generalization is that in topic-drop languages, both subjects and objects can remain null as long as they are topics. Again, for convenience (and not because Chinese is the only language displaying it), I will call this type of null category ‘Chinese-type null category’. As assumed in the seminal work by Huang (1984) and in much later work, null topics of the Chinese-type are not pronominal expressions, but are variables bound by a (possibly null) preceding topic.<sup>2</sup> This has an important consequence. Null subjects of the Italian-type can occur in virtually any position in which an overt subject surfaces, since they are locally licensed by the agreement morpheme on the verb. However, Chinese-type null arguments have a more restricted distribution because they must be bound by a suitable antecedent. Crucially, Huang assumes that the relation of binding between the antecedent topic and the null category may take long distance (as in (7), in which the null category bound by the topic ‘Zhangsan’ is the subject of the embedded clause) but is subject to familiar locality constraints. For example, the null object cannot be bound by the topic ‘Zhangsan’ in (8), arguably because the former is inside a relative clause (i.e., a syntactic island).

- (7) Zhangsan, Wangwu shuo [ $\emptyset$  ihuilai]  
 Zhangsan Wangwu say will come  
 ‘Zhangsan, Wangwu said he would come.’

(Chinese, adapted from Huang & Yang 2013: 4)

- (8) \* 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).’

(Chinese, adapted from Huang & Yang 2013: 4)

This division in two macro-categories (Italian-type and Chinese-type) is a simplification. In fact, there are many languages that do not easily fit in either of these two groups (for example, languages like German and Dutch, which normally require an overt subject in a tensed clause, but admit null expletive subjects). Still, it inspired early work on null arguments in sign languages, to which we now turn.

## 2.2. Lillo Martin (1986) on null arguments in American Sign Language

The first work to go deep into the analysis of null arguments in sign languages is Lillo-Martin (1986), which focuses on American Sign Language (ASL). Her starting point is the distinction between agreeing verbs and plain verbs (cf. Padden 1983; see also Quer, Chapter 5). Agreeing verbs can be spatially modified to mark their arguments. Typically, the path movement of an agreeing verb begins at the locus associated with the subject and terminates at the locus associated with the object (a locus is the point in the space where a noun phrase is articulated or, if the noun phrase is articulated on the signer's body, a locus that is established by index pointing or by eye gaze). Plain verbs cannot be spatially modified to agree with their arguments. This happens, for example, with body-anchored verb signs, since they cannot be detached from the body to move between loci associated with arguments.

Lillo-Martin's initial observation is that null arguments are allowed with both plain and agreeing verbs in ASL. An example of null arguments with a plain verb is given in (9), which is an appropriate answer to the question 'Did you eat my candy?'

- (9) YES,  $\emptyset$  EAT-UP  $\emptyset$   
'Yes, I ate it up.' (ASL, adapted from Lillo-Martin 1986: 421)

An example of null arguments with an agreeing verb is (10), which is an appropriate answer to the question 'Did John send Mary the paper?'. In (10), the subscript 'a' indicates the locus associated with the sender, and the subscript 'b' indicates the locus associated with the receiver.

- (10) YES,  $\emptyset$  <sub>a</sub>SEND<sub>b</sub>  $\emptyset$   
'Yes, he sent it to her.' (ASL, adapted from Lillo-Martin 1986: 421)

However, Lillo-Martin argues that the null categories in (9) and (10) are not the same. More specifically, she claims that the null categories occurring with agreeing verbs are to be assimilated to Italian-type null arguments (but remember that Italian only allows for null subjects), while the null categories occurring with plain verbs are to be assimilated to Chinese-type null arguments.

We reproduce here one of her arguments. We have seen that in Chinese, the link between a topic and its variable is sensitive to syntactic islands. *Mutatis mutandis*, the same island sensitivity is observed with the null argument of a plain verb in ASL, but crucially not with the null argument of an agreeing verb. In (11), the embedded verb (SEND) is agreeing, and the null category bound by the topic MOTHER can appear in an indirect question. However, the sentence becomes ungrammatical if the embedded verb is plain (cf. the verb LIKE in (12)). The counterpart of (12) with an overt pronoun (a-IX) instead of a null category is grammatical (13). In these examples, the continuous line over the sign MOTHER indicates the specific non-manual marking (raised eyebrows and slight backward head tilt) that co-occurs with a manual sign when it is a topic.

- \_\_\_\_\_ topic  
 (11) a-MOTHER<sub>i</sub>, 1-IX DON'T-KNOW WHAT Ø<sub>i</sub> a-SEND-1  
 'Mother<sub>i</sub>, I don't know what (she<sub>i</sub>) sent me.'  
 (ASL, adapted from Lillo-Martin 1986: 425)

- \_\_\_\_\_ topic  
 (12) \*a-MOTHER<sub>i</sub>, 1-IX DON'T-KNOW WHAT Ø<sub>i</sub> LIKE  
 'Mother<sub>i</sub>, I don't know what (she<sub>i</sub>) likes.'  
 (ASL, adapted from Lillo-Martin 1986: 424)

- \_\_\_\_\_ topic  
 (13) a-MOTHER<sub>i</sub>, 1-IX DON'T-KNOW WHAT a-IX<sub>i</sub> LIKE  
 'Mother<sub>i</sub>, I don't know what she<sub>i</sub> likes.' (ASL, adapted from Lillo-Martin 1986: 424)

The pattern in (11)–(13) can be explained if (i) the null argument of an agreeing verb is a null pronominal, while the null argument of a plain verb is a variable that needs to be bound by its antecedent, and (ii) an embedded interrogative is an island that blocks binding (much like a relative clause is an island in (8) above).

Lillo-Martin's approach, although influential in the sign language literature, has been challenged on several grounds. First, Koulidobrova (2017) argues that the contrast between agreeing and plain verbs illustrated in (11) and (12) might be spurious. Koulidobrova observes that MOTHER in these sentences is uttered in non-neutral areas of space, as indicated by the index 'a' in the glosses. However, if MOTHER is uttered in a neutral location instead, the paradigm changes: the asymmetry between verb types disappears because the null object becomes possible also with a plain verb, as shown in (14).

- \_\_\_\_\_ topic  
 (14) MOTHER<sub>i</sub>, 1-IX DON'T-KNOW WHAT Ø LIKE  
 'Mother<sub>i</sub>, I don't know what (she<sub>i</sub>) likes.'  
 (ASL, adapted from Koulidobrova 2017: 402)

Second, as observed by Quer & Rosselló (2013), Lillo-Martin herself claims that embedded clauses are always islands in ASL. If this was true, then all variables in embedded position (not only the ones found inside a syntactic island) should cause ungrammaticality. It follows that the ungrammaticality of (12) cannot be used as evidence supporting the extension of Huang's approach to ASL. Another criticism to Lillo-Martin was advanced by Neidle et al. (2000), as we show in the next section.

### 2.3. Neidle et al. (1996, 2000) on null arguments in American Sign Language

Neidle et al. (1996, 2000), largely based on data from Bahan's (1996) dissertation, question Lillo-Martin's analysis. The starting point of their approach is the observation that agreement features in ASL have non-manual correlates that should not be neglected in the analysis of null arguments. More specifically, a locus is typically established by index finger pointing or by articulating a sign in a specific position in the neutral space, but there are two main non-manual means of pointing toward a locus: the head can tilt toward its position, or the eyes can gaze to that location. Crucially, these two non-manual devices are possible both with plain and agreeing verbs. For example, in (15), the head tilts toward the location associated with the subject, BILL, and the eyes gaze to the location associated with the object, BOB (non-manual expressions of subject and object agreement are extremely frequent with agreeing verbs, but not required according to Neidle et al. (2000)).

	_____ <u>head tilt</u> <sub>i</sub>				
	_____ <u>eye gaze</u> <sub>j</sub>				
(15)	BILL	IX <sub>i</sub>	iHIT <sub>j</sub>	BOB <sub>j</sub>	
	'Bill (there) hit Bob.'				(ASL, adapted from Neidle et al. 1996: 17)

As we already know, in sentences like (15), where there is an agreeing verb, both the subject and the object can remain null (on this point, Neidle et al. and Lillo-Martin agree). Let us now turn to example (16), which involves the plain verb LOVE. Neidle et al. (1996) argue that in sentences like (16), there is overt manifestation of subject agreement (head tilt) and object agreement (head gaze). Also, with these examples, non-manual markings of agreement occur quite frequently.

	_____ <u>head tilt</u> <sub>i</sub>				
	_____ <u>eye gaze</u> <sub>j</sub>				
(16)	JOHN	IX <sub>i</sub>	LOVE	MOTHER <sub>j</sub>	
	'John loves mother.'				(ASL, adapted from Neidle et al. 1996: 20)

Therefore, according to Neidle et al., the difference between (15) and (16) is only morphological, not syntactic: although in (15), agreement is expressed both manually and non-manually, while in (16), it is expressed only non-manually, the same functional structure is projected in the two types of sentences. This has consequences for the issue of null arguments: Neidle et al. assume that the null argument occurring with both plain and agreeing verb is the same category, namely *pro*. This category is licensed by the presence of morpho-syntactic agreement features with both types of verbs. A prediction follows from this account, that is to say, while a null category should always be possible with an agreeing verb, a null category should only be allowed with a plain verb if non-manual marking of agreement is present. Neidle et al. claim that this prediction is borne out by the contrast between (17) and (18). (17), which is ungrammatical, involves a plain verb but no expression of non-manual agreement. However, the sentence becomes grammatical if non-manual agreement marking is present, as in (18).

(17) \* $\emptyset$  LOVE MOTHER  
 ‘(He/she) loves mother.’ (ASL, adapted from Neidle et al. 1996: 21)

$\underline{\text{head tilt}_i}$   
 $\underline{\text{eye gaze}_j}$

(18)  $\emptyset_i$  LOVE MOTHER $_j$   
 ‘(He/she) loves mother.’ (ASL, adapted from Neidle et al. 1996: 21)

Neidle’s et al. theory has been experimentally challenged by Thompson et al. (2006), who conducted a study using head-mounted eye-tracking to measure signers’ eye gaze. They involved ASL signers in a series of tasks: the signers had to tell a story illustrated by a series of pictures, then they were asked to retell it, and finally they were invited to make up a different story by using a list of ASL verbs, including both plain and agreeing verbs. Thompson et al. found that while eye gaze accompanying agreeing verbs was indeed most frequently directed toward the location of the object, eye gaze accompanying plain verbs was rarely directed toward the object. Furthermore, plain verbs occurring with null object pronouns were not marked by gaze toward the location of the object. They comment that this result is inconsistent with Neidle et al.’s description of the role of gaze (the eye-tracking methodology does not allow to study the role of head tilt).

Up to now we have considered two possible analyses of null arguments in sign languages, namely the view that they are ‘Italian-type’ null pronominals and the view that they are ‘Chinese-type’ variables bound by a topic. Although they are different, these approaches share the assumption that the null argument is a category intrinsically devoid of phonological content, either because it is *pro* or because it is a variable bound by a topic. We now temporarily abandon null arguments. We will come back to them after discussing VP ellipsis, since this discussion will provide the necessary background to analyze a further type of approach to null arguments.

### 3. VP ellipsis in sign languages

The studies devoted to predicate ellipsis (including VP ellipsis) in sign languages are very few. When this chapter was written, only one paper was entirely devoted to this topic (Cecchetto et al. (2015) on Italian Sign Language (LIS)), although examples of predicate ellipsis in other sign languages were scattered across papers devoted to other topics. While this chapter goes in printing, two important sources have enriched the literature, namely Zorzi (2018a and 2018b). An early mention of VP ellipsis is in Lillo-Martin (1995), who makes the important observation that VP ellipsis allows the sloppy reading in ASL (I postpone discussing the issue of the sloppy reading to Section 4, where it will be central).

Cecchetto et al. observe that in LIS, a predicate can go unuttered if a suitable antecedent is present. For example, this happens when the elliptical clause involves the adverbial sign

SAME. In (19), the missing constituent in the elliptical clause corresponds to the VP MARIA LIKE (notice that LIS is SOV, which explains the word order in the antecedent clause in (19)).

- (19) GIANNI MARIA LIKE. PIERO Ø SAME  
'Gianni likes Maria. Piero does too.'  
(LIS, Cecchetto et al. 2015: 221)

Ellipsis in sentences like (19), although suggestive of a VP ellipsis analysis, by itself is not conclusive evidence in favor of such an analysis because it might be a case of the phenomenon called stripping. Stripping and VP ellipsis in English are distinguished by the occurrence of an auxiliary, which is present in VP ellipsis (20) but is absent in stripping (21).

- (20) Gianni likes apples. Piero does too.  
(21) Gianni likes apples. Piero, too.

Stripping and VP ellipsis are different in several other respects (cf. Lobeck 1995). For example, VP ellipsis can occur in subordinate clauses (22), while stripping cannot (23).

- (22) Gianni likes apples. I think Piero does too.  
(23) \*Gianni likes apples. I think Piero, too.

A further difference is that backward anaphora is possible with VP ellipsis (24), but not with stripping (25).

- (24) John didn't, but Mary bought books.  
(25) \*John too and Mary bought books.

While VP ellipsis of the English type is rare cross-linguistically (Goldberg 2005), stripping is more widespread and is typically attested also in languages that do not display VP ellipsis. Cecchetto et al. (2015) present several arguments supporting the existence of genuine VP ellipsis in LIS. One argument is provided by sentences like (26b).

- (26) a. GIANNI BEAN EAT FUT. PIERO Ø SAME  
'Gianni will eat beans and Piero too.'  
b. GIANNI BEAN EAT FUT. PIERO Ø FUT SAME  
'Gianni will eat beans and Piero will too.'  
(LIS, Cecchetto et al. 2015: 222)

While (26a) is likely to be a case of stripping, this analysis cannot be extended to (26b), since the future tense auxiliary (FUT) is not omitted in the elliptical clause. Another argument in favor of the VP ellipsis analysis is illustrated by sentences like (27).

\_\_\_\_\_ if



When this happens the movement of the dominant hand towards the mouth of the signer, characteristic of the sign EAT, is repeated and is articulated more rapidly than in the citation form of the verb. Crucially, (30) and (31) may convey the same meaning, namely that Mario’s way of eating meat was quick.

(30) MARIO MEAT EAT QUICKLY  
 ‘Mario eats meat quickly.’ (LIS, Cecchetto et al. 2015: 227)

(31) MARIO MEAT EAT-QUICKLY  
 ‘Mario eats meat quickly.’ (LIS, Cecchetto et al. 2015: 227)

Cecchetto et al. (2015) claim that if identity in meaning were enough to license ellipsis, sentences like (32) and (33) below should be on a par with each other, since the antecedent clause in (32) and (33) expresses the same meaning, despite the fact that (32) contains an independent sign for QUICKLY, while in (33), adverbial modification takes place by modifying the verb root. However, while (32) is fully acceptable, (33) is sharply ungrammatical *with the intended meaning*, namely that Gianni eats meat slowly.

(32) MARIO MEAT EAT QUICKLY. GIANNI Ø SAME SLOWLY  
 ‘Mario eats meat quickly. Gianni does that slowly.’ (LIS, Cecchetto et al. 2015: 227)

(33) \*MARIO MEAT EAT-QUICKLY. GIANNI Ø SAME SLOWLY  
 ‘Mario eats meat quickly. Gianni does that slowly.’ (LIS, Cecchetto et al. 2015: 227)

On the other hand, if identity in form is required, there is an easy explanation for why (33) is out: since QUICKLY forms a single lexical item with the verb in the antecedent clause, if the ellipsis site is identical in form to its antecedent, there is a clash in meaning (one cannot eat slowly and quickly at the same time). In (32), there is no clash because the ellipsis site is identical to the verb EAT alone.<sup>5</sup>

Moving to other sign languages, Jantunen (2013), a paper devoted to ellipsis and null arguments in Finnish Sign Language (FinSL), reports cases of gapping<sup>6</sup> (34), sluicing<sup>7</sup> (35), and cases like (36), which, in absence of a diagnostic to differentiate between these two analyses, are ambiguous between a VP ellipsis analysis and a stripping analysis.

(34) GIRL HAS-GOT TWO-PIECES. BOY Ø ONE-PIECE  
 ‘The girl has two and the boy (has) one.’ (FinSL, adapted from Jantunen 2013: 317)

(35) ME ALREADY-KNOW YOU BUY+ALREADY APPLE BUT WHY Ø  
 ‘I know that you bought an apple but (I don’t know) why (you bought it).’  
 (FinSL, adapted from Jantunen 2013: 321)

(36) BOY BUY APPLE GIRL Ø ALSO

‘The boy bought an apple and the girl (bought an apple) too.’

(FinSL, adapted from Jantunen 2013: 321)

Cases of sluicing have been reported also in ASL (Koulidobrova 2017) and in LIS (Cecchetto et. al 2015).

#### 4. The ellipsis analysis of null arguments

It is perhaps not surprising that once a set of analytical categories was developed to account for VP ellipsis, scholars tried to apply the same apparatus to cases of argument ellipsis. In addition to the obvious appeal of accounting for two phenomena with the same machinery, an empirical observation motivated this switch of perspective. It is well known that the elliptical clause in (37) is ambiguous. Under the so-called strict reading, the sentence means that Bill loves John’s mother, while under the so-called sloppy reading, the sentence means that Bill loves Bill’s mother.

(37) John loves his mother and Bill does too.

However, the sloppy reading is not available in the non-elliptical version of (37), which contains a pronoun (38).

(38) John loves his mother and Bill loves her too.

In sign languages as well, VP ellipsis licenses the sloppy reading, so example (39) can mean that Mary thinks that she has mumps, and (40) can mean that Piero values Piero’s secretary.

(39) a-JOHN THINK a-IX HAVE MUMPS b-MARY SAME

‘John thinks he has mumps and Mary does too.’

(ASL, Lillo-Martin 1995: 168)

(40) GIANNI<sub>i</sub> SECRETARY POSS<sub>i</sub> VALUE. PIERO SAME

‘Gianni values his secretary and Piero does too.’

(LIS, Cecchetto et al. 2015: 229)

Interestingly, the overt/null character of the pronoun does not seem to have an impact on the availability of the sloppy reading. As observed by Oku (1998), a pronominal null subject in Spanish does not license a sloppy reading either, that is, (41) cannot mean that Juan believes that Juan’s proposal will be accepted. The same happens in other Romance null subject languages, like Catalan (Quer & Rosselló 2013) and Italian (my judgment).

(41) María cree que su propuesta sera aceptada y Juan también cree que Ø será aceptada.

‘María believes that her proposal will be accepted, and Juan too believes

that *pro* will be accepted.’

(Spanish, Oku 1998: 305)

Therefore, the presence of the sloppy reading has been taken to be a diagnostic of the occurrence of VP ellipsis (although this claim has been challenged, see below). Crucially, a null subject in Japanese behaves differently from a null subject in Romance languages in this respect. The sloppy reading *is* possible in (42), as the sentence can mean that John thinks that John’s proposal will be accepted.

- (42) Mary-wa zibun-no ronbun-ga saiyo-sare-ru-to omottaeru.  
Mary-TOP self-GEN paper-NOM accept-PASS-PRES-COMP think.  
John-mo Ø saiyo-sare-ru-to omotteiru.  
John-also accept-PASS-PRES-COMP think.

‘Mary thinks that her paper will be accepted. John also thinks that it will be accepted.’

(Japanese, Oku 1998: 305)

The contrast between (41) and (42) is very telling because there is a consensus that null subjects of the Romance type are pronominal in nature (cf. Section 2). The fact that null arguments in Japanese behave differently, suggests that they are not. More specifically, based on this type of evidence, it has been proposed that null arguments in Japanese result from the same mechanism which is responsible for VP ellipsis.<sup>8</sup>

The ellipsis analysis for null arguments has been extended to ASL by Koulidobrova (2017). One of her arguments is the fact that also in ASL, a null argument can be interpreted sloppily. In particular, the second part of (43) can mean either that Jeff hates Peter’s students or that Jeff hates Jeff’s students.

- (43) A: a-PETER LIKE a-POSS STUDENT.  
‘Peter likes his students.’  
B: b-JEFF HATE Ø  
‘Jeff hates ({Peter’s/Jeff’s} students).’

(ASL, Koulidobrova 2017: 414)

As long as the sloppy reading diagnostic is a reliable indicator of ellipsis, the pattern in (43) indeed suggests an ellipsis analysis for null arguments in ASL. Koulidobrova develops the ellipsis idea by proposing that what undergoes ellipsis in ASL is not the entire nominal constituent (DP in technical terminology) but only the bare noun, which, however, she assumes to be argumental in ASL. This analysis is suggested by examples like (44). Koulidobrova reports that (44) is three-ways ambiguous. It can mean that the same three students who joined the class dropped it, as expected if the entire DP THREE STUDENT is copied in the second clause. But it can also mean that different three students dropped the class, or that some other students (whose number is unspecified) dropped it. These readings are not immediately compatible with the hypothesis that the quantifier THREE is copied in the gap position in the second clause, and for this reason, Koulidobrova assumes that only the

noun STUDENT is copied (incidentally, this requires a revision of some traditional assumptions about ASL, including rejecting the analysis of the pointing sign as a definite determiner, for which Koulidobrova cites independent evidence).

(44) A: THREE STUDENT JOIN 1-POSS CLASS

‘Three students joined my class.’

B: Ø DROP 1-POSS CLASS

‘({The same three/different three} students) dropped my class.’

(ASL, Koulidobrova 2017: 414)

It must be said that the ellipsis analysis of null arguments has been challenged, too. In particular, Quer & Rosselló (2013) argue that the presence of the sloppy reading is not a reliable indication that we are dealing with ellipsis rather than with a pronominal null category. They give several arguments for their claim, including the fact that a null subject in Romance (therefore, a pronominal category) is not always incompatible with the sloppy reading. This is shown by a sentence like (45), which can mean that Pere says that Pere studies French, and Joan says that Joan studies French, as well.<sup>9</sup>

(45) En Pere diu que Ø estudia francès i en Joan també diu  
 DET Pere says that studies French and DET Joan also says  
 que Ø estudia francès.  
 that studies French

‘Pere<sub>i</sub> says that he<sub>i</sub> studies French, and Joan<sub>j</sub> also says that he<sub>i/j</sub> studies French.’

(Catalan, Quer & Rosselló 2013: 354)

If Quer & Rosselló are right, one of the main motivations for the ellipsis analysis of null arguments is jeopardized.

## 5. Conclusion

It should be apparent that, although the study of ellipsis in sign language is relatively recent and the number of works addressing the topic is not huge, the intricacies and the interpretative riddles that make this topic difficult and at the same time fascinating arise in sign languages not less than in spoken languages. Much work needs to be done, though. For example, it is probably fair to say that to date for no sign language an in-depth analysis of both null argument and predicate ellipsis is available. This makes the current proposals largely dependent (probably too dependent) on the debate started by spoken language data. While there is nothing wrong in using analytical categories developed for spoken languages in the study of sign languages, under the assumption that they are both expression of the biological language faculty, one would expect these categories to be enriched, modified, or even

discarded by the consideration of sign language data. This happened only partially so far, and this is another reason for deepening the investigation of ellipsis phenomena in sign languages.

## Notes

- <sup>1</sup> LE is a perfective or inchoative aspect marker.
- <sup>2</sup> For reasons of space, I simplify somewhat my presentation of Huang's account. In his account, while a null object is always a variable bound by a topic, a null subject can either be a *pro* or a variable.
- <sup>3</sup> In order to grasp the word order in (29), one should keep in mind that in LIS, *wh*-movement targets the right periphery of the clause (cf. Cecchetto et al. 2009). Furthermore, LIS being SOV, the embedded question precedes the main verb I-KNOW in (29).
- <sup>4</sup> Sometimes the issue regarding the choice between the phonological deletion and the semantic copying approach and the issue concerning recoverability are not distinguished, but it would be a mistake to identify them with each other. For example, one can support the semantic copying approach, but still maintain that copying takes place only under morpho-syntactic identity with a suitable antecedent.
- <sup>5</sup> Interestingly, there seems to be some variation across sign languages here. Koulidobrova (2017) applies to ASL the diagnostics based on 'adverb incorporation' by using the ASL adverbs FAST/SLOW. She confirms that the sentence where the adverb is 'incorporated' in the verb root (i.e., the counterpart of (31)) is ungrammatical. This is similar to the LIS pattern. However, she reports that also the version where the adverb is an independent sign (i.e., the counterpart of (30)) is ungrammatical in ASL. This introduces an interesting cross-linguistic difference. It is possible that LIS allows ellipsis of the VP to the exclusion of the VP-peripheral adverb while ASL does not.
- <sup>6</sup> Gapping is the ellipsis phenomenon under which the verb in the second conjunct can be elided under conditions of identity with the verb in the first conjunct. The following is an example from English.
  - (i) John eats an apple and Mary  $\emptyset$  a candy.
- <sup>7</sup> Sluicing is the ellipsis phenomenon under which everything except the *wh*-expression is elided from an interrogative clause. The following is an example from English.
  - (i) Someone bought a present, but I do not know who  $\emptyset$ .
- <sup>8</sup> Saito (2007) favors the semantic copying mechanism, as he assumes that the position of the null argument is not projected in syntax and is given a content in the semantic component. The reason for assuming this is that Japanese behaves differently from English and LIS when the diagnostic based on the extraction from the ellipsis site is applied. While extraction is possible in English and LIS (cf. (28) and (29) in the text), scrambling out of an elliptical category is apparently not possible in Japanese (cf. Saito (2007) for the data and for a more accurate description). Incidentally, notice that in principle, the difference between English and LIS on the one side and Japanese on the other side might also be due to the type of extraction involved (*wh*-movement and scrambling, respectively).
- <sup>9</sup> The difference between (41) and (45) is that in (41), the null subject *contains* the pronominal expression ('his/her') which does not admit the sloppy reading, while in (45), the entire subject is the pronominal expression that can be interpreted sloppily.

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