Intentionality, Purpose, and Tasi 'Again' in Korean*

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Lee, Juwon. (2018). Intentionality, Purpose, and Tasi 'Again' in Korean. The Linguistic Association of Korea Journal, 26(2), 147-173. In this article, I introduce a peculiar repetitive reading of the adverb tasi 'again' in Korean (called purpose-repetitive reading), and show that prior analyses (using lexical, structural, or semantic taxonomy-based approaches) in the literature cannot account for this new reading. Some crucial properties of purpose-repetitive readings are discussed. As the name suggests, this reading entails that an agent has a purpose, and presupposes that an agent previously had the same purpose. An alternative account involving omission of the purposive clause is shown not to be able to account for purpose-repetitive readings. Thus, I propose a new lexical entry for tasi 'again' (i.e., the purposive tasi) adapting the lexical semantic analysis in Beck (2005) and using the modality of the agent's intention a la Inman (1993). Finally, I show that purpose-repetitive readings are also possible for more complex constructions like serial verb constructions and resultative constructions in Korean.

Key Words: repetitive reading, pseudo-repetitive reading, purpose-repetitive reading, restitutive reading, *tasi, again,* intentionality, modality, Korean

1. Introduction

The adverb *again* has been considered in the literature to have the two types of readings, repetitive reading and restitutive reading (see English *again* in McCawley, 1968; Dowty, 1979; Stechow, 1995, 2003; Beck, 2005, 2006; Beck &

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Gergel, 2015; Pedersen, 2015, German *wieder* 'again' in Fabricius-Hansen, 1983, 2001; Stechow, 1996; Klein, 2001; Jäger & Blutner, 2003, and Korean *tasi* 'again' in Yoon, 2007; Oh, 2009, 2015; Lee, 2017; *inter alia*). In the following example, *again* syntactically modifies the predicate headed by *closed*, and the sentence has the two interpretations, which would not be available without the modification of *again* (we can find similar data in the literature):

Bill closed the window again.
 Repetitive reading: Entails that Bill closed the window, and presupposes that Bill had previously closed the window.
 Restitutive reading: Entails that Bill closed the window, and presupposes that the window had been closed before.

The repetitive reading of (1) describes the repetition of the whole event of the sentence. But in the restitutive reading, only the state of the window's being closed is necessarily repeated. In this case, we can say that the repetitive reading entails the restitutive reading, since all the situations expressed by the former can be also described by the latter, but not vice versa. However, this entailment relation between the two types of readings does not necessarily hold for other sentences. It is possible for a repetitive reading not to be a restitutive reading, as illustrated in (2) (see the 'successive increase' contexts in Pedersen, 2015).

- (2) Bill cooled the soup again.
 - 1. *Repetitive reading*: Entails that Bill cooled the soup, and presupposes that Bill had cooled the soup before.
 - 2. *Restitutive reading*: Entails that Bill cooled the soup, and presupposes that the soup had been previously cool.

The repetitive reading of (2) can be applied to a situation in which Bill had previously cooled the soup, and continued cooling the soup without the soup becoming heated (see a scalar analysis of *again* in Pedersen, 2015). This situation cannot be described by the restitutive (or counterdirectional) reading in (2), which requires the soup to be heated before Bill cooled the soup.¹)

Hence, it would be plausible to assume that in general the repetitive and restitutive readings arise independently, though they are semantically similar to each other: something is repeated in both readings.

It is well known that the corresponding Korean adverb *tasi* 'again' also has the two types of readings (see Yoon, 2007; Oh, 2009, 2015; Lee, 2017), as exemplified by (3).²

(3) Bill-i ku changmwun-ul tasi tat-ass-ta.
Bill-Nom the window-Acc again close-Pst-Dec 'Bill closed the window again.'
1. Repetitive reading: Entails that Bill closed the window, and presupposes that Bill had previously closed the window.
2. Restitutive reading: Entails that Bill closed the window, and presupposes that the window had been previously closed.

However, in addition to the canonical readings of *tasi* 'again', this adverb seems to have another type of reading. In the following example, *tasi* 'again' syntactically modifies the predicate in the second clause, and the second clause cannot be interpreted as repetitive or restitutive due to the context blocking the two readings. Nonetheless, the second clause seems to be acceptable with a different kind of reading, which I call *purpose-repetitive reading*:

(4) [Bill had never boiled a potato before, and the potato was raw and had not been boiled.]

The restitutive reading is sometimes called counterdirectional reading (Fabricius-Hansen, 2001; Beck, 2005) or reversal reading (Pedersen, 2015), since the patient moves in the opposite direction on the scale involved in the reading. I assume that they are basically the same (see a diachronic discussion of restitutive or counterdirectional reading in Beck & Gergel, 2015), and I focus on repetitive readings here.

²⁾ Korean has the two adverbs into which *again* can be translated: *tasi* 'again' and *tto* 'again'. Unlike the former, the latter seems to have only the repetitive reading (see Yoon, 2007). In this paper I focus on *tasi* again', and leave to future research an analysis of *tto* 'again' in relation to the issue under discussion.

Bill-imantwu-lulkacyewa-ss-ko,Bill-Nomdumpling-Accbring-Pst-andBill-itasikamca-lulsalm-ass-ta.Bill-Nomagainpotato-Accboil-Pst-Dec(lit.) 'Billbroughtthe dumpling, andBillboiledthe potato again.'Purpose-repetitivereading:EntailsEntailsthatBillboiledboiledthepotatoforacertainpurpose (e.g., Billwanted tothathehaddonesomethingbefore(inthiscontext, hebroughtthedumpling)forthesamepurpose(i.e., Billwantedtofeed

The purpose-repetitive reading of the second clause in (4) would be available only if Bill's purpose of boiling the potato and his purpose of doing something before the boiling event are the same. The purpose-repetitive reading can be applied to another situation in which, for example, Bill boiled the potato in order to feed himself, and Bill had previously brought the dumpling in order to feed himself. The agent's specific purpose is determined by the utterance context. What is important in this reading is that the agent's certain purpose is repeated, although the agent could perform different actions for the same purpose at different times. The purpose-repetitive reading of tasi 'again' has never been studied to my best knowledge. Furthermore, this reading cannot be explained by the previous analyses of the adverb, since they normally deal with repetition of some part within the meaning of a predicate that the adverb modifies, but the purpose-repetitive reading contains an agent's purpose which is directly or indirectly related to the predicate modified by the adverb. Hence, in order to explain this new interpretation, we need a new theory of the adverb incorporating the notion of purpose or intention. In this paper, I propose a new lexical entry for *tasi* 'again' (called the purposive *tasi*), and argue that this adverb derives purpose-repetitive readings of sentences. I hope this study would contribute to a proper understanding of the lexical meaning of the adverb, and also would serve as a basis for cross-linguistic investigations of the corresponding adverbs in other languages.

This paper is organized as follows. In section 2, the prior analyses of *again* or *tasi* 'again' are presented, and I show that they cannot account for purpose-repetitive readings. In section 3, some important properties of

purpose-repetitive readings are discussed. In section 4, I propose the new lexical entry for *tasi* 'again' with intentional modality, and argue that this analysis can be extended to more complex constructions before I conclude in section 5.

2. Previous Accounts of Again

In this section, some prior approaches in the literature are briefly summarized, and I show that they cannot explain purpose-repetitive readings.

2.1. Lexical Analysis

The adverb *again* is considered to be ambiguous between the repetitive *again* and the restitutive/counterdirectional *again* in the lexical analysis (see Fabricius-Hansen, 1983, 2001; Kamp & Rossdeutscher, 1994; Jäger & Blutner, 2003). That is, there are two lexical entries of *again* in the lexicon. The lexical meaning of the repetitive *again* and that of the restitutive/counterdirectional *again* can be represented like (5a) and (5b), respectively. In the following, <i> is used as the semantic type of events (Beck, 2005, p. 15, (35)).

(5) a.
$$[[again1]](P_{})(e) = 1$$
 iff $P(e) \& \exists e'[e' < e \& P(e')]$
 $= 0$ iff $\sim P(e) \& \exists e'[e' < e \& P(e')]$
 undefined otherwise.
b. $[[again2]](P_{})(e) = 1$ iff $P(e) \& \exists e'[e' < e \& P_c(e') \&$
 $res_{pc}(e') = pre_p(e)]$
 $= 0$ iff $\sim P(e) \& \exists e'[e' < e \& P_c(e') \&$
 $res_{pc}(e') = pre_p(e)]$
 $undefined otherwise.$

A sentence with the repetitive *again* in (5a) is true if and only if P (a predicate of events) is true of an event, and it is presupposed that there is a prior event of which P is true. A sentence with the restitutive/counterdirectional *again* in (5b) is true if and only if P is true of an event, and it is presupposed that there

is a preceding event of which P_c (the counterdirectional predicate) of P is true, and the result state (res_{pc}) of P_c is identical to the prestate (pre_P) of P. The two readings of the sentence in (1), repeated in (6a), can be represented as in (6b) and (6c) (see Beck, 2005, p. 16 for the analysis of a similar sentence).

- (6) a. Bill closed the window again.
 - b. The typical repetitive reading of (6a)
 - = $\lambda e.close_e(the_window)(Bill) \&$
 - $\exists e'[e' < e \& close_{e'}(the_window))(Bill)]$
 - c. The restitutive/counterdirectional reading of (6a)
 - = $\lambda e.close_e(the_window)(Bill) \&$ $\exists e'[e' < e \& open_{e'}(the_window)(Bill) \& res_{pc}(e') = pre_p(e)]$

In (6b), there was an event of Bill closing the window, and it is presupposed that there was a prior event of Bill closing the window. The same kind of event is repeated. But in (6c) there was an event of Bill closing the window, and it is presupposed that Bill had previously opened the window, and the result state of this opening event is identical to the prestate of the closing event. These seem to describe the intuitive meanings of the sentence in (6a). However, neither the repetitive *again* nor the restitutive *again* says anything about the purpose of an agent, but an agent's purpose must be included in purpose-repetitive readings. Hence, the two lexical items of *again* in the lexical approach are not enough to account for purpose-repetitive readings. I will adopt this lexical approach in section 3 to account for purpose-repetitive reading lexically, rather than with the structural analysis, which I turn to below.

2.2. Structural Analysis

In the structural analysis, *again* has only one meaning (i.e., repetition). The two different syntactic modifications of *again* derive the two different readings (Stechow, 1995, 1996, 2003; Klein, 2001; Pittner, 2003; Beck 2005; see Dowty, 1979, p. 261 for the same line of analysis). If *again* syntactically modifies the constituent corresponding to the whole event, we get a typical repetitive

reading. But if *again* syntactically modifies the constituent of the result state, we get a restitutive/counterdirectional reading. According to Stechow (1995), the resultative sentence in (7a) has the structure and the Logical Form (LF) in (7b), and this LF has two propositional categories which *again* can modify, the entire VP or the small clause 'PRO flat'.

 (7) a. Sally hammered the metal flat.
 b. [[the metal] [1[_{VP} Sally [_{V'} t1 [_{V'} hammered [_{SC} PRO1 flat]]]]]]
 → λe.hammer_e(the_metal)(S) & ∃ e'[BECOME_{e'}(λe''.flat_{e''}(the_metal)) & CAUSE(e')(e)]

For instance, when *again* modifies the resultative sentence in (7a) resulting in the sentence in (8a), the ambiguity of (8a) arises due to the scopal ambiguity of *again*. The two structures of (8a) can be interpreted as (8b) and (8c) ('t_m' is the referent of 'the metal') (see Beck, 2005, 2006).

- (8) a. John hammered the metal flat again.
 - b. [$_{VP}$ [the metal] [1[$_{VP}$ [$_{VP}$ John [$_{V'}$ t1 [$_{V'}$ hammered [$_{SC}$ PRO1 flat]]]] again]]]
 - $\rightarrow \lambda e''.again_{e''}(\lambda e.hammer_e(t_m)(John) \& \\ \exists e'[BECOME_{e'}(\lambda e^*.flat_{e^*}(t_m)) \& CAUSE(e')(e)])$
 - c. [VP [the metal] [1[VP John [V' t1 [V' hammered [SC [SC PRO1 flat] again]]]]]
 - → $\lambda e.hammer_e(t_m)(John) \& \lambda e'[BECOME_{e'}(\lambda e''.again_{e''}(\lambda e^*.flat_{e^*}(t_m))) \& CAUSE(e')(e)]$

In (8b), it means that "once more, Sally's hammering the metal caused it to become flat" (Beck, 2005, p. 14), and in (8c) it means that "Sally's hammering the metal caused it to become once more flat" (Beck, 2005, p. 14). But the structural analysis of *again* cannot be extended to other cases like purpose-repetitive readings. Just like the lexical analysis, the notion of purpose or intention is not included in the structural analysis. Furthermore, it looks very complicated to represent an agent's purpose or goal as a constituent in the syntactic structure of a sentence. Although a structural analysis of

purpose-repetitive readings may not be impossible, I choose to revise the lexical analysis to account for purpose-repetitive readings, and leave to future work an investigation of how the purpose-repetitive readings can be analyzed in the structural approach and a comparison of it with the lexical analysis presented in this paper.

2.3. Semantic Taxonomy-based Analysis

In addition to the typical repetitive and restitutive readings, the adverb *tasi* 'again' in Korean has another non-typical repetitive reading, which is referred to as *pseudo-repetitive reading*, since a similar (but not identical) event is "repeated" (Lee, 2017). For instance, in (9) neither a typical repetitive reading nor a restitutive reading is available for the second clause due to the given context, but the second clause is nonetheless acceptable with the pseudo-repetitive reading.

(9) [Tom had never fried a sweet potato, and the sweet potato was raw and had not been fried before.] Tom-i kokwuma-lul salm-ass-ko. Tom-Nom sweet potato-Acc boil-Pst-and Tom-i thwiki-ess-ta. tasi ku kokwuma-lul Tom-Nom again the sweet potato-Acc fry-Pst-Dec (lit.) 'Tom boiled the sweet potato, and then he fried the sweet potato again.' *Pseudo-repetitive reading*: Entails that Tom fried the sweet potato, and presupposes that Tom had previously performed a similar action on the sweet potato (in this context, he boiled the sweet potato).

The content of the presupposition in (9) is different from that of the entailment, but they are similar to each other. More specifically, they have similar verbs in terms of a semantic taxonomy: *fry* and *boil* are sisters to each other with *cook* being their direct hypernym (WordNet). In order to account for the repetitive readings generally (both the typical repetitive reading and the pseudo-repetitive reading), Lee (2017) adapts the lexical analysis and proposes the semantic

taxonomy-based analysis of *tasi* 'again'. In particular, the hypernymic *tasi* is posited as in (10).

(10)
$$[[tasi_{hyper}]](P_{})(e) = 1 \text{ iff } P(e) \& \exists e'[e' < e \& P_{hyper}(e')]$$
$$= 0 \text{ iff } \sim P(e) \& \exists e'[e' < e \& P_{hyper}(e')]$$
undefined otherwise.
(P_{hyper} is a direct hypernym of P)

Instead of P, P_{hyper} (a direct hypernymic predicate of P) is included in the presupposition of the hypernymic *tasi*. With this, the second clause in (9) *Tom-i tasi ku kokwuma-lul thwiki-ess-ta* (lit.) 'Tom fried the sweet potato again' can have the hypernymic reading in (11c).

(11) a. P = λe.fry_e(the_sweet_potato)(Tom)
b. P_{hyper} = λe.cook_e(the_sweet_potato)(Tom)
c. The hypernymic reading of *Tom-i tasi*_{hyper} ku kokwuma-lul thwiki-ess-ta 'Tom fried the sweet potato again'
= λe.fry_e(the_sweet_potato)(Tom) & ∃e'[e'<e & cook_e(the_sweet_potato)(Tom)]

The direct hypernymic predicate (P_{hyper}) in (11b) is determined based on a semantic taxonomy involving P in (11a). The sentence with the hypernymic reading in (11c) can be used to describe a typical repetitive situation in which Tom fried the sweet potato, and later he fried the sweet potato, and a pseudo-repetitive scenario in which Tom boiled the sweet potato, and then he fried the sweet potato. Although the hypernymic *tasi* in (10) can derive the repetitive readings (both the typical repetitive interpretation and the pseudo-repetitive interpretation), it has the same problems that the lexical or structural analysis bears: the notion of intention or purpose is missing from the hypernymic *tasi*. Thus we need a new semantic theory of the adverb. To this end, some crucial properties of purpose-repetitive readings are first discussed in the next section.

3. Purpose-repetitive Reading

3.1. Semantic Constraints

I have shown above that in addition to the three kinds of readings of *tasi* 'again' (typical repetitive reading, pseudo-repetitive reading, and restitutive reading), this adverb has another type of reading, purpose-repetitive reading. Another example is given in (12).

(12)[Sam tried to escape from the prison.] Sam-i kwul-ul pha-ss-ko, nacwungey-nun Sam-Nom hole-Acc dig-Pst-and later-Top Sam-i tasi kyotokwan-ul mayswuhay-ss-ta. Sam-Nom again guard-Acc buy over-Pst-Dec (lit.) 'Sam dug the hole, and later Sam bought over the guard again.' Purpose-repetitive reading: Entails that Sam bought over the guard for a certain purpose (in this case, Sam wanted to escape from the prison), and presupposes that Sam had previously done something (in this context, Sam dug a hole) for the same purpose (i.e., he wanted to escape from the prison).

In a purpose-repetitive reading, the agent's purpose is vague, but the purpose must be repeated, whatever purpose is specified in the utterance context. In other words, if an agent has different purposes, as in (13), a purpose-repetitive reading is not available in the context.

(13) [Bill brought the dumpling in order to eat it, but he boiled the potato to give it to Jane.] *Bill-i mantwu-lul kacyewa-ss-ko*,
Bill-Nom dumpling-Acc bring-Pst-and *Bill-i tasi kamca-lul salm-ass-ta*.
Bill-Nom again potato-Acc boil-Pst-Dec (lit.) 'Bill brought the dumpling, and Bill boiled the potato again.'

Note, however, that the second clause in (13) can have a reading like typical repetitive reading, since the context does not block the possibility that Bill had previously boiled the potato. But if we add to the context the additional condition that Bill had not boiled the potato before, and the potato was raw when he started boiling it, the second clause in (13) would be infelicitous in this context.

When an agent has an intention regarding her purpose or goal, the agent must also intend her actions which she hopes to lead to her goal (see e.g., Searle, 1983, p. 80; Sinhababu, 2013, p. 3; Jackendoff & Culicover, 2003, p. 537). For instance, if Jane intends to open the door, then she must also have an intention to perform some action that can directly or indirectly cause the door to be open. In (14), Bill had no intention to perform the actions (bringing the dumpling or boiling the potato), and the purpose-repetitive reading is not possible.

(14) [Bill accidentally brought the dumpling, and just fed his child with it.] Bill accidentally boiled the potato, and just fed his child with it.] Bill-i mantwu-lul kacyewa-ss-ko,
Bill-Nom dumpling-Acc bring-Pst-and
Bill-i tasi kamca-lul salm-ass-ta.
Bill-Nom again potato-Acc boil-Pst-Dec (lit.) 'Bill brought the dumpling, and Bill boiled the potato again.'

The two accidental events in (14) lead to the same result that Bill feeds his child. But feeding the child is not a purpose of bringing the dumpling or boiling the potato in this context. A result is repeated, but it is not that a purpose is repeated. Similarly, in (15) rain and snow are the subjects, and a purpose-repetitive reading is not available.

(15) [Due to the rain and melted snow, the lake has more water.] bi-ka wa-ss-ko, nwun-i tasi nok-ass-ta. rain-Nom come-Pst-and snow-Nom again melt-Pst-Dec (lit.) 'It rained, and the snow melted again.' This unavailability of purpose-repetitive reading is expected since rain and snow are not sentient, unless they are personified in a comic book or a cartoon; they cannot have a purpose or intention at all. Although the event of raining and the event of the snow melting lead to the same result (an increase of the amount of water in the lake), the second clause in (15) cannot have a purpose-repetitive reading. Again, the repetition of a result is not relevant to purpose-repetitive reading: a purpose or goal must be repeated.

It is not necessary for an agent's goal or purpose to be actually realized in purpose-repetitive reading. This is illustrated in (16).

(16)[Bill brought the dumpling and boiled the potato to feed his child, but the child did not eat anything.] Bill-i mantwu-lul kacyewa-ss-ko, Bill-Nom dumpling-Acc bring-Pst-and Bill-i tasi kamca-lul salm-ass-ta. Bill-Nom again potato-Acc boil-Pst-Dec (lit.) 'Bill brought the dumpling, and Bill boiled the potato again.' Purpose-repetitive reading: Entails that Bill boiled the potato for a certain purpose (in this case, Bill wanted to feed his child), and presupposes that Bill had previously done something for the same purpose (i.e., Bill wanted to feed his child).

Bill has the same purpose associated with the different actions, but his goal is not realized in (16): the child did not eat either the dumpling or the potato. Nonetheless, the purpose-repetitive reading is possible in this context.

I have assumed that it is an agent who has a purpose in purpose-repetitive readings. But one may argue that it is actually the subject who has a purpose in purpose-repetitive readings. As shown in the following, however, even if the subject of the second clause is not sentient and thus cannot have a purpose, the purpose-repetitive reading is still possible for the clause:³

³⁾ A reviewer said that this sentence is not acceptable to him or her. Why this variation occurs seems to be an interesting issue, but here I assume that the second clause in (17) can have the purpose-repetitive reading.

(17) [Bill wanted to feed his child with the dumpling and the boiled potato.]

Bill-imantwu-lulkacyewa-ss-ko,Bill-Nomdimpling-Accbring-Pst-andkamca-katasisalm-aci-ess-ta.potato-Nomagainboil-CompPass-Pst-Dec(lit.)'Billbrought the dumpling, and the potato was boiled again.'Purpose-repetitivereading:EntailsthatBillboiledthe potato for acertainpurpose (in this context, Bill wanted to feed his child), andpresupposesthatBillpurpose (i.e.,Bill wanted to feed his child).

If we say that the implicit agent Bill in the passive clause has the purpose, then the purpose-repetitive reading of the clause can be accounted for. This suggests that an agent should have a purpose for purpose-repetitive reading rather than a grammatical subject.

It is not necessary for the purpose of a purpose-repetitive reading to be a direct result of the event described by the predicate that *tasi* 'again' modifies. For instance, as shown in the examples above, feeding a child is not a direct result of bringing the dumping or boiling the potato. Rather, bringing the dumpling or boiling the potato can lead to feeding a child.

In a purpose-repetitive reading, the agent must actually perform an action with a purpose: having a purpose or intention in her mind is not enough. This is illustrated in the following:

(18) [Bill intended to boil the egg since he was hungry, but he could not boil the egg because he was very busy with doing homework. Later, Bill was hungary again, so he fried the potato.]
Bill-i tasi kamca-lul thwiki-ess-ta.
Bill-Nom again potato-Acc fry-Pst-Dec (lit.) 'Bill fried the potato again.'

In (18), although Bill had the same purpose (i.e., Bill wanted to feed himself) before the event of frying the potato, the purpose-repetitive reading of the

sentence is not available in this context. This indicates that in purpose-repetitive reading an agent must actually perform an action associated with her purpose.

Finally, a reviewer suggested that the following sentence, in which the agents are not the same, can have the purpose-repetitive reading:

(19) emma-ka mantwu-lul wa-ss-ko, sa mother-Nom dimpling-Acc buy.Comp come-Pst-and appa-ka tasi kamca-lul salm-ass-ta. father-Nom again potato-Acc boil-Pst-Dec (lit.) 'The mother bought and brought the dumpling, and the father boiled the potato again.' *Purpose-repetitive reading*: Entails that the father boiled the potato for a certain purpose (e.g., he wanted to feed his child), and presupposes that the mother had previously done something (in this context, she bought and brought the dumpling) for the same purpose (i.e., she wanted to feed his child).

In (19) a goal (e.g., the child eats some food) is shared by the different agents, and the purpose-repetitive reading is possible.

All these crucial properties should be reflected in any analysis of purpose-repetitive reading. I will adapt the lexical approach, and propose a new lexical entry of *tasi* 'again' incorporating the notion of intention. Before the intention-based lexical analysis is presented in section 4, I discuss below two alternative analyses of purpose-repetitive reading.

3.2. Alternative Accounts

Instead of a lexical analysis of purpose-repetitive readings, one may argue that purpose-repetitive reading is actually derived from purposive expression that can be omitted in a sentence. For instance, the purposive clause *Bill-i umsik-ul mek-ulyeko* can be omitted as shown in (20), and when it explicitly appears in the second clause, this clause seems to have a purpose-repetitive reading.

(20)Bill-i mantwu-lul kacyewa-ss-ko, Bill-Nom dumpling-Acc bring-Pst-and Itasi (Bill-i umsik-ul mek-ulyeko)] kamca-lul salm-ass-ta. again Bill-Nom food-Acc eat-in order to potato-Acc boil-Pst-Dec (lit.) 'Bill brought the dumpling, and Bill boiled the potato in order to eat some food again.' *Purpose-repetitive reading*: Entails that Bill boiled the potato in order to eat some food, and presupposes that he had done something (in this case, Bill brought the dumpling) in order to eat some food.

We can say that the adverb *tasi* 'again' in (20) is used as the repetitive *tasi* 'again', and it modifies the purposive clause, so the purpose is repeated; when the purposive clause is omitted, the second clause without it seems to have the same purpose-repetitive reading.

However, when the second clause in (20) is "transformed" to the passive in (21), the purposive clause cannot explicitly appear in the passive clause, but this passive clause can still have the purpose-repetitive reading.

(21)Bill-i mantwu-lul kacyewa-ss-ko, Bill-Nom dumpling-Acc bring-Pst-and (#Bill-i umsik-ul *mek-ulyeko*] [tasi kamca-ka Bill-Nom food-Acc eat-in order to potato-Nom again salm-a ci-ess-ta. boil-Comp Pass-Pst-Dec (lit.) 'Bill brought the dumpling, and the potato was boiled in order for Bill to eat some food again.' Purpose-repetitive reading: Entails that the potato was boiled by Bill since he had a certain purpose (e.g., Bill wanted to feed himself), and presupposes that he had previously done something (in this context, Bill brought the dumpling) for the same purpose (i.e., Bill wanted to feed himself).

The subject of the second clause in (21) is the potato, and the subject of the purposive clause is Bill. However, in general, they should be co-indexed with

each other; the ungrammaticality of the second clause with the purposive clause is due to the violation of this co-indexation constraint. If the purposive clause is removed from the passive clause, it becomes grammatical and can have the purpose-repetitive reading. This suggests that the purpose-repetitive reading is not derived from the purposive expression.

One may also argue that since the second clause in (21) is in passive voice, the purposive clause should also be in passive voice. However, this also results in the infelicitous clause in (22).

(22)Bill-i mantwu-lul kacyewa-ss-ko, Bill-Nom dumpling-Acc bring-Pst-and [tasi (#umsik-i mek-e ci-lyeko)] kamca-ka again food-Nom eat-Comp Pass-in order to potato-Nom salm-a ci-ess-ta. boil-Comp Pass-Pst-Dec (lit.) 'Bill brought the dumpling, and the potato was boiled in order for some food to be eaten again.' Purpose-repetitive reading: Entails that the potato was boiled by Bill since he had a certain purpose (e.g., Bill wanted to feed himself), and presupposes that he had previously done something (in this context, Bill brought the dumpling) for the same purpose (i.e., Bill wanted to

feed himself).

The subject of a purposive clause (whether it be in active or passive voice) should be sentient and be able to have an intention, but the subject of the purposive clause in (22) is the potato, which is not sentient. Again, the passive clause in (22) without the purposive expression can have the purpose-repetitive reading. The availability of this reading cannot be explained if we assume that the reading is derived from a purposive clause. In short, the alternative hypothesis is not tenable, and it would be reasonable to assume that *tasi* 'again' itself derives purpose-repetitive readings.

A reviewer suggested that another possible account of the interpretations of the sentences like (4), repeated in (23), is that *tasi* 'again' has the meaning of 'and then' rather than the purpose-repetitive interpretation.

(23) [Bill had never boiled a potato before, and the potato was raw and had not been boiled.] Bill-i mantwu-lul kacyewa-ss-ko, Bill-Nom dumpling-Acc bring-Pst-and Bill-i tasi kamca-lul salm-ass-ta. Bill-Nom again potato-Acc boil-Pst-Dec (lit.) 'Bill brought the dumpling, and Bill boiled the potato again.' 'And then' reading: Bill brought the dumpling, and then Bill boiled the potato.

If this is true, we predict that *tasi* 'again' can be interpreted as 'and then' in a context where a putative purpose-repetitive reading is not available. But this is not borne out, as shown in (24).

(24) [Bill had never boiled a potato before, and the potato was raw and had not been boiled. Bill's purpose of returning home from school and his purpose of boiling the potato are different.]
Bill-i hakkyo-eyse wa-ss-ko,
Bill-Nom school-from come-Pst-and
#Bill-i tasi kamca-lul salm-ass-ta.
Bill-Nom again potato-Acc boil-Pst-Dec (lit.) 'Bill returned home from school, and Bill boiled the potato again.'

Due to the context given in (24), other readings (repetitive, restitutive, or purpose-repetitive readings) are not possible for the second clause with *tasi* 'again', and this clause sounds very awkward (at least to the author and seven native speakers of Korean I have consulted with). So I assume that *tasi* 'again' should have the purpose-repetitive reading in (23) rather than the meaning of 'and then'.

4. An Intention-based Lexical Analysis

4.1. The Purposive Tasi

What is important for purpose-repetitive reading is the intention of an agent, so the notion of intention must be first defined (see discussions on intention in Searle, 1983; Bratman, 1987; Anscombe, 2000; Sinhababu, 2009, 2013; Lee, 2015; Grano, 2016, 2017; among others). Based on Inman (1993), I assume that an individual x intends P(e) if and only if P(e) is true in all worlds in x's intention set I_x (the set of worlds compatible with x's intention) and x does not intend P(e) if and only if there exists some world in I_x at which P(e) is false.⁴) With this definition of intention, for instance, the meaning of the sentence *John tried to turn on the light*, which entails the agentive subject's intention regarding the event of his turning on the light, can be analyzed like (25) (other details about the subject control structure and tense are ignored). Note also that in order to make reference to the agent of an event, I assume here that *agent* is a function that maps an event to the agent of the event:

turned_on_{e''}(the_light) & lead_to(e'')(e')]]]

In (25a), P is assigned with the intensional meaning of *John turns on the light* (i.e., the function from events to a truth value), and in (25b), the meaning of *try*

⁴⁾ The notion of intention can be decomposed into three basic meaning elements: desire for a result, belief about a causation, and intention to cause (see Lee, 2015). However, these meaning components are not reflected in the modal definition of intention in Inman (1993); besides, the mathematical definition of intention does not say anything about the psychological reality of intention in our mind. Nonetheless, that seems to be enough for the present purpose of describing the basic lexical meaning of *tasi* 'again', so I adopt it in the analysis of purpose-repetitive reading.

is indirectly defined. If the intensional denotation of *John tried to turn on the light* is applied to the event e_1 as in (25c), the truth value is 1 if and only if for some Q, that Q is true of the event e1 in the actual world, and that Q is true of some event e' and *The light is turned on* is true of some event e'' and the event e' leads to the event e'' in all worlds in the intentional set I_{John} . In other words, John actually performed an action and he intended that the action would lead to the state of the light being turned on. The relation between e' and e'' is described by *lead_to* (rather than CAUSE denoting direct causation), since it is not necessary for e' to be a direct cause of e''. For example, when John kicked the door in order to open it and then to turn on the light, we can still say that John tried to turn on the light; the event of kicking the door is not a direct cause of turning on the light.

In a similar manner, the universal modal operator over the modal base I_x is involved in the purposive *tasi* whose denotation is syncategorematically introduced in (26). Although intentionality is entailed in both *try*-construction and purpose-repetitive reading, a crucial difference between them is that in the former the purpose is specified (e.g., *The light is turned on* in (25c)) but an event that can lead to the goal is unspecified; in the latter, however, a purpose is not specified (it can be specified by the utterance context), but the event that can lead to the goal is specified (e.g., *The father boils the potato* in (19)):

(26) $[[tasi_{purpose}]](P_{<i,t>})(e_1) = 1$ iff $P(e_1) \& \exists Q_{<i,t>}[\Box_{lagent(e1)}[\exists e' \exists e''[P(e') \& Q(e'') \& lead_to(e'')(e')]]]$ $\& \exists R_{<i,t>} \exists e'''[e''' < e_1 \& R(e''') \& \exists S_{<i,t>}[\Box_{lagent(e''')}[\exists e' \exists e''[R(e')$ $\& S(e'') \& lead_to(e'')(e')]]], where some purpose Q of agent(e1)$ is identical to some purpose S of agent(e''').

$$\begin{split} & [[tasi_{purpose}]](P_{<i,t>})(e_1) = 0 \\ & \text{iff} \quad \sim [P(e_1) \& \exists Q_{<i,t>}[\Box_{Iagent(e_1)}] \exists e' \exists e'''[P(e') \& Q(e'') \& \\ & \text{lead_to}(e'')(e')]]] \& \exists R_{<i,t>} \exists e'''[e''' < e_1 \& R(e''') \& \\ & \exists S_{<i,t>}[\Box_{Iagent(e''')}] \exists e' \exists e''[R(e') \& S(e'') \& \text{lead_to}(e'')(e')]]]], \\ & \text{where some purpose } Q \text{ of } agent(e_1) \text{ is identical to some purpose} \\ & \text{S of } agent(e'''). \end{split}$$

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 $[[tasi_{purpose}]](P_{\langle i,t \rangle})(e_1)$ is undefined otherwise.

In (26) a sentence modified by *tasi* 'again' is true if and only if P (the sentence without *tasi* 'again') is true of the event e1 in the actual world (i.e., the event e1 described by P actually occurs), and for some Q, some event e' of which P is true leads to some event e'' of which that Q is true in all worlds in the intentional set $I_{agent(e1)}$ (i.e., the agent of e1 intends that the event described by P lead to the event described by Q), and for some R, there is a preceding event e''' of which that R is true in the actual world (i.e., an unspecified event actually occurs), and for some S, some event e' of which that R is true leads to some event e'' of which that S is true in all worlds in the intentional set $I_{agent(e'')}$ (i.e., the agent of e of which that R is true leads to some event e'' of which that S is true in all worlds in the intentional set $I_{agent(e''')}$ (i.e., the agent of e''' intends that the event described by R lead to the event described by S), and a purpose of the agent of e₁ is identical to a purpose of the agent of e'''.

Applying the purposive *tasi* 'again' in (26) to the intension of the sentence *Bill-i kamca-lul salm-ass-ta* 'Bill boiled the potato' in (27a), we get the purpose-repetitive reading in (27b) and the truth condition in (27c).⁵

- (27) a. $P = \lambda e.boil_e(the_potato)(Bill)$
 - b. The purpose-repetitive reading of *Bill-i kamca-lul tasi*_{purpose} salm-ass-ta 'Bill boiled the potato again'

= λe.boil_e(the_potato)(Bill) & ∃Q_{<i,t>}[□_{Iagent(e)}[∃e'∃e''[boil_{e'}(the_potato)(Bill) & Q(e'') & lead_to(e'')(e')]]] & ∃R_{<i,t>}∃e'''[e''' < e₁ & R(e''') & ∃S_{<i,t>}[□_{Iagent(e''')}[∃e'∃e''[R(e') & S(e'') & lead_to(e'')(e')]]]], where some purpose Q of agent(e) is identical to some purpose S of agent(e''').
c. [[Bill-i kamca-lul tasi_{purpose} salm-ass-ta]](e₁) = 1 iff boil_{e1}(the_potato)(Bill) & ∃Q_{<it>}[□_{IBill}[∃e'∃e''[boil_{e'}(the_potato)(Bill) & Q(e'') &

⁵⁾ For simplicity, I assume that the definite NPs are constant functions that pick out the same referent at all possible worlds.

$$\begin{split} & \text{lead_to}(e'')(e')]] \& \\ & \exists R_{\leq i,t>} \exists e'''[e''' < e_1 \& R(e''') \& \\ & \exists S_{\leq i,t>}[\Box_{\textit{lagent}(e''')}] \exists e' \exists e''[R(e') \& S(e'') \& \textit{lead_to}(e'')(e')]]]], \\ & \text{where some purpose Q of Bill is identical to some } \\ & \text{purpose S of } agent(e'''). \end{split}$$

As shown in (27c), if (27b) is applied to the event e1, it is true if and only if the event e1 is described by *Bill boils the potato* in the actual world (i.e., Bill actually boiled the potato), and for some Q, some event e' of which *Bill boils the potato* is true leads to some event e'' of which that Q is true in all the intentional worlds of Bill (i.e., Bill intended that his boiling event would lead to some event described by Q), and there is a preceding event e''' of which some R is true in the actual world, and for some S, some event e' of which that R is true leads to some event e'' of that S is true in all the intentional worlds of the agent of the event e''', and Bill shares a purpose with the agent of e'''. Simply put, in (27c) Bill boiled the potato and he had some purpose of his boiling the potato, and before that someone (not necessarily Bill) performed an action for some purpose, and they have at least one common purpose.

In the lexical analysis of *tasi* 'again', we have different lexical entries of *tasi* 'again' in the lexicon (see Beck 2005 for the multiple lexical entries of *again* in the lexical analysis). Although these lexical items can account for the different readings of *tasi* 'again', this "proliferation" of lexical items may miss a generalization among the lexical entries. They commonly describe a repetition of some kind, but this is separately represented in the lexical entries; a structural analysis, which assumes that the adverb has only one meaning (i.e., repetition), can capture this generalization. Then the question that arises is whether *tasi* 'again' is really ambiguous between the various readings or the readings are just different but related senses of the single lexical item of *tasi* 'again' (most previous research on *again* just assumes that it is ambiguous without explicit argument). Consider the following VP-ellipsis that can be used for an ambiguity test (see ambiguity tests and discussions in Lakoff, 1970; Zwicky & Sadock, 1975):

(28) Bill-i tasi kamca-lul salm-ass-ko, Jane-to kulay-ss-ta. Bill-Nom again potato-Acc boil-Pst-and Jane-also do so-Pst-Dec (lit.) 'Bill boiled a potato again, and so did Jane.'

If *tasi* 'again' is not ambiguous but vague, it is expected that the conjuncts in (28) can have any interpretation. But this seems not the case: the sentence in (28) appears not to be able to describe a situation where Bill boiled a potato and he had previously boiled a potato (a context of typical repetitive reading), and Jane brought the dumpling to feed her child, and then she boiled a potato to feed her child, though she had never boiled a potato before (a context of purpose-repetitive reading). In other words, if a conjunct is interpreted as a typical repetitive reading, the other conjunct should be interpreted as a typical repetitive reading, the other conjunct should be interpreted as a purpose-repetitive reading. This suggests that *tasi* 'again' is really ambiguous between these readings.

4.2. Extension into Complex Constructions

I show here that the complex constructions like serial verb constructions (SVCs) and resultative constructions in Korean can also have purpose-repetitive readings. First, in the following, the sentence consists of the two SVCs (see discussions of Korean SVCs in Chung, 1993; Chung & Kim, 2008; Lee, 2012, 2014a, 2014b; among many others), and the second clause with *tasi* 'again' can have the purpose-repetitive reading:

(29) Mary-ka mantwu-lul sa wa-ss-ko, Mary-Nom dumpling-Acc buy.Comp come-Pst-and Mary-ka tasi kamca-lul salm-a noh-ass-ta. Mary-Nom again potato-Acc boil-Comp put-Pst-Dec (lit.) 'Mary bought the dumpling and came with it, and she boiled the potato and put it (on the table) again.' Purpose-repetitive reading: Entails that Mary boiled the potato and put it on the table for a certain purpose (e.g., Mary wanted to feed her

baby) and presupposes that Mary had previously done something (in this context, Mary bought and brought the dumpling) for the same purpose (i.e., Mary wanted to feed her baby).

Note that the sentence in (29) is acceptable with the purpose-repetitive interpretation even when the sentence is uttered in a context which blocks other types of readings.

In (30), *tasi* 'again' modifies the resultative sentence (see Korean resultative constructions in e.g. Wechsler & Noh, 2001; Lee, 2016), and this resultative sentence can have the purpose-repetitive reading.

Mary-ka (30)kkaykkusha-key ssul-ess-ko, pang-ul Mary-Nom room-Acc clean-Key sweep-Pst-and chayktul-ul kkalkkumha-key cengtonhay-ss-ta. tasi again books-Acc in order-Key tidy-Pst-Dec (lit.) 'Mary swept the room clean, and Mary put the books in order again.' *Purpose-repetitive reading*: Entails that Mary put the books in order for a certain purpose (e.g., she wanted to invite her friends), and presupposes that she had previously done something (in this context, she swept the room clean) for the same purpose (i.e., she wanted to invite her friends).

The second resultative construction with *tasi* 'again' in (30) can be used to describe a situation in which Mary swept the room clean to invite her friends, but many books were scattered around the room, so Mary put the books in order. More specifically, Mary's purpose of sweeping the room clean and putting the books in order can be to make the room clean enough to invite her friends in this scenario. The specific purpose of the purpose-repetitive reading is determined by the context in which the sentence is used. Summarizing, these data show that the purposive *tasi* can also account for the purpose-repetitive readings of complex constructions in Korean.

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5. Conclusion

This paper showed that the Korean adverb *tasi* 'again' can have a new reading, which is called *purpose-repetitive reading*. What is repeated in this reading is a purpose or goal which is directly or indirectly associated with the event described by a predicate that *tasi* 'again' syntactically modifies. I have shown that the prior analyses of the adverb in the literature cannot account for the new reading since they do not contain the notion of intention. In order to account for purpose-repetitive reading, I proposed the new lexical entry of the purposive *tasi* incorporating the notion of intention and adapting the lexical analysis of *again*. It was also shown that the complex constructions such as serial verb constructions and resultative constructions in Korean can have their purpose-repetitive readings, suggesting that the purposive *tasi* can capture a wider range of data.

Most research in the literature focuses on the canonical readings of the adverb, repetitive or restitutive readings, in a language. In this regard, I believe this paper contributes to our understanding of the adverb both empirically and theoretically: the new reading of *tasi* 'again' has been discussed, and the new lexical entry of the adverb (supporting the lexical analysis) has been proposed to account for the new reading. If the corresponding adverbs in other languages are scrutinized, we may find that they also allow new interpretations of some kind, and this finding can say something about a proper theory of the adverbs. This awaits further research.

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