Acquisition of Negation in Korean: Object Constructions in the Optional Infinitive Stage*

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1. Introduction

There has been a growing body of work in the field of language acquisition that revealed extremely *early knowledge* of many properties of language (e.g. Pierce 1989; Poeppel & Wexler 1993; Wexler 1996 among others). Particularly, a large amount of recent research has successfully shown that children at a very early age know much of the syntax of their language including the system of verbal inflection and case morphology.

(1) Very Early Parameter Setting (=VEPS; Wexler 1996): Basic para-
    meters are set correctly at the earliest observable stages, that is, at
    least from the time that the child enters the two-word stage
    around 18 months of age

(2) Very Early Knowledge of Inflection (=VEKI; Wexler 1996): At the
    earliest observable stage (from the time that the child enters the
    two-word stage around 18 months of age), the child knows the
    grammatical and phonological properties of many important inflec-
    tional elements in their language

These hypotheses known as VEPS and VEKI, when combined with the well-known arguments regarding the "poverty of the stimulus" and the nature of Universal Grammar, can entertain the hypothesis that a child's

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linguistic knowledge at a certain age arises not from linguistic experience but derives directly from genetically determined properties of the human brain.

This hypothesis, however, runs into a problem as soon as one discovers a stage at which a child produces non-adult forms, e.g. the use of infinitives in root clauses, which suggests the lack of linguistic knowledge of a particular sort at a given stage. The legitimate question to ask here would be that how a child who does not know *P1* at age *n* comes to know *P1* at a later age *n+m*, given that no *learning* takes place in the course of linguistic development?

One of the earliest and best-known answers to this problem of *late knowledge* that has been explored in many experimental studies is maturation of the human language faculty: *linguistic maturation* (Borer & Wexler 1987). The maturational hypotheses claim that the human biology that supports (the realization of) the relevant linguistic knowledge is not available until a comparatively late stage in child's development. That is, the brain structures that instantiate Universal Grammar are subject to some kind of maturational timetable since maturation is as much a property of the brain as it is a property of other human organs.

Suppose we discover errors in language use by children that strongly correlate with differences in age. Under the given assumptions about linguistic maturation, it would be quite reasonable to ask whether these errors might be the result of maturation-dependent differences in the brain structure that subserve language. This paper presents a case to explore this possibility as an answer to the often-asked question: what causes the child language to differ from the adult language and how does the child language reaches the final state or the grammar that produces the adult language?

From this perspective, I will examine one of the well-known errors in the acquisition of negation in Korean. Korean children around the age of two produce a significant number of negative sentences where the so-called short-form negation is misplaced with regard to the position of the direct object (3), as has long been observed (Cho & Hong 1988; Kim 1997). The "§" mark indicates a construction that is attested in child utterances, but is ungrammatical/unacceptable in adult speech.

(3) a. <u>Child Data</u>

§ kkoch-i	*an*	nolay	pwulle
flower-nom	neg	song	sing

'The flower does not sing a song' (Cho & Hong [2;2-6])
b. <u>Adult Grammar</u>

kkoch-i	nolay	*an*	pwulle
flower-nom	song	neg	sing

'The flower does not sing a song'

A longitudinal study of the transcripts of the natural production data obtained from a monolingual Korean child JK[1] indicates that this is not a negligible phenomenon: during the period between the age of 2;0 and 2;11, almost 30% of the negative sentences in JK's files showed this type of word order error. An additional finding from JK's files was that ACC case marking was always missing from the direct object when negation was misplaced, although ACC marking was frequently attested in affirmative sentences or negative sentences without word order errors. Do these word order errors and their correlation to the case marking provide evidence that they result from the lack of certain grammatical module two-year-olds do not yet know, which would constitute evidence against *early knowledge*? Or can we demonstrate that the explanation for these errors come from the assumptions made in line with *linguistic maturation*?

This paper will demonstrate a case where a certain delay/error in children's language use is due to maturational factors, hence providing supporting evidence for *early knowledge* and *linguistic maturation*. Specifically, I argue from a detailed study of JK's natural production data that 1) children's word order errors in negative constructions have highly systematic distribution - there is a strict correlation between the absence of ACC case marking on the object and the misplacement of negation; 2) children know the case system of Korean very early - in particular, they know that the presence of AgrO is responsible for object raising (across negation) and assigning ACC case; 3) the existence and distribution of these word order errors follow from a particular theory of the Optional Infinitives developed in Wexler (1997), i.e. there is a single constraint responsible for the OI stage, which will cease to function at a later stage in child's maturational development.

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2. Data[2]

As has long been observed, Korean children at around the age of two often misplace the short-form negation (Cho & Hong 1988; Kim 1997). While the negative morpheme *an* always occurs immediately preceding the verb in adult Korean as was illustrated in (3b), children sometimes produce negative utterances where the object intervenes between *an* and the verb. Some examples from JK's files are given below.

(4) a. §an   mwue   hay
       neg   something   do
       '(I)'m not doing anything'   (JK 2;1;25)

    b. §jwunkwyu-nun   an   kkakka   mek-ko   an   naynnay   hanta
       JK-top   neg   cookie   eat-and   neg   sleep(N)   do
       'I(JK) do not eat cookies and do not sleep'   (JK 2;2;8)

    c. §an   pyeng   kkaysse
       neg   bottle   broke
       '(I) didn't break the bottle'   (JK 2;3;26)

    d. §an   sori   nay
       neg   sound   make
       '(It)'s not making any sounds'   (JK 2;4;26)

    e. §jwunkwyu-nun   an   cangnan   chijiyo
       JK-top   neg   trouble(N)   make
       'JK's not making any troubles, right?'   (JK 2;5;2)

    f. §an   cwusa   macasse cwusa   macasse
       neg   shot   got   shot   got
       'Did (you) get the shot or not?'   (JK 2;6;14)

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[2] All the data reported in this study are taken from the transcripts of natural production data obtained from a monolingual Korean child JK (2;0-2;11). All the utterances containing the so-called short-form negation *an* and a direct object have been counted. Negative sentences containing *mos*, which can be roughly translated as "cannot," are also included in the counts, since *mos* shows the same distributional behavior with *an* in the sense that no element can intervene between the negative morpheme and the verb. Finally, full or partial imitations or self-repetitions are excluded from the counts.

g. § an   wu-nun   sori   nay
   neg   cry-rel   sound   make
   '(I)'m not making any crying sounds'   (JK 2;7;4)

h. § an   chiyak   haysse
   neg   toothpaste   did
   '(I) didn't brush my teeth'   (JK 2;10;17)

There are two important facts one needs to address to reach any linguistically significant account of these errors: 1) the optionality of the error; and 2) a correlation between the misplacement of *an* and the ACC marking on the object. The first fact has been noticed in literature including Cho & Hong (1988) and Kim (1997). They noticed an apparent optionality in children's misplacement of *an*: the same child who made an error of placing *an* in front of the object also produced grammatical negative sentences with *an* immediately preceding the verb. Without reporting actual frequencies, both studies made claims contradicting each other with regard to the percentage correct in children's production of the short-form negation: Cho & Hong (1988) reported that children between the age of 2 and 4 "predominantly" produced ungrammatical negative constructions, while Kim (1997) indicates that the percentage of grammatical negative utterances is much higher than that of ungrammatical ones.

To provide more detailed observations regarding the apparent optionality, Baek & Wexler (in preparation) searched for both grammatical and ungrammatical negative utterances throughout JK's files. The actual counts, which are summarized in Table 1 given below in (5), indicate that the claim made in Kim (1997) seems to be at least true of JK's productions. The frequency of correct negative utterances in JK's files was much higher than that of incorrect ones, although there were a significant number of ungrammatical negative sentences with the object intervening between *an* and the verb. Sometimes, even within single transcripts (JK 2;2;8; JK 2;6;14), we found occurrences of both correct and incorrect negative sentences containing same lexical items, as illustrated in (4b) and (6b) and (4f) and (6h) respectively.

(5) Table 1. Neg Placement Errors (JK 2;0-2;11)

Word Order		
Obj Neg V	62	70.4%
§ Neg Obj V	26	29.6%
Total	88	

(6) a. cipciski   an   cwue
       house-building-blocks   neg   give
       '(I)'m not giving (you) the blocks'   (JK 2;1;4)

   b. wuyu   mek-ku   naynnay   an   hay
       milk   eat-and   sleep(N)   neg   do   (JK 2;2;8)
       '(I)'m drinking the milk but going to bed'

   c. thokki-nun   mos   ttakkesta
       rabbit-top   cannot   find
       '(I) cannot find the rabbit'   (JK 2;2;29)

   d. ike   an   kaci-ko   ka
       this   neg   take-and   go
       '(I)'m not taking this with me'   (JK 2;3;12)

   e. mal-ul   an   tutci
       word-acc   neg   listen_Q
       '(He) doesn't behave, does he?'   (JK 2;4;5)

   f. i   pal   an   nayreyssta
       this   foot   neg   put-down
       '(I) didn't put this foot down'   (JK 2;4;26)

   g. suphu   an   meke
       soup   neg   eat
       '(I)'m not gonna eat the soup'   (JK 2;5;23)

   h. cwusa   an   mac-ko   kalkeya
       shot   neg   get-and   go_will
       '(I)'ll go without getting the shot'   (JK 2;6;14)

   i. jwunkywu-to   an   taywuko
       JK-also   neg   pick_up_and
       'Without even picking JK up'   (JK 2;7;25)

   j. nae   cangnan   an   ha-ko   thulecwulkke
       I   play(N)   neg   do-and   play_give_will
       '(I)'ll play (the tape) without joking around'   (JK 2;9;18)

   k. Jwunkwyu-lul   an   pwusweperici
       JK-acc   neg   break_down_completely
       '(He)'s not going to break JK down completely, right?'   (JK 2;9;27)

l. nay-ka   cokum-<u>pakkey</u>   an   kkakasse

I-nom   a_little_bit-only   neg   cut

'I cut (it) only a little bit'   (JK 2;10;9)

m. pap-<u>ul</u>   an   mekesse

rice-acc   neg   ate

'(I) didn't eat rice/anything'(JK 2;11;22)

The second fact about the error that needs to be addressed, i.e. the cor-relation between the misplacement of *an* and the ACC marking on the object, was first noticed in Baek (1997a). In all children's incorrect negative sentences reported in Cho & Hong (1988) and Kim (1992), ACC was always missing from the object, although these same children were attested to use the ACC marking on the object in affirmative contexts in their files.

A careful examination of JK's files shows that he started to use the ACC marking on the object as early as 2;3 and frequently marked the object with ACC from then on throughout his files. The first occurrence of ACC attested in JK's files is given below.

(7) jwunkwyu-ka   pyeng-*ul*   kkaysse

JK-nom   bottle-acc   broke

'JK broke the bottle'   (2;3;26)

Interestingly, another careful look at JK's incorrect negative utterances reveals that JK never used the ACC marking on the object when *an* is misplaced and precedes the object (consider the examples in (4)). Among JK's correct/adult-like negative utterances, some objects were still missing the ACC marking, but there were also a significant number of objects marked with ACC or various case particles[3], as shown in Table 2 below.

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[3] There are two types of particles that can be attached to a DP in Korean: 1) case particles that cannot co-occur with NOM/ACC; and 2) caseless particles that can be stacked on top of NOM/ ACC.

  (i)   John-i   pyeng-*to*-(*lul)   kka(JK)ssta

        John-NOM   bottle-also-(*ACC)   broke

        'John also broke the bottle (as well as something else)'

  (ii)   John-i   pyeng-*man*-(ul)   kkayssta

        John-NOM   bottle-only-(ACC)   broke

        'John only broke the bottle (not anything else)'

Based on the complementary distribution between the NOM/ACC and case particles, I assume that case particles can be assigned/licensed in the same position where

(8) Table 2. Distribution of Neg Placement Errors and ACC marking

Correct Word Order			Incorrect Word Order	
Obj-ϕ Neg V	34		§ Obj-ϕ Neg V	26
Obj-*ACC/Prt* Neg V	28		§ Neg Obj-*ACC/Prt* V	0
Total	62		Total	26

Table 2 shows that the ACC marking/case particle appeared on the object in over 45% of JK's correct negative sentences, which can be interpreted as a supporting piece of evidence for JK's early knowledge of the optional spell-out of ACC[4] in Korean. JK's adult-like usage of ACC in correct negative sentences is striking when compared with the absolute absence of the ACC marking (0 instance out of 26 utterances) in his incorrect negative sentences; JK's correct negative sentences show an adult-like distribution of ACC (= optional spell-out of ACC), while his incorrect negative sentences suggest no knowledge of ACC case (= absence of the ACC marking).

This apparently puzzling situation, however, turns into convincing evidence for *early knowledge* of the case system in Korean, if we assume that the misplacement of *an* is the result of the failure of preposing the object into Spec AgrOP in the child grammar[5]. Suppose JK knows the syntactic properties of ACC case in Korean, particularly, that ACC can be assigned only when the object has raised into SpecAgrOP. If some aspect in JK's grammar does not allow object raising over *an*, resulting in incorrect negative sentences, ACC case cannot be assigned to the object since the object is not in SpecAgrOP. The strict correlation between the misplacement of *an* and the absence of ACC in JK's productions of negative sentences thus shows the adult-like knowledge of the ACC case system in the child grammar, when paired with JK's knowledge of the optional spell-out of

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NOM/ACC can be licensed. Hence, a case particle that replaces the ACC marking can be licensed only when the object it is attached to is in SpecAgrOP (See Baek (1997b) for arguments about object raising into SpecAgrOP in Korean). In other words, the appearance of case particles on the object is an indication that the object has raised into SpecAgrOP, just as the ACC marking on the object does.

[4] It is well-known that the spell-out of ACC in Korean is optional, i.e. the ACC marking can be freely dropped without affecting the grammaticality of the resulting sentence. I will just adopt this well-known fact about ACC in Korean without going into the controversial details of its syntactic nature, which is not relevant to a particular aspect of ACC licensing I would like to discuss in this paper.

[5] I will provide arguments for this claim in the following section.

ACC in his correct negative sentences.

There is an interesting methodological point that arises from this discussion, where the absence of ACC marking in certain contexts in the child language actually supports the existence of the full knowledge of ACC in the child grammar at this stage. It is therefore often very dangerous to assume that the absence of a particular form (for instance, the ACC marking) in the child's productions is a strong indication that the child does not yet know the particular grammatical module (for instance, ACC case assignment) that regulates the given form. Through careful linguistic observations or analyses, it may very well turn out that the nonoccurrence of a certain form in the child language rather results from a separate grammatical module in the child grammar that is different from the adult grammar (for instance, no object raising) and interacts with the particular form under discussion.

To summarize, I have shown that 1) there is an optionality in the child's negation placement error; and 2) there is a strict correlation between the misplacement of *an* and the absence of ACC on the object, which I claimed to be an indication of JK's adult-like knowledge of the ACC case system in Korean. I have thus ruled out a possibility that the error might arise from the incompatibility between the requirement on ACC case checking and the requirement on the preverbal placement of *an* in the child grammar. The child *knows* that AgrO requires that the object raise into its specifier and ACC case be assigned to the object. We are then still left with two problems: 1) what prevents the child from preposing the object over *an*; and 2) why is the error optional?

3. Analysis

3.1. Shortcomings of a "Grammatical Optionality" Account

Kim (1997: 380) has addressed the optionality in children's productions of short-form negation in Korean and suggests that it arises from the optionality in the child's grammar, i.e. both correct and incorrect placements of *an* with regard to the position of the object are equally *grammatical* to the child. However, as has been pointed out in Baek (1998), this claim instantly loses its validity under the traditional theory of learning, which assumes that acquisition is error-driven (Wexler & Culicover 1980): a change in the

parameter settings of the child's grammar is motivated only when an input sentence cannot be syntactically processed.

If the child's grammar allows both correct and incorrect placements of *an* as grammatical, the child's grammar at this stage will be able to analyze the correct adult-like input[6], where *an* is strictly pre-verbal. As a result, the child's grammar will never abandon the extra option of placing *an* in front of the object simply because the change from the parameter setting that allows optional preverbal placement of *an* to the adult-like parameter setting that *requires* perverbal placement of *an* is "unlearnable."

Since the problem of learnability makes it impossible to assume that the optionality of the errors arises from the optionality in the child *grammar*, let us explore a radical alternative. That is, both correct and incorrect negative sentences in children's productions are *ungrammatical* in the child grammar. Although it may sound highly implausible at first, Wexler (1998) has suggested and successfully shown that a similar type of optionality observed in the children's use of infinitives in root clauses in many languages constitutes evidence that a choice between two equally ungrammatical forms produced by the child grammar yields the optionality between the correct and incorrect utterances in children's productions. Following the terminology adopted in Wexler (1994), let us refer to this stage of acquisition as the "Optional Infinitive (=OI)" stage. Interestingly, the age that the infinitives in matrix/root clauses are observed in these languages, i.e. around age 2, is the same age that Korean children produce negation placement errors. If we assume that the OI stage is a universal/biological maturational stage in language acquisition, the age fact suggests the possibility that the negation placement error in Korean is caused by the same properties of the child grammar that produce matrix infinitives in other languages. That is, the *an* misplacement error is an instantiation of an OI stage in Korean.

3.2. Optional Infinitive Stage: ATOM and UCC

The crosslinguistic evidence for an OI stage can be found in many recent studies of early language acquisition. All Germanic languages studied to

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[6] Although the input will always provide the correct/pre-verbal placement of *an*, it would be highly implausible that a child keeps track of all negative sentences and concludes from the absence of the incorrect negative sentences in the input that only pre-verbal placement of *an* is grammatical , since it requires a considerable burden on the child's memory(*No Indirect Negative Evidence*).

date display the OI stage in acquisition, including Danish, Dutch, English and Faroese (Jonas 1995); German (Poppel & Wexler 1993); Icelandic (Sigurjonsdottir 1992); and Norwegian and Swedish (Wexler 1990, 1994). Some of non-Germanic languages that also exhibit the properties of OIs in early child language are French (Pierce 1989, Weissenborn 1991); Irish (Wexler 1995, Guilfoyle 1996); Russian (Bar-Shalom & Snyder 1997); Portuguese (Wexler & Secco in preparation); and Czech (Moucka & Wexler in preparation). Before going into the detailed discussion of how the OI stage applies to the negation placement error in early child Korean, let me briefly review the properties of OIs in other languages to provide a better idea of the crosslinguistic phenomena of the OI stage.

Poppel & Wexler (1993) noticed a very interesting correlation between the use of non-finite verb forms in matrix clauses and the verb-second (=V2) phenomenon in a 25-month-old German child. When a finite verb form appears, it predominantly appears in the correct V2 position, while nonfinite verb forms mostly occur at the incorrect sentence-final position, as illustrated below in Table 3.

(9) Table 3 Finiteness versus V2 (Poppel & Wexler 1993)

	+finite	−finite
V2/not final	197	6
V final/not V2	11	37

Wexler (1994), based on the observations made in Pierce (1989) concerning children's use of nonfinite verb forms in negative sentences, has claimed that early child French also displays a similar pattern of behavior, i.e., when a finite verb form is used in children's utterances, it is used *grammatically*. According to Pierce (1989), the transcripts from four French children aged 1;8-2;2 show that finite verb forms, in most cases, correctly precede the negative morpheme *pas*. In contrast, nonfinite verb forms almost always follow *pas*, which is not a grammatical word order in adult French.

(10) Table 4 Finiteness versus Negation (Pierce 1989)

	+finite	−finite
Verb *pas*	216	2
pas Verb	9	122

Aside from the strong evidence for *Very Early Parameter Setting* demonstrated by these two studies (e.g. V-to-C raising in German; V-to-T

raising in French), the results from both languages illustrate typical properties of the OI stage: 1) children around the age of 2 produce nonfinite matrix verbs, which are not grammatical in the adult language; 2) these ungrammatical forms co-occur with grammatical/finite verb forms; and 3) when a finite verb form is selected, it is used grammatically, i.e. finite verbs move as in the adult language, while nonfinite verbs remain in-situ.

Let us assume, based on the above results, that the OI stage has a syntactic reality as opposed to being a result of low-level morphological errors, and that it reflects a universal maturational stage in language acquisition. The remaining question is, then, what causes the OI stage, especially given the correctness of *Very Early Parameter Setting*? One answer to this question can be found in Schutze & Wexler (1996), which I will ultimately adopt as a particular theory of the OI stage that can be extended to the account of *an* misplacement in Korean.

Based on the observations initially made in Rispoli (1994), Schutze & Wexler (1996) have pointed out that there are a number of non-NOM subjects produced by English children around the age of two. Consider the correlation between the use of non-NOM subjects and nonfinite verb forms in Nina (1;11-2;5)'s use of 3rd person singular subjects, which was originally taken from CHILDES (MacWhinney & Snow 1995) and counted in Schutze & Wexler (1996).

(11) Table 5 Finiteness versus Case (Schutze & Wexler 1996)

	+finite	−finite
he/she	255	139
him/her	14	120
% non-Nom	5%	46%

In order to account for the fact that almost half of the OI clauses show non-NOM subjects, while only 5% of finite clauses show non-Nom subjects, Schutze & Wexler (1996) have assumed that 1) there are two separate functional categories that attract the subject in English, i.e. Tense and AgrS; and 2) AgrS is the projection that licenses NOM case. In the adult grammar, the subject has to move to the Tense projection (for EPP) and then subsequently to the AgrS projection for NOM case checking. Under this analysis, the production of non-NOM subjects in early child English results from the omission of AgrS, which is also responsible for the occurrence of OIs in matrix clauses, since a finite verb form (e.g. *he goes*

as opposed to *he go*) can surface only when both Tense (e.g. [+present]) and AgrS (e.g., [+3rd/sg.]) are specified with particular values. [+Tense, −AgrS] will lead to a non-NOM subject in an OI clause, while [−Tense, +AgrS] will result in a NOM subject in an OI clause. The OI stage in English now can be characterized by a grammar where either Tense or AgrS may be independently missing in finite environments. Following Schutze & Wexler (1996), I will refer to this particular theory of the OI stage as ATOM (=Agr/Tense Omission Model).

A remaining question is what aspect of the child grammar is responsible for ATOM. As an answer to this question, Wexler (1999) provided a new theory of the OI stage that derives why Tense or Agr is optional in the child grammar at this stage, which is referred to as the Unique Checking Constraint (=UCC).

    (12) Unique Checking Constraint (=UCC) (on children in the OI stage):
        The D-feature of DP can only check against one functional category.

This theory fits in very well with the hypotheses of *VEPS* and *VEKI*, i.e. there is no learning delay in general. The child in the OI stage knows relevant parameter settings (e.g. V2 in German; V-to-T raising in French) and the properties of verbal inflection. What the child in the OI stage does not know, however, is that the D-feature of DP can enter into multiple checking relations and can be checked more than once against different functional categories. If the subject DP raises to Tense, the D-feature of the subject is checked against the D-feature of Tense. Then there is no way to satisfy the D-feature of AgrS without further raising the subject to AgrS to enter into another checking relation, which will be a violation of the UCC. To avoid violating the UCC, the child has to leave the subject in SpecTP, and the derivation crashes due to the unchecked D-feature of AgrS The child thus omits either Tense or AgrS so that the D-feature of the subject DP does not have to be checked twice.

3.3. Extension of UCC to Negation Placement Error in Korean

Let me begin by laying out some of crucial theoretical assumptions about the syntactic structure of the short-form negation in Korean. First, I will continue to adopt the claim made in Baek (1997a) concerning the position of the negative morpheme *an*, i.e. *an* is in SpecNegP. Second, following Chomsky (1995), I will assume a split-VP structure, where the subject is

base-generated in Spec$v$P and v takes as its complement the VP containing a verb and its object. Third, I will also continue to assume that the object raises into SpecAgrOP in Korean, following the claim made in Baek (1997b).

(13) [AgrOP Obj$_i$ .... [vP Subj ^{7} [VP t$_i$ Verb]]]

Fourth, based on the word order fact that the object precedes *an* in adult language, I will assume that AgrOP^8 is higher than NegP in Korean.

(14) [AgrOP Obj$_i$ .... [NegP *an* .... [VP t$_i$ Verb]]]

One remaining question concerning the syntax of short-form negation in Korean is the exact base position of NegP. The child data, in which *an* precedes both the object and the verb, clearly indicate that NegP is higher than VP. The question still unanswered is whether NegP is still above vP or vice versa. Hagstrom (1997) argued for the structure where NegP is generated between vP and VP, based on the scope interaction between negation and the subject quantifier. Consider, for example, the following sentence:

(15) motu-ka   ppang-ul   *an*   mekessta
     all-NOM   bread-ACC   Neg   ate
     'All did not eat the bread'
     a. every>neg   ('No one ate the bread')
     b. *neg>every   ('Some people, but not all, ate the bread')

According to Hagstrom (1997), the scope judgment in (15) provides evidence that the base position of the subject in short-form negation is above NegP at all points throughout the derivation. However, if we take the assumption concerning the nature of A-movement (e.g. the movement of the subject "all" to Tense in (15)) made in Chomsky (1995) that A-movement does not leave an accessible copy, the judgment does not provide us with any

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^{7} I assume that the subject raises to Tense and thus precedes all other materials contained under AgrOP. Since subject raising is not an issue here, I will not pay further attention to the position of the subject in this paper.

^{8} Hagstrom (1997) assumes that NegP takes AgrOP as its complement without providing theory-independent evidence. Furthermore, it is not clear what is the surface position of the object in his analysis since the object is contained in the moving category AgrOP, whose landing site is not specified.

evidence in favor of the structure where vP is above NegP.[9] That is, if the A-movement of the subject "all" does not leave an accessible copy in its base position, i.e., Spec$v$P, the scope interaction fact does not provide any clue concerning the position of vP and NegP. It simply follows from the surface order in which the subject appears above negation.

Suppose, on the contrary, vP is below NegP in short-form negation in Korean. This structure not only fits in with the scope interaction between the subject quantifier and negation(, which is actually irrelevant to determining the base position of the subject that is hosted in Spec$v$P), but suggests a plausible analysis of the child's error of *an* misplacement from the perspective of the OI stage and the UCC[10], when combined with the well-known assumption that object raising relies on the strong D-feature of v, an argument first made in Chomsky (1995) and further explored in Torrego (1998). Chomsky (1995) argues that the second specifier of v is motivated by the strong D-feature of v. That is, the subject in the inner specifier of v cannot satisfy the strong D-feature of v, given that the subject does not head a nontrivial chain and is not in the checking domain of v since it is inserted by Merge. Thus the object has to raise into the outer specifier of v to satisfy the strong D-feature of v, the phenomenon of which has come to known as object raising.

Suppose object raising in the adult Korean involves two movements: raising into outer specifier of v to satisfy the D-feature of v and further raising into the specifier of AgrO to get its ACC case licensed.

(16) [AgrOP Obj$_i$ [NegP *an* [vP t$_i$ t$_s$[11] [VP t$_i$ Verb]]]]

For children in the OI stage, object raising in the adult grammar constitutes a violation of the UCC; the D-feature of the object DP checks twice, once against v and subsequently against AgrO. To avoid violating the UCC, the child has to raise the object only once, either to Spec$v$P or to SpecAgrOP. However, neither of these options will converge in the child grammar since

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[9] See Miyagawa (1999) for the similar scope interaction between the subject quantifier and negation in Japanese. See also Baek & Miyagawa (in preparation) for a detailed analysis of the scope interaction of quantifiers and negation in Korean.

[10] This possibility was first suggested in wexler (1999).

[11] Throughout this paper, t$_s$ represents a copy of the subject left in its base position, i.e. Spec$v$P.

the child knows that the unchecked D-feature in AgrO or v makes the derivation crash. The only way for the child in the OI stage to satisfy the UCC and prevent the sentence from crashing is to omit one of the two functional categories: AgrO or v, in the same way as English children in the OI stage omit either Tense or AgrS. However, omitting the projection v leads to a more serious problem, since v has to host the subject as well as the raised object. Instead, let us assume that it is the *D-feature* of AgrO or v that is omitted in the child grammar in the OI stage. This gives us the same result with omitting the functional category itself, since it is the unchecked D-feature of functional categories that causes the derivation to crash.[12]

There are thus two potential representations for short-form negation in the child grammar at the OI stage:

(17) a. [AgrOP [NegP *an* [vP t_s [VP Obj Verb] v[+D]] AgrO[-D]][13]
     b. [AgrOP [NegP *an* [vP t_s [VP Obj Verb] v[-D]] AgrO[+D]]

These two representations will yield the following two derivations respectively, one of which precisely illustrates the *an* misplacement error (i.e. 18a):

(18) a. [AgrOP [NegP *an* [vP *Obj*$_i$ t_s [VP t_i Verb] v[+D]] AgrO[-D]]
     b. [AgrOP *Obj*$_i$ [NegP *an* [vP t_s [VP t_i Verb] v[-D]] AgrO[+D]]

So this analysis seems quite feasible in the sense that it provides an account for the optionality of the error mentioned earlier in this paper. However, if one takes relatively higher rate of 62 correct negative sentences over 26 incorrect ones as a significant difference (70.4% versus 29.6%), the optionality has to be explained in a more intricate way. The answer seems to lie in the fact that there may be another potential representation for

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[12] One can argue that it is also the D-feature of Tense or AgrS that is omitted in the child grammar for English children in the OI stage without making any modifications to the Agr/Tense Omission Model claimed in Schutze & Wexler (1993). Wexler (personal communication) actually suggested the possibility that it could very well be the D-feature of functional categories that the child in the OI stage omits rather than the functional category itself. Korean child data here seem to provide evidence in favor of the feature omission model over the functional projection omission model.

[13] [-D] indicates the absence/omission of the D-feature in the child grammar.

short-form negation in the child grammar at the OI stage, when the child opts to violate the UCC:[14]

(19) [AgrOP [NegP *an* [υP t$_s$ [VP Obj Verb] υ[+D]] AgrO[+D]]

This representation will yield the following derivation, which, after spell-out, shows no difference from the derivation in (18b), which satisfies the UCC at the cost of deleting the D-feature of υ:

(20) [AgrOP *Obj$_i$* [NegP *an* [υP t$_i$ t$_s$ [VP t$_i$ Verb] υ[+D]] AgrO[+D]]

To summarize, the child grammar in the OI stage provides three sub-optimal/ungrammatical options for the child to choose from, which are illustrated in (21):

(21) a. [AgrOP [NegP *an* [υP t$_s$ [VP Obj Verb] υ[+D]] AgrO[-D]]
     b. [AgrOP [NegP *an* [υP t$_s$ [VP Obj Verb] υ[-D]] AgrO[+D]]
     c. [AgrOP [NegP *an* [υP t$_s$ [VP Obj Verb] υ[+D]] AgrO[+D]]

(21a) and (21b) are the options that satisfy the UCC by deleting the D-feature of either AgrO or υ, while (21c) is the option that violates the UCC by having an adult-like representation of short-form negation. The derivations resulting from each representation in (21) are given below:

(22) a. [AgrOP [NegP *an* [υP *Obj$_i$* t$_s$ [VP t$_i$ Verb] υ[+D]] AgrO[-D]]
     b. [AgrOP *Obj$_i$* [NegP *an* [υP t$_s$ [VP t$_i$ Verb] υ[-D]] AgrO[+D]]
     c. [AgrOP *Obj$_i$* [NegP *an* [υP ti t$_s$ [VP t$_i$ Verb] υ[+D]] AgrO[+D]]

Among three potential representations, only one (i.e. 22a) yields a derivation that displays the *an* misplacement error. The other two options, after spell-out, are equivalent to the correct adult-like production of short-form negation, although only one of which (i.e. 22c) has the same representation as the adult short-form negation. Thus, it is not surprising that the frequency of incorrect negative sentences is almost half of that of correct

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[14] Schutze & Wexler (1993) has also pointed out that there is a third possibility for the structure of a finite sentence for English children at the OI stage, in which both Tense and AgrS are specified. This representation is a real possibility in the child grammar in the OI stage, since they produce correct finite sentences with Tense and Agr fully specified (e.g. *he goes*) as well as incorrect OI clauses.

ones, an error rate of nearly 30%.

The analysis outlined here also predicts the correlation between the *an* misplacement error and the absence of ACC marking on the object mentioned earlier. Given that AgrO is responsible for assigning ACC in Korean, the omission of the D-feature of AgrO in (22a) prevents the object from raising into SpecAgrOP from SpecυP and ACC thus cannot be assigned on the object whenever *an* misplacement surfaces. This prediction is borne out in JK's data, as we have already seen in Table 2; ACC was missing from all of JK's 26 incorrect negative sentences.

Then what is the status of the object DP in JK's incorrect negative sentences in terms of the case properties if it cannot be assigned ACC due to the omission of the D-feature of AgrO? I here explore the possibility that the objects in children's incorrect negative utterances are marked with default case in the child grammar in the same way as the subjects of OI clauses in English are marked with the default case, which is ACC in English. This requires an assumption that default case in Korean is null case, which departs from the traditional assumption that default case in Korean is NOM. Consider the following examples:

(23) a. Who did it? – Me/*I.
   b. What? Who did you meet? – Him/*he.
   c. It's us/*we.

(24) a. nwu-ka   kuraysse?   –   John/*John-i(NOM)/*John-ul(ACC)
       who-NOM   did_it
       'Who did it? – John'
   b. mwue? ne   nwukwu-l(ul) mannasse? – John/*John-ul(ACC)/*John-i(NOM)
       what? you who-ACC met
       'What? Who did you meet? – John'
   c. wuri/*wuri-ka/*wuri-lul-ya
       we/*we-NOM/*we-ACC-be
       'It's us'

If we take examples in (23) to indicate that ACC is default case in English, the corresponding examples in (24) suggest that null case is default case in Korean. Following the theory known as Distributed Morphology (Halle & Marantz 1993), I assume that default case is not assigned in syntax, but is spelled out as the least specified member of its paradigm

when a DP lacks a case feature in syntax.

(25) a. [1] [sg.] [NOM]   --->   *nae-ka*

    b. [1] [sg.] [ACC]   --->   *na-lul*

    c. [1] [sg.]   --->   *na-Ø*

Under this analysis, a DP specified with 1st person/singular feature that fails to raise into either SpecAgrSP or SpecAgrOP will have the architecture given in (25c) and will be spelled out with the default case, i.e. no case marking. Turning to the correlation between the error and ACC in JK's files, the object in JK's incorrect negative utterances, which is in the outer specifier of v, cannot be specified with regard to either NOM or ACC and hence is spelled out with default case, which is null case in Korean.

4. Some Predictions and Implications

The analysis of *an* misplacement errors in early child Korean presented in the previous section makes a few predictions concerning what we expect to find in the child data in the OI stage. I will go through one of these predictions concerning the use of unaccusative verbs in negative sentences in the OI stage.

The standard analysis about the subject of unaccusative predicates[15] assumes that they are base-generated in the complement position of the verb, which is the same position that hosts the object of transitive verbs. If we assume that unaccusative subjects also raise to vP to satisfy the strong D-feature of v before raising to Tense or AgrS, we expect to find a similar type of error in child data, in which unaccusative subjects follow the negative morpheme *an*. That is, raising of unaccusative subjects involves checking the D-feature of the subject DP more than once, which will be ruled out by the UCC in the child grammar in the OI stage. Kim (1997) made a similar prediction and provided a few examples from child data in which *an* precedes unaccusative subjects, although the analysis of the error itself is different from one outlined here.

Another prediction of the analysis presented in this paper is that the child data will exhibit once again a correlation between the negation placement error and the absence of NOM from the unaccusative subjects. When the

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[15] See Perlmutter (1978) for a further discussion of the status of unaccusative subjects as complements of VP.

unaccusative subject remains in SpecvP and fails to raise to AgrSP, which is responsible for NOM assignment, the default case will surface and the subject cannot be marked with NOM.

Both predictions are borne out in the actual counts of unaccusative subjects in negative utterances from JK's files in Baek & Wexler (in preparation): the error is optional and NOM was alsways missing from the unaccusative subjects in incorrect negative sentences. Some examples from JK's files are given below in (25) and the result is summarized in Table 5.

(26) a. sori   an   nane
        sound   neg   occur
        '(it)'s not making any sounds'   (JK 2;4;26)

     b. sori-ka   an   nane
        sound-NOM   neg   occur
        '(it)'s not making any sounds'   (JK 2;5;16)

     c. §an   kocang   naku
        neg   break_down(N)   occur_and
        '(It)'s not gonna be broken and ...'   (JK 2;6;28)

     d. kocang   an   nasse
        break_down(N)   neg   occured
        '(It)'s not broken'   (JK 2;6;28)

     e. pi-ka   an   omyen
        rain-NOM   neg   come_if
        'If it's not raining,'   (JK 2;9;12)

     f. § an   naymsay   na
        neg   smell(N)   occur
        '(It) doesn't smell'   (JK 2;10;9)

(27) Table 5. Distribution of Neg Placement Errors and NOM in Unaccusatives[16]

Correct Word Order	
Subj-Ø Neg V	16
Subj-*NOM/Prt* Neg V	32
Total	48

Incorrect Word Order	
§ Neg Subj-Ø V	5
§ Neg Subj-*NOM/Prt* V	0
Total	5

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[16] I will leave open the question of relatively low error rate in unaccusative contexts (10%) when compared with the error rate in transitive contexts (30%). An

To conclude, I argue that the negation placement error in child Korean constitutes strong evidence for the existence of a universal maturational stage in language development known as the "Optional Infinitive" stage. I also argue that a particular theory of the OI stage such as Wexler (1997) that derives the OI stage from a single additional constraint on the child grammar, i.e., the Unique Checking Constraint, applies to *an* misplacement. A natural claim follows that *linguistic maturation* is what forces the child to abandon this constraint as the child gets older and leaves the OI stage.

It requires a substantial amount of quantitative data from child Korean to verify the present analysis that treats *an* misplacement error as an instan-tiation of the OI stage in Korean. However, to the extent that the analysis is a successful one, it presents a case that has some relevant implications for *early knowledge* and *linguistics maturation* from a crosslinguistic per-spective. It is clear from the data presented in this paper that Korean children in the OI stage know all the complicated spec-head checking rela-tions necessary for D-feature checking and even the morphological forms corresponding to some of these relations (e.g. *-ka/i* for NOM; *-lul/ul* for ACC; null for default case). Furthermore, they also know the functional cate-gories that are responsible for particular morphological forms in syntax (e.g. AgrS for NOM; AgrO for ACC), as well as the restrictions imposed by the interaction of the functional categories and their checking relations. In contrast to these rich evidence for *early knowledge*, we have found a wide-spread and systematic error in child language (i.e. *an* misplacment) that is caused by an existence of an additional constraint in the child grammar. To reach the final state or the adult grammar, the child has to get rid of this constraint at some later point in linguistic development, the process of which can be best described as *linguistic maturation*, a universal property of the human brain regulated by the genetic program underlying UG.

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answer to this question requires more detailed analysis of the syntax of unaccusa-tives, which is beyond the purpose and scope of this paper. However, my hunch is that it is due to the late acquisition of unaccusative verbs so that the child is already at the end of the OI stage and starts to "lose" the UCC when he/she produces unaccusative clauses. See Borer & Wexler (1987) for the arguments that formation of A-chain linking object and subject position is one of the crosslinguistic maturational difficulties that young children experience. See also Babyonyshev et al. (1994) for a case study of the delay of unaccusatives in child Russian.

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ABSTRACT

Acquisition of Negation in Korean: Object Constructions in the Optional Infinitive Stage

Judy Yoo-Kyung Baek

One of the biggest issues in the study of language acquisition is to explain why children produce non-adult-like utterances, or why certain constructions develop at a certain time despite the existence of "early knowledge." This paper explores and provides supporting evidence to a possible role of "linguistic maturation" as an answer to the question by presenting a case where a certain delay/error in children's language use is due to maturational factors. Particularly, I argue that the wide-spread error in children's production of short-form negation in Korean known as *an* misplacement results from a single additional constraint on children's grammar, which will cease to function at a later stage in child's maturational development. The present analysis also supports "early knowledge" by demonstrating that a correlation between the *an* misplacement error and the use of case marking in children's utterances at this stage suggests that children between the age of 2 and 3 already know all the relevant morphological and syntactic aspects of Accusative case assignment in Korean.

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