Null Subjects and Objects in Child English¹⁾

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Han, Ho, Choe, Soon-Gwon, & Park, Yeon-Sook. (2004). Null Subjects and Objects in Child English. *English Language and Literature Teaching*, 10(2), 25-42.

This explores some possible interpretations subject/object in child language, pointing out some potential problems in recent works within the minimalist framework and suggesting different views on it. Particularly, we will focus on how to identify and/or license null objects, since most of the studies relevant to this issue have accounted for null subjects only. Discussing the results of the studies on child language data, we will show that previous syntactic explanations on null subjects, which have seemed quite attractive and refined, may not hold when accounting for null objects and various aspects and properties of null arguments in those child In doing so, we will suggest and support performance-based account. a discourse-based account. and markedness account.

[child language/null subjects and objects/the minimalist program /discourse/performance, 아동언어/공주어/최소주의/담화인지/언어수 행능력]

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¹⁾ This research was supported by The Hwang Pil Sang Research Fund in Ajou University. We thank the three anonymous reviewers for their comments.

I Introduction

The goal of this study is to explain null subject/object utterances in child language in different ways with previous syntactic accounts, particularly an account under the minimalist program. We will discuss syntactic accounts, pointing out some problems with regard to the generalizability of them, and support some previous alternative accounts, which were not based on syntax only.

Young children's utterances without an overt subject DP have been extensively studied in terms of how to identify and license a null subject that has been taken to be a null category, pro. Special attention has been paid to null subjects in early child English since English is the so called 'non-pro-drop' language requiring the subject position to be filled with a phonologically overt DP, but children learning English produce ill-formed sentences, compared with children's legitimate ommission of the subject in pro-drop languages such as Italian, Chinese, Korean, and Japanese, naming a few. The issue is, then, why children learning English produce ungrammatical null subject sentences. See the following examples from child English:

(1) Hug Mommy Play bed Writing book See running

(Bloom, 1990, p. 491)

Such data led researchers to inquire if children's English grammar is different from adults' one.

There are some explanations on null subject sentences, which are based on syntactic mechanisms, children's poor processing capacity, or discourse-based deletion. In Section II and III, we will discuss a recent syntactic account and its potential problems. Alternative accounts will be reintroduced and supported in Section IV. Section V wraps up this study.

II. Syntactic Accounts of Null Subject Sentences

1. Syntactic Accounts Under the Government and Binding Theory

A very refined syntactic account was first presented by Hyams (1986) and her successive works. She argues that null subjects are identified through certain properties of inflection. She posits that the Universal Grammar (UG) takes the following rules:

(2) a.
$$S \rightarrow NP$$
, I, VP
b. I \rightarrow (AG). AUX

She proposed the [AG/PRO] parameter, which assumes that a language allows the subject drop if it has the [+] value of the parameter, while it does not allow the subject drop if the value is [-]. This line of reasoning is subject to the assumption that where AUX contains a lexical element, AUX heads I; otherwise, AG heads I. Hyams suggests that the parameter has the [+] value when I is specified with the [+] pronominal feature that absorbs the nominative Case (AG=PRO), but the [-] value when AG \neq PRO.

Hyams' analysis pertains to the comparison of child English to child and adult Italian. According to her suggestion, Italian is [+AG/PRO], while English is [-AG/PRO]. Children acquiring English start with [+AG/PRO] ([-pro drop]) and later they reset the parameter to [-AG/PRO] ([-pro drop]) after encountering enough input. On the other hand, children acquiring Italian just hold their original parameter value since there is no evidence that disallows the subject drop. Italian children's case is involved with agreement identification process. That is, inflectional morphemes with agreement features help Italian children identify the subject of a sentence.

Hyams' proposal faces a problem with the acquisition of a pro-drop languages without agreement inflection, such as Chinese, Korean, and Japanese, which have been controversial in whether they have Agr or not, and, if any, it is strong or weak. In this regard, Huang's (1984)

suggestion appears to be attractive. On the basis of his analysis of Chinese null argument sentences, Huang argues that null subjects are structurally licensed through topic-identification process, which posits a category, null Top(ic) in discourse-oriented languages as seen in (3):

(3)
$$[T_{op} e_i [S pro_i ...]]$$

In the above configuration, the null topic is interpreted through a discourse-linked element, and, in turn, *pro* is interpreted. Huang proposes that early child English entertains the Chinese-like grammar.

Jaeggli and Safir (1989) propose an interesting description on the null subject phenomena. They show that null subjects are allowed in languages with full or no inflection of agreement. For instance, Chinese lacks agreement inflection, and Italian has full inflection of agreement, while English has an inflection paradigm which is not morphologically uniform. This proposal, the Morphological Uniformity Hypothesis (MUH), assuming a parameter [±uniform], is empirically supported in that when children acquiring English begin to produce the inflectional morpheme, null subjects begin to disappear. However, the MUH does not provides any explanation of why this happens in child language, and rather it just gives a simple description.

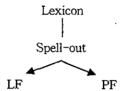
The (morpho)syntactic accounts above were proposed in the theoretical framework of the Government and Binding Theory. In early 90's, generative grammar takes the minimalist program which is very innovative, and thus followed by many new suggestions on the structure building and transformation. The explanation on null subject sentences in child English also goes with new theoretical interpretation, which we now turn to.

2. Syntactic Accounts Under the Minimalist Program

In early 90's, Chomsky (1993, 1995) proposed a new syntactic framework, the minimalist program, which is mainly based on the notion of economy. Economy further subsumes some explanatory

principles such as Procrastinate¹¹⁾ and Greed¹²⁾, which are computational in some sense. Chosmky (1995) assumes that the representation and derivation are explained under the following system with only two interface levels requiring interpretable symbols:

FIGURE 1
The Minimalist Program



LF is a conceptual-intentional system, and PF is a articulatory-perceptual system. Here, overt syntactic movement occurs when a relevant syntactic operation occurs before Spell-out, affecting PF or LF, while covert syntactic movement occurs when a relevant operation occurs after Spell-out, affecting LF. According to Procrastinate, an overt movement is not economical, and possible only when it is necessary. This can be stated in terms of feature strength, as the minimalist program stipulates that an element may be specified with either strong or weak features. Those with strong features are visible at PF and thus must be eliminated before Spell-out through the feature-checking mechanism, while those with weak features are not visible at PF and thus can be checked off after Spell-out.

In the minimalist program the initial state of language acquisition is characterized by children's pursuit of the most economical form of a sentence structure, and thus the economy principle operates from the

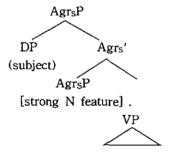
The definition of Procrastinate is as follows: "Delay performing a necessary operation until LF [Logical Form], except to prevent a PF [Phonetic Form] violation." (Lasnik, 1999:30)

²⁾ The definition of Greed is as follows: "Move α applies to an element α only if morphological properties of α itself are not otherwise satisfied." (Lasnik, 1999:2)

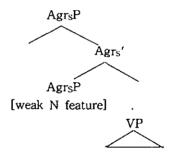
beginning of language acquisition. Platzack (1994) and J.-T. Kim (2000, 2003) entertain this theoretical framework to account for the subject drop in child language.

Agrs is the head of AgrsP, which is the domain of syntactic agreement between subject and verb. The DP in the SPEC of VP moves to the SPEC of AgrsP, the subject position, and, then, the N feature of Agrs is checked off before Spell-out. According to the syntactic mechanism above, if Agrs has the strong N feature that must be checked off, a DP must move to the SPEC of AgrsP overtly, filling the subject position. In contrast, if Agrs has the weak N feature, there is no need for overt movement of a DP to the SPEC of AgrsP, which is, then, empty in visible syntax, 13 as seen in (4).

(4) a. Non pro-drop languages



b. Pro-drop languages



(J.-T. Kim, 2003, p. 23)

The null subject parameter is associated with the strength of the N feature of Agrs. Following that the initial state of human grammar is the most economical form, J.-T. Kim (2000, 2003) argues that children's initial syntax must be the most economical, particularly in observing Procrastinate, according to which overt syntactic operation must be

¹³⁾ Platzack (1994) assumes that a pro-like element moves to the SPEC of Agr_sP at LF and creates a null subject sentence.

delayed until children encounter some evidence that clearly shows the necessity of overt syntactic operation. This logic goes further with Platzack's (1994) argument that children start language acquisition with the initial setting, in which syntactic features of functional categories (including Agrs) are weak, and weak features represent an unmarked (default) property in this regard. Therefore, children's subject drop results from their initial setting represented by the unmarked option that the N feature of Agrs is weak and it is thus checked off after Spell-out. Children acquiring English later realize that the N feature of Agrs is, in fact, strong in their target language.

III. Critical Comments on the Minimalist Account

The recent minimalist account of children's subject drop offers a refined re-interpretation of the subject drop in terms of syntactic operation. However, it does not give us clear answers to the following questions:

- [1] Children omit not only the subject but also the object. How can the minimalist account deal with children's object drop?
- [2] From the start, children's deletion of a DP argument is optional, as some data illustrate. What can the minimalist account say about this?
- [3] The rate of subject drop is much higher than that of object drop. How can the minimalist account explain this unbalance?
- [4] How do children acquiring English reset the parameter? In other words, with what evidence do they realize that their target language has Agrs with the strong N feature?

In what follows, these topics will be discussed in detail, and we will provide some possible answers to the questions, and discuss somewhat unclear points of the minimalist account.

1. Children's Object Drop

Language acquisition data show that children sometimes drop the object of a verb. In fact, young children drop not only subject or object DPs but also verbs and locative arguments. An account would be taken to be the best, if it can explain ommission of these categories in a consistent way. We will here focus on object drop.

Bloom (1990) analyzed the utterances produced by Adam, Eve, and Sarah in Brown's (1973) study and presented the following result:

TABLE 1
Omission from Obligatory Contexts

	Adam	Eve	Sarah	Total
Subjects	57%	61%	43%	55%
<u>Objects</u>	8%	7%	15%	9%

If the minimalist account applies to the object drop, the same explanation must hold. Platzack (1994) and J.-T. Kim (2000, 2003) did not discuss the object drop, but we may be able to generalize their argument in the following way. First of all, they may have to posit AgroP headed by Agro in English, which must be specified with the strong N feature since the standard English does not allow omission of the object. Second, they might assume that children acquiring English take Agro as a functional category with the weak N feature, so it does not have to put the object DP in the SPEC of AgroP before Spell-out. As a result, null object utterances could be produced. (14)

However, this conjecture faces a serious problem in terms of its generalizability. Notice that null argument sentences appear in almost all child languages. For child English, of course, we can rely on the notion of AgrsP or AgroP that is taken as the real existing projection of a functional category. But, as we have discussed a potential problem of Hyam's (1986) proposal, Chinese, Korean, and Japanese may not have

¹⁴⁾ See Speas (1995) for her comments that null objects may be licensed in a different way from the license of null subjects.

AgroP, or, at least, its existence is quite controversial in those languages. The problem is that if we rely solely on the feature strength of a certain functional category to explain children's subject or object drop, we might not be able to extend such account to some other languages without the relevant functional category.

2. Optional Subject or Object Drop

An additional issue is why the subject or the object is optionally omitted. If syntactic accounts including the minimalist account are correct, young children are expected to produce subjectless or objectless utterances consistently in the beginning of the two-word stage. Logically, only a verb constitutes a sentence, if Agrs and Agro are specified with the weak N feature incorrectly in child English. But the data researchers quoted demonstrate that children optionally drop the subject or the object from the start of language acquisition. This is a problem noted by J.-T. Kim (2003), though he advocated the minimalist account.

Speas (1995) argues on pro-drop languages that the notion of recoverability plays a role in the optional subject drop. Thus, in pro-drop languages, a good candidate for omission is the element that is easy to recover its reference from a discourse. What about children learning a non-pro-drop language like English? If we apply Speas' argument to this case, we have to contend that children are conscious of the notion of recoverability from the very beginning of language development. It is not easy to prove that young children have such capacity. But in any case, the minimalist account above cannot hold without discourse functional account, in which some discourse 'force' overrides the feature strength.

3. Difference in the Drop Rate.

As seen in TABLE 1, the rate of the subject drop is higher than that of the object drop. Even if we take the feature strength explanation for

both subject and object drop consistently, we still run into a trouble. Why do children omit subjects more frequently than objects? The minimalist account cannot answer this question with their assumption that all the functional categories including both Agrs and Agro are specified with weak features.

Supporters of syntactic accounts could suggest one possible answer, which is, again, based on the pragmatic notion of recoverability. They can argue that the subject is more recoverable than the object. This story is not new and in fact, Bloom (1990) and Y.-J. Kim (2000) propose that the subject usually conveys given information, while the object usually carries new information. Given information is what the speaker and the listener share and, therefore, it can be easily recovered. Here, again, in order to explain the unbalanced rate of the subject and object drop, proponents of the minimalist account should rely on a discourse functional notion.

4. How to Reset the Pro-Drop Parameter

The minimalist account postulates that children, no matter what language they acquire, start with the value of [+pro drop]. If the minimalist scenario is right, children acquiring English first take all functional categories to be specified with weak features and later they should realize that the features of some of the functional categories are not weak and thus an overt syntactic operation is posited. Then, what sort of evidence guides children to reset the value to [-pro drop]?

Note that the minimalist account supposes that children are born with full specification of phrase structure, and thus all functional projections are available from the start. Children's task is to figure out the feature strength of each functional category in their target language. As for the pro-drop case, probably, children reset the parameter on the basis of a number of input utterances that obligatorily contain overt subjects. The obligatoriness of an overt subject is realized in a transitionary way:

	3	·· · · · · · · · · · · · · · · · ·			
Group	No. of children	Age (month)	No. of subject % mean	%Range	
I	5	22-26	31%	18-45%	
II	5	25-32	11%	6-16%	
III	. 8	25-30	7%	1-13%	
IV	3	30-32	5%	3-8%	

TABLE 2
English Sentences with Null Subjects

(J.-T. Kim, 2003, p. 26)

As J.-T. Kim (2003) points out, children during these stages of language development have not automatized the obligatoriness of an overt subject yet. But one question arises on the automatization. Children usually overuse a grammatical element or over-apply a grammatical rule, once they realize the existence of it. For example, children overuse the regular past tense marker -ed, and produce an overgeneralized incorrect form such as *goed. What we observe in the case of the resetting of the pro-drop parameter is the situation of a gradual transitionary progress toward the correct target grammar. We consider such gradual automatization a sign of the effect of performance errors. This will be discussed in detail in Section IV.

So far we have discussed four issues that the minimalist account didn't give an answer to or were not clear on. The four issues are, to some extent, concatenated with discourse-functional explanation and/or performance-based account. The next section will take those two into consideration

IV. Alternative Explanations

We have shown the syntactic account cannot but rely on discourse-based or performance-limitation explanations. This section discusses these two alternative accounts with evidence presented in recent studies.

1. Discourse-Based Approach

The notion of recoverability we discussed before is closely linked to discourse function. The role of discourse/pragmatic factors for the pro-drop parameter is discussed by Y.-J. Kim (2000), Vannika and Levy (1999), and Gordishevsky & Shaeffer (2002).

Y.-J. Kim (2000) analyzes child Korean data in terms of the subject/object drop and found that children are sensitive to the frequency of the subject/object drop in their target language. She explained the lower rate of the object drop, regarding topic interpretation. Givŏn (1983) and Huang (1984) point out that null subjects differ from null objects in their discourse status, in a sense that unlike null subjects, null objects are focused or not presupposed when they are linked to null topics. Y.-J. Kim argues that Korean children's gradual progress to the adult's rate of the subject drop is on a par with the development of children's performance capacity, and she contends "children learning discourse-oriented languages are sensitive to discourse-pragmatic principles of argument deletion in their target language and also that such a tendency grows as they get older" (Y.-J. Kim, 2000, p. 324)

Vannika and Levy (1999) propose their syntactic analysis of null argument structures in Finnish and Hebrew. Their study is not the study of language development, but it is worth considering since it also illustrates the crucial role of pragmatic factors. Vannika and Levy present the following paradigm of null argument sentences in Finnish and Hebrew:

TABLE 3
Obligatory S vs. Optional (S) Overt Subjects in Finnish and Hebrew

	1 sg.	2 sg.	3 sg.	1 pl.	2 pl.	3 pl.
Standard Finnish	(S)	(S)	S	(S)	(S)	S
Hebrew: past & future	(S)	(S)	S	(S)	(S)	S
Hebrew: present	S	S	S	<u>S</u>	S	S

(Vannika & Levy, 1999, p. 615)

from Rizzi's (1986) morphosyntactic Departing analysis the identification of null arguments, Vannika and Levy argue that in order to consider the mixed distribution of null arguments as in TABLE 3, we have to go with the notion of referentiality in addition to the notion of recoverability. On the surface, the first and the second person seem to be recovered easily on the basis of the situation with the speaker and the listener being presented. However, if we rely only on the notion of recoverability, we cannot explain the null subject languages like Italian and Spanish and the non-null subject languages like German. Vannika and Levy adds the notion of referentiality, which is merged into their new syntactic analysis under the Minimalist Program. We will not concern with their syntactic account. What interests us is the notion of referentiality, which is, in part, a pragmatic/discourse notion.

Gordishevsky & Shaeffer (2002) and Avurutin & Gordishevsky (2003) noted that Russian is not like Chinese and Japanese since it has a full agreement system, and it is not like Italian and Spanish in that the overt subject does not create any emphasis or stress. With the analysis of child Russian data, they report the following findings. First, children speaking Russian can deal with contextual circumstances that render them to choose overt or null subjects/objects. Second, the factors on children's performance of choosing overt or null arguments are the same with those working in adult Russian. Third, children take into consideration both syntactic and discourse constraints from beginning of language development. Fourth, young children use null arguments much more than adults, but young children's null arguments occur in the discourse where a pronoun should occur, and this demonstrates that they are sensitive to the discourse factors that also work in adult Russian. To sum up, child Russian data present the evidence for children's sensitivity to the discourse/pragmatic factors on their production of null argument constructions.

The discourse-based approach is closely associated with the performance-limitation approach, which we now turn to.

2. Performance-Limitation Approach

Bloom (1990, 1993) and Valian (1990a, 1990b, 1991, 1994) propose that cross-linguistically, children's subject and object drop is attributed to children's lack of processing capacity - performance limitation. That is, since young children cannot handle a full, long sentence, they tend to omit an element that can be recoverable. Their argument is rooted in the following three pieces of evidence:

- (5) a. Length limitations show up even when children imitate adult speech.
 - b. Children omit all constituents, not just subjects.
 - c. Some children do not eliminate subjects, but only reduce them. (Bloom, 1990, p. 492)

The performance-limitation hypothesis assumes that young children know the parameter value of either [+null argument] or [-null argument] but they just omit due to processing constraints and/or pragmatic factors.

Under this approach, children omit subjects more frequently than objects because subjects bear given information and are easier to recover from the context, or because children take the 'save the heaviest for last' bias.

We contend that in order to explain the cross-linguistic phenomena of children's subject/object drop, the discourse-based approach and the performance-limitation approach give us a far better explanation and do not face the problems that the minimalist account runs into.

V. Concluding Remarks

We have shown that the refined minimalist account on children's subject drop may have to consider other aspects of children's null argument sentences. We argued for the discourse-based approach and

the performance-limitation approach that could resolve some potential problems with more explanatory power and generalizability.

All the discussions so far can be simply put in a different view. That is, as Platzack (1994) noted, the markedness hypothesis might give a better explanation. Platzack argued that all functional categories are specified with weak features in early child languages, and this situation represents the unmarked option to young children. According to Gilligan's (1987) extensive study on the distribution of null subject languages, out of 100 languages he investigated, only seven languages¹⁵⁾ do not allow null subjects in finite clauses. The ratio of 93 to 7 clearly supports the markedness hypothesis, which assumes that all children start with [+pro drop].

Here, we do not argue that children's subject/object drop is explained only by discourse-based approach or the performance-limitation approach. Children acquiring Italian might rely on syntactic cue for their parameter setting, but children acquiring Korean might not. We conclude that the pro-drop phenomena should be considered jointly by the syntactic approach, the discourse-based approach, and the performance-limitation approach.

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¹⁵⁾ These seven languages are one Indo-European language, two Indo-European-based creoles, two Niger-Congo languages, one Austronesian language, and one Chibchan language.

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Examples in: English

Applicable Languages: English Applicable Levels: College

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Revised in June, 2004 Reviewed in July, 2004 Revised version received in August, 2004