

Licensing Nominals in the Multiple Nominative Constructions in Korean — A Mereological Perspective

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Abstract. This paper investigates some important constraints on the licensing of nominals in the so-called Multiple Nominative Constructions (MNCs) in Korean from a mereological point of view, proposing a semantic relation hierarchy. The main idea advanced in this paper is that MNCs are cyclically formed only when the relationship between the two consecutive NPs satisfies one of the conceptual constraints including *inclusion*, *possession* and *attribution*. The *inclusion* constraints are further divided into *meronymic relations*, *spatio-temporal relations* and *classificational relations*. The *meronymic relations* integrate some essential ideas of the tradition of mereological thoughts. Some appealing consequences of this proposal include a new comprehensive classification of MNCs and a straightforward account of some long standing problems such as how the additional nominative NPs are licensed.

Keywords: Multiple Nominative Constructions, Korean, Mereology, Part-Whole

1 Introduction

One of the most controversial phenomena in Korean linguistics is the constructions in which two or more nominative case-marked NPs may occur in a clause headed by an intransitive predicate. They properly include the so-called Double Nominative Constructions (DNCs) and Multiple Nominative Constructions (MNCs). The former is characterized by the occurrences of two NPs marked with the nominative case-marker within a clause headed by an intransitive predicate. The latter is referred to the clauses containing three or more nominative case-marked consecutive NPs.

Although a large number of studies have been made on these constructions, there is still little agreement as to the nature of these constructions. One of the controversial issues is the issue why only a subset of the clauses containing three or more nominative case-marked consecutive NPs is grammatical and the issue whether or not the two constructions are grammatically related. If so, in what way? If not, why not? The questions raised above, in my opinion, may be answered by investigating the constraints on the licensing of nominals in the MNCs in Korean.

The purpose of this paper is to tackle this licensing issue and to propose a set of licensing conditions from a mereological point of view. What I wish to show in this paper is that MNCs are cyclically formed only when the relationship between the two consecutive NPs satisfies one of the conceptual constraints including *inclusion*, *possession* and *attribution*.

2 Basic Data and Issues

The set of sentences in (1) is the most frequently cited one in the literature on this topic at all (see Yang (1972), Yoon (1986), O'Grady (1991), Schütze (1996), Kim (2001), Park (2001), Park (2005) and Kim, Sells & Yang (2007), among others.)¹

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¹ The nominative case markers *-ka* and *-i* are allomorphs. While the former is attached to a CV syllable, the latter to a CVC syllable. The Yale Romanization System is used for the romanization of the Korean sentence. The abbreviations

- (1) a. khokkili-ka kho-ka kil-ta.
elephant-NOM nose-NOM be.long-DECL
'The nose of elephants is long.'
- b. Mary-ka os-i khu-ta.
Mary-NOM clothes-NOM be.big-DECL
'The clothes of Mary is big.'

As will be clear below, MNCs present a particularly strong challenge to linguistic theories, since there is a discrepancy between the transitivity of the predicate and the number of the arguments. They are syntactically interesting in that all NPs are marked by nominative case, *-ka/-i* in (1), which would normally be reserved for the grammatical function of subject.

What makes the things more complex is the fact that the number of the nominative-marked NPs is not limited to 2, although it may not be indefinite for some other, mainly cognitive and/or process-related reasons. As shown in (2), more than three nominative-marked NPs may occur in a sequence.

- (2) a. Mary-ka os-i baci-ka khu-ta.
Mary-NOM clothes-NOM pants-NOM be.big-DECL
'The pants of clothes of Mary are big.'
- b. Mary-ka chinkwu-ka os-i baci-ka thong-i khu-ta.
Mary-NOM friend-NOM clothes-NOM pants-NOM pant legs-NOM be.big-DECL
'The pant legs of pants of clothes of friends of Mary are big.'

It is important, however, to note that the occurrence of the nominative-marked NPs is not arbitrary in many subtypes of MNCs, as shown in (3).

- (3) *Mary-ka thong-i baci-ka os-i chinkwu-ka khu-ta.
Mary-NOM pant legs-NOM pants-NOM clothes-NOM friend-NOM be.big-DECL

What is more important is the fact that the order of the nominative-marked NPs is not random, as shown in (4).

- (4) *heylikhopthe-ka cha-ka pihayngki-ka 777-i khu-ta.
helicopter-NOM car-NOM airplane-NOM 777-NOM be.big-DECL.

They are also semantically interesting, since there are various semantic and pragmatic constraints between the adjacent NPs in MNCs. Although MNCs have been an object of study for a long time in Korean linguistics, until now we have seen no fully satisfactory explanation as to how the additional NPs are licensed in MNCs in Korean and why the order of the NPs are not random or arbitrary..

3 Arguments against the Possession-based Specifierhood

A certain similarity between the MNCs and the corresponding sentence with subject with a genitive marked NP has long been observed in the Korean linguistics. Based on this similarity, the most widespread approach claims that the MNCs may be formed if the the two consecutive nominative case-marked NPs is in a *possessor-possessed* relation.² This claim might seem to be supported by the contrast between (5) and (6).

for the glosses and attributes used in this paper are as follows: NOM (nominative), ACC (accusative), GEN (genitive), DAT (dative), PRES (present tense), PAST (past tense), DECL (declarative), COP (copula), LOC (locative), and TOP (topic).

² The approach advanced along this line of ideas is highly common in the derivational grammar framework. According to this approach, generally known as Genitive approach, additional nominative NP occurs via cyclic NP movement out of the subject NP with genitive specifiers.

- (5) $\left\{ \begin{array}{l} \text{khokkili-uy} \\ \text{khokkili-ka} \end{array} \right\}$ kho-ka kil-ta. (= (1a))
 elephant-GEN/elephant-NOM nose-NOM be.long-DECL
 ‘The nose of elephants is long.’
- (6) $\left\{ \begin{array}{l} *Mary-uy \\ *Mary-ka \end{array} \right\}$ kihwu-ka onhwaha-ta. (= (60), Park (2001))
 Mary-GEN/Mary-NOM weather-NOM be.mild-DECL

In the same vein, Park (2001) proposes a semantic relation *g(eneralized)-possess* for licensing the consecutive NPs in MNCs. According to him, the relation *g-possess* includes not only inalienable (physical) possession like an elephant’s nose or Mary’s eyes, but also non-physical abstract possession like Mary’s honesty, John’s mind, a friend’s daughter, or California’s weather.

While there can be no doubt that there exists a certain similarity between the MNCs and the corresponding sentence with subject with a genitive NP, there are many other conceptual or distributional differences between the two sentences (see Na & Huck (1993) and Kim (2000), among others)

First, the two sentences manifest meaning differences, as Na & Huck (1993: 190) pointed out.

Second, while the genitive approach might seem to be plausible at least for some MNCs, there are other MNCs which have no acceptable genitive source (Na & Huck (1993: 190)):

- (7) $\left\{ \begin{array}{l} \text{kkoch-i} \\ *kkoch-uy \end{array} \right\}$ kwukhwa-ka olaykan-ta.
 flower-NOM/flower-GEN chrysanthemum-NOM last.long-DECL
 ‘As for flowers, chrysanthemums last long.’

Third, in a variety of cases a genitive is not readily convertible into a nominative NP (Na & Huck (1993: 191)):

- (8) $\left\{ \begin{array}{l} \text{pyeng-uy} \\ *pyeng-i \end{array} \right\}$ akhwa-ka i sathay-lul cholayha-ess-ta.
 illness-GEN/illness-NOM worsening-NOM this state cause-PAST-DECL
 ‘The worsening of the illness caused this condition.’

Fourth, MNCs in which some NPs are realized as nominative and some as genitive do not have corresponding genitive sources, as shown in (9).

- (9) John-i $\left\{ \begin{array}{l} \text{chinkwu-ka} \\ *chinkwu-uy \end{array} \right\}$ apeci-ka pwuca-i-ta. [Mixed Genitive]
 John-NOM friend-NOM/friend-GEN father-NOM be.rich-PRES-DECL
 ‘The father of John’s friend is rich.’

Fifth, it is to be pointed out that all MNCs in which the Collection-Member relationship holds between the two nominative NPs do not have corresponding genitive sources.³

- (10) $\left\{ \begin{array}{l} \text{pihayngki-ka} \\ *pihayngki-uy \end{array} \right\}$ 777-i khu-ta. [Collection-Member]
 airplane-NOM/airplane-GEN 777-NOM be.big-DECL
 ‘It is as for airplanes that 777 is big.’

Sixth, all MNCs in which the Mass-Portion relationship holds between the two nominative NPs do not have corresponding genitive sources, as shown in (11).

³ Since Na & Huck (1993: 190) alluded just to the sentence in (7), it is unclear whether, by this example, they mean a general unacceptability of the genitive sentences showing the Collection-Member relationship or not. What we point out here is that all MNCs in which the Collection-Member relationship holds between the two nominative NPs do not generally have corresponding genitive sources.

- (11) $\left\{ \begin{array}{l} \text{mal-i} \\ * \text{mal-uy} \end{array} \right\}$ *twu mali-ka talli-n-ta.* [Mass-Portion]
 horse-NOM/horse-GEN two head-NOM run-PRES-DECL
 ‘Two heads of horses are running.’

Seventh, all MNCs in which the Space-Object relationship holds between the two nominative NPs do not have corresponding genitive sources, as shown in (12).

- (12) $\left\{ \begin{array}{l} \text{thomatho-ka} \\ * \text{thomatho-uy} \end{array} \right\}$ *pellye-ka tulkkulh-nun-ta.* [Space-Object]
 tomato-NOM/tomato-GEN worm-NOM be.infested-PRES-DECL
 ‘Tomatos are infested with worms.’

Eighth, all MNCs in which the Object-Quality relationship holds between the two nominative NPs do not have corresponding genitive sources, as shown in (13).

- (13) $\left\{ \begin{array}{l} \text{catongcha-ka} \\ * \text{catongcha-uy} \end{array} \right\}$ *isangha-n naymsay-ka na-n-ta.* [Obj.-Qual.]
 car-NOM/car-GEN be.strange-REL smell-NOM be.emitted-PRES-DECL
 ‘A strange smell is emitted from the car.’

Ninth, some MNCs have a proper noun NP in the subject position, i.e., immediately before the main predicate, as shown in (14)a. This means that the first NP in (14)b may not be the possessor occurring in the specifier position of the corresponding NP structure.

- (14) $\left\{ \begin{array}{l} \text{san-i} \\ * \text{san-uy} \end{array} \right\}$ *Selaksan-i alumtap-ta.* [Proper Noun]
 mountain-NOM/mountain-GEN Mt. Sorak-NOM be.beautiful-DECL
 ‘As for mountains, Mt. Sorak is beautiful.’

To sum up, it is safe to draw a conclusion that, based on the semantic and distributional differences, MNCs are the constructions which may not be derived from the corresponding genitive sources.

4 A Mereological Perspective on the MNCs

Despite numerous studies of the DNCs the MNCs, there have been only some scattered studies of licensing issue of the MNCs. We believe, however, that a satisfactory solution of this issue is, in fact, the key to understand the MNCs. In this section, we try to explore a comprehensive data including some less frequently discussed ones and to establish a new classification of the MNCs based on a set of conceptual relationships between the consecutive NPs. We, then, advance the idea that this well-established set of conceptual relationships is a key to explain how only some subset of the MNCs are possible, and why the order of the NPs in MNCs should be strictly preserved.

4.1 A New Comprehensive Classification of MNCs

It goes back to Yang (1972: 42ff.), in my knowledge, to try to find the generative source of the MNCs in some semantic relationships between the two consecutive nominative NPs. He argues that the macro-micro relation is one of the generative sources.⁴ This relation is based on a semantic conception of non-symmetric inclusion, and it is realized as multiplication of the same case marker on the surface. The macro-micro relation is subcategorized into 5 types according to their semantic

⁴ The macro-micro relation refers to a relation where an NP is conceptually divided into the whole NP itself and a subpart of it. The NP which corresponds to the former is referred to as a macro-NP, while that corresponding to the latter is referred to as a micro-NP.

content: Whole-Part as in (15), Class-Member as in (16), Type-Token as in (17), Total-Quant as in (18) and finally Affected-Affector as in (19):⁵

- (15) khokkili-ka kho-ka kil-ta. [Whole-Part, Yang (1972)]
elephant-NOM nose-NOM be.long-DECL
'The nose of elephants is long.'
- (16) pihayngki-ka 777-i khu-ta. [Class-Member, Yang (1972)]
airplane-NOM 777-NOM be.big-DECL
'It is as for airplanes that 777 is big.'
- (17) hay-ka ttu-nun hay-ka mesiss-ta. [Type-Token, Yang (1972)]
sun-NOM rise-REL sun-NOM be.beautiful-DECL
'As for sun, the rising sun is beautiful.'
- (18) ttang-i 100 m²-i pali-ess-ta. [Total-Quant., Yang (1972)]
land-NOM 100 m²-NOM be.sold-PAST-DECL
'It is as for land that 100 m² were sold.'
- (19) nay-ka apeci-ka aphu-si-pni-ta. [Affected-Affector, Yang (1972)]
I-NOM father-NOM be.sick-HON-SUF-DECL
'It is me that father is sick(, which affects me).'

The licensing issue is tackled again by Na & Huck (1993). They propose that the two consecutive nominative case-marked NPs need to be in a certain semantic relation, called *thematic subordination*: X is *thematically subordinate* to an entity Y iff Y's having the properties that it does entails that X has the properties that it does. Na & Huck (1993: 195) classify these thematic subordination relations into five types: *part-whole relation* (e.g., cover-book, morning-day, eye-person, etc.), *qualitative relation* (e.g., use-tool, length-pants, height-woman, etc.), *conventional relation* (e.g., car-man, picture-woman, dog-girl, etc.), *conversive relation* (e.g., parent-child, master-servant, employer-employee, etc.), and *taxonomic relation* (e.g., apple-fruit, oak-tree, chair-furniture, etc.). The *part-whole relation* and the *taxonomic relation* in Na & Huck (1993) corresponds to the Whole-Part and the Class-Member relation in Yang (1972). The other three relations can be illustrated by the examples below:

- (20) nwun-i sayk-i ppalkah-ta. [qualitative, Na & Huck (1993)]
eye-NOM color-NOM be.red-DECL
'The (color of the) eyes is/sare red.'
- (21) cha-ka isangha-n naymsay-ka na-n-ta. [conventional, Na & Huck (1993)]
car-NOM be.strange-REL smell-NOM be.emitted-PRES-DECL
'A strange smell is emitted from the car.'
- (22) ce uysa-ka hwanca-ka manh-ta. [conversive, Na & Huck (1993)]
that doctor-NOM patient-NOM be.many-DECL
'The doctor has a lot of patients.'

The view in Na & Huck (1993) has been assumed in many other subsequent works in Korean linguistics (see Kim, Sells & Yang (2007), among others).

Park (2001) tries to identify different kinds of MNCs based on the different syntactic and semantic relations between the first and the second nominative NP. He agrees with Yang (1972) that the Whole-Part type such as in (15) and the Class-Member type such as in (16) should be distinguished as independent classes. While he does not allude to the other three types which Yang (1972) classified, he added three new types of MNCs: Locative MNCs such as in (23), Psych-Verb MNCs such as in (24), and Copulative MNCs such as in (25).

⁵ According to Yang (1972: 45), the Affected-Affector macro-micro relation is a 'solidarity' relation and some sort of natural pairing, e.g., kinship, teacher-student, society-individual, etc. We do not assume this relation as an independent class, but regard it as an instance of 'Mutual Relation' class.

- (23) ai-ka pyeng-i na-ss-ta. [Locative]
child-NOM disease-NOM happen-PAST-DECL
'The child got sick.'
- (24) Mary-ka ton-i silh-ess-ta. [Psych-Verb]
Mary-NOM money-NOM be.loathsome-PAST-DECL
'Mary disliked money.'
- (25) mwul-i elum-i toy-ess-ta. [Copulative]
water-NOM ice-NOM become-PAST-DECL
'Water became ice.'

The classification of MNCs proposed in the previous literature can be summarized as in Table 1.

Table 1: Summary of the Previous Classification of MNCs based on Some Semantic Relations

| Example No. | Yang (1972) | Na & Huck (1993) | Park (2001) |
|-------------|-------------------|--------------------|----------------------|
| (15) | Whole-Part | Part-Whole | Possessive Specifier |
| (16) | Class-Member | Taxonomic Relation | Class-Membership |
| (17) | Type-Token | × | × |
| (18) | Total-Quant | × | × |
| (19) | Affected-Affector | × | × |
| (20) | × | Qualitative | × |
| (21) | × | Conventional | × |
| (22) | × | Conversive | × |
| (23) | × | × | Locative |
| (24) | × | × | Psych-Verb |
| (25) | × | × | Copulative |

It is to be pointed out that there are only two classes, whatever the name of each class would be, which have been assumed in all the three works. Yang (1972), Na & Huck (1993) and Park (2001) differentiated three more classes, respectively. As a result, we have 11 different classes of MNCs as a whole.

There are some further classes of the MNCs, some of which have been relatively less frequently discussed in the literature. We start our discussion by pointing out that the previous proposals are partial and incomplete. To remedy this desiderata, we propose to add the following conceptual relations to the previously established ones as licensing conditions of the additional NP in the MNCs: *Area-Place*, *Object-Stuff*, *Activity-Feature*, *Possession*, *Time-Object* and *Object-Predication*.

- (26) kwutwu-ka patak-i kwumeng-i na-ss-ta. [Area-Place]
shoes-NOM sole-NOM hole-NOM be,made-PAST-DECL
'A hole has been made on the sole of the shoes.'
- (27) KIA cha-ka kangpan-i twukkep-ta. [Object-Stuff]
KIA car-NOM steel sheet-NOM be.thick-DECL
'The steel sheet of KIA cars is thick.'
- (28) kolphu-ka phething-i elyep-ta. [Activity-Feature]
golf-NOM putting-NOM be.difficult-DECL
'As for golf game, the putting is difficult.'
- (29) Mary-ka kapang-i yeppu-ta. [Possession]
Mary-NOM bag-NOM be.beautiful-DECL
'Mary's bag is beautiful.'

- (30) yelum-i maykcwu-ka choyko i-ta. [Time-Object]
 summer-NOM beer-NOM best be-PAST-DECL
 ‘Summer is the best (season) to drink beer.’
- (31) ttal-i pwulpyeng-i taytanha-ta. [Object-Predication]
 daughter-NOM complaint-NOM be.strong-DECL
 ‘(My) daughter complains a lot.’

The proposed classes of the MNCs in Korean are summarized in Table 2. The criteria of the classification are the semantic relationships between the two consecutive NPs.

Table 2: Proposal of a New Classification of MNCs based on Some Semantic Relations

| Ex. No. | Yang (1972) | Na & Huck (1993) | Park (2001) | Proposal |
|---------|-------------------|--------------------|----------------------|-------------------------|
| (15) | Whole-Part | Part-Whole | Possessive Specifier | Integral-Obj.-Component |
| (16) | Class-Member | Taxonomic Relation | Class-Membership | Collection-Member |
| (17) | Type-Token | × | × | Type-Token |
| (18) | Total-Quant | × | × | Mass-Portion |
| (19) | Affected-Affector | × | × | (→ Mutual Relations) |
| (20) | × | Qualitative | × | Object-Quality |
| (21) | × | Conventional | × | Object-Attribution |
| (22) | × | Conversive | × | Mutual Relations |
| (23) | × | × | Locative | Space-Object |
| (24) | × | × | Psych-Verb | × |
| (25) | × | × | Copulative | × |
| (26) | × | × | × | Area-Place |
| (27) | × | × | × | Object-Stuff |
| (28) | × | × | × | Activity-Feature |
| (29) | × | × | × | Possession |
| (30) | × | × | × | Time-Object |
| (31) | × | × | × | Object-Predication |

4.2 A Lexical Semantic Relation Hierarchy: A Proposal

Part-whole relations or meronymies gave rise to a wide range of studies in linguistics, psychology, philosophy and artificial intelligence (Cruse (1986), Iris *et al.* (1988) and Winston *et al.* (1987)). Some of these works tried to introduce a classification of these relations and to discuss the validity and accuracy of such categories. Because it is not the place to talk about it, we will not go here into a discussion about the appropriateness of existing classifications. Rather, we will give the main lines of the categorization of part-whole relations we assume in this paper.

One of the main ideas advanced in this paper is that the semantic relationships between the consecutive NPs are the crucial to license an additional NP in the MNCs. In other words, MNCs are formed cyclically only when the relationship between the two adjacent NPs in the MNCs satisfies one of the conceptual constraints listed in Table 2.

Based on psycholinguistic experiments and the way in which the parts contribute to the structure of the wholes, Winston, *et al.* (1987) determined six types of part-whole relations: (1) Component-Integral Object, (2) Member-Collection, (3) Portion-Mass, (4) Stuff-Object, (5) Feature-Activity, and (6) Place-Area. If we advance the idea that the six relations can be subsumed under the *meronymic relation*, we can further group the other semantic relations and hierarchically organize the relations in a linguistically relevant way, be it an ontological hierarchy or semantic type hierarchy in Head-driven Phrase Structure Grammar.

We propose a semantic relation hierarchy in which *inclusion*, *possession* and *attribution* occupy the top-level nodes. Each type of the 14 different classes of MNCs we establish in this paper are properly assigned a semantic relation, which is roughly organized as in Figure 1. We assume that each type of the semantic relations in Figure 1 has its own constraint on the formation of the MNCs.

Possession, in general, is an asymmetric relationship between two constituents, the referent of one of which (the possessor) possesses (owns, rules over, has as a part, etc.) the referent of the other. Alienable and inalienable possession are commonly distinguished. In the semantic relation hierarchy, we understand only the alienable possession under the *possession* relation. The inalienable possession is a proper portion of *Integral object-Component*.

Attribution, in general, is an asymmetric relationship between two constituents, the referent of one of which has the property of described by the other. We assume this relation includes *Object-Quality* (e.g., eye-color, hair-shine, etc.), *Object-Predication* (e.g., person-complaint, father-love, etc.), *Mutual Relation* (e.g., doctor-patient, husband-wife) and *Object-Attribution* (e.g., car-smell, tiger-area of movement, etc.).

Spatio-Temporal Relation (e.g., kid-illness, container-crack, tomato-worm, beach-girl; summer-beer, city-weather, etc.) and *Classification Relation* (e.g., student-some, apple-two; sun-rising sun, dog-biting dog, etc.) are *inclusion* relation.

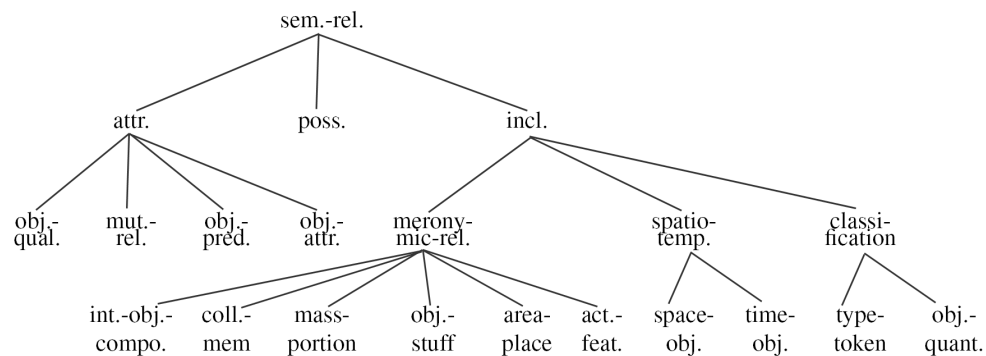


Figure 1 A Lexical Semantic Relation Hierarchy as Condition on Licensing Nominals in MNCs

The *Integral object-Component* relation is the relation between components and the objects to which they belong. Integral objects have a structure, their components are separable and have a functional relation with their wholes (e.g., kitchen-apartment, aria-opera, cup-handle, car-wheel, elephant-nose, person-hand).

The *Collection-Member* relation represents membership in a collection. Members are parts, but they cannot be separated from their collections and do not play any functional role with respect to their whole (e.g., soldier-army, professor-faculty, tree-forest, deck-card, flower-rose, airplane-777).

Mass-Portion captures the relations between portions and masses, extensive objects, and physical dimensions. The parts are separable and similar to each other and to the wholes which they comprise, and do not play any functional role with respect to their whole (e.g., slice-pie, meter-kilometer, salt-grain of salt).

The *Object-Stuff* category encodes the relations between an object and the stuff of which it is partly or entirely made. The parts are not similar to the wholes that they comprise, cannot be separated from the whole, and have no functional role (e.g., car-steel sheet, alcohol-wine, , bike-steel).

The *Feature-Activity* relation captures the semantic links within features or phases of various activities or processes. The parts have a functional role, but they are not similar or separable from the whole (e.g., golf-putting, eating-swallowing, paying-shopping and chewing-eating).

Area-Place captures the relation between areas and special places and locations within them. The parts are similar to their wholes, but they are not separable from them (e.g., Korea-Seoul, desert-oasis).

Although we do not try to propose any framework-dependent rule or schema, we agree with Park (2001) that the DMCs are the base for the MNCs.⁶ If the nominative subject NP of a one-place predicate is conceptually incomplete in the sense that it can be modified by an NP standing in a semantic relationship proposed above, a new nominative NP may appear before the initial nominative, resulting in a DNC. If the added nominative happens to be conceptually incomplete, then another nominative may be added, resulting in a tripple nominative construction. This process may occur repeatedly. The original valency of a predicate, therefore, is strictly preserved throughout, no matter how many nominatives may occur before the adjective or the one-place predicate.

4.3 Evidence for the Lexical Semantic Relation Hierarchy

The semantic relation hierarchy is assumed for licensing nominals in the formation of the MNCs. We show in this subsection that this semantic relation hierarchy is independently motivated in this language. I give several pieces of evidence including some subset of Multiple Accusative Constructions (MACs), Verbal Noun Constructions (VNCS), Object-Quantification constructions, Exceptional Case Marking Constructions (ECM), as shown in in (32)-(35).

- (32) a. thokki-ka kuy-ka kil-ta. [MNCs]
 rabbit-NOM ear-NOM be.long-DECL
 ‘The ears of rabbits are long.’
- b. John-i thokki-lul kuy-lul cap-ass-ta. [MACs]
 John-NOM rabbit-ACC ear-ACC grasp-PAST-DECL
 ‘John grasped the ears of rabbits.’
- (33) a. thokki-ka kuy-ka yenkwu-ka toy-ess-ta. [passive VNCS]
 rabbit-NOM ear-NOM research-NOM do-PAST-DECL
 ‘The ears of rabbits were studied.’
- b. John-i thokki-lul kuy-lul yenkwu-lul ha-ess-ta. [active VNCS]
 John-NOM rabbit-ACC ear-ACC research-ACC do-PAST-DECL
 ‘John studied the ears of rabbits.’
- (34) a. haksayng-i twu myeng-i o-ass-ta. [Nom. Object-Quant.]
 student-NOM two person-NOM come-PAST-DECL
 ‘Two of the students came.’
- b. John-i haksayng-ul twu myeng-ul ponay-ess-ta. [Acc. Object-Quant.]
 John-NOM student-ACC two person-ACC send-PAST-DECL
 ‘John sent two of the students.’
- (35) ECM: NOM-NOM sequence
- a. John-i Mary-ka kapang-i yeppu-ta-ko mit-nun-ta.
 John-NOM Mary-NOM bag-NOM beFashionable-DECL-THAT believe-PRES-DECL
 ‘John believes Mary the’bag to be fashionable.’
- b. */??John-i Mary-lul kapang-i yeppu-ta-ko mit-nun-ta.
 John-NOM Mary-ACC bag-NOM beFashionable-DECL-THAT believe-PRES-DECL
 ‘John believes Mary the bag to be fashionable.’

⁶ The Psych-Verb MNCs and the Copulative MNCs, however, have some fundamental properties which are sharply contrast to the other DMCs. The nominative case-marked NPs are syntactically required. It seems to be reasonable to exclude them from the ‘pure’ MNCs, although there are some restricted cases of MNCs based on these constructions. The same can be said to passive Verbal Noun Constructions. We propose to separate them from the other ‘pure’ MNCs, and to call them ‘Structural MNCs’.

It is to be observed is that two or more consecutive NPs are nominative-marked in the first example of (32)-(35) and that they are accusative-marked in the second example of (32)-(35). We are in the position that MNCs in Korean are cyclically formed only when the relationship between the two consecutive NPs satisfies one of the conceptual constraints including inclusion, possession and attribution. In the same context, we believe that the multiplication of the accusative case can also be explained under the assumption that the relationship between the two consecutive NPs satisfies one of the conceptual constraints proposed above. This suggests that the semantic relation hierarchy should be independently motivated in Korean.

5 Conclusion

In this paper we have proposed some important constraints on the licensing of nominals in the so-called Multiple Nominative Constructions (MNCs) in Korean from a mereological point of view, proposing a semantic relation hierarchy. The main idea advanced in this paper is that MNCs are cyclically formed only when the relationship between the two consecutive NPs satisfies one of the conceptual constraints including *inclusion*, *possession* and *attribution*. The *inclusion* constraints are further divided into *meronymic relations*, *spatio-temporal relations* and *classificational relations*. The *meronymic relations* integrate some essential ideas of the tradition of mereological thoughts.

Some appealing consequences of this proposal include a new comprehensive classification of MNCs and a straightforward account of some long standing problems such as how the additional nominative NPs are licensed. This proposal is also a new trial to extract some important common constraints underpinning the formation of the various MNCs including some less discussed MNCs.

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