

Diagnostics for Unaccusativity in Korean

by

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1. Introduction

Perlmutter(1978) proposed the Unaccusative Hypothesis, which distinguishes two classes of intransitive verbs: Unergative verbs¹, which denote willful, volitional actions and involuntary bodily processes, and Unaccusative verbs, which denote non-volitional actions or states. Since Perlmutter(1978), research on unaccusativity has contributed much to our cross-linguistic understanding of phenomena such as case marking, theta-theory and the relationship between syntax and semantics. Many languages have been studied in the search for cross-linguistically valid diagnostics for unaccusativity: Dutch (Perlmutter 1978, Rosen 1984, Hoekstra 1984, Zaenen 1988, Zaenen 1989), Italian (Belletti and Rizzi 1981, Burzio 1981, 1986, Rosen 1984, Van Valin 1987, 1990), English (Levin and Rappaport 1986), Georgian (Harris 1982, Van Valin 1987, 1990), Halkomelem (Gerds 1981, 1991), Japanese (Dubinsky 1989, Miyagawa 1988, 1989a, 1989b, Terada 1987, Tsujimura 1990), and Albanian (Hubbard 1985).

The purpose of this paper is to contribute to this research by studying various syntactic diagnostics for Korean within the framework of Relational Grammar and classifying Korean intransitives into unergatives and unaccusatives using the proposed

¹Since the terms 'Unaccusative/Unergative' were used originally by Perlmutter (1978), 'Unergative/Unaccusative' will be used in this paper even though the term is used differently by various theories. For a review of these terms in different theories, refer to footnote 4.

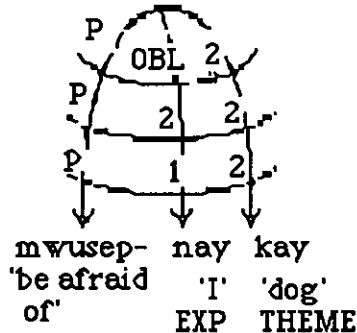
tests. These tests can be applied to several constructions² and can be the basis for studies concerning unaccusativity.

The paper is arranged as follows: section 2 presents the theoretical background in Relational Grammar with particular attention to some universal laws and the Unaccusative Hypothesis as proposed by RG. In section 3, which is the main part of this paper, I study five syntactic diagnostics which distinguish Unaccusative

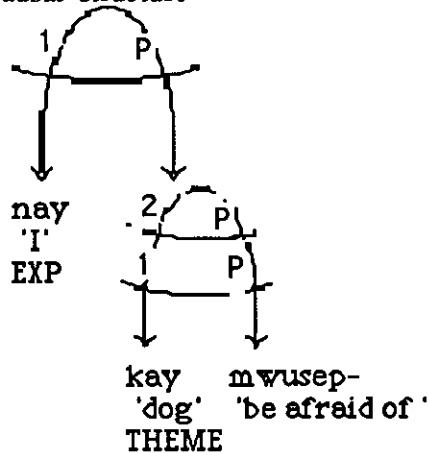
²For instance, these tests can be applied to a class of psych constructions as in (i), which have been claimed (Gerds and Youn 1988, 1989a, Youn 1989, Kim 1990) to be initially mono-clausal unaccusative or (B. S. Yang in preparation, K.S. Lee 1991) to have biclausal structure whose downstairs is initially unaccusative and whose upstairs is an unergative as in (ii).

- (i) na-eykey/-ka kay-ka mwusep-ta
 I-DAT/-NOM dog-NOM be afraid of DEC
 "I am afraid of the dog."

- (ii) a. mono-clausal unaccusative



- b. biclausal structure



intransitives from Unergative intransitives in Korean. These tests are applied to about 250 intransitive predicates (verbs and adjectives) and are used to classify them into unaccusatives and unergatives (see Appendix B and C for the list). Section 4 is a summary and conclusion.

2. Theoretical Background: Relational Grammar

2.1. Basic Laws of Relational Grammar³

Relational Grammar is fundamentally characterized by the assumption that grammatical relations such as subject, direct object, predicate, etc., are theoretical primitives, i.e. undefined notions in terms of which grammatical principles and rules of grammar can be stated (Postal and Joseph 1990:vii). Unlike other syntactic frameworks such as GB, RRG, or GPSG, grammatical relations are taken as primitives of syntactic theory and multiple syntactic levels are posited in syntactic representation.

Perlmutter and Postal (1983a, b, 1984a) have proposed a number of universal laws governing the form of a clause in terms of grammatical relations. These are summarized below.

- (1) a. The Relational Succession Law (RSL): An ascende^e assumes within the clauses into which it ascends the grammatical relation of its host NP.

(Perlmutter and Postal 1983a:35)

³This paper assumes familiarity with basic theoretical claims of Relational Grammar. This section will mention only laws and hypotheses relevant to this paper. For a more detailed Relational Grammar, see Perlmutter (1980, 1983), Perlmutter and Rosen (1984), and Postal and Joseph (1990), among others.

- b. The Oblique Law: A nominal that bears a term relation in a given clause may or may not bear that relation in the initial stratum in that clause. A nominal that bears an oblique relation in a clause, in contrast, bears that relation in the initial stratum.
(Perlmutter and Postal 1983b:88)
- c. Stratal Uniqueness Law (SUL): No stratum can contain more than one 1-arc, one 2-arc, or one 3-arc.
(ibid: 92)
- d. The Chomeur Law(originally the Relational Annihilation Law, Perlmutter and Postal 1983a:62): If some nominal, Na, bears a given term relation in a stratum, ci, and some other nominal, Nb, bears the same (term) relation in the following stratum (ci+1), then Na bears the chomeur relation in ci+1.
(ibid:96)
- e. The Final 1 Law: If b is a basic clause node, the final stratum of b contains a 1-arc.
(ibid: 100)
- f. The Nuclear Dummy Law(NDL): If A is an arc whose head is a dummy nominal, A is a nuclear term arc.
(ibid: 103)
- g. 1-Advancement Exclusiveness Law(1 AEX): Let A and B be distinct neighboring 1-arcs. Then, if A is an advancee arc, B is not an advancee arc.
(Perlmutter and Postal 1984a: 87)
- h. The Host Limitation Law (HLL) : Only a nominal bearing a term (1, 2, or 3) relation can be the host of an ascension.
(Perlmutter and Postal 1974)
- i. The Unaccusative Hypothesis: Certain intransitive clause have an initial 2, but no initial 1.
(Perlmutter 1978)

2.2. Unaccusative Hypothesis (UH)⁴

⁴From the time that Perlmutter(1978) originally proposed the UH in Relational Grammar, the hypothesis has developed independently within different grammatical theories: Argument Structure (Grimshaw 1990), Government/Binding Theory (Burzio 1986), Lexical Functional Grammar (Bresnan and Kanerva 1989, Bresnan and Zaenen 1990), Role and Reference Grammar (Van Valin 1987, 1990).

In GB theory, the D- and S-structure correspond to the initial and final strata respectively in RG. Burzio (1986) uses the term 'ergative' for unaccusative verbs and the term 'unergative' for unergative verbs. In GB, unaccusative verbs occur in the D-structure as shown in (ia), while unergative verbs can be represented in the D-structure as shown in (ib). These D-structure representations are equivalent to RG's initial stratum.

- (i) a. Unaccusative
[s — [vp V NP]
- b. Unergative
[s NP [vp V]

The main issue for unaccusative verbs in GB is why unaccusative verbs assign no case to its internal argument. Levin and Rappaport (1986) assume that the essential property of the passive morpheme (i.e. unaccusative verbs) is the suppression of the external theta-role. Since it assigns no external theta-role, the verb can no longer assign case according to Burzio's generalization (Burzio 1981, 1986). The inability of unaccusative verbs to assign case is sufficient to ensure that the direct argument must undergo NP movement in order to receive case.

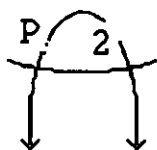
Grimshaw (1990) proposes the following argument structures for the two intransitive verb types based on the fact that an unaccusative has only an internal argument and an unergative verb has only an external argument.

- (ii) a. Unaccusatives
- (X)
|
theme
- b. Unergatives
- (X)
|
agent

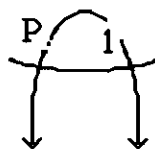
To show that unaccusativity provides no evidence against monostratal theories of syntax such as Role and Reference Grammar, Van Valin (1978, 1990) studies split-intransitives which are unaccusative and unergative intransitive verbs. He argues that underlying levels of syntactic representation are unnecessary to analyze the unaccusative nominal as an initial direct object or initial 2, as proposed in GB and RG respectively, since it can be stated in terms of semantic roles. In Van Valin (1978, 1990), the term Sa and So are used instead of the term 'unaccusative' and 'unergative' as follows:

Using the notion of stratum, Perlmutter(1978) proposed two types of intransitive verbs according to the UH (1i), Unaccusative and Unergative. Unaccusative verbs are analyzed as having an initial 2 (direct object), but no initial 1 (subject), as in (2a), while unergative verbs have an initial 1, but no initial 2, as in (2b).

(2) a. Unaccusative

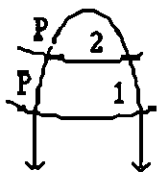


b. Unergative



The initial object of an unaccusative predicate can advance to final subject by means of Unaccusative Advancement in accord with the Final-1 Law (1e), as shown in (3).

(3) Unaccusative Advancement



(iii) a. Unergative: Class Sa-- where Sa means that the subject of the intransitive verbs ('S') receives the same morphosyntactic treatment as the subject of a transitive verb ('A').

b. Unaccusative: Class So-- where So means that the subject of the intransitive verb receives the same morphosyntactic treatment as the object of a transitive verb ('O').

With respect to the semantic basis for the unaccusative and unergative distinction, Perlmutter (1978) suggests the following:

(4) Predicates determining unergative clause

- a. predicates describing willed or volitional acts such as 'work,' 'play,' 'talk,' 'smile,' 'grin,' 'frown,' 'grimace,' etc; manner-of-speaking verbs such as 'whisper,' 'shout,' 'mumble,' 'grumble,' 'growl,' 'bellow,' etc.; sounds made by animals such as 'bark,' 'neigh,' 'whinny,' 'quack,' etc.
- b. certain involuntary bodily processes such as 'cough,' 'sneeze,' 'hiccough,' 'belch,' 'burp,' 'sleep,' 'cry,' 'vomit', etc.

(5) Predicates determining unaccusative clauses

- a. Predicates expressed by adjectives including predicates describing sizes, shapes, weights, colors, smells, states of mind, etc.
- b. Predicates whose initial nuclear term is semantically a patient such as 'burn,' 'fall,' 'drop,' 'sink,' 'float,' 'slide,' 'slip,' 'glide,' etc.; inchoatives such as 'melt,' 'freeze,' 'evaporates,' 'vaporize,' 'darken,' etc.
- c. Predicates of existing and happening such as 'exist,' 'happen,' 'transpire,' 'occur,' 'take place,' etc.
- d. Non-voluntary emission of stimuli that impinge on the senses (light, noise, smell, etc.) such as 'shine,' 'sparkle,' 'glitter,' 'glisten,' 'glow,' etc.
- e. Aspectual predicates such as 'begin,' 'start,' 'stop,' 'cease,' 'end,' etc.
- f. Duratives such as 'last,' 'remain,' 'stay,' 'survive,' etc.

However, Subsequent studies, especially Rosen (1984), argue that there are no consistent universal semantic criteria that capture

the semantic basis for unaccusativity. Rosen's arguments are based on some exceptions to the generalization that supports the UH, such as 'snore,' 'sleep,' 'breathe,' 'yawn,' 'vomit,' 'sneeze,' etc. Perlmutter (1978) classified these predicates as unergative as in (4b). However, Rosen argues that this distinction is inadequate since Italian, Albanian, and Dutch all assign to 'snore' an initial 1 and to 'blush' an initial 2. Moreover, in Italian 'blush' is an unaccusative as is indicated by the auxiliary selection of *essere* and the distribution of partitive *ne*; 'die' is unaccusative in Italian, but unergative in Choctaw; 'sweat' is unergative in Italian, but unaccusative in Choctaw; 'sneeze' is unergative in Italian and Dutch, unaccusative in Eastern Pomo, and flexible in Choctaw. Rosen also shows that some motion verbs such as 'go,' 'stay,' 'arrive,' 'come,' etc. are mismatched according to language: 'go,' 'stay,' 'arrive,' etc. are unergative in Albanian and Choctaw and they are unaccusative in Italian. From these cross-linguistic discrepancies, Rosen argues that initial Grammatical Relations are not predictable from meaning and we need an initial level of grammatical relations which is independent of any semantic or thematic level⁵.

⁵One of the most common issues about unaccusativity is what determines the initial level of unaccusativity: Is it syntax or semantics? Rosen (1984), Harris (1982), Burzio (1981, 1986), and Miyagawa (1989b), among others, take the position that it is determined in syntax. Van Valin (1978, 1990), Grimshaw (1990), and Zaenen (1988, 1989) support the idea that it is determined in semantics. Levin and Rappaport (1989) take the position that unaccusativity is syntactically represented, but semantically determined (cf. Tsujimura 1990, Grimshaw 1978).

3. Diagnostics for Unaccusativity in Korean⁶

In this section, I will examine five Korean constructions which distinguish unaccusatives from unergatives among intransitive predicates: Possessor Ascension, the OBL/NOM case alternation of non-nominative subjects, the case patterns of Numeral Classifiers, case-marking of Duration/Frequency Adverbs, and the Light Verb -*hata*.

3.1. Possessor Ascension⁷

⁶Kim (1990) suggests that the case-marking pattern of Korean psych verb constructions mentioned in footnote 1 is the standard diagnostic for Korean unaccusativity and that what determines unaccusativity in Korean is the future [-agentive], not [+stative]. However, the argument that psych verb constructions are mono-clausal unaccusative is not valid (cf. K.S. Lee 1991, B.S. Yang in prep.). Thus, her semantic approach for Korean unaccusatives should be reconsidered.

⁷The following will be used in the glosses of the Korean data in this paper.

| | | |
|---------------------------|--------------------|-----------------------|
| ACC Accusative | CAU Causative | CL Numeral Classifier |
| DAT Dative | DEC Declarative | GEN Genitive |
| HON Honorific | INST Instrumental | LOC Locative |
| NOM Nominative | OBL Oblique | PASS Passive |
| PAST Past Tense | PRES Present Tense | PL Plural |
| SH Subject Honorification | | |

An asterisk * means that a sentence is ungrammatical to a native speaker of Korean.

A question mark ? means that the native speakers disagree on the grammaticality of the sentence, but most find it ungrammatical.

A percent mark % means that the native speakers disagree on the grammaticality of the sentence, but most find it grammatical.

Parenthesis () represents optionality.

There are many Korean Romanization systems (cf. Martin (1968)). Among them, the M-R system (1939) and the Yale system (1968) have been used in widely. Even though the Korean government adopted the M-R system as the official Korean Romanization system for the 1986 Seoul Asian Games and the 1988 Seoul Olympic Games, the Korean Linguistic Society favors Martin's

Perlmutter and Postal (1972,1983a) examine ascension constructions, where same subconstituent of a linguistic element (called the 'ascendee') is ascended so that it bears a relation to a clause to which it has no relation at earlier levels. In a number of languages⁸, some possessive clauses have non-possessive counterparts where a possessor is expressed not as a dependent of the possessive phrase, but as a part of the clause proper. To provide a cross-linguistic account for this phenomenon, Perlmutter and Postal (1983a) propose Possessor Ascension (PA hereafter), by which the possessor ascends from its possessive phrase and assumes the relation that the possessive phrase to the clause.

As Choi(1988), Chun(1986), O'Grady(1990), and Youn(1989) have discussed, Korean has PA. For example, in the structure pairs shown in (6)-(8), the 2 nominal(i.e. direct object) in a transitive stratum hosts PA, as represented in (9).

(6) a. John-i Mary-uy son-ul cap-ass-ta
 -NOM -GEN hand-ACC hold-PAST-DEC

b. John-i Mary-lul son-ul cap-ass-ta
 -NOM -ACC hand-ACC hold-PAST-DEC
 "John held Mary's hand." (Chun 1986:85)

(7) a. John-i Sue-uy son-ul calla-ss-ta
 -NOM -GEN hand-ACC cut-PAST-DEC
 "John cut Sue's hand."

(1968) Yale system. The Yale system is favored by linguists because of its linguistic accuracy and systemicity. In this paper, I will follow the Yale system for Korean Romanization. Refer to Appendix A for the Yale system.

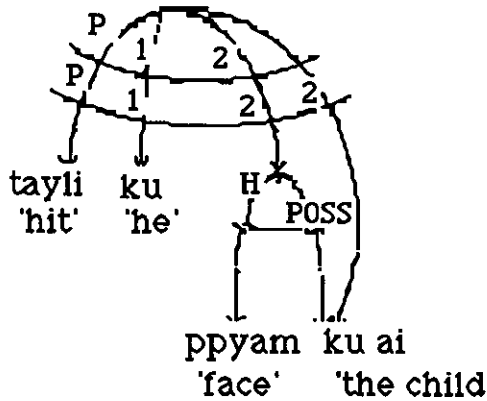
⁸See Malagasy cited by Perlmutter and Postal (1983a).

b. John-i Sue-lul son-ul calla-ss-ta
 -NOM -ACC hand-ACC cut-PAST-DEC
 "John cut Sue on the hand." (O'Grady 1990:80)

(8) a. ku-nun ku ai-uy ppyam-ul ttayly-ess-ta
 he-TOP the child-GEN cheek-ACC hit-PAST-DEC
 "He hit the child's face."

b. ku-nun ku ai-lul ppyam-ul ttayly-ess-ta
 he-TOP the child-ACC cheek-ACC hit-PAST-DEC
 "He hit the child on the face." (Choi 1988:89)

(9) = (8)



PA is also possible in some intransitive clauses, as in (10)-(12).

(10) a. John-uy him-i ssey-ta
 GEN strength-NOM strong-DEC

b. John-i him-i ssey-ta
 NOM strength-NOM strong-DEC
 "John's strength is strong." (Chun 1986: 56)

(11) a. ku cip-uy cipwung-i mwuneci-ess-ta
 the house-GEN roof-NOM collapse-PAST-DEC

b. ku cip-i cipwung-i mwuneci-ess-ta
 the house-NOM roof-NOM collapse-PAST-DEC
 "The roof of the house collapsed." (Youn 1989:68)

(12) a. Swunhi-uy maumss-ka kop-ta
 GEN nature-NOM pretty

- b. Swunhi-ka maumss-ka kop-ta
 NOM nature-NOM pretty
 "Soonhi is good-natured." (Choi 1988:46)

However, PA is not possible in other intransitive clauses, as is illustrated by (13)-(15).

- (13) a. Swunhi-uy nwun-i taytap-taysin salccak
 -GEN eyes-NOM answer-instead of gently

wus-ess-ta
 smile-PAST-DEC

- b.* Swunhi-ka nwun-i taytap-taysin salccak
 -NOM eyes-NOM answer-instead of gently

wus-ess-ta
 smile-PAST-DEC

"Soonhi's eyes smiled gently instead of answering."

- (14) a. Chelswu-uy tali-ka ppali kel-ess-ta
 GEN leg-NOM fast walk-PAST-DEC

- b. *Chelswu-ka tali-ka ppali kel-ess-ta
 NOM leg-NOM fast walk-PAST-DEC
 "Chulsoo's legs walked fast."

- (15) a. pihayngki-uy momchay-ka (phulun hanul-ul)
 airplane-GEN body - NOM (blue sky-ACC)

himchakey nal-ass-ta
 strongly fly-PAST-DEC

- b.* pihayngki-ka momchay-ka (phulun hanul-ul)
 airplane-NOM body - NOM (blue sky-ACC)

himchakey nal-ass-ta
 strongly fly-PAST-DEC

"The body of the airplane flew strongly in the blue sky."

The verbs that allow PA in an intransitive clause are unaccusative verbs, such as 'be strong', 'collapse', 'be good-natured', etc. The verbs that do not allow PA in an intransitive clause are unergative verbs, such as 'smile', 'walk,' 'fly,' etc. Based on the above data, we can make the generalization that only 2-nominals allow PA. That is, in intransitive clauses, only unaccusative clauses allow the PA.

Chun (1986) was the first to provide an RG treatment of Korean PA. She (1986: 85) mentioned that there are four different semantic functions of the Genitive case *-uy* ('s), listed in (16). She further proposed semantic limitations on PA in Korean. Specifically, among the relations between the Possessor and the Head, only inalienable possession (16a) and part-whole relations (16d) allow PA, as shown in (17).

- (16) a. inalienable possession: John-uy tali 'John's leg,'
Mary-uy son 'Mary's hand,' etc.
- b. possession of the possessor: John's kapang 'John's bag,'
Mary-uy moca 'Mary's hat', etc.
- c. kinship relationship: John-uy emeni "John's mother,"
Mary-uy tongsayng 'Mary's brother',
etc.
- d. part-whole relationship: sikyey-uy cwul 'the chain of a
watch,' namwu-uy kaci 'branch of
the tree', etc.
- (17) a. John-i Mary-uy/-lul son-ul cap-ass-ta
-NOM -GEN/-ACC hand-ACC hold-PAST-DEC
"John held Mary's hand."
- b. Nay-ka John-uy/*-ul kapang-ul yel-ess-ta
I-NOM -GEN/*-ACC bag-ACC open-PAST-DEC

"I opened John's bag."

c. Mary-ka John-uy/*-ul emeni-lul coaha-yess-ta
-NOM -GEN/*-ACC mother-ACC like-PAST-DEC

"Mary liked John's mother."

d. John-i sikye-uy/-lul cwul-ul kochi-ess-ta
-NOM watch-GEN/-ACC chain-ACC repair-PAST-DEC

"John repaired the chain of a watch."

(Chun 1986:85-86)

She also discussed syntactic limitations on PA in Korean: only 1-arcs and 2-arcs can serve as a host to PA in Korean, not 3-arcs and obliques. This pattern conforms to the HLL (1h).

Following Chun (1986), Youn (1989:73) proposed the following syntactic and semantic conditions on PA in Korean: PA hosts are limited to 2-arcs and PA is possible only when the possessor and the possessee are in a relation of partitive inalienability or localizing inalienability⁹. From this observation, Youn (1989) assumes that the

⁹Youn (1989:71-2) divided the inalienability into three different kinds of relational concepts: i) socially determined inalienability, which involves a social or kinship relationship such as father, mother, brother, friend, teacher, etc., ii) partitive inalienability, which refers to part-whole relations such as body part, name, voice, property, etc., and iii) localizing inalienability, which involves spatial-relational concepts such as behind, back, top, etc. Among these, he argued that only ii) and iii) cases can undergo PA if the NP is 2. However, there are other examples in Korean which at first glance seem to involve PA in contradiction to the above semantic restrictions :

(i) a. Chelswu-uy apeci-ka hakkyo-ey o-si-ess-ta
-GEN father-NOM school -LOC come-SH-PAST-DEC

b. Chelswu-ka apeci-ka hakkyo-ey o-si-ess-ta
-NOM father-NOM school -LOC come-SH-PAST-DEC

"Chulsoo's father came to school."

In (i), the relation between *Chelswu* and *father* is socially determined inalienability and PA is possible as shown in (ib). Youn (1989) suggested that the above sentence is not a case of PA, but rather a focus construction, and therefore, the limitation on PA is not involved in this focus construction.

Following Youn's (1989) classification, I will exclude the focus constructions from this paper since the main concern of this paper is PA, not

PA construction (18) is initially unaccusative and has the relational structure of (19)¹⁰.

- (18) a. Swunhi-uy/-ka nwun-i yeyppwu-ta
 GEN/-NOM eye-NOM pretty-DEC
 'Soonhi's eyes are pretty'
- b. Chelswu-uy/-ka cwumek-i khu-ta
 GEN/-NOM fist-NOM big-DEC
 "Chulsoo's fists are big."
- c. ku cip-uy/-i cipwung-i mwuneci-ess-ta
 the house-GEN/-NOM roof-NOM collapse-PAST-DEC
 "The roof of the house collapsed."
 (Youn 1989: 66-68)
- d. Swunhi-uy/-ka nwun-i phalahkey mengtul-ess-ta
 GEN/-NOM eyes-NOM blue bruise-PAST-DEC
 "Swunhi's eyes were bruised severely."
- e. pihayngki-uy/-ka momchay-ka phulun hanul-eyse
 airplane-GEN/-NOM body - NOM blue sky-LOC
 kapcaki phokphalha-yess-ta.
 suddenly explode-PAST-DEC
 "The body of the airplane was exploded suddenly in the blue sky."
- f. hanul-ul naluten say-uy/-ka nalkay-ka pwuleci-ess-ta
 sky-ACC flown bird-GEN/-NOM wing-NOM broken-PAST-DEC
 "A wing of the bird flying in the sky was broken."

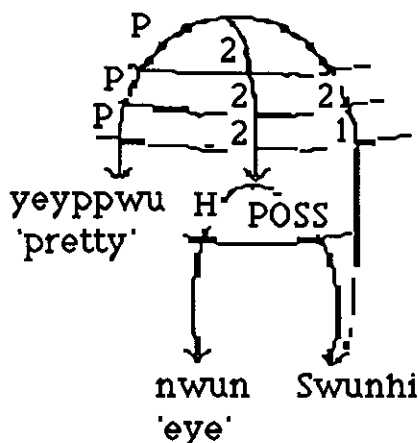
focus constructions. See Youn (1989, section 2.2) for the details of the focus construction.

¹⁰Choi (1988) also proposes that if the GR of the hosts which allow PA is 1, then the predicate is perhaps unaccusative ([-Action] in his terms.)

In Role and Reference Grammar, Van Valin (1990: 251, 1991a:37-8) also mentions PA in Achenese and proposes that the occurrence of a possessor NP outside of the possessive NP is possible only if the possessive NP functions as the undergoer of the clause and that this is not possible when the possessive NP serves as an actor.

g. ku namwu-uy/-ka yelmay-ka palam-ey tteleci-ess-ta
 the tree-GEN/-NOM fruit-NOM wind-with fall-PAST-DEC
 "The fruit of the tree fell down with the wind."

(19)



All the predicates involved in (18) are unaccusatives in meaning in that they are predicates adjectives or verbs describing non-volitional acts, etc.

Let's examine the following examples. In (20) and (21), the possessor and head nominal which is the subject of the clause are in a relation of partitive inalienability. Since they satisfy the semantic condition for PA, PA can be applied to the clause if it satisfies the syntactic condition for PA¹¹.

(20) a. Chelswu-uy son-i totwuk-uy pal-ul cap-ass-ta.
 -GEN hand-NOM thief-GEN foot-ACC catch-PAST-DEC
 "Chulsoo's hand caught the thief's foot."

b. Chelswu-uy nwun-i Swunhi-uy nwun-ul po-ass-ta.
 -GEN eye-NOM -GEN eye-ACC see-PAST-DEC

¹¹These sentences are borrowed from Youn (1989) with slight changes.

"Chulsoo's eyes saw Soonhi's eyes."

c. Chelswu-uy cwumek-i uyca-uy tali-lul
GEN fist-NOM chair-GEN leg-ACC

pwulettuli-ess-ta.
broke-PAST-DEC

"Chulsoo's fist broke the leg of the chair."

(20)' a. *Chelswu-ka son-i totwuk-uy pal-ul cap-ass-ta.
-NOM hand-NOM thief-GEN foot-ACC catch-PAST-DEC

b. *Chelswu-ka nwun-i Swunhi-uy nwun-ul po-ass-ta.
-NOM eye-NOM -GEN eye-ACC see-PAST-DEC

c. *Chelswu-ka cwumek-i uyca-uy tali-lul
-NOM fist-NOM chair-GEN leg-ACC

pwulettuli-ess-ta.
broke-PAST-DEC

(21) a. Chelswu-uy son-i totwuk-eyuyhay cap-hi-ess-ta.
-GEN hand-NOM thief-by catch-PASS-PAST-DEC
"Chulsoo's hand was caught by the thief."

b. Chelswu-uy nwun-i po-i-eci-ess-ta.
-GEN eye-NOM see-CAU-PASS-PAST-DEC
"Chulsoo's eyes were seen (by someone)."

c. uyca-uy tali-ka pwule-ci-ess-ta
chair-GEN leg-NOM broke-PASS-PAST-DEC
"The leg of the chair was broken."

(21)' a. Chelswu-ka son-i totwuk-eyuyhay cap-hi-ess-ta.
-NOM hand-NOM thief-by catch-PASS-PAST-DEC

b. Chelswu-ka nwun-i po-i-eci-ess-ta.
-NOM eye-NOM see-CAU-PASS-PAST-DEC

c. uyca-ka tali-ka pwule-ci-ess-ta
chair-NOM leg-NOM broke-PASS-PAST-DEC

In transitive clauses like (20), the subject can not be the host of PA as is shown in (20)¹², while in passive clauses like (21), the subject can be the host of PA, as is shown in (21)'.

From the above observations, we propose that PA can be a diagnostic for Korean Unaccusativity as follows:

(22) Possessor Ascension for Unaccusativity (PAU)

If a possessor ascends in an initially intransitive clause, its host is an unaccusative, not an unergative.

It should be noted that PAU (23) is a diagnostic for unaccusativity. It makes claims about intransitive clauses, but it is stated so as not to include transitive clauses. PAU (23) classifies *yeyppwu-ta* 'pretty', *khu-ta* 'big', *mwuneci-ta* 'collapse', *mengtul-ta* 'bruise,' *phokphal-hata* 'explode', *pwuleci-ta* 'broken', etc. as unaccusatives, and *wus-ta* 'smile', *kes-ta* 'walk', *nal-ta* 'fly', *il-hata* 'work', *insa-hata* 'bow', *ki-ta* 'crawl', etc as unergatives. (see Appendix B and C for the full list.)

¹²The main concern of this paper is the unaccusativity of intransitive clauses. Therefore, I will not mention the object of transitive clauses in this paper if it is not necessary for the argument. Of course, the object of transitive clauses can be the host of PA as shown in (i):

- (i) a. Chelswu-uy son-i totwuk-ul pal-el cap-ass-ta
 -GEN hand-NOM thief-ACC foot-ACC catch-PAST-DEC
- b. Chelswu-uy nwun-i Swunhi-lul nwun-ul po-ass-ta
 -GEN eye-NOM -ACC eye-ACC see-PAST-DEC
- c. Chelswu-uy cwumek-i uyca-lul tali-lul pwulettuli-ess-ta
 -GEN fist -NOM chair-ACC legs-ACC broke-PAST-DEC

3.2. Oblique to Subject Advancement.

With respect to the identification of unaccusative verbs, the Korean case-marking system provides a test. Gerdts and Youn (1989a & b) and Youn (1989) first mentioned Korean OBL-2-1 Advancement in Relational Grammar and explained the following sentences using an advancement analysis and a relational theory of Korean case ¹³ ¹⁴.

- (23) a. I kongcang-ey/-i pwul-i na-ss-ta
 this factory-LOC/-NOM fire-NOM break out-PAST-DEC
 'Fire broke out in this factory.'
- b. Cinan ilyoil-ey/-i nwun-i mani nayli-ess-ta
 last Sunday-LOC/-NOM snow-NOM much fall-PAST-DEC
 'Last Sunday it snowed heavily.'
- c. I chencang-eyse/-i mwul-i tteleci-n-ta
 this ceiling-SOURCE/-NOM water-NOM fall-PRES-DEC
 'Water drips from this ceiling.' (Youn 1989:168)
- (24) a. I kongcang-ey/-*i Chelswu-ka il-han-ta.
 this factory-LOC/-*NOM Chulsoo-NOM work-PRES-DEC
 'Chulsoo works in this factory.'

¹³This OBL-2-1 Advancement is not unique to Korean. Icelandic (Levin and Simpson 1981, Zaenen et al 1985), Italian (Perlmutter 1983), Georgian (Harris 1984), and Japanese (Perlmutter 1984) among others have Oblique to Subject Advancement like Korean.

¹⁴Gerdts and Youn (1989a & b) and Youn (1989) argue that the first nominal of (23) is a final 1 (subject) and that the second nominal of (23) is a 2 chomeur based on arguments using Subject Honorification, Plural Copying, Subject-to-Object Raising, Causatives, and Topicalization. Also, they show OBL advancement to 1 of (23) and OBL non-advancement of (24). To see the subjecthood of an oblique nominal in (23) and non-subjecthood of an oblique nominal in (24), refer to Youn (1989: chapter 3).

- b. Cinan ilyoil-ey/*i Chelswu-ka (Hankang tari-eyse)
 last Sunday-LOC/-NOM Chulsoo-NOM Han-river bridge-LOC

ttwienayli-ess-ta
 jump-PAST-DEC

'Last Sunday Chulsoo jumped (from Han-river bridge).'

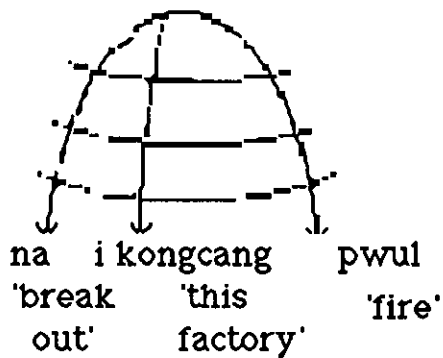
- c. chencang-eyse/*i cwi-tul-i selo
 ceiling-LOC/-NOM mouse-PL-NOM each other

ssawu-ess-ta
 fight-PAST- DEC

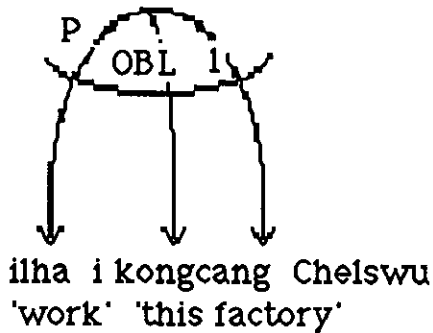
'Mice fought each other at the ceiling.'

The case alternation between OBL and NOM is allowed only in (23), not (24). Gerdts and Youn (1989a & b) and Youn (1989) assume that (23) is initially unaccusative and (24) is unergative, and they propose the following relational networks from the OBL-2-1 advancement and the relational theory:

(23)' Unaccusative



(24)' Unergative



According to them, OBL-2-1 advancement is possible only in clauses that are initially transitive or unaccusative, not unergative. Since unergatives don't allow the advancement, the OBL nominals are not final 1s (as shown in (24)) and thus cannot be marked NOM.

I agree with their claim that only unaccusatives allow OBL-2-1 advancement. The data below support this. The predicates in (25) such as 'fly,' 'roar,' 'dance,' etc. determine initially unergative clauses since they describe willed or volitional acts.

(25) a. hanul-eyse pihayngki-ka sey-tay seccok-ulo
sky-LOC airplane-NOM three-CL west-toward

nalaka-ass-ta

fly away-PAST-DEC

"In the sky, three airplanes flew away westward."

b. kiphun kwutengi-eyse holangi-ka kunsolilo
deep hollow -LOC tiger -NOM with loud voice

wul-ess-ta

roar-PAST-DEC

"In a deep hollow, a tiger roared loudly."

c. ecey achim-ey Yonghi-ka mikwuk-ulo
yesterday morning-LOC -NOM the U.S.-to

ttena-ss-ta
depart-PAST-DEC

"Yesterday morning Younghee went to America."

d. swulcip-eyse Yangswu-ka chinkwu-wa maltatwumha-yess-ta
bar -LOC -NOM friend-with quarrel-PAST-DEC
"In the bar, Yangsoo quarreled with a friend."

e. naitkhulep-eyse Yenghi-ka pamsay namcachinkwu-wa
night club-LOC -NOM all night boyfriend-with

chwumchwu-ess-ta
dance -PAST-DEC

"In the night club, Yenghee danced with a boyfriend all night."

When the initial structure of an intransitive is unergative, the OBL nominal cannot undergo the OBL-2-1 advancement as shown in (26).

(26) a. *hanul-i pihayngki-ka sey-tay seccok-ulo
sky-NOM airplane-NOM three-CL west-toward

nalaka-ass-ta
fly away-PAST-DEC

b. *kiphun kwutengi-ka holangi-ka kunsolilo
deep hollow-NOM tiger -NOM with loud voice

wul-ess-ta
roar-PAST-DEC

c. *ecey achim-i Yonghi-ka mikwuk-ulo
yesterday morning-NOM -NOM the U.S.-to

ttena-ss-ta
depart-PAST-DEC

d. *swulcip-i Yangswu-ka chinkwu-wa maltatwumha-yess-ta
bar -NOM -NOM friend-with quarrel-PAST-DEC

- e. *naitkhulep-i Yenghi-ka pamsay namcachinkwu-wa
 night club-LOC -NOM all night boyfriend-with
 chwumchwu-ess-ta
 dance -PAST-DEC

The predicates in (27) such as 'crash,' 'die,' 'slip,' 'occur', etc. determine initially unaccusative clauses since they describe unwilling or non-volitional acts.

- (27) a. hanul-eyse pihayngki-ka sey-tay seccok-ulo
 sky-LOC airplane-NOM three-CL west-toward
 cwulakha-yess-ta
 crash-PAST-DEC
 "In the sky, three airplanes crashed westward."

- b. kiphun kwutengi-ey holangi-ka ppaci-ess-ta
 deep hollow-LOC tiger -NOM fall into-PAST-DEC
 "A tiger fell into the deep hollow."

- c. ecey achim-ey Yonghi-ka mikwuk-eyse
 yesterday morning-LOC -NOM the U.S.-LOC
 cwuk-ess-ta
 die-PAST-DEC
 "Yesterday morning Younghee died in America."

- d. swulcip-eyse Yangswu-ka chinkwu-wahamkkye
 bar -LOC - NOM friend-with
 mikkuleci-es-ta
 slip-PAST-DEC
 "In the bar, Yangsoo slipped with a friend."

- e. naitkhulep-eyse sakken-i pamsay ilena-ss-ta
 night club-LOC accident-NOM all night occur-PAST-DEC
 "In the night club, the accident happened all night."

As shown in (28), contrary to unergatives, the OBL can undergo the OBL-2-1 advancement and get NOM case.

- (28) a. hanul-i pihayngki-ka sey-tay seccok-ulo
 sky-NOM airplane-NOM three-CL west-toward

 cwulakha-yess-ta
 crash-PAST-DEC
- b. kiphun kwutengi-ka holangi-ka ppaci-ess-ta
 deep hollow-NOM tiger -NOM fall into-PAST-DEC
- c. %ecey achim-i Yonghi-ka mikwuk-eyse
 yesterday morning-NOM -NOM the U.S.-LOC

 cwuk-ess-ta
 die-PAST-DEC
- d. swulcip-i Yangswu-ka chinkwu-wahamkkye
 bar -NOM -NOM friend-with

 mikkuleci-es-ta
 slip-PAST-DEC
- e. naitkhulep-i sakken-i pamsay ilena-ss-ta
 night club-NOM accident-NOM all night occur-PAST-DEC

The following discussions give further examples that OBL-to -1 advancement can be a diagnostic for unaccusatives in Korean.

- (29) caknyen-ey chilweltal-ey toklipkinyemil-ey achim-ey
 last year-LOC July-LOC Independence Day-LOC morning-LOC

 yetelsi-ey U.B.-eyse Baldy Hall-eyse ywukchung-eyse
 8 o'clock-LOC -LOC -LOC 6th floor-LOC

kun pwul-i na-ss-ta
 conflagration-NOM break out-PAST-DEC
 "At 8 o'clock in the morning on Independence Day last July,
 a conflagration broke out on the 6th floor of Baldy Hall at
 U.B."

As Youn (1989) mentioned, *na-ta* 'break out' is an unaccusative verb. Every OBL nominal of the unaccusative in (29) can get NOM case.

(30) a. caknyen-ey chilweltal-ey toklipkinyemil-ey achim-ey
 last year-LOC July-LOC Independence Day-LOC morning-LOC

yetelsi-ey U.B.-eyse Baldy Hall-eyse ywukchung-i
 8 o'clock-LOC -LOC -LOC 6th floor-NOM

kun pwul-i na-ss-ta
 conflagration-NOM break out-PAST-DEC

b. caknyen-ey chilweltal-ey toklipkinyemil-ey achim-ey
 last year-LOC July-LOC Independence Day-LOC morning-LOC

yetelsi-ey U.B.-eyse Baldy Hall-i ywukchung-i
 8 o'clock-LOC -LOC -NOM 6th floor-NOM

kun pwul-i na-ss-ta
 conflagration-NOM break out-PAST-DEC

c. caknyen-ey chilweltal-ey toklipkinyemil-ey achim-ey
 last year-LOC July-LOC Independence Day-LOC morning-LOC

yetelsi-ey U.B.-ka Baldy Hall-i ywukchung-i
 8 o'clock-LOC -NOM -NOM 6th floor-NOM

kun pwul-i na-ss-ta
 conflagration-NOM break out-PAST-DEC

d. caknyen-ey chilweltal-ey toklipkinyemil-ey achim-ey
 last year-LOC July-LOC Independence Day-LOC morning-LOC

yetelsi-ka U.B.-ka Baldy Hall-i ywukchung-i
8 o'clock-NOM -NOM -NOM 6th floor-NOM

kun pwul-i na-ss-ta
conflagration-NOM break out-PAST-DEC

e. caknyen-ey chilweltal-ey toklipkinyemil-ey achim-i
last year-LOC July-LOC Independence Day-LOC morning-NOM

yetelsi-ka U.B.-ka Baldy Hall-i ywukchung-i
8 o'clock-NOM -NOM -NOM 6th floor-NOM

kun pwul-i na-ss-ta
conflagration-NOM break out-PAST-DEC

f. caknyen-ey chilweltal-ey toklipkinyemil-i achim-i
last year-LOC July-LOC Independence Day-NOM morning-NOM

yetelsi-ka U.B.-ka Baldy Hall-i ywukchung-i
8 o'clock-NOM -NOM -NOM 6th floor-NOM

kun pwul-i na-ss-ta
conflagration-NOM break out-PAST-DEC

g. caknyen-ey chilweltal-i toklipkinyemil-i achim-i
last year-LOC July-NOM Independence Day-NOM morning-NOM

yetelsi-ka U.B.-ka Baldy Hall-i ywukchung-i
8 o'clock-NOM -NOM -NOM 6th floor-NOM

kun pwul-i na-ss-ta
conflagration-NOM break out-PAST-DEC

h. caknyen-i chilweltal-i toklipkinyemil-i achim-i
last year-NOM July-NOM Independence Day-NOM morning-NOM

yetelsi-ka U.B.-ka Baldy Hall-i ywukchung-i
8 o'clock-NOM -NOM -NOM 6th floor-NOM

kun pwul-i na-ss-ta
conflagration-NOM break out-PAST-DEC

In contrast to unaccusatives, an unergative such as (31) does not allow OBL-2-1 advancement, as shown in (32).

(31) caknyen-ey chilweltal-ey toklipkinyemil-ey achim-ey
 last year-LOC July-LOC Independence Day-LOC morning-LOC

yetelsi-ey U.B.-eyse Baldy Hall-eyse ywukchung-eyse
 8 o'clock-LOC -LOC -LOC 6th floor-LOC

Chelswu-ka ttwuienayli-ess-ta
 -NOM jump down-PAST-DEC

"At 8 o'clock in the morning on Independence Day last July,
 Chulsoo jumped down from the 6th floor of Baldy Hall at
 U.B."

(32) a. *caknyen-ey chilweltal-ey toklipkinyemil-ey achim-ey
 last year-LOC July-LOC independent day-LOC morning-LOC

yetelsi-ey U.B.-eyse Baldy Hall-eyse ywukchung-i
 8 o'clock-LOC -LOC -LOC 6th floor-NOM

Chelswu-ka ttwuienayli-ess-ta
 -NOM jump down-PAST-DEC

b. *caknyen-ey chilweltal-ey toklipkinyemil-ey achim-ey
 last year-LOC July-LOC Independence Day-LOC morning-LOC

yetelsi-ey U.B.-eyse Baldy Hall-i ywukchung-i
 8 o'clock-LOC -LOC -NOM 6th floor-NOM

Chelswu-ka ttwuienayli-ess-ta
 -NOM jump down-PAST-DEC

c. *caknyen-ey chilweltal-ey toklipkinyemil-ey achim-ey
 last year-LOC July-LOC Independence Day-LOC morning-LOC

yetelsi-ey U.B.-ka Baldy Hall-i ywukchung-i
 8 o'clock-LOC -NOM -NOM 6th floor-NOM

Chelswu-ka ttwuienayli-ess-ta
-NOM jump down-PAST-DEC

- d. *caknyen-ey chilweltal-ey toklipkinyemil-ey achim-ey
last year-LOC July-LOC Independence Day-LOC morning-LOC

yetelsi-ka U.B.-ka Baldy Hall-i ywukchung-i
8 o'clock-NOM -NOM -NOM 6th floor-NOM

Chelswu-ka ttwuienayli-ess-ta
-NOM jump down-PAST-DEC

- e. *caknyen-ey chilweltal-ey toklipkinyemil-ey achim-i
last year-LOC July-LOC Independence Day-LOC morning-NOM

yetelsi-ka U.B.-ka Baldy Hall-i ywukchung-i
8 o'clock-NOM -NOM -NOM 6th floor-NOM

Chelswu-ka ttwuienayli-ess-ta
-NOM jump down-PAST-DEC

- f. *caknyen-ey chilweltal-ey toklipkinyemil-i achim-i
last year-LOC July-LOC Independence Day-NOM morning-NOM

yetelsi-ka U.B.-ka Baldy Hall-i ywukchung-i
8 o'clock-NOM -NOM -NOM 6th floor-NOM

Chelswu-ka ttwuienayli-ess-ta
-NOM jump down-PAST-DEC

- g. *caknyen-ey chilweltal-i toklipkinyemil-i achim-i
last year-LOC July-NOM Independence Day-NOM morning-NOM

yetelsi-ka U.B.-ka Baldy Hall-i ywukchung-i
8 o'clock-NOM -NOM -NOM 6th floor-NOM

Chelswu-ka ttwuienayli-ess-ta
-NOM jump down-PAST-DEC

- h. *caknyen-i chilweltal-i toklipkinyemil-i achim-i
last year-NOM July-NOM Independence Day-NOM morning-NOM

yetelsi-ka U.B.-ka Baldy Hall-i ywukchung-i
 8 o'clock-NOM -NOM -NOM 6th floor-NOM

Chelswu-ka ttwuienayli-ess-ta
 -NOM jump down-PAST-DEC

The above data show that NOM case marking of an OBL nominals is a diagnostic for Korean unaccusativity:

(33) Case-marking of Oblique nominal for Unaccusativity (CON)

If there is OBL-2-1 advancement in an initially intransitive clause, the clause is initially unaccusative, not unergative.

CON (33) shows us that *na-ta* 'break out', *nayli-ta* 'fall', *tteleci-ta* 'fall', *chwulakha-ta* 'crash', *ppaci-ta* 'fall into', *cwuk-ta* 'die', *mikkuleci-ta* 'slip', etc. are classified as unaccusatives and *nalaka-ta* 'fly away', *ttena-ta* 'depart', *ssawu-ta* 'fight', *chwumchwu-ta* 'dance' *ttwienayli-ta* 'jump', etc. as unergatives (see Appendix B for unaccusative verb's list and Appendix C for unergative verb's list.)

3.3. Quantifiers and Numeral Classifiers

According to Lakoff (1987), all languages have one of four types of nominal classifiers: numeral classifiers, verb stem classifiers, incorporated superordinate nouns, or noun classes. Korean, Chinese, Japanese, and Dyrbal, unlike English, have highly productive Numeral Classifiers (henceforth CL) to count people, animals, or things. Each CL categorizes the noun¹⁵. For example, the CL *cang* can

¹⁵Refer to Appendix E for Korean numeral classifiers.

be used only with a noun referring to flat, spread out and thin objects, such as 'paper', 'map', 'picture'¹⁶. Korean, like other languages¹⁷, has a specific syntactic word order that occurs with CL:

(34) a. (DET) + Quantifier + CL + GEN + NOUN ¹⁸

ce sey cang uy cong
those three CL GEN paper

b. (DET) + NOUN + Quantifier + CL

ce cong sey cang
those paper three CL

"Those three sheets of paper."

In Japanese, which is similar to Korean in case marking patterns and syntactic structures, the action of counting people, animals, or things invariably invokes the use of a numeral classifier. Japanese numeral classifiers, of which Downing (1984) lists 154 forms and 27 core classifiers, consist of a numeral and a classifier that agree with the type of entity being counted. For example, to

¹⁶Also, it can be extended to noun like *kiwa* 'roof tile', *pyektol* 'brick', *penti* 'panty', *yentan* 'coal', *kwulum* 'cloud', etc. To see the conceptual extension of Korean CL *cang*, see B. S. Yang (1991).

¹⁷For example,

Chinese: (i) DET(miner) + Number + CL(classifier) + NOUN
 nei - san - zhi + mao
 those three animal cat
 "Those three cats."

Japanese: (ii) Number + CL(classifier) + GEN(intive) + Noun
 ni - mai - no + irogami
 two sheet GEN colored paper
 "Two sheet of colored paper."

¹⁸Sometimes the CL is optional and the quantifier can appear in postnominal position.

count human beings, one would use the classifier *-nin* and to count long, slender objects such as pencils, trees, threads, roads, and lines, the classifier *-hon* is used.

Miyagawa (1989b) proposed that a CL within the VP can take the subject NP as its antecedent if the verb is an unaccusative, while a CL within the VP cannot take the subject NP as its antecedent if the verb is an unergative. We can say that the subject of unaccusative verbs allow number + classifier floating as in (35), while the subject of unergative clauses does not allow number + classifier floating, as shown in (36).

(35) a. Gakusei ga [ofisu ni 2-ri kita]
students NOM office to 2-CL came
'Two students came to the office.'

b. kyaku ga [rokyan ni 2-ri tuita]
guests NOM inn to 2-CL arrived
'Two guests arrived at the inn.'

c. Doa ga [kono kagi de 2-tu aita]
door NOM this key with 2-CL opened
'Two doors opened with this key.'

(36) a. ?* Gakusei ga [zibun no kane de 2-ri denwa-sita]
students NOM self's money by 2-CL telephoned
'Two students telephoned using their own money.'

b. * Kodomo ga [geragera to 2-ri waratta]
children NOM loudly 2-CL laughed
'Two children laughed loudly.'

c. ?* Kodomo ga [wa ni natte 10-nin odotta]
children NOM circle become 10-CL danced
'Ten children danced in a circle.'

Thus, number and CL floating is a diagnostic for unaccusativity in Japanese¹⁹.

Korean has a pattern of numeral and CL different from Japanese. As observed in Lee (1989), unaccusative verbs allow markerless floating for numeral and CL, but not (agentive) transitive verbs. The pattern of numeral and CL distinguishes unaccusative verbs from unergative verbs as well. In a derived form such as (34b), the noun and floated CL can each get their own case marking even though sometimes case-marking is optional in Korean, as in (37) and (38)²⁰

¹⁹Tsujimura (1990) uses this diagnostic for his argument of Japanese unaccusativity. Also, Miyagawa (1989b) mentions NQ-scrambling for Japanese unaccusativity: the subject of an unaccusative verb allows NQ-scrambling as in (i), unlike the subject of transitive verbs or the subject of unergative verbs as shown in (ii).

(i) a. 2 ri i ofisu ni gakusei ga t i kita
 2-CL office to students NOM came
 Lit: "Two i, to my office, (t i) students came."

b. 2-tu i kono kagi de doa ga t i aita
 2-CL this key with door NOM opened
 Lit: "Two i, with this key, (t i) doors opened."

(ii) a. *2-ri konpyuutaa de gakusei ga t keisan-sita
 2-CL computer by students NOM calculated
 Lit: "Two, by computer, (t) students calculated."

b. *3-nin geragerato kodomo ga t waratta
 3-CL loudly children NOM laughed
 Lit: "Three, loudly, (t) children laughed."

²⁰Choi (1988) discussed three different views on the floated quantifiers in Korean: Grammatical Relations (Postal 1976, Youn 1986), surface case (Shibatani 1977a & b), or the configurational relation between the quantifier and its binder (O'Grady 1986, Gerds 1987). However, he didn't mention the floated quantifier and CL.

²¹In this paper, (*XX) means that clause is ungrammatical if XX is included and *(XX) means that the clause is ungrammatical if XX is left out.

- (37) a. Chelswu-ka han-kay-uy yenphil-ul sa-ss-ta
 -NOM one-CL-GEN pencil -ACC buy-PAST-DEC
- b. Chelswu-ka yenphil-ul han-kay-(ul)/(*i) sa-ss-ta
 -NOM pencil-ACC one-CL-ACC/(**NOM*) buy-PAST-DEC
 "Chulsoo bought a pencil."
- (38) a. sey-myeng-uy ai-tul-i mikkuleci-ess-ta
 three-CL-GEN child-PL-NOM slip-PAST-DEC
- b. ai-tul-i sey-myeng-(i)/(*ul) mikkuleci-ess-ta
 child-PL-NOM three-CL-NOM/(**ACC*) slip-PAST-DEC
 "Three children slipped."

As shown in (37b) and (38b), a floated quantifier plus CL (i.e. *han-kay*, *sey-myeng*) can get its own case even though it is not a core argument. However, the case should be the same as the head noun's (i.e. *yenphil* in (37) and *ai-tul* in (38)) case.

The above examples are grammatical whether or not the floated quantifier plus CL get case. Some additional examples of intransitive clauses with optional case in the floated quantifier and CL are given in (39):

- (39) a. haksayng-i wuntongcang-eyse ecye pam-ey sey-myeng-(i)
 student-NOM ground-LOC last night-at three-CL-(*NOM*)
 cwuk-ess-ta
 die-PAST-DEC
 "Three students died on the ground last night."
- b. sensayngnim-i hoyuy-cwungey cilwu-hayse
 teacher -NOM meeting-in boring-because of
 sey-myeng-(i) col-ass-ta
 three-CL-(*NOM*) doze-PAST-DEC

"Three teachers dozed due to boredom during the meeting."

c. teyleypi-ka kongcang-eyse hansigan-maney yel-tay-(ka)
T.V. -NOM factory-LOC one hour -in ten-CL-(NOM)

pwuseci-ess-ta
broken-PAST-DEC

"Ten T.V.s were broken in one hour in the factory."

d. haksayng-tul-i ecey achim-ey Baldy ywukchung-eyse
student-PL-NOM yesterday morning-LOC 6th floor-LOC

yel-myeng-(i) tteleci-ess-ta
ten-CL-(NOM) fall -PAST-DEC

"Yesterday morning, 10 students fell from the 6th floor of Baldy Hall."

e. lombothu-ka onul achim-ey kapccaki sey-tay-(ka)
robot -NOM this morning-LOC suddenly three-CL-(NOM)

kocangna-ss-ta
break down-PAST-DEC

"This morning, three robots suddenly broke down."

f. yehaksayng-i kapccaki wungtongcang-eyse yel-myeng-(i)
girl student-NOM suddenly playground-loc ten-CL-(NOM)

ssuleci-ess-ta
faint-PAST-DEC

"Suddenly ten girl students fainted on the playground."

However, in other intransitive clauses, for example those in (41), case is required in this context:

(40) a. haksayng-i wuntongcang-eyse ecey pam-ey
student-NOM ground -LOC last night-at

sey-myong-*(i) ttwi-ess-ta.
three-CL -*(NOM) run-PAST-DEC
"Three students ran on the ground last night."

b. sensayngnim-i hoyuy-cwungey hakkyo caycengmwuncay-
teacher -NOM meeting-in school financing problems-

eytayhaye sey-myong-*(i) malhay-ess-ta
about three-CL-*(NOM) speak-PAST-DEC
"Three teachers spoke about school financial problems
during the meeting."

c. cikwen-i i kongcang-eyse ssan imkum-ulo
worker-NOM this factory-LOC low pay-with

yel-myong-*(i) ilha-n-ta
ten-CL-*(NOM) work-PRES-DEC
"Ten workers work with low pay in this factory."

d. haksayng-tul-i ecey achim-ey Baldy ywukchung-eyse
student-PL-NOM yesterday morning-LOC 6th floor-LOC

yel-myong-*(i) teymoha-yess-ta
ten-CL-*(NOM) demonstrate-PAST-DEC
"Yesterday morning, 10 students demonstrated on the 6th
floor of Baldy Hall."

e. lobothon-ka onul achim-ey kapccaki sey-tay-*(ka)
robot -NOM this morning-LOC suddenly three-CL-(NOM)

nal-ass-ta
fly-PAST-DEC
"This morning, three robots suddenly flew."

f. yehaksayng-i kapccaki wungtongcang-eyse yel-myeng-*(i)
girl student-NOM suddenly playground-loc TEN-CL-*(NOM)

chwumchwu-ess-ta
dance -PAST-DEC
"Suddenly ten girl students danced on the playground."

The difference between the clauses in (39), where case is optional, and (40) where case is required, is that the former are unaccusative while the latter are unergative²². We can suggest that Korean CL floating is similar to Japanese where the subject of unaccusative verbs allow NQ-scrambling and the subject of transitive and unergative verbs do not (cf. Miyagawa 1989b)²³.

²²In these sentences, if there is nothing or a short adverb between the host noun and the floated quantifier plus CL, some Koreans accept the sentences without NOM case as good, and some do not, as in (i):

- (i) a. haksayng-i wuntongcang-eyse sey-myeng-?(i) ttwi-ess-ta
 student-NOM ground -LOC three-CL-?(NOM) run-PAST-DEC
 "Three students ran on the ground."
- b. sensayngnim-i hoyuy-cwungey sey-myeng-?(i) malhay-ss-ta
 teacher-NOM meeting-in three-CL-?(NOM) speak-PAST-DEC
 "Three teachers spoke during the meeting."
- c. cikwen-i i kongcang-ey yel-myeng-?(i) ilha-n-ta
 worker-NOM this factory-LOC ten-CL-?(NOM) work-PRES-DEC
 "Ten workers work in this factory."
- d. haksayng-tul-i ecey achim-ey yel-myeng-?(i)
 student-PL-NOM yesterday morning-LOC ten-CL-?(NOM)
 teymoha-yess-ta
 demonstrate-PAST-DEC
 "Yesterday morning, ten students demonstrated."
- e. lombothu-ka kapccaki sey-tay-?(ka) nal-ass-ta
 robot-NOM suddenly three-CL-?(NOM) fly-PAST-DEC
 "Suddenly three robots flew."
- f. yehaksayng-i kapccaki yel-myeng-?(i) chwumchwu-ess-ta
 girl student-NOM suddenly ten-CL-?(NOM) dance-PAST-DEC
 "Suddenly ten girl students danced."

However, most native Koreans judging (i) as good agree that (41) is ungrammatical when the floated quantifier plus CL has no NOM case marker and that (42) is uncontroversially grammatical. Thus, we can say that the case marking of a floated quantifier plus CL can be a diagnostic for Korean unaccusativity. Also, Lee (1989: 477-78) mentions markless quantifier and CL floating for unaccusative phenomena in Korea.

²³Korean is different from Japanese in that not only quantifiers plus CL of unaccusatives, but also those of unergatives can float if they have same case-

Transitive and passive clauses also behave differently with respect to case on floated Quantifier and CL. Like unergative subjects, the subjects of finally transitive clauses like those in (41) do not allow Quantifier and CL floating without NOM case.

(42) a. haksayng-i kyosil-eyse sey-myong-*(i)
 student-NOM classroom-LOC three-CL-*(NOM)

yengesihem-ul po-ass-ta
 English exam-ACC take-PAST-DEC

"Three students took the English exam in the classroom."

b. kyengchal-i eceypam-ey sey-myong-*(i)
 policeman-NOM last night three-CL-*(NOM)

totwuk-ul cap-ass-ta
 thief-ACC catch-PAST-DEC

"Three policemen caught the thief last night."

c. ai-tul-i tosekwan-eyse sey-myong-*(i)
 child-PL-NOM library-LOC three-CL-*(NOM)

chayk-ul ilhepelye-ess-ta
 book-ACC lose-PAST-DEC

"Three children lost the book in the library."

Case is not required, however, when the Quantifier plus CL has floated from the final 1 of a passive (see (42)), mirroring unaccusatives like (41).

(42) a. totwuk-i eceypam-ey sey-myong-(i) cap-hi-ess-ta
 thief-NOM last night three-CL-(NOM) catch-PASS-PAST-DEC
 "Three thieves were caught last night."

marker as the head noun. Thus, to distinguish unaccusative from unergative in Korean, the quantifier plus CL should be tested without a case marker.

b. cha-ka cengpiso-eyse sey-tay-(ka) swuli-toy-ess-ta
car-NOM garage-LOC three-CL-(NOM) fix-PASS-PAST-DEC
"Three cars were fixed in the garage."

c. mwun-i i yelsoy-lo sey-kay-(ka) yel-li-ess-ta
door-NOM this key-with three-CL-(NOM) open-PASS-PAST
- DEC
"Three doors were opened with this key."

Thus, the generalization is that case is required on a Quantifier plus CL which has floated from a "straight" 1, that is, a 1 that is both an initial and final 1. On the basis of this, we can propose a diagnostic for Korean unaccusativity as follows:

(43) Case-marking of Quantifier with Numeral Classifiers(QNC)

If a Quantifier with a Numeral Classifier can float without a case marker in an intransitive clause, the clause is Unaccusative. If not, it is Unergative.

According to QNC (43), *cwuk-ta* 'die', *col-ta* 'doze', *pwuseci-ta* 'broken', *cocangna-ta* 'break down', *ssuleci-ta* 'faint' *kalaanc-ta* 'sink', *kalla-ci-ta* 'split', etc. are classified as unaccusatives and *ttwu-ta* 'run', *mal-hata* 'speak', *teymo-hata* 'demonstrate', *oychi-ta* 'yell', *hwa nay-ta* 'be angry', etc as unergatives. (Also, see Appendix B and C for full list.)

3.4. Duration/Frequency Adverbs

Case marking on Duration/Frequency adverbs provides a fourth test for Korean unaccusativity. As noted by Yang (1972) and

Maling (1989), such adverbs can be optionally marked for case. For example, ACC case appears in the Duration/Frequency adverbs in (45) and NOM appears on the D/F adverbs in (46)²⁴.

(45) a. Chelswu-ka chayk-(ul) twupen -(ul)/(*i) ilk-ess-ta
 -NOM book-ACC two times-ACC/(*NOM) read-PAST-DEC
 'Chulsoo read the book two times.'

b. Chelswu-ka chayk-(ul) twu sikan-(ul)/(*i) ilk-ess-ta.
 -NOM book-ACC two hours-ACC/(*NOM) read-PAST-DEC
 'Chulsoo read the book for two hours.'

(46) a. totwuk-i twupen-(i)/(?ul) cheypho-toy-ess-ta.
 thief-NOM two times-(NOM)/(?ACC) catch-PASS-PAST-DEC
 "The thief was caught two times."

b. yulichang-i seypen- (i)/(*ul) kkay-ci-ess-ta.
 window-NOM three times-(NOM)/(*ACC) broke-PASS-PAST-DEC
 "The window was broken three times."

As shown above, there is a pattern for the case-marking system of DF: *twu pen* (two times) and *twu sikan* (for two hours) which represent duration or frequency. In a transitive construction like (45), DF can bear only accusative case, while a passive structure like (46) allows nominative case on DF²⁵. This difference in the case

²⁴The Korean accusative case-marker (-*lul* -*ul*) is optional for arguments (i.e. direct object) as well as DF. Maling (1989) proposes that DFs exhibit the alternation between ACC and NOM characteristic of "structural case."

²⁵However, some Korean native speakers allow ACC marker in passive structures. Also, Maling (1989) proposes that adverbials can bear ACC in a lexical passive if a sentence contains a lexical passive. However, as shown in (45), in transitive or unergative clauses, the DFs can not get NOM case even though the DFs of passives and unaccusatives get generally NOM case, and rarely ACC case. Thus, instead of ACC case marking pattern of DFs, the NOM case marking pattern should be a diagnostic for Korean unaccusativity.

marking of DF adverbs also distinguishes unergatives from unaccusatives. As seen in (47), DF's in initially unergative clauses get ACC, while DF's in initially unaccusative clauses get NOM or, for some speakers, ACC, as (48) shows.

(47) a. Swunhi-ka chimtay-eyse twupen-(ul)/*i ttwi-ess-ta.
 -NOM bed -LOC two times-ACC/*NOM jump-PAST-DEC
 "Soonhi jumped on the bed two times."

b. Chelswu-ka pang-eyse hansigan-(ul)/*i wul-ess-ta.
 -NOM room-LOC one hour-ACC/*NOM cry-PAST-DEC
 "Chulsoo cried for one hour in the room."

c. Chelswu-ka seypen-(ul)/*i kukye oyhyi-ess-ta.
 -NOM three times-ACC/*NOM loud yell-PAST-DEC
 "Chulsoo yelled loud three times."

d. kay-ka seypen-(ul)/*i kukye cis-ess-ta
 dog-NOM three times-ACC/*NOM loud bellow-PAST-DEC
 "A dog bellowed loud three times."

(48) a. I kongcang-ey/i pwul-i seypen-(i)/(?ul)
 this factory- LOC/NOM fire-NOM three times-NOM/?ACC

na-ss-ta
 break out-PAST-DEC
 "Fire broke out three times in this factory."

b. Cinan ilyoil-ey/i nwun-i twusigan-(%i)/?ul
 last Sunday-LOC/NOM snow-NOM two hours-NOM/?ACC

nayli-ess-ta
 fall-PAST-DEC
 "Last Sunday it snowed for two hours."

c. I chencang-eyse/i mwul-i cokumssik
 this ceiling-SOURCE/NOM water-NOM little by little

seypen-(%i)/(%ul) tteleci-ess-ta
 three times-%NOM/%ACC fall-PAST-DEC

"Water dripped little by little three times from this ceiling."

- d. Sewul-i twu sikan-(i)/(%ul) kelri-n-ta
Seoul-NOM two hours-NOM/%ACC take-PRES-DEC
'It takes two hours to go to Seoul (from here).'

Thus, the ACC case patterns of DF's can not be a diagnostic for Korean unaccusativity. However, the NOM case pattern of DF's can be a sufficient condition for Korean unaccusativity even though it can not be a necessary and sufficient condition. From the above observation, we can propose a diagnostic for Korean unaccusativity as follows:

(49) Duration/Frequency Adverb Case-marking (DFC)²⁶

If a Duration/Frequency Adverb can bear NOM case in an intransitive clause, the clause is initially unaccusative.

DFC (49) classifies *tteleci-ta* 'fall', *kelli-ta* 'take two hours', (*nwun*) *nayli-ta* 'snow', *katuk-hata* 'full', *kay-ta* 'become clear', *ttu-ta* 'float', *pwul-ta* 'blow', *kkulh-ta* 'boil', etc. as unaccusatives. (cf. Appendix B)

3.5. Light Verb *-hatal-toyta*

Grimshaw and Mester (1988) proposed that the light verb *suru* in Japanese can subcategorize and case-mark a direct object NP for accusative case without assigning it a theta-role. Because it does not

²⁶Contrary the other diagnostics, DFC is a sufficient condition since some native Koreans allow rarely ACC case, instead of NOM case, on DFs as shown in (48b, c, & d). Thus, if a DF can bear NOM case in an intransitive clause, the clause is initially unaccusative. If the DF can not bear the NOM case in an intransitive clause, however, it doesn't say anything about unaccusativity of the intransitive verbs.

assign any theta-roles, they call it a light verb. Some Sino-Japanese nominals which are borrowed from Chinese can attach directly to the light verb *suru* in Japanese, as in (50a), or can function as the argument of the light verb, as in (50b).

(50) a. *suugaku o benkyoo suru.*
math ACC study do
'to study math.'

b. *suugaku no benkyoo o suru*
math GEN study ACC do
'to study math.'

As Miyagawa (1989b) and Dubinsky (1989) observe, however, unaccusative nominals do not allow the alternative structure of [nominal-ACC *suru*] in Japanese as in (51).

(51) a. *kaitoo sure/ *kaitoo o suru* 'to melt'
b. *tanzoo suru/ *tanzoo o suru* 'to be born.'
c. *zyoohatu suru/zyoohatu o suru* 'to evaporate.'

That is, the unaccusative nominals do not allow the structure of [nominal *o suru*], while the unergative nominals allow the structure of [nominal *o suru*] in Japanese.

The Korean light verb *-hata* is similar to the Japanese *-suru* in that Sino-Korean nominals (sometimes pure Korean nominals, too) can attach directly to the light verb *-hata* and the light verb cannot assign any theta role to its direct object NP. However, the above mentioned Japanese diagnostic for unaccusativity cannot apply to the Korean light verbs since many unaccusative nominals appear in the

[nominal ACC *hata*] construction in Korean contrary to Japanese shown in (52)

- (52) a. thansayng-hata/ thansayng-ul hata 'born'
 b. kihwa-hata/ kihwa-lul hata 'evaporate'
 c. concay-hata/concay-lul hata 'exist'
 d. nakha-hata/nakha-lul hata 'drop'

Korean has another parallel light verb predicate *-toy* 'become'.²⁷ Choi(1988) mentions that the alternation *-hal-toyta* can be a diagnostic for Korean unaccusativity in intransitives. Usually intransitive *-hata* verbs which denote non-willed or volitional acts have intransitive counterparts which use a *-toyta* construction without a difference in meaning as follows:

- (53) a. kilumkaps-i samil-maney halak-(ul)-hay-ss-ta.
 gas price-NOM three days-in fall-(ACC)-do-PAST-DEC
 "The gas price fell in three days."
 b. kilumkaps-i samil-maney halak-(i)-toy-ess-ta.
 gas price-NOM three days-in fall-(NOM)-become-PAST- DEC
- (54) a. khepan-uy mwul-i seyshikan-maney cungpal-ha-yess-ta
 cup-GEN water-NOM three hours-in evaporate-do-PAST-DEC
 "The water in the pot evaporated in three hours."
 b. khepan-uy mwul-i seyshikan-maney cungpal-toy-yess-ta
 cup-GEN water-NOM three hours-in evaporate-become-
 PAST-DEC

²⁷Lexical *-toy* has two functions: one is as the light verb 'become' and the other is the lexical passive morpheme. In this section, I will discuss just the light verb *-toy*, not lexical passive morpheme *-toy*.

However, some intransitive *-hata* verbs that denote some sort of willed or volitional acts do not have *-toyta* constructions as counterparts as shown in (55)-(56).

(55) a. cekkwun-i ithul-tongan cehang-(ul)-hay-ss-ta.
 the enemy-NOM 2 days-for resistance-(ACC)-do-PAST-DEC
 "The enemy resisted for two days."

b. *cekkwun-i ithul-tongan cehang-(i)-toy-ess-ta.
 the enemy-NOM 2 days-for resistance-(NOM)-become-
 PAST- DEC

(56) a. haksayng-tul-i kyosil-eyse canknan-(ul)-ha-yess-ta
 student-PL-NOM classroom-LOC play-(ACC)-do-PAST-DEC
 "Students played in the classroom."

b.* haksayng-tul-i kyosil-eyse canknan-(i)-toy-yess-ta
 student-PL-NOM classroom-LOC play-(ACC)-become-PAST-
 DEC

(53)-(54) are the examples of unaccusative verbs and (55)-(56) are those of unergative verbs. More examples like (53)-(54) are given in (57a) and those like (55)-(56) are in (57b).

(57) a. Unaccusative

penseng-hata/penseng-toyta 'flourish'
 penyong-hata/penyong-toyta 'flourish'
 iksa-hata/iksa-toyta 'drown'
 hangpok-hata/hangpok-toyta 'succumb'
 kihwa-hata/kihwa-toyta 'vaporize'
 ungko-hata/ungko-toyta 'solidify'
 pwuphay-hata/pwuphay-toyta 'rotten'
 pwunhay-hata/pwunhay-toyta 'decompose'
 pala-hata/pala-toyta 'geminate'
 cungkan-hata/cungkan-toyta 'increase'
 kamso-hata/ kamso-toyta 'decrease'
 chwukso-hata/ chwukso-toyta 'reduce'

myelmang-hata/ myelmang-toyta 'perish'
cilsik-hata/cilsik-toyta 'choke'
palsayng-hata/palsayng-toyta 'happen'
cungpal-hata/cungpal-toyta 'evaporate'

b. Unergative

il-hata/ *il-toyta 'work'
cangnan-hata/ *cangnan-toyta 'play'
sanyang-hata/ *sanyang-toyta 'hunt'
taliki-hata/ *taliki-toyta 'run'
myongsang-hata/ *myongsang-toyta 'meditate'
tonguy-hata/ *tonguy-toyta 'agree'
kichim-hata/ *kichim-toyta 'cough'
myonglyeng-hata/*myonglyeng-toyta 'order'
haphwum-hata/*haphwum-toyta 'yawn'
nongtam-hata/ *nongtam-toyta 'joke"
yehayng-hata/ *yehayng-toyta 'trip'
wuncen-hata/ *wuncen-toyta 'drive'

Based on the above discussion, we can suggest the following diagnostic for Korean unaccusativity.

(58) Lexical Alternation in Light Verb (LAL)

If an intransitive light verb *-hata* has a *-toyta* construction counterpart, the light verb is initially unaccusative. If not, it is an unergative.

4. Conclusion

Studying unaccusativity in Korean will be valuable for the study of unaccusativity as a universal concept, as well as for the study of Korean case-marking patterns, which have so far been a puzzle in linguistics. The main purpose of this paper is to contribute to cross-linguistic study of the Unaccusative Hypothesis by

examining five sources of evidence in Korean, and to shed light on further studies for Korean case marking. I examined five diagnostics for Korean unaccusativity:

(59) a. Possessor Ascension for Unaccusativity (PAU)

If a possessor ascends in an initially intransitive clause, its host is an unaccusative, not an unergative.

b. Case-marking of Oblique nominal for Unaccusativity(CON)

If there is OBL-2-1 advancement in an initially intransitive clause, the clause is initially unaccusative, not unergative.

c. Case-marking of Quantifier with Numeral Classifiers(QNC)

If a Quantifier with a Numeral Classifier can float without a case marker in an intransitive clause, the clause is Unaccusative. If not, it is Unergative.

d. Duration/Frequency Adverb Case-marking (DFC)

If a Duration/Frequency Adverb can bear NOM case in an intransitive clause, the clause is initially unaccusative.

e. Lexical Alternation in Light Verb (LAL)

If an intransitive light verb *-hata* has a *-toyta* construction as its counterpart, the light verb is initially unaccusative. If not, it is unergative.

These diagnostics were applied to about 250 Korean intransitive predicates and used to classify them into two groups: unaccusatives and unergatives. These groups are listed in Appendix B and C. The

lists show several characteristics concerning cross-linguistic understanding of unaccusativity . First, all adjective predicates such as 'be near', 'be poor', 'full', 'casual', 'steep', 'valuable,' etc. are unaccusatives, but verbs are not. Second, even though involuntary bodily processes such as 'cough', 'sneeze', 'hiccough', 'belch', etc. can be classified into unergatives in Korean, as Perlmutter (1978) does, it is not certain that they are really unergatives in Korean since they pass the applied tests questionably. This supports Rosen (1984) that there are no consistent universal semantic criteria that capture the semantic basis, especially for the unaccusativity of involuntary bodily processes. Third, generally speaking, the proposed diagnostics work well to classify the intransitive predicates into two groups. However, we should notice that there are several exceptions and uncertain cases (i.e. *smell, exist, transpire, have an accident, arise,*) and that some tests (especially PAU since it should satisfy the semantic conditions mentioned in section 3.1. and LAL since it applies only to *-hata* constructions) can not apply to some verbs. This tells us that sometimes we should apply more than one test to see the unaccusativity of a predicate. Fourth, some verbs (i.e. *lie, sit, roll,* etc.) are not only unaccusatives but also unergatives. The unaccusativity of the verbs is decided by the volitionality: if it contains volitional meaning or action, it is unergative, if not, it is unaccusative. Thus, the volitionality is a major characteric of unaccusativity.

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Appendix A: Yale System for Korean Romanization

| Vowel | | Consonants | | | | |
|----------------------|------|----------------------|---------------------|--------------|--------|-------|
| Korean Yale Phonemic | | Korean Yale Phonemic | | | | |
| simple | a | /a/ | plosives (stops) | k | /k/ | |
| | ya | /ya/ | | kh | /k h/ | |
| | e | /ɛ/ | | kk | /k' / | |
| | ye | /yɛ/ | | t | /t/ | |
| | o | /o/ | | th | /t h/ | |
| | yo | /yo/ | | tt | /t' / | |
| | wu | /u/ | | p | /p/ | |
| | yu | /yu/ | | ph | /p h/ | |
| | u | /ɨ/ | | pp | /p' / | |
| | i | /i/ | | affricatives | c | /tʃ/ |
| diphthongs | ay | /ɛj/ | ch | | /tʃ h/ | |
| | yay | /yɛj/ | cc | | /tʃ' / | |
| | ey | /e/ | fricatives | | s | /s/ |
| | yey | /ye/ | | | ss | /s' / |
| | oy | /ɔj/ | | | h | /h/ |
| | wi | /wi/ | nasals | | m | /m/ |
| | uy | /iy/ | | | n | /n/ |
| | wa | /wa/ | | | ng | /ŋ/ |
| | we | /wɛ/ | liquids | | l | /l/ |
| | way | /wɛj/ | | | | |
| wey | /we/ | | | | | |

Appendix B: Korean Unaccusative Verbs

Y= passes the diagnostic test.

N= does not pass the diagnostic test.

?Y= passes the diagnostic test, but be questionable in certain instances.

?N= does not pass the diagnostic, but be questionable in certain instances.

-= N.A.

| KOREAN | ENGLISH | PAU | CON | QNC | DFC | LAL |
|----------------------|----------------------|-----|-----|-----|-----|-----|
| kakkap-ta | (be) near | Y | Y | Y | - | - |
| kakyel-toyta | become approved | - | Y | Y | Y | Y |
| kakyeluy-toyta | passed conditionally | - | Y | Y | Y | Y |
| kakong-toyta | become manufacured | Y | Y | Y | Y | Y |
| kakung-hata | (be) poor | Y | Y | Y | - | ?N |
| kanyalphu-ta | feeble, slender | Y | - | Y | - | - |
| kanu-talah-ta | very slender | Y | - | Y | ?Y | - |
| kanusulum-hata | somewhat slender | Y | - | Y | ?N | ?Y |
| kanulta | slender | Y | - | Y | Y | - |
| kanung-hata | possible | - | ?Y | Y | Y | N |
| katam-hata | support, join | - | Y | Y | N | Y |
| katam-toyta | become joined | - | Y | Y | ?Y | Y |
| katuk-hata | full | Y | Y | ?Y | Y | - |
| kattun-hata | casual | Y | Y | - | ?Y | - |
| kala-anc-ta | sink | Y | Y | Y | N | - |
| kalo-nohi-ta | lie across | Y | Y | Y | Y | - |
| kaman-iss-ta | remain still | Y | Y | Y | N | - |
| kapye-weci-ta | become light | Y | - | Y | Y | - |
| kaip-toy-ta | be admitted to | - | Y | Y | Y | Y |
| kappalu-ta | steep | Y | Y | Y | - | - |
| kantul-keli-ta | blow gently | Y | Y | Y | Y | - |
| kancik-toy-ta | become saved | - | Y | Y | Y | Y |
| kkalkkum-hata | clean, neat | Y | Y | Y | ?Y | ?N |
| kalla-ci-ta | split | Y | Y | Y | Y | - |
| kalpang-cilpang-hata | be confused | Y | Y | Y | ?Y | ?Y |

| | | | | | | |
|-----------------|------------------------|---|----|----|----|---|
| kamtong-hata | be impressed | - | Y | Y | N | Y |
| kamtong-toy-ta | be impressed | - | Y | Y | Y | Y |
| kkamccik-hata | precocious | Y | Y | Y | - | N |
| kapkap-hata | stifling | Y | Y | Y | Y | N |
| kapscita | valuable | Y | Y | Y | Y | - |
| | | | | | | |
| kangyo-toyta | be forced | - | Y | Y | Y | Y |
| kangco-toyta | be emphasised | - | Y | Y | Y | Y |
| kang-hata | hard, strong | Y | Y | Y | Y | - |
| kathta | same | Y | Y | Y | Y | - |
| katha-cita | become same | Y | Y | Y | N | - |
| | | | | | | |
| kkakkus-hata | clean | Y | Y | Y | Y | N |
| kkay-nata | be awakened | Y | N | ?Y | N | - |
| kayta | become clear | Y | Y | - | Y | - |
| kkayta | wake up(involitional) | - | Y | Y | N | - |
| kkay-ci-ta | broken | Y | Y | Y | Y | - |
| | | | | | | |
| kaywun-hata | (feel) refreshed | Y | Y | Y | Y | N |
| kayip-toyta | be involved | - | Y | Y | ?N | Y |
| kaycak-toyta | adapted | Y | Y | Y | Y | Y |
| kayceng-toyta | be revised | Y | Y | ?Y | Y | Y |
| kaychek-toyta | be developed | Y | Y | ?Y | ?Y | Y |
| | | | | | | |
| kaychoy-toyta | be held | - | Y | Y | Y | Y |
| kayhwa-hata | be civilized | Y | Y | Y | - | Y |
| kekkwule-ci-ta | fall down,die | - | Y | Y | Y | - |
| sungnak-toyta | approved | - | Y | Y | ?Y | Y |
| mwuluphkkulh-ta | give up | - | Y | Y | N | - |
| | | | | | | |
| hangpok-hata | surrender | - | Y | Y | N | Y |
| pwunchwul-hata | gust | - | Y | Y | ?N | Y |
| tha-ta | burn | Y | Y | Y | Y | - |
| ttel-e-ci-ta | fall | Y | Y | Y | Y | - |
| ttel-e-ci-ta | drop | Y | Y | Y | ?Y | - |
| | | | | | | |
| ssule-ci-ta | fall down | - | Y | Y | ?Y | - |
| situl-ta | wither, languish, wilt | Y | Y | Y | ?N | - |
| kala-anc-ta | sink | Y | Y | Y | Y | - |
| ttu-ta | float | Y | ?N | Y | Y | - |
| mikkul-e-ci-ta | slide, slip | Y | Y | Y | Y | - |

| | | | | | | |
|-------------------|---------------------|---|----|----|----|----|
| hwalcwu-hata | glide | - | Y | Y | N | ?Y |
| (nala)olu-ta | soar | Y | Y | Y | N | - |
| hulu-ta | flow | Y | Y | Y | - | - |
| say-ta | ooze, seep | Y | Y | Y | - | - |
| ttel-ta | tremble | Y | Y | ?Y | N | - |
| | | | | | | |
| penseng-hata | flourish | Y | Y | Y | ?Y | Y |
| penyong-hata | flourish | Y | Y | Y | N | Y |
| penchang-hata | trive | Y | Y | Y | N | Y |
| iksa-hata | drown | - | Y | Y | N | Y |
| (mwul-ey)ppaci-ta | drown | Y | Y | Y | ?N | - |
| | | | | | | |
| nem-e-ci-ta | stumble | - | Y | Y | N | - |
| kwulu-ta | roll(involitional) | Y | Y | Y | N | - |
| hoycen-hata | roll, turn around | Y | Y | Y | ?Y | Y |
| kwulpok-hata | succumb | - | Y | ?Y | N | Y |
| hangpok-hata | succumb | - | Y | Y | N | N |
| | | | | | | |
| malu-ta | dry | Y | Y | Y | ?N | - |
| pwul-ta | blow | Y | Y | Y | Y | - |
| kkulh-ta | boil | Y | Y | Y | Y | - |
| phelpel kkwulh-ta | seethe | - | Y | Y | Y | - |
| nwup-ta | lie (involintional) | - | Y | Y | N | - |
| | | | | | | |
| anc-ta | sit (involintional) | - | Y | Y | N | - |
| nok-ta | melt | Y | Y | Y | N | - |
| el-ta | freeze | Y | Y | Y | Y | - |
| ele-pwuc-ta | freeze | Y | Y | Y | Y | - |
| cungpal-toy-ta | evaporate | Y | Y | Y | N | Y |
| | | | | | | |
| ungko-hata | solidify | Y | Y | Y | Y | Y |
| ungko-toy-ta | solidify | Y | Y | Y | Y | Y |
| panccak-i-ta | brighten | Y | Y | Y | Y | - |
| pichna-ta | brighten | Y | Y | Y | Y | - |
| pwulk-e-ci-ta | reddden | Y | ?Y | Y | Y | - |
| | | | | | | |
| ssek-ta | rot | Y | Y | Y | ?Y | - |
| pwuphay-hata | rot | Y | Y | Y | ?N | Y |
| pwunhay-toy-ta | decompose | Y | Y | Y | Y | Y |
| ssak-thu-ta | geminate | Y | Y | Y | Y | - |
| pala-hata | geminate | Y | Y | Y | N | Y |

| | | | | | | |
|------------------------|-----------|----|----|----|----|----|
| pala-toy-ta | geminate | Y | Y | Y | Y | Y |
| sengcang-hata | sprout | ?Y | Y | ?Y | N | Y |
| malacwuk-ta | wither | Y | Y | Y | N | - |
| cungka-toy-ta | increase | Y | Y | Y | Y | Y |
| cwukso-toy-ta | reduce | Y | Y | Y | Y | Y |
| cala-ta | grow | Y | Y | ?Y | N | - |
| mwune-ci-ta | collapse | Y | Y | Y | Y | - |
| nok-ta | dissolve | Y | Y | Y | Y | - |
| cwuk-ta | die | Y | Y | Y | ?Y | - |
| samang-hata | die | - | Y | Y | N | ?Y |
| myelmang-hata | perish | - | Y | ?Y | N | Y |
| myelmang-toy-ta | perish | - | Y | Y | N | Y |
| cilsik-hata | choke | - | Y | Y | N | Y |
| cilsik-toy-ta | choke | - | Y | Y | Y | Y |
| pwuse-ci-ta | break | Y | Y | Y | Y | - |
| kkay-e-cita | break | Y | Y | Y | Y | - |
| mwune-ci-ta | crumble | Y | Y | Y | Y | - |
| ccokay-ci-ta | crack | Y | Y | Y | ?N | - |
| calla-ci-ta | split | Y | Y | Y | Y | - |
| pokpal-hata | explode | Y | ?Y | Y | Y | Y |
| pokpal-toy-ta | explode | Y | Y | Y | Y | Y |
| tha pe-li-ta | burn up | Y | Y | Y | Y | - |
| tha eps-e-ci-ta | burn down | Y | Y | Y | Y | - |
| huth-e-ci-ta | scatter | Y | Y | ?Y | Y | - |
| nemchi-ta | fill | - | Y | Y | Y | - |
| eps-e-ci-ta | vanish | Y | Y | Y | ?Y | - |
| conca-y-hata | exist | ?Y | ?Y | ?Y | ?N | ?N |
| palsayng-hata | happen | - | Y | Y | Y | Y |
| palsayng-toy-ta | happen | - | Y | Y | Y | Y |
| palsa-toy-ta | discharge | Y | Y | Y | Y | Y |
| tule-nata | transpire | - | ?Y | ?Y | N | - |
| ile-nata | occur | - | Y | Y | Y | - |
| sayngki-ta | occur | Y | Y | Y | ?Y | - |
| il-ta | arise | - | Y | Y | Y | - |
| (kyesokhayse)il-e-nata | ensue | Y | Y | ?Y | Y | - |

| | | | | | | |
|------------------------|---------------------|----|----|----|----|---|
| (kyelkwalose)il-e-nata | result | Y | Y | Y | Y | - |
| (nwun-ey)ttu-i-ta | show up | Y | Y | Y | Y | - |
| pich-nata | shine | Y | Y | Y | Y | - |
| penccek-i-ta | sparkle | Y | Y | Y | Y | - |
| ttalang-kelita | jingle | Y | Y | Y | Y | - |
| ttakttak-soli-nata | rackle | Y | Y | Y | Y | - |
| pheng soli-nata | pop | Y | Y | ?Y | Y | - |
| naymsay nata | smell | ?Y | Y | ?N | Y | - |
| sicak-toy-ta | begin | - | Y | Y | Y | Y |
| cwulpal-hata | start | - | ?Y | Y | N | Y |
| se-ta | stop | - | Y | Y | ?Y | - |
| kuchi-ta | cease | Y | Y | Y | Y | - |
| kyesok-toy-ta | last | - | Y | Y | Y | Y |
| cisok-toy-ta | last | - | Y | ?Y | ?Y | Y |
| nam-ta | remain | Y | Y | Y | N | - |
| memwulu-ta | stay | - | Y | Y | N | - |
| hatal-toy-ta | be ordered | - | ?Y | Y | Y | Y |
| halak-hata | fall, decline | - | Y | Y | Y | Y |
| hayah-ta | pure white | Y | Y | Y | Y | - |
| hayay-ci-ta | become white | Y | Y | Y | Y | - |
| hapkyek-hata | pass the exam | - | Y | Y | ?N | Y |
| hapkyek-toy-ta | pass the exam | - | Y | Y | ?Y | Y |
| hey-e-ci-ta | get worn out | Y | Y | Y | N | - |
| hayngpok-hata | happy | - | Y | Y | ?Y | - |
| pwulhayng-hata | unhappy | - | Y | Y | ?Y | - |
| hemwul-e-ci-ta | collapse | Y | Y | Y | Y | - |
| hengkul-e-ci-ta | become tangle | Y | Y | Y | Y | - |
| hwa(ka)-nata | get angry | - | Y | Y | Y | - |
| hwan-hata | bright | Y | Y | Y | Y | - |
| hwi-ta | bent | Y | Y | Y | Y | - |
| hwi-e-ci-ta | become bent | Y | Y | Y | Y | - |
| pwul(i)-nata | A fire breaks out | Y | Y | Y | Y | - |
| ttam(i)-nata | sweat(involutional) | Y | ?Y | N | ?Y | - |
| na-ta(pwul) | break out, happen | Y | Y | Y | Y | - |
| na-ta(pyeng) | get sick | Y | Y | ?Y | N | - |

| | | | | | | |
|-----------------|------------------|----|----|----|----|---|
| na-ta(somwun) | get discovered | - | Y | Y | N | - |
| hung(i)-nata | fun | - | ?Y | Y | Y | - |
| thal(i)-nata | have an accident | Y | ?N | ?Y | ?Y | - |
| somwun(i)-nata | rumor | Y | Y | Y | Y | - |
| sangsung-hata | rise | Y | Y | Y | Y | Y |
| sangsung-toyta | rise | Y | Y | Y | Y | Y |
| cungka-hata | increase | Y | Y | Y | Y | Y |
| kamso-hata | decrease | Y | Y | Y | Y | Y |
| yaki-hata | arise | ?Y | ?Y | Y | - | Y |
| pwungkoy-hata | collapse | Y | Y | Y | ?Y | Y |
| silcong-hata | be missing | - | Y | Y | N | Y |
| nwusel-hata | leak | Y | Y | Y | N | Y |
| chwulsayng-hata | be born | - | Y | Y | N | Y |
| sicak-hata | begin | Y | Y | Y | N | Y |
| kyeysok-hata | continue | Y | Y | Y | N | Y |

Appendix c: Korean Unergative Verbs

| KOREAN | ENGLISH | PAU | CON | QNC | DFC | LAL |
|------------------|---------------------|-----|-----|-----|-----|-----|
| kalla-seta | divorce oneself | N | N | N | N | - |
| kangyel-hata | heat heavily | N | Y | N | N | N |
| kkayta | wake up(volitional) | - | N | N | N | - |
| kkay-nata | recover oneself | - | N | N | N | - |
| kayip-hata | intervene | - | N | N | N | ?Y |
| il-hata | work | N | N | N | N | N |
| cangnan-hata | play | N | N | N | N | N |
| sayangkak-nata | think | - | N | N | ?N | - |
| myongsang-hata | meditate | - | N | N | N | N |
| sukhyeittha-ta | skate | - | N | N | N | - |
| hayemulchi-ta | swim | - | N | N | ?N | - |
| sanyang-hata | hunt | - | N | N | N | N |
| kes-ta | walk | N | N | N | N | - |
| taliki-hata | jog, run | N | ?N | N | N | N |
| tathwu-ta | quarrel | - | N | N | N | - |
| ssawu-ta | fight | - | N | ?N | N | - |
| ssilum-hata | wrestle | N | N | N | N | N |
| tonguy-hata | agree | N | N | ?Y | N | N |
| wul-ta | weep | N | N | ?N | N | - |
| oychi-ta | yell, cry | N | N | N | N | - |
| solichi-ta | yell, cry | N | N | ?N | N | - |
| mwuluphkkulh-ta | kneel(volitional) | N | N | ?N | N | - |
| insa-hata | bow | N | N | N | N | N |
| chwun(ul)chwu-ta | dance | N | N | N | N | - |
| ki-ta | crawl | N | ?N | ?N | N | - |
| ket-ta | walk | N | N | ?N | N | - |
| cwungel-keli-ta | mumble | - | N | ?N | N | - |
| pwunyem-hata | grumble | - | N | N | N | - |
| ululeng-kelita | growl | - | N | N | N | - |
| cis-ta | bellow | N | N | ?N | N | - |
| swi-ta | cough | - | ?N | ?Y | N | - |
| kichim(lul)-hata | cough | - | N | ?Y | N | N |
| caychayki-hata | sneeze | ?N | ?N | ?Y | N | N |

| | | | | | | |
|--------------------|-----------------------|---|----|----|---|----|
| ttalkwukcil-hata | hiccough | - | ?N | ?N | N | N |
| thulim-hata | belch | - | N | ?Y | N | N |
| ocwum-nwu-ta | urinate | N | ?N | ?N | N | - |
| ocwum-ssa-ta | urinate | - | ?N | ?N | N | - |
| ca-ta | sleep | - | N | ?N | N | - |
| nwup-ta | lie (volitional) | N | ?N | ?N | N | - |
| anc-ta | sit (volitional) | N | ?N | ?N | N | - |
| sala-ci-ta | disappear(volitional) | N | N | ?N | N | - |
| ceycay-hata | stay | - | N | N | N | N |
| sala-kata | live, survive | N | N | N | N | - |
| haswuk-hata | lodge | - | N | N | N | N |
| hangcen-hata | resist | - | N | N | N | N |
| hey-e-ci-ta | divorce, seperate | - | N | N | N | - |
| hwa(lul)nay-ta | angry | - | N | N | N | - |
| pwul(ul)-nayta | set fire (to) | - | N | N | N | - |
| ttam(ul)-nayta | sweat(volitional) | - | N | N | N | - |
| ttam(ul)-ppay-ta | sweat(volitional) | - | N | ?N | N | - |
| ttam(ul)-hul-li-ta | sweat(involutional) | - | N | N | N | - |
| ttam(ul)-ppay-ta | struggle | - | N | N | N | - |
| ttam(ul)-hul-li-ta | endeavor | - | N | N | N | - |
| yehayng(ul)-hata | trip | - | N | N | N | N |
| kichim-hata | cough | - | N | ?N | N | N |
| haphwum-hata | yawn | - | N | ?N | N | N |
| ssawum-hata | fight | - | ?N | N | N | ?N |
| thwucayng-hata | resist | - | N | N | N | N |
| nontam-hata | joke | - | N | N | N | N |
| cehang-hata | resist | N | N | N | N | N |
| swuyeng-hata | swim | N | ?N | N | N | N |
| sanpo-hata | take a walk | - | N | N | N | N |
| wuncen-hata | drive | - | N | N | N | N |
| chwungko-hata | advise | - | N | N | N | N |

Appendix D: Frequency Distribution of Korean Numeral Classifier

Based on *Mwues-ulo Itul-uy Apwum-ul* 'A report from Korean Ministry in Vietnam' (written by Im, Sey-chong(1984), Seoul: Nachimphansa

| Rank | Form | (Korean/Chinese) | Referent class | Total |
|------|--------|------------------|------------------------|-------|
| 1 | myeng | (명 / 名) | human beings | 57 |
| 2 | pen | (번 / 番) | abstract, action | 19 |
| 3 | salam | (사람)* | human beings | 11 |
| 4 | mati | (마디) | branch of human bone | 6 |
| 5 | kay | (개 / 個) | small, roundish object | 5 |
| 5 | mali | (마리) | animals | 5 |
| 7 | kwon | (권 / 卷) | books, bounded volumes | 4 |
| 7 | pwun | (분) | people(honored) | 4 |
| 9 | tay | (대 / 臺) | vehicles, machines | 3 |
| 9 | sikan | (시간 / 時間) | hour | 3 |
| 11 | chay | (채) | house, building | 2 |
| 11 | phan | (판) | game | 2 |
| 11 | nyesek | (녀석)* | kids | 2 |
| 11 | cang | (장 / 張) | sheets, thin, spread | 2 |
| 15 | hoy | (회 / 回) | times | 1 |
| 15 | pyeng | (병 / 瓶) | bottles | 1 |
| 15 | phyen | (편 / 便) | pieces(small) | 1 |
| 15 | cwulki | (줄기) | branches(thin) | 1 |
| 15 | mokum | (모금) | a mouthful | 1 |
| 15 | sikkwu | (식구 / 食口)* | family | 1 |
| 15 | sangca | (상자 / 箱子) | box | 1 |
| 15 | kap | (갑 / 匣) | small box(cigarette) | 1 |
| 15 | calwu | (자루) | small stick(pencil) | 1 |
| 15 | thol | (돌) | seed | 1 |
| 15 | tapal | (다발) | bunches | 1 |

* means the classifier including the noun