Acquisition of Mulitiple Case Marking in Korean[1]

Bosook Kang
University of Connecticut

1. Introduction

This study investigates the nature of Nominative case in Korean, focusing on multiple Nom constructions, a phenomenon which has been the main source for differing views on Nom case.[2] The study evaluates two opposing syntactic views of Nom case in Korean: default case approach vs structural case approach, by examining the time course of acquisition for relevant constructions using an experimental method. The acquisitional result will provide supporting evidence for the following three arguments. First, Nom case in Korean is not a default case, arguing against Kang (1998), Kuroda (1988, 1992), and Fukui and Takano (1998) among others. Second, the multiple Nom construction is not a property of default case, but an instance of parameter setting of functional head T. Third, the properties of multiple Nom and multiple Acc are not instances of a single parameter.

The first noticeable thing about Korean Nom case is that Nom case is morphologically marked, as well as Acc case, as shown in (1).[3]

(1) Youngja-ga   Mary-ul   mil-ass-tta.
    Youngja-Nom   Mary-Acc   push-Past-Decl
    "Youngja pushed Mary."

Not many languages have morphological forms for both Nom and Acc. As Neeleman and Weerman (1999) noted, particularly among Nom-Acc languages with case morphology, it is more common to have overt Acc case than overt Nom case. For example, Turkish, Finnish, Modern Greek, and Classical Latin all have overt Acc forms, but zero Nom. As the case morphology of Korean is peculiar in this sense, there have been long standing controversies over the nature of Nom. A traditional and also predominant view has been that Korean and Japanese Nom have a completely different nature from what is standardly assumed for Nom in other languages; namely that Korean/Japanese Nom assignment takes place independent of the functional category INFL. It is a default case. One of the major arguments for

[2] The nature of Nom case has been an issue in syntactic studies of Japanese grammar as well, because the same relevant phenomena are exhibited in Japanese.
[3] Japanese also has overt morphological forms both for Nom and Acc.

this claim has been the presence of Multiple Nominative Constructions (MNC), in which Nom '-*ga*' appears on more than one element in a single clause, as in (2).[4]

(2) a. Youngja-ga   ca-ga   iss-tta.
         Youngja-Nom   car-Nom   be-Decl
         "Youngja has a car."
    b. Youngja-ga   Mary-ga   choh-tta.
         Youngja-Nom   Mary-Nom   like-Decl
         "Youngja likes Mary."

In the following section, we review two syntactic analyses for MNC.

2. Syntactic Views to Nom in Korean/Japanese
2.1 Default Case Approach

Default case approach has been argued for by numerous Korean and Japanese linguists (Kim 1990; Kang 1998; Saito 1982; Kuroda 1988 1992; Fukui & Takano 1998). They all share the intuition that the INFL in Korean/Japanese is defective, or at most a place-holder for tense morpheme and nothing more. INFL does not induce agreement, and thus does not have the ability to assign Nom case. Here we look at two particular theories of this approach: Kuroda 1988, 1992 and Fukui and Takano 1998. Kuroda argues that languages are parameterized as to whether agreement is forced or not, which he calls [+/- Forced Agreement] Parameter. He further assumes that agreement must be in a one-to-one relation, restricting one functional head to agree with one maximal projection. English, being a +Forced agreement language, does not allow more than one element to occur with the same case, since a functional head is forced to undergo agreement and the agreement is a relation between a single head and a single functional projection. On the other hand, Korean or Japanese are not subject to this constraint, because agreement is not forced in those languages. Then, the question is how case assignment takes place for those languages. Kuroda proposes a linear case marking mechanism that applies cyclically to the domain of VP, as stated in (3).

(3) *Case marking* (1992)
    Mark the first unmarked noun phrase with -*ga*, and mark any other unmarked noun phrases with -*o*.

Languages with the negative setting of the Agreement Parameter are free from the one-to-one agreement constraint, and have linear case marking available to take case of case assignment, which allows multiple case. This predicts that Acc as well as Nom can be multiple as a result of a negative setting of the parameter. In this sense, the Agreement Parameter is global.

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[4] Korean has another form of Nom case, '-*i*', which is a phonological variant of '-*ga*'. The distribution of each form totally depends on whether the last sound of preceding word is a vowel or a consonant.

Fukui and Takano (1998) propose a mechanism to account for MNC, which incorporates minimalist assumptions, keeping to the idea of deficiency of INFL. They assume that there are two distinct ways of eliminating case features: checking and spell-out. Checking is a mechanism exploited for the elimination of Abstract case. It takes place within the domain of a functional head, following one-to-one convention. T provides the checking domain for Nom case and the light verb v the checking domain for Acc case. The spell-out option is reserved for overt morphological case, so-called case particles. Under the assumption that case particles are morphological realization of case features, and hence according to Fukui and Takano are linked to phonological features, they propose that the case particles make case features visible to spell-out, enabling spell-out to eliminate the case features. In applying this mechanism to Japanese case marking, they are led to conclude that the Nom case particle on a nominal phrase is necessarily a default case inserted to avoid a Case filter violation. This system implies that in the checking system, it is impossible for T to check more than one noun phrase because Nom case feature of T is eliminated when one noun phrase is inserted in the checking domain of T, making further checking unavailable. On the other hand, the system allows spell-out option to eliminate any number of case features as long as noun phrases have case particles. In this theory, multiple Nom and multiple Acc do not have inherent correlation, because whether a language has Nom case particle or Acc case particle is arbitrary.

2.2 Structural Case Approach

Ura (1996) takes a structural case approach to Nom in Japanese, arguing that Tense feature checks Nom case. Under this assumption, T is paramerized as to whether languages allow T to have multiple feature or not, which he calls [+/- Multiple Feature checking] Parameter. On this assumption, MNC is an instance of T with the positive setting of the parameter. This theory expects that if a language has v with multiple features, it should allow multiple Acc construction. Korean does indeed, as shown in (4).

(4) kangaci-ga Youngja-lul   tali-ul   mul-ess-tta.
    dog-Nom   Youngja-Acc   leg-Acc   bite-Past-Decl
    "A dog bit Youngja on the leg."

This suggests that Korean has a positive setting of multiple feature parameter for both functional head T and v.[5] Notice here that multiple Nom and multiple Acc involve a separate setting of the parameter on each functional head. This predicts that multiple Nom and multiple Acc do not necessarily go together since one functional head can set a parameter independently of the other.

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[5] The status of multiple accusative in Japanese is not clear. The sentence, as provided in (4), is not grammatical in Japanese. However, it has been noted that it is possible in principle, but some superficial constraint blocks it (See Kuroda 1988, and Saito and Hoshi 2000). The situation makes it difficult to determine whether the difference between Korean and Japanese in terms of MAC is parametric in nature.

As we have seen so far, the two syntactic theories, both default case approach and structural case approach, are claimed to account for multiple case phenomena. We are not aware of any decisive empirical evidence which favors one approach over the other. Is there a way to tease the two approaches apart? Cross-linguistic study is difficult, given that not many languages have overt morphology for Nom, as pointed out in the introduction. To circumvent the difficulty, the present study takes an acquisitional perspective as a testing ground for the different approaches.

3. Proposal: Acquisitional Perspective

In this section we consider acquisitional predictions of the different syntactic approaches to MNC that were discussed above. First, let us consider the acquisition of single Nom case. According to the default case approach, it is predicted that children would know that Nom is a default case when they learn Nom case particle since Nom case particle is necessarily a default case. On the other hand, structural case approach predicts that the acquisition of Nom will be contingent on the acquisition of Tense property, which means that children would not be able to use Nom case particle productively until the Tense system is fully developed. Among studies of case development from spontaneous speech data, there is one study which looked at the acquisition of Nom case with respect to the acquisition of Tense morpheme. Matsuoka (1998), examining spontaneous speech data of 3 Japanese learning children, observes that Tense morpheme appears before Nom case. She takes it as supporting evidence that Nom in Japanese is licensed by Tense. She further investigated the emergence of MNC. Interestingly, she did not find any instance of multiple Nom in her data. The following table provides the number of multiple Nom in potential MNC contexts, which were the utterances with stative predicates.[6]

(5)

Child (age)	Stative predicates	Multiple Nom
AKI (1;5-3;0)	199	0
KAN (1;11-3;3)	42	0
Sumihare(2;2-3;0)	48	0

Table 1: Multiple Nom in Japanese child speech (Matsuoka 1998)

Most utterances with stative predicates appeared with only one argument, but when two arguments appeared, only one Nom was used, mostly on the logical object.[7]

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[6] The following are the predicates Matsuoka (1998) examined:
'wakaru' (to understand), *'iru'* (to need), *'dekiru'* (to be able to), *'hoshii'* (desirable), *'suki'* (be fond of).
[7] The following table provides the number of Nom marked NPs, either subject or object, in utterances with two arguments.

Adopting Ura's multiple checking parameter, Matsuoka assumes that children start with the negative setting of the parameter, and they have to reset the parameter on the basis of positive evidence. In other words, children will produce MNC with only single Nom for some period of time, and only later will they produce MNC with multiple Nom. This hypothesis avoids the learnability problem since children learning languages without MNC do not need to use negative evidence in order to unlearn MNC. In this sense, the lack of MNC with multiple Nom from spontaneous speech data may be interpreted as supporting evidence for the argument that the property of multiple feature checking is not available in the early grammar, and only later with the resetting of the parameter will children produce the multiple case marking constructions.

However, there is one crucial point that calls for reservation of the above conclusion. Given that Japanese allows case drop, argument drop, and replacement of case particles with topic marker, it is not clear whether the lack of the production of multiple Nom is due to the lack of knowledge in question. The present study uses a comprehension task to overcome this problem with production. Further, MNC with other types of predicates are used in the task in order to investigate children's acquisition of those MNC types.[8] They involve possessive expressions, as shown below.

(6) a. Youngja-ga   ca-ga   iss-tta.
       Youngja-Nom   car-Nom   be-Decl
       "Youngja has a car"
    b. Youngja-ga   ko-ga   kil-tta.
       Youngja-Nom   nose-Nom   long-Decl
       "Youngja has a long nose"

The first type of possessive predicate with the verb *'iss'* allows the subject to alternate with Dative, forming so-called Dative Subject Constructions (DSC), as illustrated in (7).

(7) Youngja-ekey   ca-ga   iss-tta.
    Y-Dat   car-Nom   be-Decl
    "Youngja has a car."

Recall that our purpose is to determine the time course of acquisition of MNC with respect to single instance of Nom. DSC makes a good control item for MNC since

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Table (i): The particle *'ga'* in stative predicates with two arguments

Child	Subject	Object
Aki	1	18
Kan	0	3
Sumihare	1	17

[8] Matsuoka reports in the footnote that there were only 2 instances of MNC with other types of predicate.

they both mark the logical object with Nom and express possession, but multiple Nom appears only in MNC. DSC seems to be a construction with minimal difference compared to MNC. One thing that needs to be considered in drawing predictions about the relative order of acquisition between MNC and DSC is the acquisition of Dat, with respect to single Nom. We checked the acquisition of Dat and the acquisition of single Nom case from longitudinal data. The following data is from Matsuoka (1998).

(8)

	Aki	Kan	Sumihare
Nom	2;2	2;2	1;11
Acc	2;9	2;2	2;1
Dat	2;4	2;2	2;0

<div align="center">Table 2: First clear use of case particles (Matsuoka 1998)</div>

As shown in Table 2, Nom is observed to appear before Dat.[9] Given this, if we test children of above age 2, we can make the following predictions. First, if MNC is a property of Nom being a generalized default case, given that multiple cases come for free on this scenario, DSC is likely to be acquired later than MNC. In other words, we do not expect to find the same children who pass DSC fail MNC, as shown in contingency table (9a). On the other hand, if MNC is a property of multiple feature parameter setting, MNC will be acquired later than DSC, since it takes time to reset the parameter from negative to positive.[10] So we do not expect to find the same children who fail DSC would pass MNC, as shown in contingency table (9b).

(9) a.   Default case approach   b.   Structural case approach

		MNC					MNC	
		pass	fail				pass	fail
	pass	√	*			pass	√	√
DSC					DSC			
	fail	√	√			fail	*	√

Acquisition of Multiple Acc construction (MAC) with respect to MNC is explored to determine whether the property of multiple case is a single parameter or not. If the property of multiple case is a global parameter, children are likely to acquire MNC and MAC together. It is expected that no children who pass one test, fail the other, as in (10a). However, if the property of multiple case is localized in each functional head T and v, children are not necessarily to acquire them together. So we do expect to find the same children who pass one test to fail the other, as in (10b).

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[9] The sign test for the significance of the observed ordering shows that the situation in which Nom appears before Dat by chance has the probability of one in 10^4.

[10] Logically, it is possible that parameter setting may take place somewhere along the way to acquiring Dat, predicting earlier acquisition of MNC with respect to DSC. However, given that the experiment included children of age above 3, it is not likely that the subjects have not acquired Dat.

(10) a. Global parameter   b. Local parameter

MAC	MNC pass	MNC fail
pass	√	*
fail	*	√

DSC	MNC pass	MNC fail
pass	√	√
fail	√	√

In the next section, we discuss how these hypotheses are tested in the experiment.

4. Experimental Design

Our purpose for the experiment is to determine the relative time course of the three constructions DSC, MNC and MAC. The Truth Value Judgment task (Crain and Mckee 1986) was used in testing the three constructions. An experimenter tells the child stories and asks a puppet questions about the story. The child is asked to judge whether the puppet's answer is true or false based on the story by giving him Donut for the correct answer, or Peach for the wrong answer. There is one thing that needs to be considered in constructing items to test the knowledge of case patterns. Since a given sentence can be understood by basic word strategy without the actual knowledge of case markers, one has to ensure that the child does not use the basic word order. One way is to make the target sentence ambiguous. Suppose that a sentence S will be ambiguous between two readings, the target reading and the non-target reading, in a given context. If the child does not accept one reading consistently, we can conclude that she has not acquired the property responsible for that reading. Each test sentence is made structurally ambiguous in a similar way, by taking advantage of head-final word order. In head-final languages, arguments of the matrix clause appear consecutively with arguments of the embedded clause, leaving the verb to be final. This allows a situation in which some argument potentially can be interpreted as a part of either the matrix clause or the embedded clause. Let us see concrete examples. First consider the sample for MNC test, which involves cleft constructions.[11] This technique was first used in Sugisaki (2002).

(11) Story: Cow, Dwarf, and Rabbit found a small bed. They decided that the shortest one should take the bed. Rabbit says to Cow, "You have a fairly short height". Dwarf says to Cow, "I think you have the shortest height among us". But then, Rabbit says to Dwarf, "No, you have the shortest height."

(12) MNC test item
nanjangi-ga kajang ki-ga   jak-tako   malhan-kes-un nwuku-ni?
dwarf-Nom   most   height-Nom short-comp said-comp-top who-Q

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[11] The reason that cleft construction was used to create the ambiguity is because Korean cleft construction allows the element in focus position to drop case markers, making more than one construal possible.

Under the story in (11), question (12) is structurally ambiguous between two readings depending on how to construe *'nanjangi-ga'*. When it is considered as a part of embedded clause, the embedded clause forms MNC, as represented in (13a), rendering the whole sentence to be a question of matrix subject. On the other hand, when it gets interpreted as a part of the matrix clause, as in (13b), the sentence yields a question of indirect object of the matrix verb.

(13) a. MNC reading
t_i **[** nanjangi-ga kajang ki-ga   jak-tako **]** malhan-kes-un nwuku$_i$-ni?
   dwarf-Nom most height-Nom small-comp said-comp-top who-Q
"Who$_i$ was it that t_i said Dwarf has the shortest height?"

b. non-MNC reading
nanjangi-ga t_i **[** kajang ki-ga   jak-tako**]** malhan-kes-un nwuku$_i$-ni?
dwarf-Nom   most   height-Nom short-comp said-comp-top who-Q
"To whom$_i$ was it that Dwarf said t_i, "Your height is the shortest?""

This is possible because *'nwuku'* in the focused phrase does not specify any case. Accordingly, there are two possible answers available: rabbit for MNC reading and cow for non-MNC reading. Next consider the sample of DSC test. The DSC test item takes the form of two clause level wh-question.

(14) Story: Duck and Youngja decided to run. Duck says to Youngja, "I don't have running shoes". Youngja says to Duck, "You don't? But I have running shoes". Then, Mouse walks over and says, "I have running shoes too". So Duck and Mouse did running. Youngja comes home and says to her mom, "Mom, Mouse has running shoes, but Duck doesn't. Poor duck."

(15) DSC test item
Youngja-ga nwuku-ekey undongwha-ga   iss-tako malhaess-ni?
Y-Nom   who-to   runningshoes-nom be-comp said-Q

Under the given story, question (15) is structurally ambiguous depending on where *'nwuku-ekey'* gets interpreted. If *'nwuku-ekey'* is interpreted as a part of embedded clause, the embedded clause forms DSC, as shown in (16a). As a result, the whole sentence yields a question of embedded subject. If *'nwuku-ekey'* is interpreted as a part of matrix clause, the sentence yields a question of indirect object of the matrix clause, as in (16b).

(16) a. DSC reading
Youngja-ga **[** nwuku-ekey undongwha-ga   iss-tako**]** malhaess-ni?
Y-Nom   who-to   runningshoes-nom be-comp said-Q
"Who$_i$ did Youngja say [t_i has running shoes]?"

b. Non-DSC reading
Youngja-ga nwuku-ekey **[** undongwha-ga   iss-tako**]** malhaess-ni?
Y-Nom   who-to   runningshoes-Nom be-comp said-Q
"To whom$_i$ did Youngja say t_i [that she has running shoes]?"

Two possible answers are available depending on each reading: mouse for DSC reading and Duck for non-DSC reading. MAC test follows the same format.

(17) Story: One day Monkey is skating, but falls down and hurt his legs. He went to hospital. The doctor took a look at his legs and gave them a massage. Then he says, [It is better to wrap your legs with a bandage. I need to ask a nurse for the bandage]. He calls out, [Nurse!]

(18) MAC test item
uysasensangnim-i nwuku-ul tali-ul   cwumulun taume puless-ni?
doctor-nom   who-acc leg-acc   massage   after called-Q

The above MAC test question is ambiguous depending on where *'nwuku-ul'* is interpreted. When *'nwuku-lul'* is interpreted as a part of embedded clause, the embedded clause forms multiple accusative construction, as in (19a). The whole sentence yields a question of the object of the embedded verb, expecting monkey for the answer. When *'nwuku-lul'* is interpreted as a part of the matrix clause, the sentence yields a question of the object of the matrix clause, expecting nurse for the answer, as in (19b).

(19) a.   MAC reading
uysasensangnim-i [nwuku-ul tali-ul   cwumulun taume]   puless-ni?
doctor-nom   who-acc leg-acc massage   after   called-Q
"Whose leg$_i$ did the doctor call after messaging t$_i$?"
b.   Non-MAC reading
uysasensangnim-i nwuku-ul [tali-ul   cwumulun taume]   puless-ni?
doctor-nom   who-acc   leg-acc massage   after   called-Q
"Who$_i$ did the doctor call t$_i$ after massaging the legs?"

16 Korean monolingual children with the age in range from 3;4 to 4;10 participated in the actual task. The experiment consists of 3 parts: training, pretest and the actual test. Training part started with a short instruction for the task disguised as a game. 3 stories with each story followed by two simple questions were given for practice. Then, pretest was given in order to ensure that children have the knowledge of interpreting the similar sentence structures as the ones used in the actual task. There were 4 pretest stories, each of which was followed by 3 questions of the similar sentence structures as 3 types of test items. Only those who passed the pretest were included in the actual task. There were 6 stories for each test. In 4 out the 6 stories, the puppet responds with target reading, and in the remaining 2 stories, the response was non-target reading. For all stories, a filler question was given along with the stimuli question.

The result is given below. Children who gave 3 acceptance of target reading out of 4 opportunities were classified as pass, otherwise children were classified as fail.

(20) a. MNC vs DSC test

		MNC	
		pass	fail
DSC	pass	11	5
	fail	0	0

b. MNC vs MAC test

		MNC	
		pass	fail
MAC	pass	8	2
	fail	3	3

See appendix for individual responses.[12]

5. Discussion

The result of MNC vs DSC test has shown that there were 5 children who failed MNC, but all passed DSC. This suggests that MNC is acquired later than DSC, arguing against default case approach. If MNC is a property of Nom being a generalized default case, MNC would have been acquired earlier than DSC given that single Nom is acquired earlier than Dat. However, this result is consistent with Ura's structural case approach. If MNC is an instance of a parameter setting, and if children have to undergo parameter resetting to allow multiple Nom, the time required for the transition of grammar can account for the later acquisition of MNC with respect to DSC. The result of MNC vs MAC test provides further supporting evidence for Ura's multiple checking parameter argument. 5 children passed one test, but failed the other, indicating that MNC and MAC are acquired independently of each other. This is predicted by Ura's argument, according to which multiple Nom and multiple Acc are separate parameter settings of the functional heads T and v. Kuroda's global parameter cannot explain this result since under his theory, both MNC and MAC are a result of a single Agreement parameter. Notice that Fukui &Takano's theory can accommodate the result on MNC vs MAC. However, their theory cannot account for the result on MNC vs DSC test.

6. Conclusion

The nature of Nom case has been a long standing issue in Korean and Japanese grammar studies. The syntactic analyses provided for this issue have remained as theory internal questions without much empirical significance. The present study took up an acquisitional perspective to shed light on the debate. It investigated the acquisitional implication of two main theories to Nom: Default case approach and Structural case approach. The examination of the time course of acquisition for MNC vs DSC shows that that multiple Nom case is not a property of default case, but rather an instance of a parameter setting of functional head T. Further, the acquisitional study of two multiple case marking constructions MNC and MAC shows that the property of multiple case does not come as a single parameter. This study constitutes an argument for the parameter setting model of grammar development.

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[12] They are responses for target readings.

Appendix

Individual responses

	Age	D S C	D S C	D S C	D S C	M N C	M N C	M N C	M N C	M A C	M A C	M A C	M A C
1	4;0	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
2	3;11	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	N
3	3;7	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
4	4;1	Y	Y	Y	Y	Y	Y	Y	Y	Y	N	Y	Y
5	4;10	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
6	4;0	Y	Y	Y	Y	Y	Y	Y	Y	N	Y	Y	Y
7	4;8	Y	Y	Y	Y	Y	Y	Y	N	N	Y	Y	Y
8	4;5	Y	Y	Y	Y	Y	Y	Y	Y	N	Y	N	Y
9	4;2	Y	Y	Y	Y	Y	Y	Y	Y	N	N	N	Y
10	3;7	Y	Y	Y	Y	Y	Y	Y	Y	N	N	N	N
11	3;11	Y	Y	Y	Y	Y	Y	Y	Y	N	N	N	Y
12	3;11	Y	Y	Y	Y	N	N	N	N	N	Y	N	N
13	4;1	Y	Y	Y	Y	N	N	N	Y	Y	Y	N	Y
14	3;8	Y	Y	Y	Y	N	N	N	Y	Y	Y	N	Y
15	3;4	Y	Y	Y	Y	N	N	N	N	N	Y	N	N
16	3;10	Y	Y	Y	Y	N	Y	N	N	N	Y	N	N

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