

Accusative Adverbials in Korean: Delimiting Phrase and Case

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0. Introduction

In Korean, certain adverbials can surface with overt Accusative Case (ACC) marking on them, which is indicated by the Case-particle *-(l)ul*, as illustrated in (1)¹:

- (1) a. Na-nun tennis-lul [**han sikan-tongan**]-ul chi-ess-ta
 I-TOP tennis-ACC one hour-period-ACC play-PST-DECL
 'I played tennis for an hour'
- b. na-nun i kos-ul [**sip meyta-mankum**]-ul pha-ess-ta
 I-TOP this spot-ACC ten meter-extent-ACC dig-PST-DECL
 'I dug out this spot to the extent of ten meters'
- c. Na-nun New York-lul [**twu-pen**]-ul pangmwun-ha-ess-ta
 I-Top NY-ACC two-time-ACC visit-do-PST-DECL
 'I visited New York twice'

*Special thanks are due to Peggy Speas for her insightful comments and suggestions on earlier versions of this paper. I also thank and Kyle Johnson, Lyn Frazier, Ellen Woolford, Rudy Troike, James Hye-suk Yoon, Hosuk Yoon, Makoto Kadowaki, and Uri Strauss for their valuable input. Lastly, I thank Maria Gouskova, Hosuk Yoon, Ji-yung Kim, Hee-jung Park, Yunjung Hyun, Enchao Shi, Xei Lu, Nikola I. Koch, Tanja Vignjevic-Heizmann, Makoto Kadowaki, and others for their help with Russian, Korean, Chinese, German, and Japanese data. All remaining errors are my own responsibility.

¹ I have adopted the Yale Romanization for the transcription of the Korean data in this paper. In addition, the following abbreviations were used:

ACC: accusative case; COMP: complementizer; CL: classifier; DECL: declarative sentence; MASC: masculine; NOM: nominative Case; PERF: perfective; PREP: preposition; PROG: progressive; PRST: present tense; PST: past tense; REL: relative clause marker; TOP: topic.

This phenomenon has received considerable attention in the literature. There is no general consensus among authors as to how ACC is assigned to adverbials; that is, it can be via Case concord (e.g., Kim, Y.-J. 1990), Case-copying (e.g., Cho 1999, 2000), or Case domain extension (e.g., Wechsler and Lee 1996, henceforth W&L); alternatively, it can be licensed by either the verb or the head of Aspect Phrase (e.g., Kim and Maling 1998, henceforth K&M). Albeit the disagreement, authors seem to agree that the ACC on adverbials is a syntactic case rather than a morphological one. They also seem to agree that the ACC-marking on durational phrases is optional, which does not affect the semantics of the sentence.

The aim of this paper is twofold: First, I offer an account of why and how only certain kinds of adverbials can be ACC-marked. Second, I challenge the previous analyses by arguing that the ACC-marking on adverbials is not necessarily optional. I demonstrate that there are syntactic and semantic differences between adverbials with ACC-marking and those without it.

The analysis is set in the Minimalist Program (Chomsky 1995, 1998), which assumes that movement is feature-driven. The core idea of the proposal is the following: First, drawing on the insights of W&L, I assume that *lul*-marked adverbials are "situation delimiters (SDs)", which express either "temporal" or "spatial" quantification over the set of EVENTS or STATES that a VP denotes. Second, I propose that SDs carry a delimiting feature [+ DLM], which must be checked off in overt syntax. I posit that there is a functional phrase named Delimiting Phrase (Dlmp) in Korean and argue that the head of DelP hosts [+ DLM], and hence licenses SDs. Third, I argue that SDs are based-adjoined

to VP and later move to [Spec, DImP] to have its [+DLM] checked off. Fourth, I posit the Minimal Domain of ACC-assignment, and propose that by virtue of appearing at [Spec, DImP], adverbials carrying [+DLM] bear the ACC morphology, despite the fact that they lack the [ACC] feature. Finally, I attribute the differences between adverbials with *lul*-marking and those without it to their syntactic positional differences: the former are base-adjoined inside the Minimal Domain of *v* or the light verb, whereas those without it are outside it.

This paper proceeds as follows. Section 1 presents the phenomenon and sets out the problems that the current paper seeks to solve. Section 2 provides a literature review on this topic. Section 3 presents an alternative proposal and provides a new analysis of the facts. Section 4 discusses the predictions of the new proposal. In section 5, I make a comparison of the current proposal with previous approaches to the same phenomenon. Section 6 provides typological evidence for the proposed analysis by providing correlates from several other languages. Finally, section 7 summarizes and concludes the paper.

1. The phenomena

1.1. A preliminary

Before proceeding, it is necessary to outline some relevant facts about Korean. As widely known, Korean is a head-final language with SOV as its canonical word order. Also, it is an agglutinative language with inflectional morphology including overt Case-marking by Case particles (Sohn 1999:121).

About Case-particles, at least two caveats are in order. First, they have dual functions. For instance, the NOM-Case marker *-ka* (or *-i*) can be used as a Focus marker

(both exhaustive and information Focus), whereas the TOPIC marker *-nun* can also be used as a contrastive Focus marker. Second, the Subject is normally marked with the TOPIC marker *-nun* rather than *-ka*, unless it is new information or Focused.

With this preliminary information about Korean in mind, let us turn to the problems that the current paper attempts to solve.

1.2. Problems surrounding ACC-marked adverbials in Korean

The present paper aims to account for three problems: The first problem is concerned with the ACC-marking on adverbials. The second problem has to do with the fixed linear order between a direct Object and an ACC-marked adverbial. The third problem involves the semantic restriction on what kinds of adverbials can surface ACC-marked and why.

1.2.1. The ACC-marking on adverbials

One of the most outstanding properties of *lul*-marked adverbials is that a Structural Case marker appears on adverbials: It can appear either on DP adverbials, as in (2a), or can be stacked on postpositional phrases (PPs) even with intransitive verbs, as in (2b):

- (2) a. Na-nun [DP **han sikan-tongan**]-ul kel-ess-ta
 I-TOP one hour-period-ACC walk-PST-DECL
 'I walked for an hour'
- b. na-nun onul [PP **sicang-ey**]-ul ka-ess-ta
 I-TOP today market-to-ACC go-PST-DECL
 'Today I went to the market'

In the above examples, *lul*-marking is available for elements that are not verbal Objects. This phenomenon is puzzling from the standpoint of the standard Case Theory, which assumes that ACC-marking appears on elements that are direct internal arguments of a verb.

1.2.2. Restriction on their syntactic positions

Another intriguing property of *lul*-marked adverbials is that when co-occurring with a transitive predicate, they cannot precede the verbal Object. This fact is illustrated by the (b-c) examples in (3-5) below.² Note that in Korean, the Object can scramble to various positions in a sentence. But regardless of the position of the Object, the linear order between the Object and the *lul*-marked adverbial remains the same, as shown in the (d-e) examples:

Durational adverbials:

- (3) a. Na-nun ecey tennis-lul han sikan-tongan-ul chi-ess-ta
 I-TOP yesterday tennis-ACC one hour-period-ACC play-PST-DECL
 'Yesterday I played tennis for an hour'
- b. */??Na-nun ecey han sikan-tongan-ul tennis-lul chi-ess-ta
- c. */??han sikan-tongan-ul na-nun ecey tennis-lul chi-ess-ta
- d. Na-nun tennis-lul ecey han sikan-tongan-ul chi-ess-ta

² I am aware that there is individual variation among Korean speakers with respect to the judgments on some of the data presented in this paper. But according to my consultants, who agree with me, when the *lul*-marked adverbial precedes the verbal Object, the grammaticality of the sentence degrades remarkably. Hence, I take this as a basis for my analysis.

Path length adverbials:

- (4) a. na-nun ecey i kos-ul sip meyta-mankum-ul pha-ess-ta
 I-TOP yesterday this spot-ACC ten meter-extent-ACC dig.out-PST-DECL
 'Yesterday I dug out this spot to the extent of ten meters'
- b. */??Na-nun ecey sip meyta-mankum-ul i kos-ul pha-ess-ta
- c. */??Sip meyta-mankum-ul na-nun ecey i kos-ul pha-ess-ta
- d. Na-nun i kos-ul ecey sip meyta-mankum-ul pha-ess-ta

Multiplicative adverbs:

- (5) a. Na-nun i tal-ey New York-ul twu-pen-ul pangmwun-ha-ess-ta
 I-TOP this month NY-ACC two-time visit-do-PST-DECL
 'This month I visited New York twice'
- b. */??Na-nun i tal-ey twu-pen-ul New York-ul pangmwun-ha-ess-ta
- c. */??twu-pen-ul na-nun i tal-ey New York-ul pangmwun-ha-ess-ta
- d. Na-nun New York-ul i tal-ey twu-pen-ul pangmwun-ha-ess-ta

Notice that when these adverbials are not *lul*-marked, no such fixed linear order obtains.

Consider (6-8) in comparison with (3-5):

Durational adverbials:

- (6) a. Na-nun tennis-lul han sikan-tongan chi-ess-ta
 I-TOP tennis-ACC one hour-period hit-PST-DECL
 'I played tennis for an hour'

- b. Na-nun **han sikan-tongan** tennis-lul chi-ess-ta
- c. **Han sikan-tongan** na-nun tennis-lul chi-ess-ta

Path length adverbials:

- (7) a. na-nun i kos-ul **sip meyta-mankum** pha-ess-ta
 I-TOP this spot-ACC ten meters-extent dug.out-PST-DECL
 'I dug out this spot to the extent of ten meters'
- b. Na-nun **sip meyta-mankum** i kos-ul pha-ess-ta
- c. **Sip meyta-mankum** na-nun i kos-ul pha-ess-ta

Multiplicative adverbs:

- (9) a. Na-nun New York-ul **twu-pen** pangmwun-ha-ess-ta
 I-TOP New York-ACC two-time visit-do-PST-DECL
 'I visited New York twice'
- b. Na-nun **twu-pen** New York-ul pangmwun-ha-ess-ta
- c. **Twu-pen** na-nun New York-ul pangmwun-ha-ess-ta

1.2.3. What kinds of adverbials can be *lul*-marked?

Several authors (e.g., Maling 1989; Kang, Y.-S., 1991; W&L) have observed that not every adverbial can be *lul*-marked. For instance, locating adverbials (both locative and temporal), manner adverbials, and frequency adverbs are incompatible with *lul*-marking on them, as shown in (10-13):

- (10) John-un Mary-lul Seoul-**ese-(*lul)** manna-ess-ta
 John-TOP Mary-ACC Seoul-in-ACC meet-PST-DECL
 'John met Mary in Seoul'
- (11) John-un Mary-lul se-si-**ey-(*lul)** manna-ess-ta
 John-TOP Mary-ACC three-O'clock-at meet-PST-DECL
 'John met Mary at three O'clock'
- (12) John-nun ppali-**(*lul)** kel-ess-ta.
 John-TOP quickly walk-PST-DECL
 'John walked quickly'
- (13) John-nun ttayttaylo-**(*lul)** sanchayk-ul naka-ess-ta.
 John-TOP sometimes walk-ACC go.out-PST-DECL
 'Sometimes John went out for a walk'

What kinds of adverbials can then be *lul*-marked? As we have observed above, durational adverbials, multiplicative adverbials³ in W&L's terms, and path length adverbials receive *lul*-marking. This entails that adverbials denoting the destination of a trip or the distance between two places can be included, since they also instantiate path lengths. This fact is illustrated in (14):

- (14) a. John-un [**Kennedy konghang-ey**]-**lul** (mwusahi) tochak-ha-ess-ta
John-TOP [Kennedy Airport-at]-ACC (safely) arrival-do-PST-DECL
'John has (safely) arrived at J.F.K. Airport'
- b. Ku pay-nun [**hankuk-kwa ilpon-sai**]-**lul** wunhang-ha-n-ta
that ship-TOP [Korean-with Japan-between]-ACC travel-do-PRST-DECL
'The ship travels between Korean and Japan'

In this section, we have looked at the three problems centering around *lul*-marked adverbials that are pertinent to the aim of this paper. We now turn to Section 2, which offers a review of previous approaches to the phenomenon.

2. Previous analyses

This Section presents a brief review of four representative analyses available in the literature: i) Schütze 1996; ii) Wechsler & Lee 1996 iii) Cho 1999, 2000; and iv) Kim & Maling 1998. Let us begin with Schütze's account.

2.1. Schütze 1996: *lul* as a Focus marker

Although Schütze (1996) is not particularly concerned with the ACC-assignment to adverbials in Korean, he has made an interesting proposal about the nature of *lul* on adjuncts. He argues that *lul* is a focus-marker on the grounds that *lul*-marked adverbials can have a distinct pitch accent as if they are focused.

³ Following W&L, I use the term “multiplicatives” rather than “frequency adverbials” in referring to adverbials like *twice* or *three times*. This is to prevent the potential confusion on the reader’s part, since the latter can also be used to refer to adverbials like *always* and *sometimes*.

Schütze's proposal is interesting but this line of approach seems to be problematic for various reasons. First of all, it cannot account for why only certain kinds of adverbials can be *lul*-marked: If *lul* is indeed a Focus-marker, it is rather hard to imagine why temporal or locative adverbials cannot be focused. The other potential problem lies in the fact that the structural Case-marker *lul* and the focus marker *lul* are identical in terms of their morpho-phonemic variation. Apparently, Schütze was aware of this problem, since he argues that *lul* can be homophonous between a structural Case-particle and a Focus marker. This argument, however, is not wholly convincing: when the Object of a verb is Focused, it will have both the [FOC] and [ACC] features on it, and yet only one of the two features, namely [FOC], gets realized on the Focused Object and as if it could override [ACC], despite the fact that they are of different natures.

2.2. Wechsler and Lee 1996: *lul*-marked adverbials as situation delimiters

W&L seem to have a better idea about how to deal with the semantic restriction on *lul*-marked adverbials and how their Case is assigned. The gist of their proposal is that (i) *lul*-marked adverbials are SDs, which set a limit on the Situations that the VP denotes (p. 632), and (ii) that the Case domain of the verb can be extended to include them.

W&L define SDs as elements that "temporally quantify" or "delimit" the EVENTS or STATES expressed by the predicate (p. 632). Furthermore, they assume that SDs are equated with "extensive measure functions", whose defining property is ADDITIVITY in the sense of Krifka (1989, 1992). The notion ADDITIVITY is defined as (14), where \oplus is the concatenation operator:

(14) **ADDITIVITY:** $m(x \oplus y) = m(x) + m(y)$, if x and y do not overlap.

(W&L, 1996: 645)

This can be paraphrased as: the measured sum of x and y is equal to the sum of the measured x and the measured y .

Based on the criterion (14), W&L explain why duration, path length, and cardinal count measures are extensive measure functions but average driving speed, the karat of gold, the temperature of a room, and the manner of an Action or an Event are not.

As a way of illustration, let us compare temperature with path length. Even if the temperature of a glass of water is 50 degree by Celsius and that of another glass of water is 60 degree, the sum of the two glasses of water does not become 110 degree. In contrast, if John walked a mile in one event and then walked another mile in another event, the sum of the path lengths of these two events will be two miles. What this suggests then is that path length is ADDITIVITE but temperature is not.

One of the strengths of this line of reasoning is that it can nicely capture why *lul*-marking is restricted to certain kinds of adverbials. To apply this notion to the adverbials that are incompatible with *lul*-marking, such as location or manner of an event, it turns out that they are not extensive measure functions, for they are not ADDITIVE.

Let us now turn to W&L's proposal for ACC-assignment to adverbials. By appealing to Burzio's generalization (1986), W&L argue that the argument structure of the verb is reflected on the Case marking on adverbials. (15) summarizes their proposal:

(15) **Case extension theory of W&L:**

- a. Case Domain Extension: Optionally assign the feature CASE to a dependent R, where R is a situation delimiter. (W&L 1996: 640, (22))
 - b. Korean Case Rule.
 - (i) Assign ACC to any CASE dependent⁴ with an external co-argument (i.e., when co-occurring with an unergative or a transitive verb).
 - (ii) Assign NOM to any CASE dependent lacking an external co-argument. (i.e., when co-occurring with an unaccusative verb or a passive)
- (W&L 1996: 640, (23))

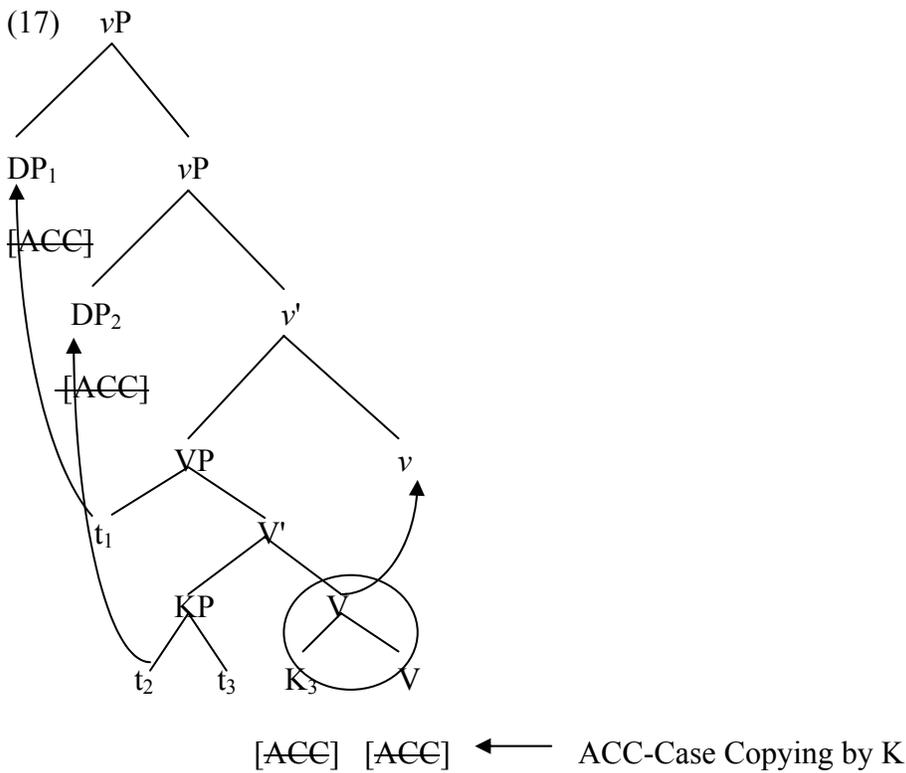
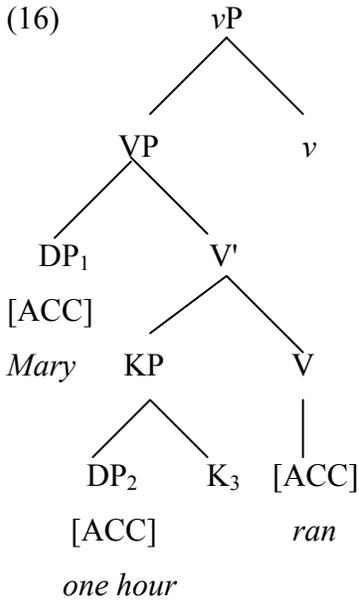
Despite the fact that it can explain a great deal of data (see the original work), W&L's proposal is not without problems; I defer discussing them until my own proposal has been put in place.

2.3. Cho 1999, 2000: Case copying via incorporation of K into V

Following Bittner and Hale (1992), and Larson (1997), Cho posits the presence of KP in Korean, which subcategorizes for a DP, but which by itself cannot assign Case to the DP it selects for. Consequently, it must copy the Case of the closest Case-assigning head by incorporating into it, whereby assigning the copied Case to the selected DP. When KP is the sister to V, for instance, it adjoins to V and the [_v K-V] complex raises to *v*, which is assumed to license the [ACC] feature on D and V in the Minimalist Program. In this process, all the ACC's including the copied ones are checked-off at [Spec, *v*P] via spec (Specifier)-head agreement (See Cho 2000, ch. 3 for details). Cho's proposal is

⁴ According to W&L, the term "dependent" includes both arguments and non-subcategorized adverbials within the case domain (p. 636).

schematically represented in (16-17) (Strike-through markers indicate features that are "checked-off" or "deleted" in the sense of Chomsky 1995):



Cho's proposal seems efficient in that it can account for the multiple-ACC phenomena in Korean, while maintaining the fundamental assumptions about ACC assignment of the Minimalist Program. There are, however, some difficulties with this line of approach. For example, it cannot readily explain all the important properties of *lul*-marked adverbials, as will be discussed in Section 5.

2.4. Kim & Maling 1998: ACC on duratives comes from Aspect and that on multiplicatives from Verb

In their earlier work (e.g., K&M 1993), K&M show that multiplicative adverbials (“frequency adverbials” in their terminology) DP Objects behave alike in terms of their ACC/NOM alternation. Based on this, they conclude that multiplicatives receive ACC from the verb just like Objects. In their later work (K&M 1998), they note that durational phrases do not necessarily pattern with multiplicatives nor with Objects with respect to Case alternation; they are susceptible to Aspect of the clause in which they occur. On the basis of this observation, they argue that durational phrases are “delimiters” and hence get ACC from Aspect in the same manner as Objects do.

K&M’s account is insightful in that they make the important connection between adverbial quantification and Aspect of the sentence and in so doing elucidate deeper reasons for the Case alternation facts surrounding durational adverbials in Korean.

Their account has a few shortcomings, however: First, they focus on the Case alternation of the verbal Objects in relation to the Aspect of the sentence and consequently abstract away from the exact mechanism through which ACC or NOM is assigned to durational adverbials. Another regret about their approach is that despite the

fact that all *lul*-markable adverbials in Korean are SDs, in their system, the source of ACC on them seems to vary depending on the kinds of adverbials that are *lul*-marked. That is, the ACC on multiplicatives comes from the verb while the ACC on duratives comes from Aspect. Hence, it would be more desirable to have a more unified account which incorporates K&M's insight, but which encompasses all the ACC-marked adverbials in Korean.

In the next section, I present an alternative way of accounting for the facts. I then go back to the three problems of *lul*-marked adverbials presented above and explain them under the new approach.

3. A new analysis

3.1. The basic assumptions of the new proposal

The proposal I am advancing in this paper hinges on the following assumptions. First, I assume that there is a difference between Case-licensing and Case-marking. Following Chomsky (1995, 1998), I assume that the abstract Case feature on a DP Object must be "licensed" or "checked off" by vP , the head of Light verb phrase, via Spec-head agreement. However, I suggest that the morpheme *-lul* does not itself bear ACC. Rather, I assume that ACC on the DP is abstract, as in English, and there is a spell-out rule of the form of (18):

(18) **Spell-out rule:** Spellout any XP in the Minimal Domain of v as $XP+lul$, where the minimal domain is defined as: XP is in the Minimal Domain of a head Y iff XP is dominated by a projection of Y, and there is no head Z such that Y c-commands Z and Z c-commands XP (cf. Chomsky 1995:299).

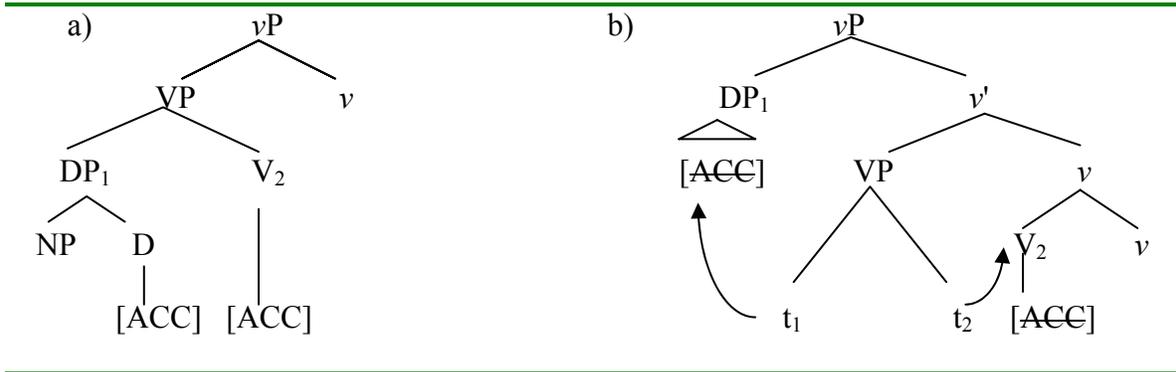
Next, I adopt the standard Minimalist assumptions about the base-position of the Subject of a clause, hence assume that it is base-generated at [Spec, v P].

Third, along the lines of Cho (1998, 2000), I assume that in Korean, Case-checking must be done in overt syntax. I further assume that a lexical head Y cannot license a formal feature F on its own, hence must adjoin to the functional head Z that hosts the relevant feature, whereby forming the [_Z Y-Z] complex. For example, in order for a verb to license its [ACC] feature, it must adjoin to v , while an ACC-marked DP must raise to [Spec, v P] for the [ACC] on the D to be checked off.⁵ In this process, both the [ACC] feature on D and that on V will be checked off (or "deleted") via Spec-head agreement.

(19) schematically represents the ACC-checking or licensing in Korean within the adopted framework:

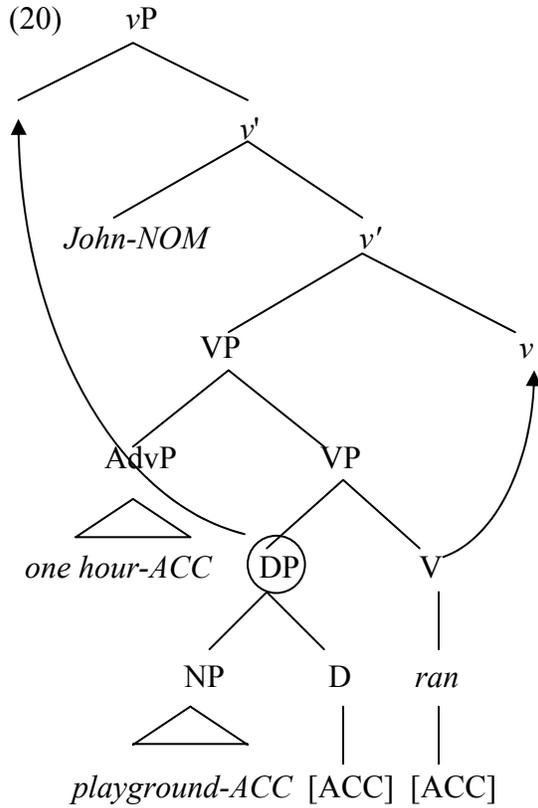
⁵ In the literature, several authors have suggested an independent motivation to assume the occurrence of Object Shift (OS) in Korean. For example, it has been widely accepted that negation facts in Korean can be better explained by positing OS (See Hagstrom 1997 and the references therein).

(19) ACC-licensing within the current framework (irrelevant parts are omitted):



Finally, I assume, along the lines of Chomsky (1995) and Cinque (1999), that adverbials cannot freely scramble. The base position of an adverbial is determined by its meaning, and the selection restrictions on what types of phrases it can modify. I diverge from them by assuming that adverbials can undergo movement if and only if they have a formal feature that needs to be checked off. Building upon W&L's insight and along the lines of Tenny (1994), I assume that *lul*-marked adverbials are SDs, which quantify "temporally" or "spatially" over the set of EVENTS or STATES that a VP denotes. Following W&L, I assume that SDs are extensive measure functions, which are ADDITIVE as spelled out in (14). On this basis, I assume that SDs are base-adjoined to VP and yet they can undergo movement if it is necessary for feature-checking purposes.

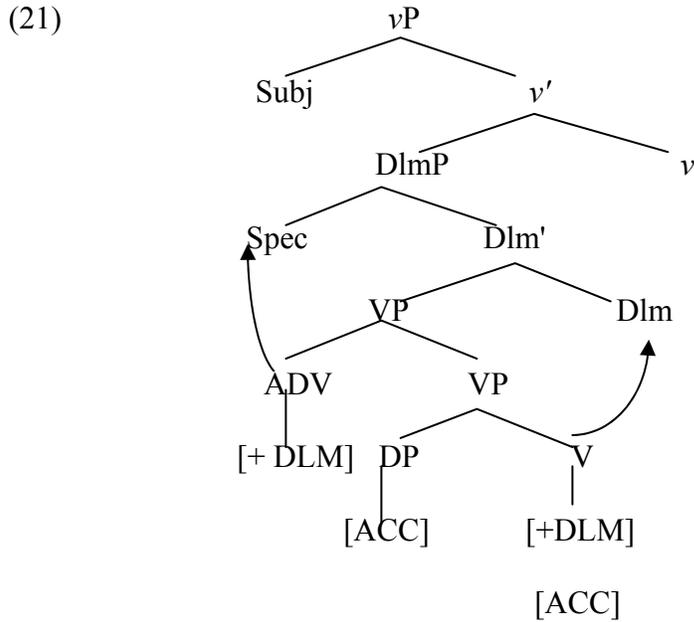
(20) is a fuller picture of the ACC-licensing within the adopted framework. For expository purposes, I use one of the Korean examples illustrated above, whose English gloss is: *John ran the playground for an hour*:



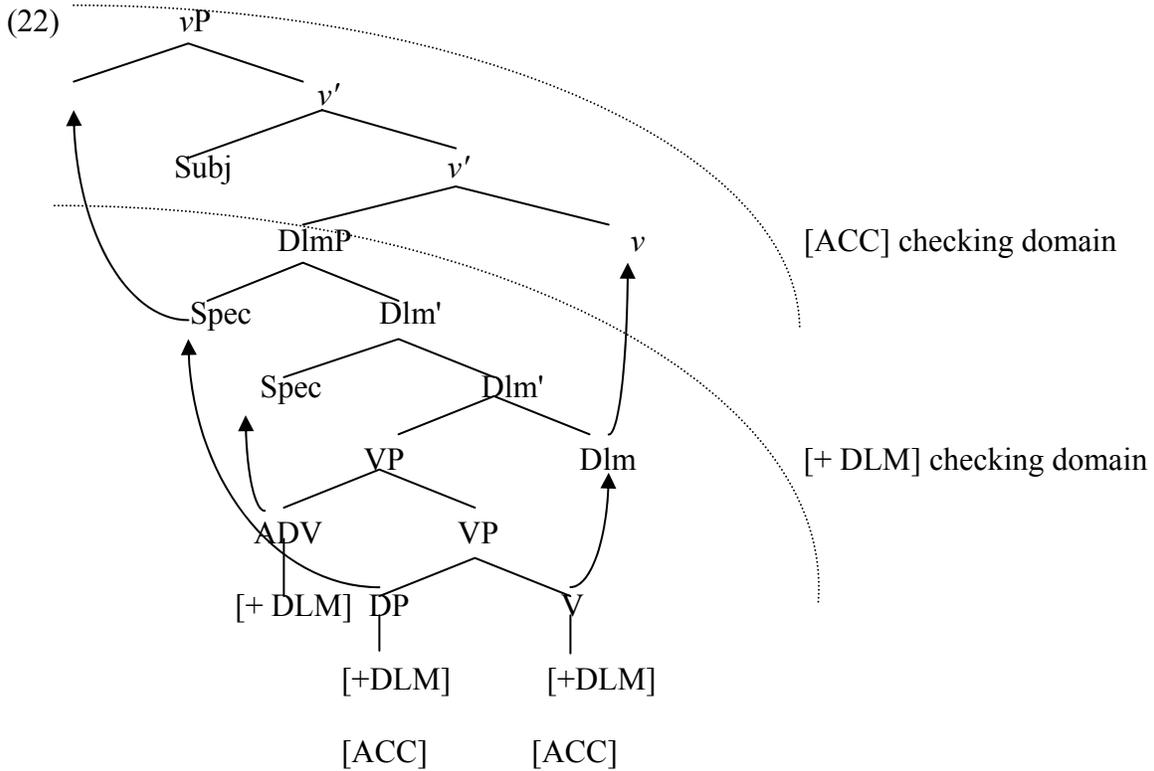
3.2. A new proposal

I propose that in the course of numeration, adverbials can acquire the [+ DLM] feature, which is a formal feature, hence must be checked off in overt syntax. I further propose that when a VP denotes a delimited STATE or EVENT, the verb carries [+ DLM] in addition to [ACC] if it is a transitive verb. I posit that Korean has a functional projection named Delimiting Phrase (DlmP) between VP and vP, and the head of this phrase licenses [+ DLM]; Hence, the adverbial and the verb must raise to [Spec, DlmP] and the head of DlmP, respectively, in order to have their [DLM] checked off. At this point, the spell-out rule in (18) takes an effect: The adverbial now becomes able to bear the same

morphology as the ACC on an DP Object by virtue of appearing at [Spec, DlmP], which is inside the Minimal Domain of *v*. (21) represents the idea developed thus far:



In order to explain the cases where there are more than one delimiter per sentence, I assume that the head of DlmP can discharge more than one [+ DLM] feature, hence can have multiple Specifiers. This is to explain instances where the verbal Object also serves as a SD, one example being where it is definite or specific. I propose that when the Object carries [+ DLM], it then would have to stop by at [Spec, DlmP] on its way to [Spec, *v*P] to have its [+ DLM] checked off. The diagram (22) schematically represents this idea:



Regarding the location of non-*lul*-marked counterparts of situation delimiting adverbials, I argue, on the basis of the data presented in Section 2, that they are base-adjoined to maximal projections outside vP . The reason is that unlike adverbials bearing *lul*-marking, they do not instantiate the fixed linear order with respect to the verbal Object. What would then be the difference between *lul*-marked adverbials and their non-*lul*-marked counterparts other than their syntactic positions? I answer this question in Section 4.

Next, I argue that manner adverbials are vP -modifiers. This is due to the assumption that they modify EVENTS and only the largest extended domain of V, i.e., vP can denote EVENTS. Lastly, I suggest that temporal and locative adverbials are base-adjoined to

maximal projections outside νP , since they do not interact directly with the Eventualities denoted by the νP .

Let us now turn to evaluating the empirical adequacy of the current proposal. We will begin by discussing the data presented in Section 2 and see whether the new proposal can handle the problems the current paper purports to explain.

3.3. Explaining the facts

First of all, one of the problems this paper seeks to account for has to do with where the *lul*-marking on adverbials originates. Under the current proposal, it stems from ν , which checks abstract [ACC] and also demarcates the Domain for spelling out XPs as $\text{XP}+\textit{lul}$. Although every maximal projection in the Minimal Domain of ν carries the morpheme *lul*, only the DP Object has the abstract Case feature, so only the DP Object is attracted to [Spec, νP]. Adverbials with the [+DLM] feature must be located low enough to be attracted by the head of DlmP , and since DlmP is below νP , these adverbials are within the domain of the spell-out rule (18).

Secondly, the current proposal explains why a *lul*-marked adverbial cannot precede the verbal Object if there is any. This is due to the difference between DP Objects and *lul*-marked adverbials: The former have to raise to [Spec, νP] for their [ACC] to be licensed, whereas the latter do not. Hence, regardless of which operation occurs first between raising of the Object to [Spec, νP] and raising of the adverbial to [Spec, DelP], the linear order between them will invariably be such that the Object precedes the adverbial. Since it is assumed that the adverbials under discussion are not subject to scrambling, it is predicted that even when the Object scrambles to a position outside νP ,

this order will remain the same. This prediction is borne out, as noted above in (4-6), repeated below in (23):

- (23) a. Na-nun **tennis-lul** ecey **han sikan-tongan-ul** chi-ess-ta
 I-TOP tennis-ACC yesterday one hour-for-ACC played
 'Yesterday I played tennis for one hour'
- b. Na-nun **i kos-ul** ecey **sip meyta-mankum-ul** pha-ess-ta
 I-Top this spot-ACC yesterday ten meter-extent-ACC dug out
 'Yesterday I dug out this spot as much as 10 meters'
- c. Na-nun **New York-ul** i tal-ey **twu-pen-ul** pangmwun-ha-ess-ta
 I-TOP NY-ACC this month-in two-time-ACC visited
 'This month I visited New York twice'

Thirdly, the proposed system provides a satisfactory account of why temporal, locative, and manner adverbials are not *lul*-marked. This is due to the syntactic positions they occupy in the sentence: I have argued above that locative and temporal adverbials are base-adjoined to maximal positions which are outside the Minimal Domain of v , for they do not delimit the Eventualities denoted by vP . When it comes to manner adverbials, the picture looks more complicated: I have assumed that they are base-adjoined to vP , since they modify the manner of EVENT. Given the definition of Minimal Domain in (18ii), one might think that manner adverbials should be able to surface *lul*-marked. But they do not, as illustrated above. In order to account for this fact, I assume that the position created by adjunction to vP does not count as part of the Minimal Domain of v .

Hence, it follows that materials adjoined to *vP* cannot surface bearing *lul*-marking on them.

3.4. Section summary

In this section, I have offered an alternative proposal in an attempt to explain the facts surrounding *lul*-marked adverbials. The core idea has been that in the course of numeration, adverbials, verbal Objects, and verbs can acquire the formal feature [+ DLM], which needs to be checked in overt syntax. First, I have posited that in Korean, there is a functional projection DImP between VP and *vP*. Second, I have proposed that the head of DImP licenses [+ DLM], hence every element carrying [+ DLM] must raise to [Spec, DImP] or adjoin to the head of DImP, in order to have the feature checked off; otherwise, the derivation would crash. Lastly, I have demonstrated that this proposal can explain the three problems this paper seeks to account for. Let us now turn to discussing the predictions that fall out of this new approach.

4. Predictions of the present proposal

First and foremost, the proposed analysis predicts, contra previous analyses, particularly Kim, Y.-J. 1990 and W&L 1996, that the *lul*-marking on adverbials is not entirely optional. In other words, *lul*-marked adverbials and their non-*lul* marked correspondents are not identical. Evidence comes from both syntactic and semantic sides.

Syntactic evidence comes from the contrast between *lul*-marked adverbials and their non-*lul* marked counterparts with regard to their relative order with locative and temporal adverbials. As was the case with its relative order with the verbal Object, a *lul*-

marked adverbial does not like to precede these adverbials. In contrast, when the adverbial is not *lul*-marked, it can either precede or follow them without affecting the grammaticality of the sentence. The following paradigms illustrate this point:

(24) a. John-un **toseykwan-ese han shikan-tongan(-ul)** kongpwu-ha-ess-ta
 John-TOP library-in one hour-period(-ACC) study-do-PST-DECL
 ' John studied in the library for an hour'

b. John-un **han shikan-tongan(??/*-ul)** toseykwan-ese kongpwu-ha-ess-ta
 John-TOP one hour-period(-ACC) library-in study-do-PST-DECL

(25) a. John-un **ece twu shikan-tongan(-ul)** tali-ess-ta
 John-TOP yesterday two-hour-period(-ACC) run-PST-DECL
 'Yesterday John ran for two hours'

b. John-un **twu shikan-tongan(*/??-ul)** **ece** tali-ess-ta
 John-TOP two-hour-period(-ACC) yesterday run-PST-DECL

The above contrasts suggest that *lul*-marked adverbials must be located lower than temporal or locative adverbials, whereas non-*lul* marked ones can appear either lower or higher than these adverbials.

Semantic evidence that *lul*-marking on adverbials is not optional comes from the fact that there is a grammaticality or pragmatic difference between sentences that contain *lul*-marked adverbials and those that contain non-*lul* marked adverbials. For example,

adverbials with *lul*-marking can occur in a progressive sentence if there is a definite reference (or topic) time, whereas those without it cannot. To illustrate, consider (26):

- (26) a. *Nay-ka tochak-ha-ess-ul-ttay, John-nun han sikan-tongan#/??(-ul)*
 I-NOM arrival-do-PST-REL-time, J-TOP one hour-period(-ACC)
ca-ko-iss-ess-ta
 sleep-COMP-PROG-PST-DECL
 ‘When I arrived, John had been sleeping for one hour’
- b. *Nay-ka tochak-ha-ess-ul-ttay, John-nun ku chak-ul twu pen*/??(-ul)*
 I-NOM arrival-do-PST-REL-time, J-TOP that book-ACC two-time (-ACC)
Ilk-ko-iss-ess-ta
 read-COMP-PROG-PST-DECL
 ‘When I arrived, John had been reading the book twice’
- c. *Nay-ka tochak-ha-ess-ul-ttay, John-nun ttang-ul sip meyta-mankum#/??(-ul)*
 I-NOM arrival-do-PST-REL-time, J-TOP ground-ACC ten meter-extent(-ACC)
pha-ko-iss-ess-ta
 dig.out-COMP-PROG-PST-DECL
 ‘When I arrived, John had been digging out the ground as much as ten meters’

What the above paradigms reveal to us is that *lul*-marked adverbials set a limit on the duration, multiplication, or path length of the EVENT denoted by the *vP* with respect to the topic time, which is, in the above cases, the speaker’s arrival time. In contrast, non-*lul* marked adverbials do not have such a delimiting function. Note that between each pair

of sentences above, all the other grammatical factors including Aspect of the sentence remain the same, and yet the grammaticality varies depending on the presence or absence of *lul*-marking on the adverbial. If *lul*-marking is indeed optional, as Kim 1990 and W&L 1996 argue, the above paradigms cannot be explained. It is therefore concluded that despite the seemingly identical semantic features, *lul* marked adverbials differ from their non-*lul* marked counterparts: That is, only the former carry the [+ DLM] feature and thus serve as SDs in the strictest sense of the term defined in this paper.

Another prediction of the current proposal is that since mass nouns or bare plural NPs, by assumption, do not carry the [+ DLM] feature, when the Object is either a mass noun or a bare plural NP, there would occur no situation delimitation inside the VP. Hence, the only way in which the VP can get a delimited interpretation is by having a situation-delimiting adverbial (ADV) in the sentence. To illustrate, consider (27-28):

(27) a. John-un mwul-ul masi-ess-ta (No Situation delimitation)

J-TOP water-ACC drink-PST-DECL

'John drank water'

b. John-un mwul-ul **twu pen-ul** masi-ess-ta (Delimitation by ADV)

J-TOP water-ACC two-time-lul drank

'John drank water twice'

(28) a. John-un sakwa-lul mek-ess-ta (No Situation delimitation)

J-TOP apple-ACC eat-PST-DECL

'John ate apples'

b. John-un sakwa-lul **han sikan-tongan-ul** mek-ess-ta (*Delimitation by ADV*)

J-TOP apple-ACC one hour-period-ACC ate

'John ate apples for an hour'

Next, the proposed approach predicts that adverbials can bear the ACC morphology, regardless of the argument structure of the verb they co-occur with. The reason is that *lul*-marking on SDs is possible because they appear at [Spec, DImP], which is inside the Minimal Domain of *v*, not because the verb is transitive. Hence, it is predicted that *lul*-marked adverbials can occur with intransitive verbs such as unergatives and unaccusatives. This prediction is borne out.

First, (29) shows that SDs can co-occur with unergative verbs:

(29) a. John-nun (onul) sigang-ey **twu-pen-ul** **ka-ess-ta**

John-Top (today) market-to two-time-ACC go-PST-DECL

'(Today) John went to the market twice'

b. John-un **sey-sikan-tongan-ul** ca-ess-ta

John-TOP three-hour-period-ACC sleep-PST-DECL

'John slept three hours'

c. John-un **sip-mail-mankum-ul** tali-ess-ta

John-TOP ten-mile-extent-ACC run-PST-DECL

'John ran ten miles'

Second, (30) shows that SDs can co-occur with unaccusative verbs:

- (30) a. John-un namwu-ese **twu-pen-ul** **tteleci-ess-ta**
 John-TOP tree-from two-time-ACC fall-PST-DECL
 'John fell from a/the tree twice'
- b. John-un **Seoul yek-ey-lul** tochak-ha-ess-ta
 John-TOP Seoul Station-to-ACC arrival-do-PST-DECL
 'John arrived at the Seoul Station'

One might wonder why the DP Object of an unaccusative verb is not *lul*-marked. I suspect that this can be attributed to the EPP requirement that dictates that NOM on T(ense) be checked off. If correct, then this conjecture can explain why the Object surfaces *ka*-marked rather than *lul*-marked in unaccusative sentences as (30).

This set of facts naturally paves way to comparing the new approach with previous ones, to which we now turn.

5. A comparison of the present analysis with previous ones

I would like to first point out problems for the four previous studies of the Case-marking on adverbials in Korean. First, sentences in (30) pose a problem for W&L's (1996) account, since their proposal predicts that *lul*-marked adverbials are incompatible with unaccusatives. Recall that under their account (15), when an adverbial co-occurs with an unaccusative predicate, it must be NOM-marked, for the verb lacks an external argument in its argument-structure. This prediction, however, is not borne out, as the ungrammaticality of (31) shows:

- (31) a. *John-un namwu-ese **twu-pen-i** **tteleci-ess-ta**
 John-Top tree-from two-time-NOM fall-PST-DECL
- b. *John-un **Seoul yek-ey-i** tochak-ha-ess-ta
 John-TOP Seoul Station-to-NOM arrival-do-PST-DECL

On the other hand, both (29) and (30) are problematic for Cho's accounts (1999, 2000) for at least three reasons. First, Cho assumes that intransitives do not assign ACC, hence there will be no ACC for K to copy. In order to circumvent this problem, she stipulates that in certain cases, K can carry the [ACC] feature. This however makes her argument rather circular, since in her system, the reason why K incorporates into V is because it lacks its own Case features.

The other difficulty with Cho's model has to do with her analysis of *lul*-marked adverbials as DPs as if they were parallel to English bare NP adverbials. But this analysis cannot explain instances where postpositions are not dropped, hence remain as full PPs.

(32) illustrates this point:

- (32) a. na-nun onul [_{PP} **sicang-ey**]-ul ka-ess-ta
 I-TOP today [market-to]-ACC go-PST-DECL
 'Today I went to the market'
- b. ku pay-nun [_{PP} **mikwuk-kwa yulep-sai**]-lul wunhang-ha-n-ta
 that ship-TOP [America-with Europe-between]-ACC travel-do-PRST-DECL
 'That ship travels between America and Europe'

The third potential problem with Cho's proposal is that it cannot account for the semantic function indicated by the *lul*-marked adverbials: namely, situation delimitation. Under Cho's account, what selects for them is K. But K is a dummy head, which acts only as a Case-copier, as its label suggests (i.e., KP is *Case Phrase*). Hence, it is rather hard to imagine that K selects for SDs.

Under the present proposal, however, these problems disappear. First, the new proposal predicts that *lul*-marking on adverbials should always be possible, irrespective of the argument-structure of the verb. Second, the current proposal explains where the semantic function of *lul*-marked adverbials comes from: It stems from their [+DLM] feature, which must be checked off inside the domain of DlmP, which is assumed to be the locus of "delimitation" or "measuring-out" in the sense of Tenny (1994).

Finally, the proposed analysis also diverges from K&M 1998 by suggesting that the *lul*-marking on adverbials, particularly the *lul*-marking on durational phrases, does not come from Aspect. If K&M's account were correct, durational adverbials should be able to occur preceding the verbal Object, since there would be no reason for the Object to appear in the domain of Aspect. Even if it did, however, there should still be a possibility where the adjunction of the adverbial to [Spec, AspectP] occurs post the merge of the Object. As shown in the above data, however, this possibility is not available, which suggests that a *lul*-marked durative is adjoined to a maximal projection lower than the one to which the Object is adjoined.

6. Typological correlates

This section reports on a small-scaled typological survey I conducted on ACC-case marking on SDs.

6.1. Data from various languages

Let us begin with correlates from English, German, Russian and Japanese, and move on to Mandarin Chinese, since the former have relatively clearer Case-marking systems than the latter.

(33) English:

- a. I slept [an hour].
- b. I ran [an hour].
- c. I walked [five miles].
- d. I visited New York [twice].

(34) German:

- a. Ich schief [eine Stunde].
I-NOM sleep-PST one hour-ACC
'I slept an hour'
- b. Ich lief zwei Meilen [die Straße entlang.]
I-NOM run-PST two miles-ACC the street-ACC along.
'I ran this road two miles'

c. Ich ging mit John [einen Monat lang aus].

I-NOM go-PST with John-DAT one month-ACC long out.

'I dated John for one month'

d. Ich besuchte New York [zwei Mal].

I-NOM visit-PST New York-ACC two times-ACC.

'I visited New York twice'

(35) Russian:

a. Ja spal [čas].

I slept-MASC hour-ACC

'I slept an hour'

b. Ja bezhal po etoj doroge [dve mili].

I ran-MASC on this road two miles-ACC

'I ran this road two miles'

c. Ja guljala s Dzhonom [dva mesjatsa].

I went.out with.John two months-ACC

'I dated John for a month'.

e. Ja byl v New-Yorke [dva raza].

I was in New York two times-ACC

'I visited New York twice.'

In Japanese, it is quite rare to find ACC-marked adverbials, but there are some possible instances, as shown in (36):

(36) Japanese:

a. watasi-wa iti-jikan-o hasiri-kit-ta. (duration)

I-TOP one-hour-ACC run-finish-PST

'Lit.: I finished running an hour'⁶

b. Taroo-wa yoko-o muite-iru (direction)

Taroo-TOP side-ACC face-PROG

'Taroo is in the state of facing the side'

Let us now turn to Madarin Chinese: Chinese makes an interesting case, because, unlike the languages documented above (except for English), it does not have overt Case-marking. However, Chinese still distinguishes SDs from non-SDs: SDs invariably occur sentence-finally while non-SDs occur pre-verbally, as the contrast between (27a) and (37a') shows.

⁶ My Japanese consultant provides the following context for this sentence:

One day, the gymnastic teacher assigned me a task. The task was to run for an hour (regardless of the distance I run), and I accomplished the task.

He also notes that a more accurate English gloss for this sentence might be something like 'I finished the task of running for an hour'.

(37) SDs in Chinese:

a. wo shui le [yi xiaoshi].

I sleep PERF [one hour]

'I slept an hour'.

a'. *wo [yi xiaoshi] shui le.

I [one hour] sleep PERF

b. wo he Mary yuehui le [yige yue].

I and Mary date PERF one month

'I dated Mary for a month'.

c.?wo zai zhetiao jie shang pao le [liang li].

I PREP this street Specifier run PERF two miles.

'I ran this road two miles'.

d. wo cangan guo New York [liang ci].

I visit PERF New York two times

'I visited New York twice.

6.2. Discussion of the cross-linguistic data

The correlates across languages suggest that this phenomenon can be universal. In addition, these typological facts lend strong support to the proposal put forth in this paper, since the appearance of the ACC-marking morpheme on SDs indeed seems to be independent of the argument-structure of a verb that it co-occurs with. These cross-linguistic facts fall nicely under the proposed analysis in that (i) adverbials which bear the ACC morphology are located inside the Minimal Domain of v and (ii) that they serve as

SDs, which suggests that they carry the [+ DLM] feature, as is the case with *lul*-marked adverbials in Korean.

How does then Korean differ from other languages and why? More specifically, why does Korean allow postpositional phrases to bear the ACC morphology whereas other languages do not?

The rule that I have proposed for morphological *lul*-marking is a spell-out rule, and it may be the case that languages differ in morpho-phonological restrictions on the co-occurrence of various affixes. For example, it is well-known that Japanese has a rule, which seems to be phonological in nature, prohibiting multiple occurrences of the morpheme *-o*. Similarly, English prohibits sequential occurrences of the morpheme *-ing*. (e.g., ??*I am starting swimming*). An additional problem is: why is it that temporal adverbials in English such as *yesterday*, and *last winter*, seem to surface ACC-marked, albeit not overt, despite the fact that they are not SDs? The range of non-SD phrases that can surface this way is limited, and possibly idiosyncratic. (*We arrived (on) Saturday/We arrived (*on) yesterday/We arrived *(on) my birthday*) Perhaps the answer lies outside Case theory; it may be found in the study of licensing conditions for null prepositions. In any event, apparently, not every language behaves like Korean in terms of Case-spell-out, although SDs seem to behave alike across languages. I leave investigation of these issues for future research.

7. Concluding remarks

The theses of the present paper have been that (i) *lul*-marked adverbials behave differently from their non-*lul* marked counterparts, both syntactically and semantically,

and (ii) that only the former can carry the formal feature [+ DLM], hence serving as SDs. I have proposed that in the course of numeration, adverbials, definite or specific Objects, and verbs can acquire [+ DLM], which can only be licensed by the head of DImP via Spec-head agreement. In addition, I have proposed that adverbials with [+ DLM] can bear the ACC morphology by appearing at [Spec, DImP], which is inside the Minimal Domain of *v*. I have demonstrated that the new proposal can readily answer the three questions addressed at the outset of this paper: (i) where does the *lul*-marking on adverbials originate?; (ii) why adverbials bearing *lul*-marking cannot precede the direct Object of a verb?; and (iii) why only certain kinds of adverbials can surface *lul*-marked? It has turned out that these problems are in fact interconnected; they are essentially due to the [+ DLM] feature on SDs, which must be licensed by the head of DImP.

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