EMBEDDING WITHOUT A LICENSE?:
TYPOLOGY OF UNSELECTED EMBEDDED CLAUSES

by

Jooyoung Kim

A dissertation submitted to the Faculty of the University of Delaware in partial fulfillment of the requirements for the degree of Doctor of Philosophy in Linguistics

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Jooyoung Kim

Approved: _____

Benjamin Bruening, Ph.D.
Chair of the Department of Linguistics

Approved: _____

George Watson, Ph.D.
Dean of the College of Arts and Sicences

Approved: _____

Ann L. Ardis, Ph.D.
Senior Vice Provost for Graduate and Professional Education

I certify that I have read this dissertation and that in my opinion it meets the academic and professional standard required by the University as a dissertation for the degree of Doctor of Philosophy.

Signed: _____

Satoshi Tomioka, Ph.D.
Professor in charge of dissertation

I certify that I have read this dissertation and that in my opinion it meets the academic and professional standard required by the University as a dissertation for the degree of Doctor of Philosophy.

Signed: _____

Benjamin Bruening, Ph.D.
Member of dissertation committee

I certify that I have read this dissertation and that in my opinion it meets the academic and professional standard required by the University as a dissertation for the degree of Doctor of Philosophy.

Signed: _____

Gabriella Hermon, Ph.D.
Member of dissertation committee

I certify that I have read this dissertation and that in my opinion it meets the academic and professional standard required by the University as a dissertation for the degree of Doctor of Philosophy.

Signed: _____

Muffy Siegel, Ph.D.
Member of dissertation committee

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TABLE OF CONTENTS

LIST OF TABLES

LIST OF FIGURES

ABSTRACT

This thesis brings to light three kinds of adjunct clauses in Japanese (JP) and Korean (KR)—two kinds of interrogative clauses and one kind of quotative clauses. They are distinguished from typical adjunct clauses in JP/KR by their lack of a clause-final particle designating the semantic roles. I discuss the forms and meanings of the three kinds in Chapters 2 through 4, respectively.

Chapter 1 outlines the main purpose of this dissertation, and provides theoretical background.

Chapter 2 shows how adjunct quotatives in JP/KR project the publicized opinions of the agent in the sentence. I propose that they are mapped to phrases that refer to speech acts, which have two additional argument slots for the speaker and the hearer above CP. The additional meaning of saying or thinking is a consequence of the phrase referring to a speech act. The meaning of 'saying' and the meaning of 'thinking' resides in whether or not the speaker and the hearer deixes are coreferential in the structure.

Chapter 3 analyzes one kind of adjunct interrogative clause in JP/KR, which expresses the agent's intention in the matrix event. I first show that the matrix predicates of these interrogatives must conventionally encode two properties in the matrix event: the agent's volition and lack of information. These two properties provide grounds for pragmatic enrichment of the matrix predicates, which results in the introduction of an existentially closed question into the structure. I show that the existential closure becomes abstracted away, an open slot for a question-type argument is created, and adjunct interrogatives clause saturate the open slot step by step.

Chapter 4 examines another kind of adjunct interrogative clause in JP/KR, which expresses the speaker's question regarding the matrix event. First, I show that these interrogatives are interpreted independently from their matrix clauses, and their

meanings are categorized as conventional implicatures. Secondly, I argue that the questions denoted by the adjunct interrogatives work as explanation-seeking questions based on the idea of Asher and Lascarides (2003). Also, I demonstrate that their status as unproposed, de-emphasized questions makes them self-addressing questions in the sense of Hara and Davis (2013).

Chapter 5 concludes the thesis.

LIST OF ABBREVIATIONS

Acc	Accusative case marker
Adn	Adnominal particle
All	Allative (Directional) case marker
App	Apperceptive mood marker
Dat	Dative case marker
Decl	Declarative clause-type marker
Exh	Exhortative clause-type marker
Gen	Genitive case marker
Imp	Imperative clause-type marker
Ins	Instrumental case marker
Int	Interrogative clause-type marker
JP	Japanese
KR	Korean
NML	Nominalizer
Nom	Nominative case maker
Past	Past tense
PL	Plural
Decl	Declarative clause-type marker
Prom	Promissive clause-type marker
Quot	Quotative marker
Top	Topic marker

Chapter 1

INTRODUCTION

This thesis investigates adjunct quotative clauses and adjunct embedded[1] interrogative clauses in Japanese and Korean. To illustrate, consider the three examples given below: (1.1) contains a quotative clause within square brackets with the subscript $_{quotative}$; (1.2) and (1.3) each has an interrogative clause within square brackets with the subscript $_{interrogative}$.[2] In regards to their meanings, the interpretation of these embedded clauses does not seem to be carried out compositionally. If one compares their literal translations and the speakers' intended meanings, the former may sound as if they lack some components necessary for interpretation.

(1.1) JP [kukkii-o yaki-sugi-ta-to]$_{quotative}$ obaachan-ga Anne-ni hito
cookie-Acc bake-excess-Past-Quot grandma-Nom Anne-Dat one
hako-o kure-ta
box-Acc give-Decl

KR [khwukhi-lul nemwu mahni kwuw-ess-ta-ko]$_{quotative}$ halmeni-ka
cookie-Acc too many bake-Past-Decl-Quot grandma-Nom
Anne-ekey han sangca-lul cwu-si-ess-ta.
Anne-Dat one box-Acc give-Hon-Past-Decl

Literally: '[Too many cookies were baked]$_{quotative}$, Grandma gave Anne a box of cookies.'

Intended: 'Saying (or thinking) that too many cookies were baked, Grandma gave Anne a box of cookies.'

[1] In this thesis, the word *embedded* refers to the phrases that are not root clauses. I will use *embedded* interchangeably with the word *subordinate*.

[2] A pair of JP and KR under each item refer to a Japanese and a Korean sentence that correspond to the literal translations below them. I will assume JP and KR counterparts are synonymous unless I mention otherwise.

(1.2) JP [ame ga hutte-iru-ka]$_{interrogative}$ Bert-ga soto-ni mite-iru
rain Nom fall-Prog-Int Bert-Nom outside-Dat look-Prog

KR [pi-ka nayli-koiss-nun-ci]$_{interrogative}$ Bert-ka pakk-ul
rain-Nom fall-Prog-Adn-Int Bert-Nom outside-Acc
po-koiss-ta.
look-Prog-Decl

Literally: 'Bert is looking outside, [whether it is raining]$_{interrogative}$.'

Intended: 'Bert is looking outside, in order to find out if it is raining.'

(1.3) JP [ame-ga hut-ta-no-ka]$_{interrogative}$ jimen-ga nurete-iru.
rain-Nom fall-Past-NML-Int ground-Nom wet-Prog

KR [pi-ka nayli-ess-nun-ci]$_{interrogative}$ ttang-i cec-eiss-ta.
rain-Nom fall-Past-Adn-Int ground-Nom wet-Prog-Decl

Literally: 'The ground is wet, [whether it rained]$_{interrogative}$',

Intended: 'The ground is wet; I am wondering if it has rained.'

Generally, embedded quotative and interrogative clauses in JP and KR occur in the argument position and their thematic roles are determined by the meaning of their selectors, mostly verbs. For instance, (1.4) and (1.5) below contain a quotative and an interrogative clause, which are identical to those in (1.1) and (1.2), in the object position. Both are Themes in the respective events, as the contents of what Claire said and what Drew knows.

(1.4) JP [kukkii-o yaki-sugi-ta-to]$_{quotative}$ Claire-wa it-ta
cookie-Acc bake-excess-Past-Quot Claire-Top say-Past

KR [khwukhi-lul nemwu mahni kwuw-ess-ta-ko]$_{quotative}$ Claire-nun
cookie-Acc too many bake-Past-Decl-Quot Claire-Top
malha-yss-ta.
say-Past-Decl
'Claire said that [too many cookies were baked].'

(1.5) JP [ame ga hutte-iru-ka]$_{interrogative}$ Drew-wa shitte-iru
rain Nom fall-Prog-Int Drew-Top know-Prog

KR [pi-ka nayli-nun-ci]$_{interrogative}$ Drew-nun al-koiss-ta.
rain-Nom fall-Adn-Int Drew-Top know-Prog-Decl

'Drew knows [whether it is raining].'

By contrast, the adjunct clauses in (1.1)–(1.3) lack an overt selector and, as a consequence, their roles in the sentence are not given transparently. The goal of this thesis is to sort out how the seemingly unselected adjunct clauses gain the semantic and pragmatic effects as described in the intended meanings of (1.1)–(1.3). The three examples will be the topic of chapters 2, 3, and 4, respectively. I will show that their denotations and pragmatic effects can be carried out under standard compositional semantics and pragmatics.

The chapters will center around two research questions below.

(1.6) Research questions

a. Exactly what do the embedded clauses in (1.1)–(1.3) mean?

b. Can their meanings be accounted for by standard principles within the domain of syntax and semantics?

i. If so, how?

ii. If not, what kind of pragmatic inferences are involved in their interpretation?

In each of chapters 2–4, (1.6a) will be the first issue to be addressed. Despite their frequent usage in text and conversation in JP/KR, the adjunct embedded clauses like the ones in (1.1)–(1.3) have received little attention by linguists and grammarians until recently. I believe that detailed specifications of their meanings and discourse roles will provide the ground for sound analyses of the adjunct embedded clauses. The main analysis comprises answering the questions in (1.6b). I will entertain possible ways in which standard pricniples of syntax/semantics account for the adjunct embedded clauses, such as the presence of an unpronounced syntactic head or semantic operator. I will also consider the way in which semantic and pragmatic factors jointly determine the meanings.

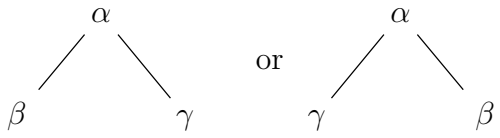
1.1 Theoretical Background

The analysis in this thesis follows standard principles of generative grammar and the semantic representations are given under standard compositional semantics, laid out in Heim and Kratzer (1998). The main issues of this paper are closely related to the principle of compositionality, which states that the meaning of a complex expression is determined by the meaning of its components and its mode of composition (Frege 1892). It is usually defined as follows:

(1.7) Principle of compositionality:
The meaning of a complex expression is a function of the meanings of its parts and the way they are syntactically combined.

The examples (1.1)–(1.3) on pages 1–2 contain adjunct embedded constructions without an overt selector to assign their thematic roles or an overt clause-final marker to specify their functions in the sentence. My goal is to convincingly account for this apparent lack of compositionality within a compositional framework.

In the standard principles of syntax-semantic interfaces, composition is made between two elements on a binary branch, by either *functional application* or *predicate modification*. (1.8) defines the two ways of composition.

(1.8) Semantic composition of a branching node α with the set of α's daughters $\{\beta, \gamma\}$, i.e., 

a. Functional application:
If $[\![\beta]\!]$ is a function whose domain contains $[\![\gamma]\!]$, then $[\![\alpha]\!] = [\![\beta]\!]([\![\gamma]\!])$.
(based on Heim and Kratzer 1998, p.44)

b. Predicate modification:
If $[\![\beta]\!]$ and $[\![\gamma]\!]$ are both of type $\langle e, t\rangle$, then, $[\![\alpha]\!] = \lambda x \in D_e.\ [\![\beta]\!](x) = [\![\gamma]\!](x) = 1$
(based on Heim and Kratzer 1998, p.105)

In this thesis, I propose that despite initial appearances, compositionality is maintained for cases such as (1.1)–(1.3).

Chapter 2 and chapter 4 require specialized tools such as multidimensionality (Potts 2005), inquisitive update (Groenendijk 1999), and $Explanation_q$ (Asher and Lascarides 2003) for interpretation. They will be spelled out in each chapter.

For representing the semantics of interrogative clauses, I will use Hamblin's semantics for questions (Hamblin 1971, 1973). He claims that a question denotes a set of possible answers, i.e., a set of propositions. (1.9) is a simplified example of the meaning of the English sentence, *Who read Emma?*

(1.9) $[\![$*Who read Emma?*$]\!]$

$= \lambda p \exists x.person(x) \wedge p = read(x)(Emma)$

= {Abby read Emma, Bob read Emma, Chris read Emma, ...}

In this thesis, I chose Hamblin's interpretation for the sake of convenience. I believe that the choice of the semantics for interrogative clauses does not affect the analysis.

The next two subsections, 1.1.1 and 1.1.2, provide brief backgrounds of event-semantics and discourse theory. The theory of event-semantics will be incorporated in chapters 2 and 3; Stalnakerian view of discourse will be assumed in chapter 4.

1.1.1 Background on event-based semantics

In this thesis, semantic interpretations will be based on event-based semantics. The consideration of events in semantic interpretation was first proposed by Davidson (1967), who claimed that action- or event-denoting predicates contain an implicit event argument, e. For example, the verb *read* in (1.10a) projects a relation of three arguments: x for Agent, y for Theme, and e for event (1.10b).

(1.10) a. *Sam read Emma.*

b. $[\![read]\!] \Rightarrow \{x, y, e \mid x \text{ read } y \text{ in } e\}$

Taking e into account is useful for interpreting adverbial components in a sentence. For instance, event-based semantics defines manner adverbs as modifiers of the event variable e. The English adverb *quickly* in (1.11) is interpreted as taking a predicate and describing that the event related to the predicate is quick.

(1.11) $[\![\text{ quickly }]\!] = \lambda e \lambda P.P(e) \wedge quick(e)$

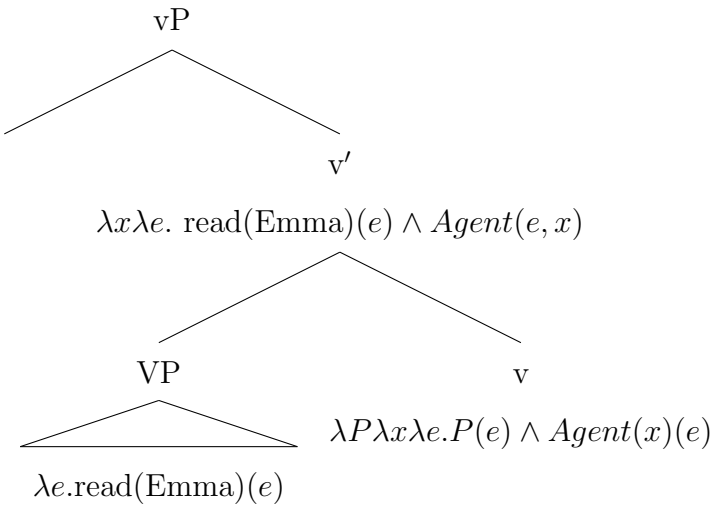
I will use e for the semantic representations of the embedded quotatives and interrogatives in chapters 2 and 3. There, both kinds of clauses contribute to specifying ther matrix events. Among the recent versions of event-semantics, I will take Kratzer (1996)'s view that a transitive verb requires an event and an internal argument but not an external argument. For example in (1.12), *read* takes *Emma* and e as arguments; the subject *Sam* is related to the event only via thematic (Agent) role.

(1.12) $[\![Sam\ read\ Emma.]\!]$

$= \exists e.\ \text{read}(e, \text{Emma}) \wedge Agent(e, \text{Sam})$

Under this view, there is a verbal head that introduces a position for the external argument. The tree structure of the vP *read Emma* is an example. Here, v is a function which takes a predicate and assigns to it a predicate with an unsaturated Agent argument. Further up in the structure, the variable x will be filled with the subject and the variable e will be existentially closed.

(1.13)



1.1.2 Background on common ground in discourse

Chapter 4 will discuss discourse functions of adjunct embedded interrogative clauses in Japanese and Korean like (1.3) on page 2. I take Carlson (1983)'s view that conversations are *language games* wherein discourse participants are setting a mutual goal and trying to accomplish it. As a consequence of a language game, participants construct a set of mutually accepted knowledge, *common ground* (Grice 1989, Stalnaker 1978, 2002).

According to a Stalnakerian view (Ginzburg 1996, Stalnaker 1978, 2002, among others), assertion is an action of proposing a piece of knowledge to be part of the common ground. The common ground is successfully updated when all the interlocutors accept the knowledge. Knowledge takes the form of proposition and the common ground is a set of propositions. Stalnaker defines common ground as follows:

(1.14) It is common ground that ϕ in a group if all members *accept* (for the purpose of the conversation) that ϕ, and all *believe* that all accept that ϕ, and all *believe* that all *believe* that all accept that ϕ, etc.
(Stalnaker 2002, p.716)

1.2 Assumptions and Conventions on the Structure of Japanese and Korean

Section 1.2.1 introduces the basic internal structure of Japanese and Korean. Section 1.2.2 proves that the adjunct quotative and interrogative clauses in (1.1)–(1.3) are truly embedded.

1.2.1 Word order and case particles

Japanese (JP) and Korean (KR) are assumed to be head-final languages. The canonical word order is subject–object–verb as shown below:

(1.15) JP Mary-ga kukkii-o yaita
Mary-Nom cookie-Acc baked

KR Mary-ka khukhi-lul kwuwessta.
Mary-Nom cookie-Acc baked
'Mary baked cookies.'

(1.15) illustrates the default order of subject–object–verb, but the order among preverbal elements (i.e. the subject and the object here) is flexible. Also, arguments can be marked by post-nominal case particles. For example, again in (1.15), the subject *Mary* is marked by the nominative case particle *ga/ka* in JP/KR; the object *kukkii/khukhi* 'cookie' is marked by the accusative case particle *o/lul* in JP/KR.

JP and KR[3] embedded interrogatives usually appear in the position for nominals: subjects (1.16), objects (1.17), datives (1.18), etc.:

(1.16) JP [ame-ga furu-ka]-ga mondai-ni natte-iru.
rain-Nom fall-Q-Nom issue-Dat become-Prog

KR [pi-ka o-l-ci]-ka mwuncey-ka toy-koiss-ta.
rain-Nom come-Fut-Int-Nom issue-Nom become-Prog-Decl
'Whether it will rain has become an issue.'

(1.17) JP [dare-ga kaigi-o kesseki-sita-ka](-o) sitte-iru.
who-Nom meeting-Acc absent-did-Q-Acc know-Prog

KR [nwu-ka hoyuy-ey kyelsekha-ss-nun-ci](-lul) al-koiss-ta.
who-Nom meeting-Loc be.ansent-Past-Adn-Int-Acc know-Prog-Decl
'(I) know who was absent at the meeting.'

[3]Korean has two more end-markers for embedded interrogatives, which carry the same meaning and pragmatic effect as those of *-nun-ci*. One is *-nun-ka*, consisting of the indicative marker *-nun* plus interrogative *-ka*, and the other is interrogative *-na*, as illustrated in (i) and (ii).

(i) [pi-ka w-ass-nun-ka] Paul-un pakk-ul naytapo-ass-ta.
rain-Nom come-Past-Ind-Int$_{ka}$ Paul-Top outside-Acc look-Past-Decl
Literally: '[Whether it rained], Paul looked outside.'

(ii) [pi-ka w-ass-na] Paul-un pakk-ul naytapo-ass-ta.
rain-Nom come-Past-Int$_{na}$ Paul-Top outside-Acc look-Past-Decl
Literally: '[Whether it rained], Paul looked outside.'

All instances of *-nun-ka* and *-na* can be substituted by *-nun-ci* without semantic/ pragmatic loss. The only difference between *-nun-ci* and the other two is that the former appears with far greater frequency in the wider range of discourse. Example EIs in the dissertation will end with *-nun-ci* only and we will not go into the extensive comparison among the three endings in this paper.

(1.18) JP [ame-ga huru-ka-dooka]-ni kyoomi-ga nai.
rain-Nom fall-Q-how-Q-Dat interest-Nom Neg

KR [pi-ka o-nun-ci-ani-n-ci]-ey kwansim-i eps-ta.
rain-Nom come-Adn-Int-Neg-Adn-Int-Dat interest-Nom not.exist-Decl
'I am not interested whether or not it is raining.'

Embedded interrogatives in the object position can appear without a case marker as in (1.17), whereas those in the non-object positions such as subject (1.16) and dative (1.18) become unacceptable when their case markers are reduced, as shown below. The unacceptability of (1.16′, KR) can be saved by adding the topic marker *-nun* after the embedded clauses, whereas it is not the case in (1.18′, KR).

(1.16′) KR ?* [pi-ka o-l-ci]-Ø mwuncey-ka toy-koiss-ta.
rain-Nom come-Fut-Int-~~Nom~~ issue-Nom become-Prog-Decl

(1.18′) KR * [pi-ka o-nun-ci-ani-n-ci]-Ø kwansim-i eps-ta.
rain-Nom come-Adn-Int-Neg-Adn-Int-~~Dat~~ interest-Nom not.exist-Decl

One might be tempted to conclude that embedded interrogatives in JP/KR strongly require the presence of an overt marker specifying their semantic role in the sentence. However, this hypothesis cannot account for (1.2) and (1.3), wherein embedded interrogatives occur without post-nominal particles. Chapter 3 and 4 will discuss their incompatibility with case particles.

JP and KR quotative clauses mainly occur in the object position:

(1.19) JP Mana-wa [ame-ga hutte-iru-to] it-ta.
Mana-Top rain-Nom fall-Prog-Quot say-Past

KR Mana-nun [pi-ka nayli-koiss-ta-ko] malha-yss-ta.
Mana-Top rain-Nom fall-Prog-Decl-Quot say-Past-Decl
'Mana said that it was raining.'

Embedded quotative clauses strictly refuse to take post-nominal particles such as a case marker or a topic marker. (1.19) becomes ungrammatical when the accusative case particle *o*/*lul* in JP/KR is attached to the complement clause.

1.2.2 The adjunct embedded quotatives and embedded interrogatives are truly embedded

The three example sentences (1.1)–(1.3) on pages 1–2 introduced *adjunct embedded* quotative and interrogative clauses in Japanese (JP) and Korean (KR). One might doubt that they are truly embedded and not root clauses, because it is rare to see JP/KR quotatives and interrogatives appear without an overt selector. This section provides three major pieces evidence as well as two minor points which show that those in (1.1)–(1.3) pattern with canonical embedded clauses, and must be regarded as being truly embedded.

First, in JP/KR, root questions are distinguished from embedded interrogatives in that only the former can contain politeness markers (Pak 2015). For example, (1.20a) is a KR root question and is grammatical with the politeness marker *sup*, whereas (1.20b) becomes degraded with *sup*. Given this, an interrogative must be a root question if it can contain the politeness marker; otherwise, it must be a subordinate interrogative.

(1.20) a. Secay-ey chac-kosip-un chayk-i iss-sup-ni-kka?
study-Loc read-want-Adn book-Nom be-Polite-Ind-Int
'Is there a book you want to read?'

b. Ku-nun [secay-ey nwukwunka-ka iss-(*sup)-ni/nun-ci]-lul
he-Top [study-Loc somebody-Nom be-Polite-Ind-Int]-Acc
al-koiss-ta.
know-Prog-Decl
'He knows whether somebody is in the study.'

In the case of quotatives, indirect embedded quotatives as in (1.21a) do not allow politeness markers. Direct embedded quotatives allow politeness markers as in (1.21b) since they quote verbatim.

(1.21) a. Ku-nun secay-ey chac-kosip-un chayk-i iss-(*sup-ni)-nya-ko
3sg-Top study-Loc read-want-Adn book-Nom be-Polite-Ind-Int-Quote
mwul-ess-ta
ask-Past-Decl

S/he asked if there is a book you want to read.

b. Ku-nun "secay-ey chac-kosip-un chayk-i iss-sup-ni-kka?"
3sg-Top study-Loc read-want-Adn book-Nom be-Polite-Ind-Int
hako mwul-ess-ta
Direct-Quote ask-Past-Decl

S/he asked, "Is there a book you want to read?"

The three sentences below are repeated from (1.1)–(1.3), with addition of the politeness marker *sup* in the embedded constructions. These sentences become ungrammatical with an overt politeness marker *sup*. The incompatibility with a polite particle indicates that the quotative clauses are just like canonical embedded clauses.

(1.1′) KR [khwukhi-lul nemwu mahni kwuw-ess-(*sup-ni)-ta-ko] halmeni-ka
cookie-Acc too many bake-Past-Decl-Quot grandma-Nom
Mina-ekey han sangca-lul cwu-si-ess-ta.
Mina-Dat one box-Acc give-Hon-Past-Decl

(1.2′) KR [pi-ka nayli-koiss-(*sup-ni)-nun-ci] Bert-ka pakk-ul
rain-Nom fall-Prog-Adn-Int Bert-Nom outside-Acc
naytapo-n-ta.
look-Prog-Decl

(1.3′) KR [pi-ka nayli-ess-(*sup-ni)-nun-ci] ttang-i cec-eiss-ta.
rain-Nom fall-Past-Adn-Int ground-Nom wet-Prog-Decl

Secondly, the tense of embedded constructions in Japanese and Korean is determined relative to the tense of their matrix clauses. As mentioned by Sohn (1999), past tense in an embedded construction refers to the time that is "prior to the matrix clause event", whereas non-past tense refers to more flexible time that may precede, follow, or overlap with the main clause event.[4] By contrast, in the case of root clauses, past tense indicates the time prior to the utterance time; non-past tense indicates the time of utterance. A prediction can be made that the tense of our quotatives and interrogatives is calculated relative to the tense of the matrix clause tense if they are really embedded.

[4]Sohn (1999, p. 325) also mentions that some embedded clauses such as relative clauses allow absolute tense as well. Here we will only discuss relative tense.

The two sentences (1.22) and (1.23) are identical except that the former has non-past while the latter has past tense for the interrogative clause within the squared brackets. The speakers of the two sentences express different orders between the time of Gina's meeting a friend and the time of Gina's smiling. The arrow ⇒ below each translation describes the order between Gina's smiling and meeting a friend. The speaker of (1.22) thinks that the former precedes or overlaps with the latter; the speaker of (1.23) thinks that the former follows the latter.

(1.22) JP [sitasii tomodachi-ni a-u-no-ka], Gina-wa nikoniko
close friend-Dat meet-Nonpast-NML-Q, Gina-Top smiling
site-i-ta.
do-Prog-Past

KR [chinhan chinkwu-lul manna-Ø-nun-ci], Gina-ka miso
close friend-Acc meet-Nonpast-Ind-Q Gina-Nom widely
cis-koiss-ess-ta.
smiling do-Prog-Past-Decl

Literally: '[Whether she meets a close friend], Gina was smiling.'

⇒ The speaker thinks that Gina was smiling either before she was meeting her friend or simultaneously.

(1.23) JP [sitasii tomodachi-ni at-ta-no-ka], Gina-wa nikoniko
close friend-Dat meet-Past-NML-Q, Gina-Top smiling
site-i-ta.
do-Prog-Past

KR [chinhan chinkwu-lul mann-ass-nun-ci] Gina-ka miso
close friend-Acc meet-Past-Ind-Q Gina-Nom widely
cis-koiss-ess-ta.
smiling do-Prog-Past-Decl

Literally: '[Whether she met a close friend], Gina was smiling.'

⇒ The speaker thinks Gina was smiling after she met her friend.

Note that the utterance time does not function as a reference time. The event described with non-past tense in (1.22) could have taken place before the utterance time. If the interrogative clause were a root question, it must have been a question about the

present event simultaneous with the utterance time. However, that is not the case. The tense of the the adjunct interrogatives is interpreted in a similar way to that of embedded clauses.

Our adjunct quotatives exhibit relative tense as well. (1.24) and (1.25) only differ in the tense of the sentence-initial quotative clauses. The former has non-past tense and the latter has past tense. Here again, we can observe that the reference time of the quotative clause events is the time of their matrix clauses. That is, Ken's suit-shopping in (1.24) either precedes or overlaps with the time the new job starts: The job will start soon or has just started. By contrast, in (1.25), Ken had started working some time before he went for shopping.

(1.24) JP [atarasii sigoto-ga hazima-ru-to], Ken-wa suutu-o kai-ni
new job-Nom begin-Nonpast-Quot Ken-Top suit-Acc buy-Dat
itta.
went.

KR [say saep-ul sicakha-n-ta-ko], Ken-un swutu-lul
new job-Acc start-Nonpast-Decl-Quot Ken-Top suit-Acc
s-ass-ta
buy-Past-Decl

Literally: '[(He) starts a new job], he went suit-shopping.'

Intended: 'Saying (or thinking) that he is starting a new job, he went suit-shopping.'

⇒ He hadn't started the new job yet when he went for shopping' .

(1.25) JP [atarasii sigoto-ga hazimat-ta-to], Ken-wa suutu-o kai-ni itta.
new job-Nom begin-Past-Quot Ken-Top suit-Acc buy-Dat went.

KR [say saep-ul cijakha-yss-ta-ko], Ken-un swutu-lul s-ass-ta
new job-Acc start-Past-Decl-Quot Ken-Top suit-Acc buy-Past-Decl

Literally: '[(He) started a new job], he went suit-shopping.'

Intended: 'Saying (or thinking) that he had started a new job, he went suit-shipping.'

⇒ He had started the new job already when he went shopping' .

Thirdly, the adjunct quotatives and interrogative clauses can occur in the middle of the sentence. Let us remind ourselves that word order is flexible in JP and KR. The three examples below are variants of the previous (1.1)–(1.3). The quotative and interrogative clauses can appear anywhere before the matrix predicate.

(1.26) JP obaachan-ga ([kukkii-o yaki-sugi-ta-to]$_{quotative}$) Anne-ni
grandmother-Nom cookie-Acc bake-excess-Past-Quot Anne-Dat
hito ([kukkii-o yaki-sugi-ta-to]$_{quotative}$) hako-o
cookie-Acc bake-excess-Past-Quot one box-Acc
([kukkii-o yaki-sugi-ta-to]) age-ta
cookie-Acc bake-excess-Past-Quot give-Decl

KR halmeni-ka ([khwukhi-lul nemwu mahni kwuw-ess-ta-ko]$_{quotative}$)
grandma-Nom cookie-Acc too many bake-Past-Decl-Quot
Mina-ekey ([khwukhi-lul nemwu mahni kwuw-ess-ta-ko]$_{quotative}$) han
Mina-Dat cookie-Acc too many bake-Past-Decl-Quot one
sangca-lul ([khwukhi-lul nemwu mahni kwuw-ess-ta-ko]$_{quotative}$)
box-Acc cookie-Acc too many bake-Past-Decl-Quot
cwu-si-ess-ta.
give-Hon-Past-Decl

Literally: '[Too many cookies were baked], Grandma gave Anne a box of cookies.'

Intended: 'Saying (or thinking) that too many cookies were baked, Grandma gave Anne a box of cookies.'

(1.27) JP Bert-ga ([ame ga hutte-iru-ka]$_{interrogative}$) soto-ni ([ame ga
Bert-Nom rain Nom fall-Prog-Int outside-Dat rain Nom
hutte-iru-ka]$_{interrogative}$) mite-iru
fall-Prog-Int look-Prog

KR Bert-ka ([pi-ka nayli-koiss-nun-ci]$_{interrogative}$) pakk-ul
Bert-Nom rain-Nom fall-Prog-Adn-Int outside-Acc
([pi-ka nayli-koiss-nun-ci]$_{interrogative}$) naytapo-n-ta.
rain-Nom fall-Prog-Adn-Int look-Prog-Decl

Literally: 'Bert is looking outside, [whether it is raining].'

Intended: 'Bert is looking outside, in order to find out whether it is raining.'

(1.28) JP jimen-ga [ame-ga hut-ta-no-ka]$_{interrogative}$ nurete-iru.
ground-Nom rain-Nom fall-Past-NML-Int wet-Prog

KR ttang-i [pi-ka nayli-ess-nun-ci]$_{interrogative}$ cec-eiss-ta.
ground-Nom rain-Nom fall-Past-Adn-Int wet-Prog-Decl

Literally: 'The ground is wet, [whether it rained]',

Intended: 'The ground is wet; I am wondering if it has rained.'

In (1.1)–(1.3), the clauses within squre brackets cannot be root because they appear after the subjecs of the sentences 'Grandma gave Anne a box of cookies', '

We have looked into three pieces of evidence for embedded constructions: (i) the politeness markers are not compatible; (ii) tense interpretaion is dependent on the matrix event; (iii) they can occur within the matrix clauses. Therefore, the adjunct embedded and quotative clauses seem to be properly embedded under the matrix clauses.

There are two more small pieces of evidence corroborating this claim. The first is about the clause-final marker of Korean embedded interrogatives; the second is about the clause-final marker of Japanese embedded quotatives. I will discuss them one by one.

Consider first the case of Korean embedded interrogatives. In Korean, the root ender -*ci* and the embedded ender -*ci* differ in terms of the compatibility with the indicative marker -(*n*)*un*. As illustrated in (1.29) and (1.30), -*ci* as a root ender must not occur with -(*n*)*un*, whereas -*ci* as an embedded ender requires it.

(1.29) a. Pi-ka w-ass-Ø-ci?
rain-Nom come-Past-Ø-Int
'Did it rain?'

b. * Pi-ka w-ass-nun-ci?
rain-Nom come-Past-Ind-Int

(1.30) a. * Ku-nun [pi-ka w-ass-Ø-ci]-lul al-koiss-ta.
he-Top rain-Nom come-Past-Ø-Int-Acc know-Prog-Decl
'He knows whether it rained.'

b. Ku-nun [pi-ka w-ass-nun-ci]-lul al-koiss-ta.
he-Top rain-Nom come-Past-Ind-Int-Acc know-Prog-Decl

If the interrogative of our case had patterned with root interrogatives, it must have been grammatical without the indicative marker *-nun*. However, (1.31) becomes degraded when *-nun* is eliminated.

(1.31) [Pi-ka w-ass-*(nun)-ci] matang-i ceceiss-ta.
rain-Nom come-Past-Ind-Int ground-Nom wet-Decl
'[Whether it rained] the ground is wet.'

Therefore, the interrogatives of our concern are syntactically embedded within the matrix sentence.

The second issue is about Japanese quotative markers. Japanese makes use of two quotative markers: *to* and *te*. The two markers usually occur in embedded quotatives as in (1.32), but they can also appear as root markers expressing hearsay as in (1.33).

(1.32) a. [asita-wa tenki-ga waruku-naru-n-da-to],
tomorrow-top weather-Nom bad-become-NML-Copula-Quot
Mana-ga it-ta.
Mana-Nom say-Past
'Mana said, the weather will be bad tomorrow.'

b. []asita-wa tenki-ga waruku-naru(-n-da)-tte],
tomorrow-top weather-Nom bad-become-(NML-Copula)-Quot,
Mana-ga it-ta.
Mana-Nom say-Past
'Mana said, the weather will be bad tomorrow.'

(1.33) a. asita-wa tenki-ga waruku-naru-n-da-to.
tomorrow-top weather-Nom bad-become-NML-Copula-Quot
'(They say), the weather will be bad tomorrow.

b. asita-wa tenki-ga waruku-naru(-n-da)-tte.
tomorrow-top weather-Nom bad-become-(NML-Copula)-Quot
'(They say), the weather will be bad tomorrow.

Sentence-final *to* and *te* can encode hearsay evidentiality. They add an implication that the sentence it occurs with denotes the content of hearsaying. If the embedded

quotative clause repeated below as (1.1) were a root construction, it could have had the same kind of evidentiality. However, the adjunct quotative clause in (1.1) does not carry any evidentiality or hearsay meaning at all.

(1.1) JP [kukkii-o yaki-sugi-ta-to] obaachan-ga Anne-ni hito hako-o age-ta
cookie-Acc bake-excess-Past-Quot grandmother-Nom Anne-Dat one box-Acc give-Decl

Literally: '[Too many cookies were baked], Grandma gave Anne a box of cookies.'

Roughly: 'Saying (or thinking) that too many cookies were baked, Grandma gave Anne a box of cookies.'

1.3 Overview of the Dissertation

This chapter described general facts about embedded quotative and interrogative clauses in Japanese and Korean, as well as theoretical background on basic semantics and pragmatics. I also demonstrated that the embedded quotative and interrogative clauses are not root constructions, in order to prevent readers' doubts on their nature of being embedded while reading the following chapters.

Chapter 2 gives a semantic account of embedded quotatives. I propose that they are mapped to phrases that refer to speech acts, which have two additional argument slots for the speaker and the hearer above CP. The additional meaning of saying or thinking is a consequence of the phrase referring to a speech act. I provide counter-evidence against the possibility of a phonetically null verb. I further show that the difference between the meaning of 'saying' and the meaning of 'thinking' resides in whether or not the speaker and the hearer deixes are coreferential in the structure.

Chapter 3 presents an account of the first kind of embedded interrogatives (EIs), which are agent-oriented. I first show that the matrix predicates of these EIs must conventionally encode two properties in event: the agent's volition and lack of information. These two properties lead to pragmatic enrichment of the matrix predicates, which results in the introduction of an existentially closed question into the structure. I show

the steps of (i) the existential closure becomes abstracted away, (ii) an open slot for a question-type argument is created, and (iii) the EIs saturate the open slot. I rule out the possibilities of a hidden predicate and a direct syntactic selection of EIs by the matrix predicate.

Chapter 4 examines the second kind of embedded interrogatives (EIs), which are speaker-oriented. First, I show that these EIs are interpreted independently from their matrix clauses and their meanings are categorized as a conventional implicature. Secondly, I argue that rhetorically the EIs play as explanation-seeking questions based on the idea of $Explanation_q$ in Asher and Lascarides (2003). Also, I demonstrate that their status as unproposed, de-emphasized questions makes them self-addressing questions in the sense of Hara and Davis (2013).

1.4 Romanization

Romanization of Japanese follows JSL romanization (https://en.wikipedia.org/wiki/JSL_romanization/)

Romanization of Korean follows the Yale romanization (https://en.wikipedia.org/wiki/Yale_romanization_of_Korean/)

English proper names such as *Abby*, *Bert*, and *Chris* are written as they are in example sentences.

Chapter 2

BARE QUOTATIVES (BQS)

2.1 Introduction

This chapter introduces an adjunct embedded construction attested in Japanese and Korean that signifies speech or thoughts connnected to the meaning of the matrix clause. (2.1) and (2.2) exemplify this construction in Korean (KR) and Japanese (JP). The adjunct embedded constructions end with *ko* in KR and *to* in JP, and are enclosed with squared brackets with a label *BQ*. Clause-final *ko* and *to* are glossed with *Quot* since they are usually categorized as quotative markers.

(2.1) JP [kukkii-o totemo takusan yaita to]$_{BQ}$ obaachan-ga Mina-ni
cookie-Acc too many baked Quot grandmother-Nom Mina-Dat
kukkii-no hako-o age-ta
cookie-Gen box-Acc give-Decl

KR [khwukhi-lul nemwu mahni kwuw-ess-ta-ko]$_{BQ}$ halmeni-ka
cookie-Acc too many bake-Past-Decl-Quot grandma-Nom
Mina-ekey khwukhi han sangca-lul cwu-si-ess-ta.
Mina-Dat cookie one box-Acc give-Hon-Past-Decl

Literally: 'Grandma gave Mina a box of cookies, [Too many cookies were baked].'

Intended: 'Grandma gave Mina a box of cookies, saying/thinking that [Too many cookies were baked].'

The bracketed clause in (2.1) represents the grandma's speech or thought at the time of giving a box of cookies for Mina. The natural inference by the native speaker is that baking too many cookies became the motivation for giving a boxful of them to Mina. In another example (2.2) below, the matrix clause describes an event wherein Mina locked herself in a room. The bracketed clause here, 'had a lot of homework', leads readers to interpret it as the motivation for Mina's locking herself up.

(2.2) KR [kwacey-ka mahni iss-ta-ko]$_{BQ}$ Mina-nun pang-ey
homework-Nom a.lot exist-Decl-QUOT Mina-Top room-Loc
thulepakhi-ess-ta.
be.confined-Past-Decl

JP [kadai-ga talasan aru to]$_{BQ}$ Mina-wa heya-ni
homework-Nom a.lot exist Quot Mina-Top room-Loc
komotte-sima-tta.
be.confined-finish-Past

Literally: 'Mina confined herself in the room, [(She) had a lot of homework].'

Intended: 'Mina confined herself in the room, saying/thinking that [She had a lot of homework].'

These adjunct constructions in JP and KR seem to illustrate what is said or thought by the matrix subject[5]; however, this interpretation is derived without an overt *say*-verb or *think*-verb. In this sense, I will call these adjunct constructions in JP/KR *bare quotatives* or *BQs* throughout the paper. This chapter aims to account for how these BQs are interpreted without any overt verb specifying their role in the sentence except for quotative *to/ko*.

I will claim that a BQ consists of two elements: (i) a phrase that denotes a speech act and (ii) a clause-final quotative marker *to/ko*, which semantically connects the speech acts to the matrix clause event. I further argue that in JP and KR, the content of speech and the content of thoughts are encoded in the same way by using a phrase that refers to a speech act.

2.2 Basic Facts about Bare Quotatives

Before examining the details of bare quotatives (BQs), I will illustrate their basic facts in comparison with standard quotatives in Japanese and Korean. Sections 2.2.1 and 2.2.3 discuss the internal structure and the distribution of quotatives. Section 2.2.4 shows that BQs are semantically at-issue, and participate in determining the truth condition of the matrix sentence.

[5]Later I will show it is *the matrix agent* rather than the matrix subject that is responsible for the speech and the thoughts.

I distinguish standard quotatives (SQs) from BQs based on whether or not they are selected for: SQs are the internal arguments of some predicate, whereas BQs are adjuncts. The term *quotatives* covers both SQs and BQs. The SQs and BQs in this paper are all indirect quotations except for Oshima (2015)'s examples of direct quotation in sections 2.3.1 and 2.3.2.

2.2.1 The internal structure of quotatives

Quotative constructions end with *to* in Japanese (JP)[6] and *ko* in Korean (KR).[7] *To*/*ko* in JP/KR has been called a *quotation particle* (Kaiser et al. 2013, 21), a *quotative particle* (Sohn 1999, 9.4.6), or a *subordinating particle* (Bhatt and Yoon 1992) and they are commonly regarded as the syntactic head of a subordinate CP (Bhatt and Yoon 1992, Jeong 1998, Pak 2004, Kim 2010b, 2011, Zanuttini et al. 2012, Shim and Ihsane 2015). For example, the root statement (2.3a) and (2.3b)

(2.3) a. KR John-i wa-ss-ta.
John-Nom come-Past-Decl
'John came.'

b. KR Bill-un [John-i wa-ss-ta-ko] sayngkakhanta.
Bill-Top John-Nom come-Past-Decl-Quot thinks
'Bill thinks that John came.' (Bhatt and Yoon 1992, (1a-b))

[6]Japanese has one more quotative marker *te*, which seems to be a variant of *to*. In this thesis, I will focus on *to* since *to* is used more frequently and the use of *te* is restricted to informal conversations.

[7]Korean has three homophonous *ko* particles (Chang 1996, Sohn 1999), as depicted in (i). In this paper, attention will be focused on the type of *ko* particle used in case (i.a).

(i) a. An indirect quotative marker (Chang p.58; Sohn p.322)

b. A verb/sentence connective: A conjunctive or a coordinator, meaning 'and, and also, as well' (Chang p.44; Sohn p.239,321)

c. An auxiliary connective: a gerundive, meaning 'with, and, in the state of doing' (Chang p.44; Sohn p.316)

Among the three kinds of particles, only (i.a) can bear a clause-type marker (cf., Lee 2008, p.371): *ta/la*, interrogative *nya*, imperative *la*, exhortative *ca*, and promissive *ma*, as in (2.4)–(2.8).

Although I will adopt the term *quotative particle* and the gloss *Quot*, it should be emphasized that *to*/*ko* occur not only in the complements of speech verbs but also in the complements of propositional attitude verbs such as 'believe' and 'think'.

Both standard quotatives (SQs) and bare quotatives (BQs) in JP and KR permit all possible clause types to be embedded. Examples are provided in declarative (2.4), interrogative (2.5), imperative (2.6), exhortative (2.7), and promissive (2.8) below. The last three clause types are categorized together as *jussives* by Pak et al. (2004).[8]

(2.4) Declarative quotative:

JP [benkyoo-o yoku ganba-tta-to] obaachan-ga okane-o
study-Acc well work.hard-Past-Quot grandma-Nom money-Acc
watashi-ni kure-ta
1sg-Dat give-Past

KR kongpwu-lul yelsimhi hay-ss-ta-ko] halmeni-ka ton-ul
study-Acc arduously do-Past-Decl-Quot grandma-Nom money-Acc
na-eykey cwu-ess-ta.
1sg-Dat give-Past-Decl

Literally: 'Grandma gave me money, [(I) studied hard].'

Intended: 'Grandma gave me money, saying/thinking that I studied hard.'

(2.5) Interrogative quotative

JP [kodukai-ga tarite-iru-ka-to] obaachan-ga okane-o
[allowance-Nom suffice-be-Q-Quot] grandma-Nom money-Acc
watashi-ni kure-ta
1sg-Dat give-Past

KR [yongton-i chwungpwunha-nya-ko] halmeni-ka ton-ul
allowance-Nom be.enough-Int-Quot grandma-Nom money-Acc
na-eykey cwu-ess-ta.
1sg-Dat give-Past-Decl

Literally: 'Grandma gave me money, [whether (your) allowance is enough].'

[8] Pak et al. (2004) used the word *jussives* as an umbrella term covering three clause types: imperative, promissive, and exhortative clause types. Their terminology is on a par with the traditional use of *jussives*, which generally refers to imperatives, subjunctives, or the volitive mood.

Intended: ‘Grandma gave me money, saying/wondering if my allowance is enough.’

(2.6) Imperative quotative

JP [dokoka ryokoo-ni ik-e-to] obaachan-ga okane-o
somewhere travel-Dat go-Imp-Quot grandma-Nom money-Acc
watashi-ni kure-ta
1sg-Dat give-Past

KR [etilonka yehayng-ul ka-la-ko] halmeni-ka ton-ul
somewhere travel-Acc go-Imp-Quot grandma-Nom money-Acc
na-eykey cwu-ess-ta.
1sg-Dat give-Past-Decl

Literally: ‘Grandma gave me money, [go travel somewhere].’

Intended: ‘Grandma gave me money, saying/thinking ‘Go travel somewhere’.’

(2.7) Exhortative quotative

JP [dokoka issyoni ryokoo-ni ik-oo-to] obaachan-ga
somewhere together travel-Dat go-Exh-Quot grandma-Nom
okane-o watashi-ni kure-ta
money-Acc 1sg-Dat give.me-Past

KR [etilonka hamkkey yehayng-ul ka-ca-ko] halmeni-ka
somewhere together travel-Acc go-Exh-Quot grandma-Nom
ton-ul na-eykey cwu-ess-ta.
money-Acc 1sg-Dat give-Past-Decl

Literally: ‘Grandma gave me money, [let’s go travel somewhere together].’

Intended: ‘Granmd gave me money, saying/thinking ‘let’s go travel somewhere together’.’

(2.8) Promissive quotative

JP (Japanese does not have a promissive clause-type)

KR [cemsim-kaps-ul pothaycwu-ma-ko] halmeni-ka ton-ul
lunch-money-Acc provide-PRM-Quot grandma-Nom money-Acc
na-eykey cwu-ess-ta.
1sg-Dat give-Past-Decl

Literally: ‘Grandma gave money, [(let me) provide the lunch money].’

Intended: 'Grandma$_1$ gave money, saying/thinking 'let her$_1$ give the lunch money'.'

2.2.2 Distribution of standard quotatives

This subsection discusses the compatibility and incompatibility of JP/KR quotatives with clause-final particles and their matrix predicates. Standard quotative clauses (SQs) usually occur as internal arguments of speech verbs (e.g., 'say') and propositional attitude verbs (e.g., 'think') in Japanese (JP) and Korean (KR). The JP/KR verbs that select for SQs are translated with English verbs of classes A and B under the categorization of Hooper and Thompson (1973) and Hooper (1975) as illustrated in Table 2.1. Under Hooper and Thompson's categorization, class A verbs denote speech acts and class B verbs denote mental processes.

non-factive			factive	
Class A	Class B	Class C	Class D	Class E
say	suppose	be (un)likely	resent	realize
report	believe	doubt	regret	learn
exclaim	think	deny	be surprised	find out
...	...	...	...	...
assertive		non-assertive	non-assertive	assertive

Table 2.1: The classes of English verbs (Hooper and Thompson 1973, Hooper 1975)

The three examples in (2.9) contains SQs in the object position, selected by *malha* 'say' (2.9a), *sayngkakha* 'think' (2.9b), and *sangsangha* 'imagine' (2.9c) in KR.[9]

[9]For the sake of simplicity, most quotatives in the paper are preceded by the matrix subject. However, they can appear in any place that's not sentence final; though see note 7 on page 13. It is due to the relaxed word order of KR/JP and the fact that quotatives can undergo rightward dislocation. For example, (ii) check-marks the possible locations of a bare quotative clause (i).

(i) [cim-eyse wuntongha-n-ta-ko]
gym-Loc work.out-Prog-Decl-ko

(2.9) a. Alex-ka [pi-ka o-n-ta-ko]-(nun/to/man/*lul)
Alex-Nom rain-Nom come-Prog-Decl-Quot-Top/also/only/*Acc
malha-yss-ta.
say-Past-Decl
'Alex said that it was raining.'

b. Alex-ka [pi-ka o-n-ta-ko]-(nun/to/man/*lul)
Alex-Nom rain-Nom come-Prog-Decl-Quot-Top/also/only/*Acc
sayngkakha-yss-ta.
think-Past-Decl
'Alex thought that it was raining.'

c. Alex-ka [pi-ka o-n-ta-ko]-(nun/to/man/*lul)
Alex-Nom rain-Nom come-Prog-Decl-Quot-Top/also/only/*Acc
sangsangha-yss-ta.
imagine-Past-Decl
'Alex imagined that it was raining.'

(2.10) illustrates SQs in the subject position of a passive clause. The main verbs are a speech verb (2.10a) and a propositional attitude verb (2.10b).

(2.10) a. JP [ame ga futta to] (wa/mo/dake/*ga) iwareta.
rain Nom fell Quot Top/also/only/*Nom was.said

KR [pi-ka wa-ss-ta-ko]-(nun/to/man/*ka)
rain-Nom come-Past-Decl-Quot-Top/also/only/*Nom
malhay-ci-yss-ta.
say-Pass-Past-Decl
'It was said that it rained.'

b. JP [ame ga futta to] (wa/mo/dake/*ga) shinjirareteita.
rain Nom fell Quot Top/also/only/*Nom was.believed

KR [pi-ka wa-ss-ta-ko]-(nun/to/man/*ka)
rain-Nom come-Past-Decl-Quot-Top/also/only/*Nom
mite-ci-yss-ta.
believe-Pass-Past-Decl

'[(she) is working out at the gym]'

(ii) ✓ Mina-ka ✓ chinkwu-eykey ✓ nacun moksoli-lo ✓ malha-koiss-ta.
Mina-Nom friend-Dat low voice-Ins say-Prog-Decl
Literally: 'Mina is saying to her friend in a low voice that [(she) is working out at the gym].'

'It was believed that it rained.'

(2.9) and (2.10) also show that quotatives in the subject and object positions are incompatible with the case marker but compatible with non-case-marking postpositions. For instance in (2.10), SQs are ungrammatical with clause-final nominative *ga/ka* (JP/KR), but grammatical with the topic marker *wa/nun* (JP/KR) and the additive marker *mo/to* (JP/KR). The only case marker that can co-occur with quotatives is the genitive marker *no* in JP. (2.11) illustrates that JP allows a quotative and the genitive *no* to co-occur in the noun complement quotative, whereas KR does not. KR quotatives cannot occur as noun complements, regardless of the presence or absence of the genitive marker *uy*.[10]

(2.11) JP [[kadai ga talasan aru to]-no uwasa]$_{NP}$
homework Nom a.lot exist Quot-Gen rumor
'the rumor that there is a lot of homework'

KR * [[swukcey-ka mahni iss-ta-ko]-uy somwun]$_{NP}$
homework-Nom a.lot exist-Decl-Quot-Gen rumor

The incompatibility of SQs with the case markers is reminiscent of Stowell (1982)'s Case-Resistance Principle, which is stated as follows:

(2.12) The Case-Resistance Principle (Stowell 1982, p.245)
Case may not be assigned to a category which bears a Case-assigning feature (i.e. [−N] or [+Tense]).

This principle correctly predicts quotatives, which are non-nominal and finite, to be case-resistant, but cannot explain why JP allows genitive marking. Determining the reasons why JP SQs act exceptionally in this one single case is beyond the scope of this

[10]Korean has a way to express the intended meaning of (2.11), as in (i). The bracketed adnominal clause in (i) is grammatical with the adnominal marker *-nun*. Its meaning matches that of JP (2.11).

(i) KR [[swukcey-ka mahni iss-ta]-nun somwun]$_{NP}$
homework-Nom a.lot exist-Decl-Adn rumor
'rumor that there is a lot of homework'

work. Keeping in mind the distributional properties of SQs, the next section focuses on the distributional properties of BQs.[11]

2.2.3 Distribution of bare quotatives

In contrast to standard quotatives (SQs), bare quotatives (BQs) reject all kinds of postpositions, or clause-final markers. (2.13) is an ungrammatical Korean example with topic *nun*, additive *to*, or exclusive *man*. Those are non-case-marking postposition markers and are compatible with SQs in (2.9) on page 25.

(2.13) KR Walter-ka [withong-i iss-ta-ko]$_{BQ}$-(*nun/*to/*man)
Walter-Nom stomachache-Nom exist-Decl-Quot-*Top/*also/*only
pyengwen-ey ka-ss-ta.
hospital-Loc go-Past-Decl
'Walter went to hospital, [(he) got a stomach-ache].'

This might be attributed to the characteristics of adjunct clauses in JP and KR. (2.14) contains a *because*-clause and (2.15) contains an *if*-clause in KR. Both clauses cannot occur with topic, additive, exclusive markers.

(2.14) KR [pi-ka w-ase]-(*nun/*to/*man) wusan-i
rain-Nom come-because-*Top/*also/*only umbrella-Nom
philyoha-ta.
be.in.need-Decl
'Umbrellas are needed (*as for?/*also/*only) because it is raining.'

(2.15) KR [pi-ka o-myen]-(*nun/*to/*man) wusan-i philyoha-ta.
rain-Nom come-if-*Top/*also/*only umbrella-Nom be.in.need-Decl
'Umbrellas are needed (*as for?/*also/*only) if it is raining.'

Being adjuncts, BQs seem to be acceptable only when the matrix predicates are *stage-level predicates*, which denote temporary or transient events in the sense of Carlson (1977) and Kratzer (1995). Carlson (1977) is the first person who divided

[11] I would like to briefly mention that the incompatibility with case-markers led Jeong (1998) to argue that KR quotatives have inherent Accusative case. If Jeong is correct, bare quotatives (BQs) might bear inherent Accusative case as well.

predicates into stage-level and individual-level predicates. The predicate *is jogging* in (2.16a) is an example of stage-level predicate. It denotes a spatio-temporally bound event. The predicate *is kind* in (2.16b), by contrast, tells us the subject's personality, which is not restricted in any particular event. Kratzer (1995) and Diesing (1992) claim that the former needs an event argument e for interpretation but the latter does not.

(2.16) a. Maleficent is jogging. $\Longrightarrow$ $\exists e.jog(Maleficient, e)$

b. Maleficent is kind. $\Longrightarrow$ $kind(Maleficent)$

Two example sentences are below. *Kipwuha* 'donate' in (2.17) has a stage-level property, and illustrates what the subject is doing within a designated spatio-temporal setting. In contrast, *chincelha* 'be kind' in (2.18) holds of an individual rather than a particular event or stage. The BQ is grammatical in (2.17) but not in (2.18).

(2.17) KR Hana-nun [selo towu-mye sal-ca-ko]$_{BQ}$ kipwuha-yss-ta.
Hana-Top each.other help-while live-exh-Quot donate-Past-Decl
Literally: 'Hana made donation, [let's help each other].'
Intended: Hana made a donation with the thought of 'Let's help others'.

(2.18) KR * Hana-nun [selo towu-mye sal-ca-ko]$_{BQ}$ taluni-eykey
Hana-Top each.other help-while live-exh-Quot other-Dat
chinceelha-ta.
be.kind-Decl
Literally: 'Hana is kind to others, [let's help each other].'
Intended: 'Hana is kind to others with the thought of 'Let's help each other'.

Note that the intended meaning of (2.18) is not nonsensical and we can imagine the case where Hana leads her whole life kindly to others with the motto of 'Let's help each other'. However, the sentence is ungrammatical. The (un)grammaticality of (2.17-2.18) may suggest that BQs are sensitive to whether it is an event or an individual that the matrix predicate is describing. In Section 2.4.4.3 I will revisit this issue.

2.2.4 The meaning of bare quotatives

The meaning of bare quotatives (BQs) can be characterized as being *what is said* in the terminology of Grice (1975) and *at-issue* in the terminology of Potts (2005). BQs contribute to determining the truth-condition of their matrix sentence, and their content can be subject to focus or negation. For example, what is negated by Beth in conversation (2.19) is only the BQ.

> Context: Cate hung out with her friends Alex and Beth, a couple. They chatted over what had happened to them and Alex brought up the issue that Beth and he had recently been saving money for a new car. Beth pointed out immediately that it was not correct and they were actually saving for a new house.

(2.19) Conversation in KR

Alex: [say cha-lul sa-ca-ko]$_{BQ}$ Beth-wa na-nun cechwukha-koiss-e.
new car-Acc buy-Exh-Quot Beth-and 1sg-Top save-Prog-Decl
Literally: 'Beth and I are saving, [Let's buy a new car]',
Intended:'Beth and I are saving, thinking of buying a new car.'

Beth: ani! [say cip-ul sa-ca-ko]$_{BQ}$ kuleh-n-kes-i-ciahn-a?
No new houser-Acc buy-Exh-Quot do.so-Pres-Comp-Neg-Q
Literally: 'No! Aren't we doing so, [Let's buy a new house]?'
Intended: 'No! Aren't we doing so, thinking of buying a new house?'

The content within a BQ can be questioned, too.

(2.20) Conversation in KR

Cate: Alex-wa ney-ka [mwues-lul sa-ca-ko]$_{BQ}$ cechwukha-koiss-e?
Alex-and 2sg-Nom what-Acc buy-Exh-Quot save-Prog-Q
Literally: 'Alex and you are saving, [(Let's) buy what]'?
Intended: 'What are Alex and you thinking of buying, when saving money?'

Beth: say cip!
new house
'A new house!'

Therefore, BQs seem to take part in determining the truth condition of the sentence they occur in. Also, BQs are neither presuppositions nor conversational implicatures. For example, (2.21) contains a BQ that leads the reader to infer that Alec and Beth said or thought 'Let's buy a new car'. If the inferred meaning were a presupposition, it must have survived under negation, question, etc.; however, it fails to survive under question (2.22).

(2.21) KR [say cha-lul sa-ca-ko]$_{BQ}$ Alec-kwa Beth-nun cechwukha-koiss-ta.
new car-Acc buy-Exh-Quot Alec-and Beth-Top save.money-Prog-Decl
Literally: 'Alec and Beth are saving money, [Let's buy a new car]'
$\Longrightarrow$ Alec and Beth either said or thought 'let's buy a new car'

(2.22) KR [say cha-lul sa-ca-ko]$_{BQ}$ Alec-kwa Beth-nun cechwukha-koiss-ni?
new car-Acc buy-Exh-Quot Alec-and Beth-Top save.money-Prog-Int
Literally: 'Are Alec and Beth saving money, [Let's buy a new car]?'
$\not\Longrightarrow$ Alec and Beth either said or thought 'let's buy a new car'

Likewise, if the inferred meaning from the BQ in (2.21) were a conversational implicature, it would have been canceled in (2.23) since the second sentence explicitly provides the opposing information; however, that is not the case and (2.23) sounds infelicitous.

(2.23) KR [say cha-lul sa-ca-ko]$_{BQ}$ Alec-kwa Beth-nun cechwukha-koiss-ta.
new car-Acc buy-Exh-Quot Alec-and Beth-Top save-Prog-Decl
Literally: 'Alec and Beth are saving, [let's buy a new car].'

Kulena kutul-un [say cha-lul sa-ca-ko] malha/sayngkakha-n
But they-Top new car-Acc buy-Exh-Quot say/think-Adn
cek-i eps-ta
time-Cop Neg-Decl

Literally:But they didn't say/think [Let's buy a new car].

What does a BQ mean exactly, then? The previous section 2.2.3 showed that standard quotatives can be the complement of either speech verbs (e.g., *iu/malha* 'say' in JP/KR) or propositional attitude verbs (e.g., *omou/sayngkakha* 'think' in JP/KR).

Thus, it may not be surprising at all that the content of BQs is related to speech and thought. For example, (2.24) is true in both scenarios 1 and 2. The content of the BQ can represent what Lena said as in scenario 1 or what Lena thought as in scenario 2.

(2.24) KR Lena-nun [wanpyekhakey kkuthnay-ca-ko]$_{BQ}$ yelsimhi ku il-ey
Lena-Top perfectly finish-Exh-Quot arduously the job-Dat
maytali-ess-ta.
stick-Past-Decl

'Lena arduously pursued the work, [Let's complete (it)].'

Scenario 1: The speaker saw Lena arduously pursuing the work and heard her saying "Let's finish it up!"

Scenario 2: The speaker saw Lena arduously pursuing the work, and also knew that she was eager to complete it.

Scenarios 1 and 2 provide evidence that the content of a BQ may be either thought or expressed. Scenario 1 further covers a variety of situations such as that in scenario 1a, wherein the BQ is actually not uttered by Lena, and that in scenario 1b, wherein the content of the BQ is not the genuine motivation for the matrix event.

Scenario 1a: The speaker saw Lena arduously pursuing the work. Lena said that she wanted to complete it perfectly. That was her real motivation.

Scenario 1b: The speaker saw Lena arduously pursuing the work. Lena said that she wanted to complete it perfectly. However, that was not her real motivation; that was just an excuse she gave.

To summarize, a BQ reflects the agent's publicized attitude. BQs are adjuncts that represent a piece of speech or thought, which may not be the real motivation of the agent.

2.3 Bare Quotatives, as *Bare* and *Quotative* as They Look

The internal structure of the quotative is complex and there are various views on it. Here I introduce three views to be examined. The first is the ellispsis account that assumes that BQs in Japanese (JP) are selected for by a verb that is elided later (Kaiser

et al. 2013). The second is the constructional account that claims that BQs in JP are mapped to two kinds of headless gerund/infinitive constructions meaning 'saying that BQ' and 'thinking that BQ' (Oshima 2015). The last is the lexicalization account that treats the clause-final *ta-ko* 'Decl-Quot' in Korean (KR) as a mono-morphemic causal marker (Yim 2007). Each of these three views will be shown to be inadequate. Their mechanisms and flaws will be discussed.

2.3.1 Ellipsis account of the hidden predicate

One might suspect that BQs are in fact a type of standard quotatives (SQs): BQs might be arguments of a verb that is deleted on the surface. If that is the case, the underlying verb would mean either 'say' or 'think' as follows:

(2.25) KR Chelswu-nun [nalssi-ka coh-ta-ko]-~~malha/sayngkakha-ko~~
Chelswu-Top weather-Nom be.good-Decl-Quot-~~say/think-Conj~~
pakk-ey naka-ss-ta.
outside-Loc go.out-Past-Decl
Literally: 'Chelswu went outside, [the weather is good].'
Intended: 'Chelswu went outside, saying/thinking that the weather is good.'

In (2.25), the part crossed out can be overtly pronounced and the sentence remains grammatical.

Kaiser et al. (2013) also suggested the possibility that a verb of thought (i.e., 'believe' or 'think') selected for the BQ in (2.26) and that the verb was omitted leaving the meaning of *intention*.

(2.26) JP [atarashii tenkai-o haka-rou-to] meishou-henkou-ni
new development-Acc open.up-Exh-Quot name-change-Dat
fumikit-ta.
took.the.step-Past.Decl
'They took the step of changing the name, with the intention of opening up about new developments.'
(Kaiser et al. 2013, p.503, (a), with their own translation)

Although their account looks appealing, careful consideration shows a problem with it. The immediate counter-argument would be that this hypothetical "ellipsis" does not have an antecedent, unlike canonical ellipses. The elided verb cannot be reconstructed by lexical cues. Besides, the following pieces of evidence suggest the ellipsis account should be ruled out.

First, BQs do not pattern with their "not-elided" counterparts with respect to their co-occurrence with adverbials and the embedded subject, as pointed out by Oshima (2015) for the case of JP. Indeed, Oshima shows that a standard quoatative (SQ) with an overt 'say' verb (i.e., *itta*) or an overt 'think' verb (i.e., *omotta*) can occur with an adverbial *oogoe-de* 'in a loud voice' as in (2.27a), but a bare quotative (BQ) in (2.27b) cannot occur with such adverbials. The facts are the same in KR.

(2.27) (Oshima 2015, (13a)), JP

a. [oogoe-de "dareka imasen-ka" to itte] doa-o
loud.voce-by anybody exist.Polite.Neg-DP Quot say.Ger door-Acc
tataita.
knock.Pst
'He knocked on the door, saying "Is anybody here?" in a loud voice.'

b. [(*oogoe-de) "dareka imasen-ka" to]$_{BQ}$ doa-o
loud.voce-by anybody exist.Polite.Neg-DP Quot door-Acc
tataita.
knock.Pst
Intended: 'He knocked on the door, saying "Is anybody here?" in a loud voice.'

Likewise, an SQ with an overt verb can take a subject, as in (2.28a), whereas a bare quotative cannot (2.28b). This contrast holds between the KR counterparts as well.

(2.28) (Oshima 2015, (14a-b)), JP

a. [shujin-ga "Omachidoosama" to itte]
manager-Nom sorry.for.having.you.wait Quot say.Ger
soba-ga okareta.
soba.noodle-Nom put.Psv.Pst

'(The restaurant manager) said "Sorry to have kept you waiting", and a bowl of soba noodles was put in front of me.'

b. [(*shujin-ga) "Omachidoosama" to]$_{BQ}$ soba-ga okareta.
manager-Nom sorry.for.having.you.wait Quot soba.noodle-Nom put.Psv.Pst

Intended: '(The restaurant manager) said "Sorry to have kept you waiting", and a bowl of soba noodles was put in front of me.'

Sometimes we can observe that there are more restrictions on ellipsis.[12] Based on the ungrammaticality of (2.28b), one might hypothesize that BQs require phonologically null subjects, unlike SQs. However, even with a "phonologically null subject", BQs in passive sentences are interpreted differently from their "not-elided" counterparts. For example, (2.29a) sounds natural and it illustrates that a poplar tree's being cut is related to people's opinion that it destroyed the scenic beauty. (2.29b) with an overt *say*-verb only means that the poplar tree has the opinion itself and was cut down, which is not synonymous with (2.29a) at all.

(2.29) KR

a. [kyengkwan-ul haychi-n-ta]-ko kaloswu-ka ceyketoy-ess-ta.
scenic.beauty-Acc destroy-Pres-Decl-ko poplar.trree-Nom be.cut-past-Decl

Literally: 'The poplar tree was cut down, [(it) destroyed the scenic beauty].'

Intended: 'The poplar tree was cut since (people said/thought) it destroyed the scenic beauty.'

b. # [kyengkwan-ul haychi-n-ta]-ko malha/sayngkakha-ko kaloswu-ka ceyketoy-ess-ta.
scenic.beauty-Acc destroy-Pres-Decl-Quot say/think-Conj poplar.trree-Nom be.cut-past-Decl

[12]Thank Benjamin Bruening for pointing this out.

'The poplar tree said/thought it destroyed the scenic beauty, and was cut down.'

Since BQs and their counterparts with an overt verb are not interchangeable, BQs cannot be viewed as elided constructions.

It is interesting that the speaker/thinker of a BQ is not coreferential with the matrix subject in passive sentences like (2.29a). When a BQ is embedded within an active sentence, the coreferentiality must hold all the time. Section 2.4.4.3 will account for this with control by the matrix agent.

2.3.2 Constructional account of headless suspensive constructions

Oshima (2015) nicely shows that bare quotatives (BQs) in Japanese (JP) do not have hidden predicates. He demonstrates that (i) BQs are incompatible with any constituents that can co-occur with possible hidden verbs (i.e., 'say' or 'think') and that (ii) the distribution of BQs is far more limited than that of corresponding standard quotatives (SQs) with an overt verb. A few of his examples were quoted in (2.27)–(2.28) on page 33 as part of the argument that BQs lack a selector of any kind. Instead, Oshima claims that BQs are enclosed with a "headless gerundive/infinitive construction" as in (2.30), and that the construction adds the meaning of 'saying' or 'thinking' onto the meaning of the BQ. The term *headless* is used to indicate that the construction is exocentric, lacking its head (i.e., 'say' or 'think').

(2.30) $[_{\text{gerundive/infinitive}}\ [_{\text{quotative}}\ \text{BQ}\ ]\ ]$

(2.31) $[_{\text{NP}}\ \text{the}\ [_{\text{AP}}\ \text{very rich}]]$ (Fillmore et al. 2012, (11b))

(2.31) is an example of exocentric construction according to Oshima (2015) and Fillmore et al. (2012) in the sense that the AP is contained within an NP that lacks a head, e.g., *person(s)*. Oshima argues that the relationship of the AP and the NP in (2.31) is analogous to the relationship of the quotative and the suspensive construction in (2.30).

In order to account for the semantic indeterminancy of BQs between the content of speech and the content of thought, Oshima claims that headless suspensive constructions are divided into two kinds: One can be paraphrased with an overt *say*-verb (i.e., *itte*/*ii* 'saying/to say') and the other can be paraphrased with an overt *think*-verb (i.e., *omotte*/*omotte* 'thinking/to think'). He calls these *SAY-ellipsis constructions* and *THINK-ellipsis constructions* but his terminology might sound misleading: He opposes an ellipsis account for BQs. Hence, I will call them *SAY-BQs* and *THINK-BQs* instead in this paper.

The two headless suspensive constructions, SAY- and THINK-BQs, are illustrated under the framework of Sign-Based Construction Grammar (Sag et al. 2012), a branch of Head-Driven Phrase Structure Grammar. SAY- and THINK-BQs denote events of saying or thinking. The events are conjoined with the matrix clause event in a similar way to how the events denoted by gerunds and infinitives work. Oshima also claims that SAY- and THINK-BQs encode different kinds of implication about the relationship between the BQ event and the matrix event. The implications are provided in (2.32b) and (2.32c):

(2.32) (Oshima 2015, (19i, iii, iv), with a minor paraphrasing)

a. SAY-BQs can be paraphrased with *itte* 'saying' or *ii* 'to say'; THINK-BQs can be paraphrased with *omotte* 'thinking' or *omoi* 'to think'.

b. SAY-BQs imply that there is no causal relation between the speech of the BQs and the matrix clause event.

c. THINK-BQs imply that there is a causal relation between the thinking of the BQs and the matrix clause event, or a manner relation between the two.

Example sentences in JP are given below:

(2.33) SAY-BQ

[dareka	imasen-ka	to]$_{BQ}$	doa-o	tataita.
anybody	exist.Polite.Neg-Q	Quot	door-Acc	knock.Past

Intended: 'He knocked on the door, saying "Is anybody is here?".'

(modified/relabeled from Oshima 2015, (13a))

(2.34) THINK-BQ (a. is an example of a causal BQ; b. is of a manner BQ)

a. [moo doose maniawanai to]$_{BQ}$ hashiru-no-o yameta.
already anyway be.on.time-Neg.Polite Quot run-NMZ-Acc stop.Past
Intended: 'He stopped running, thinking that he won't make it anyway.'

(modified/relabeled from Oshima 2015, (17a))

b. [dare-ni-demo shippai-wa aru to]$_{BQ}$ jibun-o nagusameta.
who-Dat-even mistake-Top exist Quot self-Acc console-Past
'He consoled himself, thinking that anyone can make a mistake.'

(modified/relabeled from Oshima 2015, (17b))

I agree with Oshima on the point that there is no hidden or elided predicate for BQs. However, I believe that BQs can be accounted for without assuming the presence of headless gerundive or infinitive constructions. In section 2.4, I will show that BQs are analyzed as phrases referring to speech acts. In this case, the notion of headless construction may not be neccessary.

In addition, the definition of THINK-BQ sometimes leads to an incorrect prediction. Oshima claims that a THINK-BQ implies either causal or manner relationship between the BQ and the matrix clause. However, not all THINK-BQs fall within this scope. Oshima (personal communication) also agreed that the causal/manner relationship is a tendency that most THINK-BQs imply, not all. For example in (2.35), Brad was crossing a parking lot, thinking about the dinner menu. The BQ 'what he would have for dinner' must be a THINK-BQ since it need not be uttered, but the thinking is neither the cause nor the manner of his walking.

(2.35) JP Brad-wa [yuushyoku-wa nani-ni siyoo-ka-to]$_{BQ}$ eki-ni
Brad-Top dinner-Top what-Dat do-Int-Quot, station-to
mukau-totyuu, tomodati-ni at-te, issyoni resutoran-nii
heading-on.the.way, friend-Dat meet-Conj together restaurant-Dat
ku-koto-ni si-ta.
go-thing-Dat do-Past

'When Brad was heading to the station, [what he would have for dinner], he met a friend and decided to go to a restaurant with him.'

What (2.35) describes consists of two events: The one denoted by the BQ involves a mental process and the other denoted by the matrix clause involves an action of walking. What is the relationship between the two events in (2.35)? They share time and a participant. The two events share a common time frame, and also are conducted by the same person. In fact, in all the examples shown in this dissertation, the BQ and the matrix clause share time and a participant. Sharing the two components of event could be the essence of the relationship between a BQ and its matrix clause. The causal/manner relationship that Oshima argued for seems to be inferred by the pragmatics. An assertion/thought by the matrix agent around the time of matrix event can be easily inferred as the matrix agent's opinion toward the matrix event. Thus, the causal/manner distinction need not be encoded into the definition of the relationship between the BQ and the matrix clause.

If THINK-BQs do not necessarily imply causal or manner relations, we can reconsider the division of THINK-BQs and SAY-BQs. Do we need two distinctive constructions for BQs? Is there a way to unify SAY-BQs and THINK-BQs? In Section 2.4.1, I will suggest the possibility that JP and KR encode the verb 'think' and its complement in a similar way to encoding a self-addressing speech and its complement.

2.3.3 Lexicalization account of *ta-ko* 'Decl-Quot' as a causative connective

Traditional grammarians in Korean have taken the view that quotatives are non-factive, regardless of the presence of the matrix predicate (Nam 1986).Most of the works also describe bare quotatives (BQs) as adverbial clauses. They usually (i) focus on the BQs of declarative clause-type, ending with *ta-ko* 'Decl-Quot', and (ii) treat *ta-ko* in BQs as a causative marker (Lee and Im 1983, Yoo 2002, Yim 2007, among others). For instance, Yim (2007) claims that *ta-ko* is a lexicalized causative marker *tako* which retains assertiveness and non-factiveness. I will examine Yim's work in this section.

The main reason for Yim (2007) to take the lexicalization view seems to be that it is one of a very few possible accounts for the adverbial nature of BQs when the ellipsis account is ruled out. Yim showed in her paper that there is no overt construction that is synonymous with its corresponding BQ. For example in (2.36a), two possible paraphrases of the BQ using the overt verb *ha* 'say/assume'[13] can be either a conjunct as in (2.36b) or a *while*-clause as in (2.36c); however, the three sentences have subtle differences in meaning, as she correctly pointed out.

(2.36) KR (Yim 2007, (19a–c), squared brackets and glosses are mine)

a. Yenghuy-nun [pi-ka o-n-tako]$_{BQ}$ hakkyo-ey an
Yenghuy-Top rain-Nom come-Pres-Cause school-Loc Neg
ka-ss-ta.
go-Past-Decl
Literally: 'Yenghuy did not go to school, [it was raining].'

b. Yenghuy-nun [pi-ka o-n-ta-ko ha-ko]$_{event1}$ [hakkyo-ey
Yenghuy-Top rain-Nom come-Pres-Decl-Quot do-Conj school-Loc
an ka-ss-ta.]$_{event2}$
Neg go-Past-Decl
'Yenghuy said it was raining and then she did not go to school.'

c. Yenghuy-nun [pi-ka o-n-ta-ko ha-myense]$_{adjunct\ clause}$
Yenghuy-Top rain-Nom come-Pres-Decl-Quot do-while
hakkyo-ey an ka-ss-ta.
school-Loc Neg go-Past-Decl
'Yenghuy, while saying [it was raining], did not go to school.'

(2.36b) illustrates two independent events, an event of saying and an event of not going, and the two events are not necessarily related to each other. This is in contrast with the case of (2.36a), wherein the BQ is closely tied to the matrix clause by indicating the matrix agent's opinion toward the matrix event. Similarly in (2.36c), the event denoted by the *while*-clause is loosely connected to the matrix clause event. The two events only share the temporal duration.

[13]The verb *ha* in KR is usually ambiguous between a lexical verb meaning 'do/make' and a light verb that accompanies predicate nominals (Chae 1996, 1997, 2002). However, *ha* refers to 'say' or 'assume (c.f. Nam 1986, p.129)' when it has a complement quotative as in (2.36b)-(2.36c) .

Yim (2007) further distinguishes the "lexicalized" *tako* from the canonical causative marker *ase/ese* in Korean in two respects. First, the content of *tako*-clause is not supposed to be real since it retains assertive and non-factive characteristics just as quotatives do. For instance in (2.37) above, the weather might have been actually bad—it might have been Chelswu who mistakenly thought the weather was good. By contrast, under the context of the canonical causal clause in (2.38), the weather must be good.

(2.37) KR [nalssi-ka coh-tako]$_{BQ}$ Chelswu-nun kongwon-eyse
weather-Nom be.good-Caus Chelswu-Top park-Loc
kel-ess-ta.
walk-Past-Decl
'Because the weather was good, Chelswu walked in the park.'

(2.38) Canonical causal clause ending with *ase/ese*

KR [nalssi-ka coh-ase] Chelswu-nun kongwon-eyse
weather-Nom be.good-because Chelswu-Top park-Loc
kel-ess-ta.
walk-Past-Decl
'Because the weather was good, Chelswu walked in the park.'

Secondly, according to Yim (2007), the matrix clause for *tako*-clause must denote a [+volitional] event conducted by a [+human] agent, whereas the matrix clause for *ase/ese*-clause can be any events. Yim explained that (2.39a) is ungrammatical with a BQ because the matrix subject is a brush, thus non-human.

(2.39) (Yim 2007, (22a), glosses and translation are mine)

a. # [phethu.pyeng kwumeng-i cop-ta-ko]$_{BQ}$ sol-i an
PET.bottle hole-Nom be.narrow-Decl-Quot brush-Nom Neg
tuleka-pni-ta.
enter-Polite-Decl
'The brush does not fit, [the PET bottle has a narrow mouth].'

b. phethu.pyeng kwumeng-i cop-ase sol-i an
PET.bottle hole-Nom be.narrow-Cause brush-Nom Neg
tuleka-pni-ta.
enter-Polite-Decl

'The brush does not fit, because the PET bottle has a narrow mouth.'

I agree that the sentences that contain a BQ denote volitional events and that most of the BQs in Korean indicate the motivation for the matrix event. Yim's description of [+volitional] is in accordance with the general observation that most BQs describe the motivation for the matrix event. However, the feature [+human] does not seem to fully capture the characteristics of the matrix agent. Consider that the sentences in (2.40) are acceptable with animal subjects, which are non-human.

(2.40) a. KR [na-lul hwanyengha-n-ta-ko]$_{BQ}$ kangaci-ka cemphu-lul
1sg-Acc welcome-Pres-Decl-Quot puppy-Nom jump-Acc
ha-yss-ta.
do-Past-Decl
Literally: 'The puppy jumped, [(it was) welcoming me].'
Intended: 'The puppy jumped, expressing/thinking it was welcoming me.'

b. KR [mwulkoki-lul cap-nun-ta-ko]$_{BQ}$ oli-ka meli-lul
fish-Acc catch-Pres-Decl-Comp duck-Nom head-Acc
mul-ey pak-koiss-ta.
water-Loc put-Prog-Decl
Literally: 'The duck is putting its head into the water, [(it) is catching fish].
Intended: 'The duck is putting its head into the water, expressing/thinking it is catching fish.'

Also, earlier in the examples of BQs in passive constructions (2.28b) JP and (2.29a) KR, the matrix subjects lack volition; rather, it is hidden agents that own intention described by the BQs. Therefore, we can conclude that BQs denote a volitional event conducted by a [+animate] agent. The agent will be the subject in active constructions but it can be covert in passive constructions.

Moreover, I doubt if it is right to regard *tako* as being a "lexicalized" marker of a volitional cause. As we have seen in the previous section (page 38), BQs often do not provide cause/motivation. For example in (2.41), should we view 'it looks fun' as

motivation for the matrix event? 'It looks fun' could be simply the sentence Kkobuki uttered when he joined the team; it could be what he had in mind but there might be another crucial motivation for him to join the team. There is room for a wide range of interpretations and 'it looks fun' may or may not be a "cause" for the matrix event. Some of these interpretations cannot be captured simply by the concept of causality. I believe that viewing BQs as the speaker's publicized opinions, as discussed in section 2.2.4, gives a better picture of the meaning of BQs.

(2.41) Kkobuki-ka [chaymi iss-epoi-n-ta-ko]$_{BQ}$ uli-uy phuloceykthu-ey haplyuha-yss.ta
Kkobuki-ka fun exist-look-Pres-Decl-Quot 1pl-Gen project-Dat join-Past-Decl
'Kkobuki joined our project, [(it) looks fun].'

Therefore, the lexicalized *tako* theory fails to predict that the non-causal relationship between BQs and their matrix event. Furthermore, if *tako*-clauses retains the meanings of its components, such as assertiveness, there is no need to assume the lexicalization process for *tako*.

2.4 Analysis: A Speech Act Phrase with a Connective *to/ko*

The presentation will be made step by step, from the internal structure of the BQ to its adjunction to the matrix sentence structure.

2.4.1 Speaker deixis within BQ

In the previous section 2.2.3, it was observed that bare quotatives (BQs) require the matrix predicate to have a stage-level property. In this section, I demonstrate another relationship between BQs and their matrix clauses: The speaker of the content of a BQ *must* be identical to the matrix agent. For example, the described event of (2.42) has two people but only the matrix agent, Yumi, is a possible speaker/thinker of the BQ. Likewise in (2.43), the only speaker/thinker of what is described by the BQ is the court, neither the lawyer nor the plaintiff. The lawyer is ruled out because s/he

is assigned an Experiencer role from the verb *nukki* 'feel' and the plaintiff is part of Theme in CP2.

(2.42) Yumi-nun Mina-eykey [kyewul-ey taypiha-yaha-n-ta-ko]$_{BQ}$
Yumi-Nom Mina-Dat winter-Dat prepare-have.to-Pres-Decl-Quot
ttaylkam-ul mantul-key ha-yss-ta.
log-Acc make-Pur do-Past-Decl

Literally:'Yumi made Mina make logs, [(she) has to prepare for the winter].'

Intended: 'Yumi made Mina make logs, thinking/saying that she has to prepare for the winter.'

⇒SPEAKER/THINKER OF BQ: Yumi

(2.43) [$_{CP1}$ pyenhoin-un [$_{CP2}$ [sali-ey mac-ciahn-nun-ta-ko]$_{BQ}$ pepwen-i
lawyer-Top reason-Dat fit-Neg-Pres-Decl-Quot court-Nom
wenko-uy cwucang-ul kikakha-yss-ta-ko] nukki-ess-ta].
plaintiff-Gen claim-Acc reject-Past-Decl-Quot feel-Past-Decl

Literally: 'The lawyer felt [that the court rejected the plaintiff's claim, [(it) was not reasonable]].'

Intended: 'The lawyer felt that the court rejected the palintiff's claim, thinking/saying that it was not reasonable.'

⇒SPEAKER/THINKER OF BQ: The court

(2.43) also shows that the potential speaker/thinker of a BQ must be the agent of the immediate higher clause event. In passive sentences also, the potential speaker/thinker is the matrix agent, who plans or does the matrix event. For example, the BQ in (2.44) delivers the voice of the one who planned to cut the tree.

(2.44) ku namwu-nun [kyengkwan-ul haychi-n-ta-ko] calye-ci-ess-ta.
the tree-Nom view-Acc ruin-Pres-Decl-Quot cut-Pass-Past-Decl

Literally: 'The tree was cut, [it ruined the scenic view].'

Intended: 'The tree was cut, it was said/thought that it ruined the scenic view.'

⇒SPEAKER/THINKER OF BQ: The one who cut the tree

I claim that this co-referentiality can be accounted for by considering that speaker deixis occurs within BQs and that the deixis is controlled by the matrix agent. Another piece of evidence for the existence of speaker deixis is that BQs can have speaker-oriented adverbials. For example, the BQ (2.45) contains the adverbials *sinki-hakey* 'surprisingly' and *pwulhaynghi* 'unfortunately'. These adverbials reflect the point of view of Sumi, the matrix agent, not the sentence speaker's.

(2.45) Sumi-ka [pang-i sinkihakey/pwulhaynghi tep-ta-ko]$_{BQ}$
Sumi-Nom room-Nom surprisingly/unfortunately be.hot-Decl-Quot
changmwun-ul yel-ess-ta.
window-Acc open-Past-Decl
Literally: 'Sumi opened the window, [the room is surprisingly/unfortunately hot].'
Intended: 'Sumi opened the window, saying/thinking that the room is surprisingly/unfortunately hot

Speaker deixis is not a new concept. Its existence has been discussed in relation to the left periphery of functional projections (Tenny 2000, Haegeman 2006). I adopt their view that speaker deixis is syntactically encoded, for the case of BQs. Examples of the use of speaker deixis in the projections of point of view and the English peripheral adverbial clauses are in (2.46) and (2.47) respectively.

(2.46) Functional projections of (Tenny 2000, explanations in parentheses are mine)
[Point of view (speaker deixis) [Tense (temporal deixis) [Truth value (probability) [...]]]]

(2.47) Left peripheries of English peripheral adverbial clauses (Haegeman 2006, with a change of abridged terms into full words)
[SUBORDINATOR [TOP [FOCUS [SPEAKER DEIXIS [FIN]]]]]

The configurations (2.46) and (2.47) by Tenny (2000) and Haegeman (2006) are not intended to target embedded quotative constructions like BQs. Indeed, (2.46) is for root clauses and (2.47) is for the adverbial clauses that are discourse-related and adjoined

higher than IP-level at least. BQs in JP/KR are embedded clauses and event-related in the sense that they specify utterances/thoughts that overlap with the matrix event in time. However, I believe that BQs are eligible to host the projection of speaker deixis because they are able to attribute speaker-oriented adverbs to the matrix agent instead of the speaker of the sentence. As a first approximation, I would suggest a configuration of BQs in JP/KR as in figure 2.3 on page 50. The structure will be iteratively refined in sections 2.4.2 through 2.4.4.3. Here, I provide a simplified version of the configuration in figure 2.1.

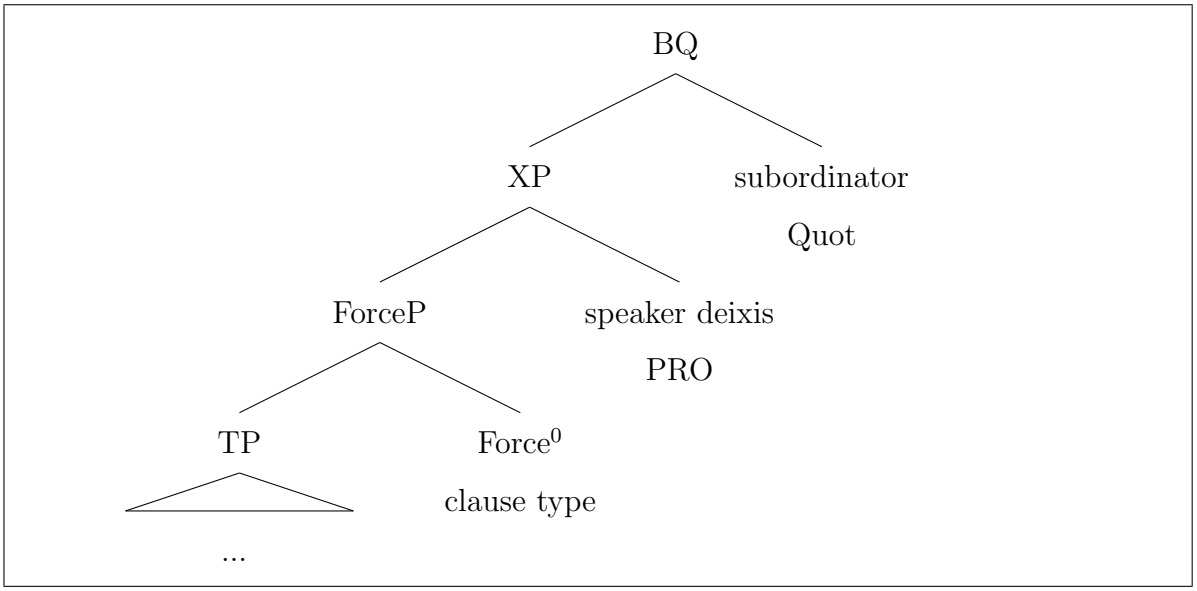


Figure 2.1: A simplified configuration of quotatives in JP/KR

Speaker deixis provides an anchor of the speech/thinking event as well as the speaker-oriented adverbials that possibly appear in BQs. The ForceP is expressed with any possible clause-type, e.g. the declarative marker *ta* or the interrogative marker *nya* in KR. The subordinator is the quotative marker *to/ko* in JP/KR, which ties the speaker and his/her utterance to the matrix event.

I suggest PRO is used in speaker deixis in BQs because the co-referentiality between the matrix agent and the speaker/thinker of the BQ is reminiscent of the canonical case of subject control. The first two sentences in (2.48) are examples of English subject control. In both cases, the person who intends to collect the insurance

is conindexed with the matrix agent: *we* in (2.48a) and an implicit argument in (2.48b). Note that the subject control is banned in non-agentive context as in (2.48c) and the controlled empty category cannot be replaced by an overt NP like *us* as in (2.48d).

(2.48) a. We sank the ship (PRO) to collect the insurance.

b. The ship was sunk (PRO) to collect the insurance. (Landau 2000)

c. * The ship sank to collect the insurance

d. * The ship sank us to collect the insurance

Here I claim that in JP/KR BQs, speaker deixis is realized as PRO and the PRO is controlled by the matrix agent. This can account for the identity of the speaker/thinker of the BQ as the matrix agent. Also, the presence of PRO provides the correct prediction that BQs lack an overt NP for the speaker/thinker as observed by Oshima. (2.49) is an example sentence in KR.

(2.49) Sumi-ka [(*ku/*casin-i) pang-i tep-ta-ko]$_{BQ}$ changmwun-ul
Sumi-Nom (3sg/self-Nom) room-Nom be.hot-Decl-Quot window-Acc
yel-ess-ta.
open-Past-Decl
Intended: 'Sumi opened the window, she/herself is saying that [the room is hot].'

Therefore, I suggest that BQs consist of three necessary parts: A speaker, an utterance, and the subordinator *to/ko* (JP/KR).

(2.50) Sumi-ka [[PRO] [pang-i tep-ta]-[ko]]$_{BQ}$ changmwun-ul
Sumi-Nom PRO room-Nom be.hot-Decl-Quot window-Acc
yel-ess-ta.
open-Past-Decl
'Sumi opened the window, [the room is hot].'

The following subsections will identify the phrase wherein the speaker deixis occurs.

2.4.2 Speech act phrase for BQs

The theory of speech acts, or illocutionary acts[14], dates back to Austin (1962), Stenius (1967), Searle (1969). The basic assumption is that the utterance of a sentence is interpreted with two respects: One is denotation, a descriptive semantic object, and the other is illocutionary force, the speaker's intention of the utterance (Portner 2004). (2.51) is an example of an utterance of a declarative sentence.

(2.51) "John left the room" consists of:

a. Denotation: p = John left the room.

b. Illocutionary force: Assertion

The illocutionary force of an utterance is independent of the clause type of the uttered content and vice versa. For example, (2.52a) and (2.52b) are of different clause types (i.e., imperative and declarative) but are involved with the same category of speech act—wishes. Another pair of sentences in (2.53) show the opposite case: They are of the same clause type (i.e., interrogative) but are involved with different speech acts. (2.53a) is usually used as an inquiry, whereas (2.53b) is used as a request in most circumstances.

(2.52) The same speech act; different clause types

a. Get well! (Hamblin 2013, p.24)

b. I hope you get well.

(2.53) Different speech acts; the same clause type

a. Have you been to the salt mine?

b. Can you pass me the salt?

There have been attempts to encode the illocutionary force in syntax since Rizzi (1997), who presented possibilities that a diversity of functional phrases occur around the left periphery of the sentence. Speas and Tenny (2003) suggest the speech act

[14]This paper uses the two terms *illocutionary act* and *speech act* interchangeably.

phrase, a projection that has three arguments: speaker, hearer, and utterance content. Their model for the speech act phrase was further refined by Haegeman and Hill (2013) as in Figure 2.2. Here speech act phrase (saP) introduces the speaker and Speech Act phrase (SAP) introduces the addressee. The layer of FP introduces the utterance content, headed by a clause type such as declarative or interrogative.

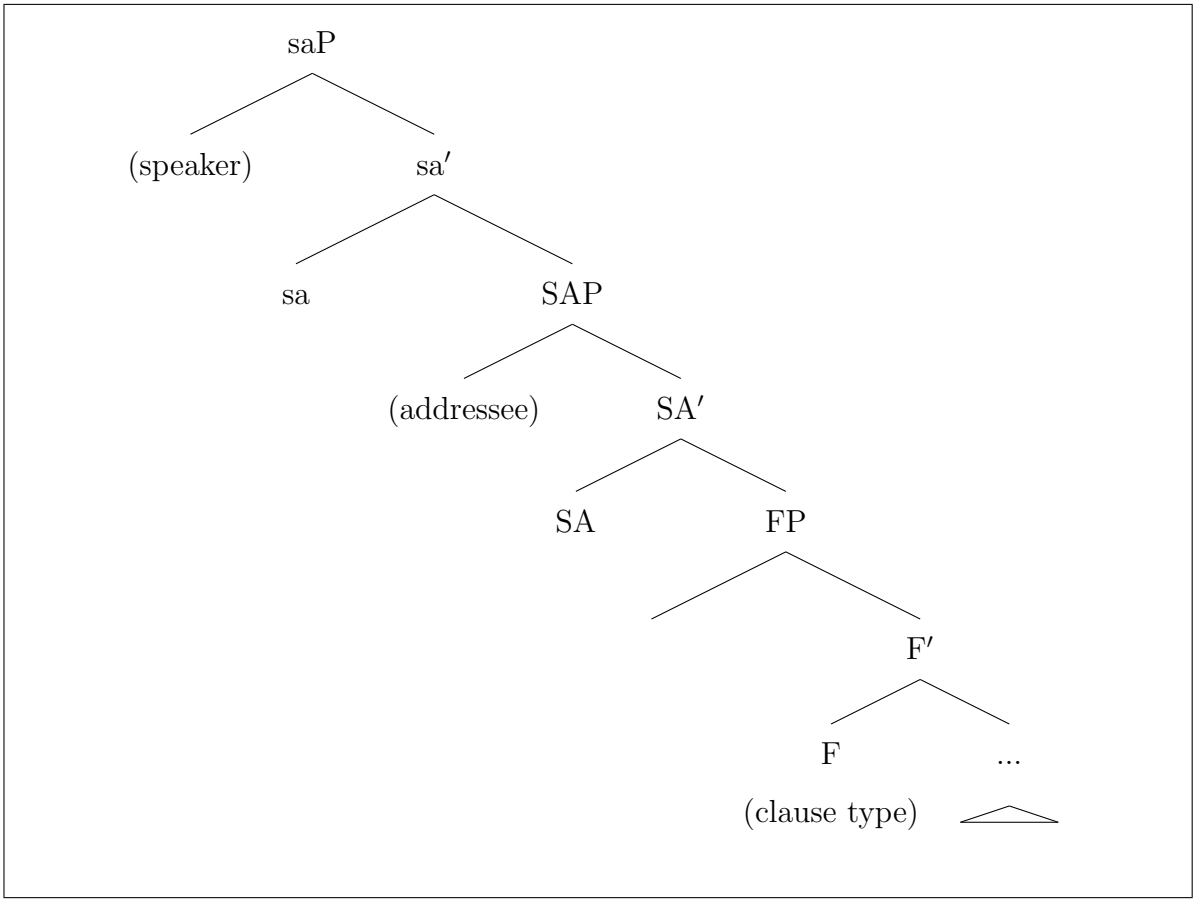


Figure 2.2: Speech act phrase in Haegeman and Hill (2013)

It is useful to assume the expanded CP when we want to account for main clause phenomena (MCP) such as topicalization, focus fronting, and morphological agreement with the speaker or the addressee. The former cases (topicalization and focus fronting) utilize this expanded CP structure as landing sites for topic or focus movement. The latter cases (agreement) utilize this expanded CP to mark agreement with the person features of the saP and the SAP. MCP are usually observed in root clauses and

only a limited kind of subordinate constructions. In Japanese (JP) and Korean (KR), topicalization takes place with an overt marker *wa/nun* (JP/KR). Likewise in JP/KR, morphological agreement is used with politeness markers that reflect that the addressee possesses a respectable status from the speaker's point of view (Cole et al. 2000, Miyagawa 2012). Also, Kim (2010a) raised the possibility that root interrogative clause-type particles in KR mark the orientation of the addressee who is expected to answer the question. These can be represented easily by using the saP configuration.

Can we map BQs to a phrase that encodes a speech act? There have been debates on whether standard quotatives (SQs) in JP/KR project a phrase of speech act, despite the long-standing consensus that SQs show main clause phenomena (MCP)[15]. I will not make a decision on the configuration of SQs. In this paper, I will claim that BQs are mapped to phrases that represent speech acts including speaker deixis. This is because BQs show main clause phenomena (MCP) and the choice of the speaker is strongly dependent on the syntax of the matrix clause, as demonstrated in the previous subsection. So I will take the view that BQs contains an argument for the speaker.

The configuration of the BQ in (2.54) will be roughly as in Figure 2.3:[16]

[15]There are three views:

(i) Miyagawa (2012) and Ceong (2016) view that quotatives in JP/KR can be mapped to speech act phrases,

(ii) Pak et al. (2008), and Zanuttini et al. (2012) view that speech acts cannot be encoded in the syntax for embedded clauses in KR, and

(iii) Yoon (in press) argues that quotatives in KR can optionally include speech acts.

[16]This figure introduces two arguments for discourse participants: a speaker and an addressee. While the existence of the speaker argument in BQs is obvious as demonstrated in Section 2.4.1, the existence of the addressee argument in BQs has no independent evidence. I assume its existence because it makes it easier to show how BQs of thought involving co-indexing the speaker and addressee arguments. However, addressee argument is not necessary and can be reduced.

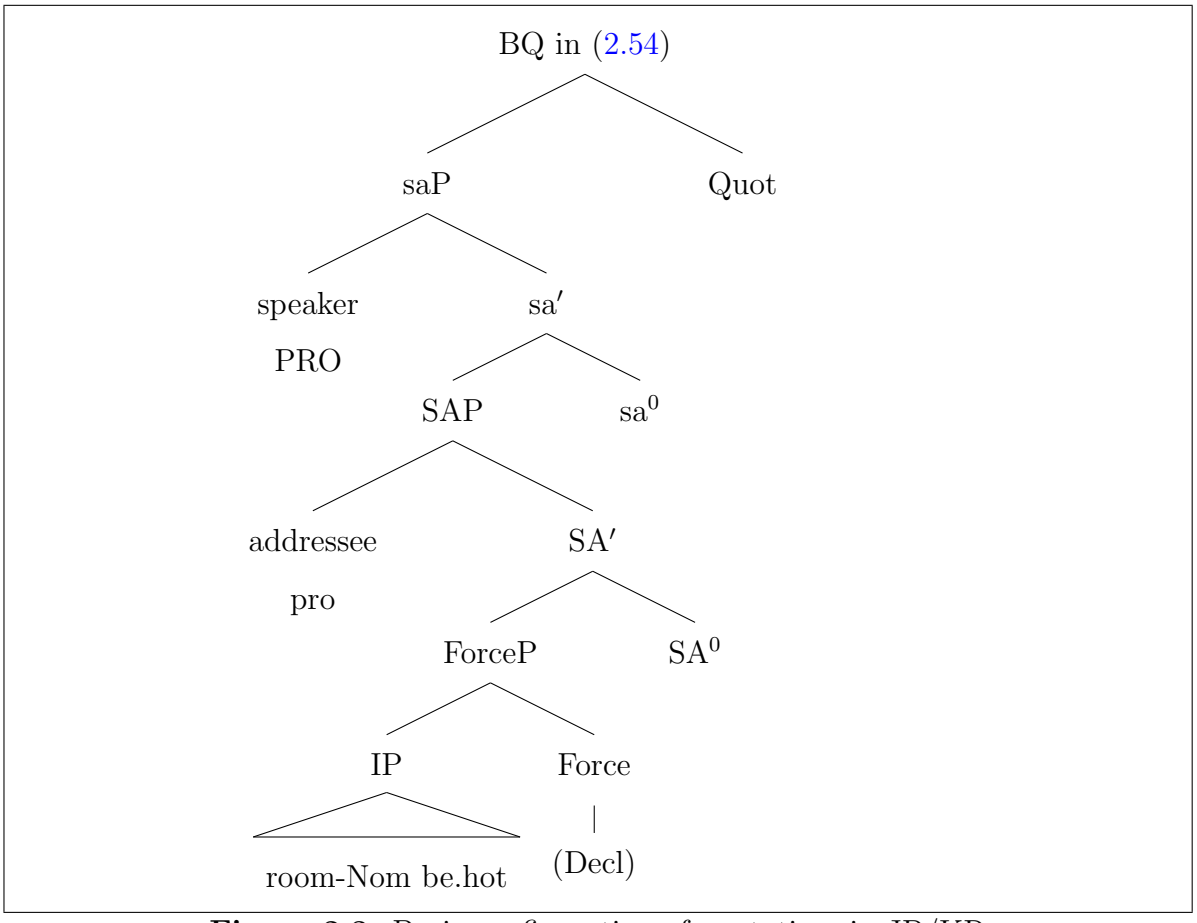


Figure 2.3: Basic configuration of quotatives in JP/KR

(2.54)KR Sumi-ka [pang-i tep-ta-ko]$_{BQ}$ changmwun-ul
Sumi-Nom room-Nom be.hot-Decl-Quot window-Acc
yel-ess-ta.
open-Past-Decl

JP Sumi-ga [heya-ga atsui-to]$_{BQ}$ mado-o aketa.
Sumi-Nom room-Nom be.hot-Quot window-Acc opened
'Sumi opened the window, [the room is hot].'

The head of SAP (i.e., SA^0) holds the relevant illocutionary force such as assertion, request, inquiry, etc. The illocutionary force is not directly determined by the clause type; it highly depends on the context. I do not regard the quotative marker as SA^0 because, in JP/KR, speech-act meanings are triggered by the presence of a clause-type marker, without the presence of a quotative marker. For example, in (2.55), the

subordinate clause in squared brackets signals what Lena said. The clause describes an assertion, but without the quotative marker *ko*.

(2.55) KR [Mina-ka ttena-ss-ta-myense], Lena-ka ttena-ss-ta.
Mina-Nom leave-Past-Decl-*while* Lena-Nom leave-Past-Decl
'Lena left, while (saying that) Mina left.'

I view clause-type markers as appearing at Force head and determining the type of speech act by agreeing with SA^0.

We can assume the same structure for jussives (i.e., imperatives, promissives, exhortatives) with only a minor change in the characteristics of the FP. Pak (2008), Pak et al. (2008), and Zanuttini et al. (2012) claim that Korean jussive constructions consist of a jussive phrase (JussiveP) over a tense phrase (TP). $Jussive^0$ and T^0 carry the person-feature and the nominative Case feature, respectively, and the two heads "form a unit and together probe the subject" (Zanuttini et al. 2012, p.1246). The consolidated functional head is labeled as T-$Jussive^0$. (2.56) provides simplified examples of T-Jussive phrases (T-JussivePs). In (2.56a), the imperative marker *-la* has the second person feature and agrees with the second person pronoun *ney* in the subject position. (2.56b) and (2.56c) each illustrates the case of promissive and exhortative. Promissive *ma* has the first person feature and exhortative *ca* has the first person plural feature "inclusive with the addressee" (Zanuttini et al. 2012, p.1234). Zanuttini et al. also showed the agreement of number and Case between $Jussive^0$ and the subject, but for the sake of simplicity, I will not explore the matter further.

(2.56) a. $[_{T-JussiveP}$ $[_{vP}$ ney-ka cito-lul kuli-] $[_{T-Jussive^0}$ -la!]]
2sg-Nom map-Acc draw- Imperative
$[person{:}2]_u$ $[person{:}2]_i$
'You draw the map!'

b. $[_{T-JussiveP}$ $[_{vP}$ nay-ka cito-lul kuli-] $[_{T-Jussive^0}$ -ma!]]
1sg-Nom map-Acc draw- Promissive
$[person{:}1]_u$ $[person{:}1]_i$
'Let me draw the map!'

c. [$_{T-JussiveP}$ [$_{vP}$ uli-ka cito-lul kuli-] [$_{T-Jussive^0}$ -ca!]]
1pl-Nom map-Acc draw- Exhortative
[*person*:1⊕2]$_u$ [*person*:1⊕2]$_i$
'Let's draw the map!'

Pak and Zanuttini correctly predict that an overt subject can occur with the nominative marker in a matrix imperative construction (2.57) and an embedded imperative construction (2.58).

(2.57) Yumi-ya! ney-ka pang-ul chengsohay-la!
Yumi-Voc 2sg-Nom room-Acc clean-Imp
'Yumi! You, clean the room!'

(2.58) Emeni-nun Yumi-ka pang-ul chengsohay-la-ko yochengha-yss-ta.
mother-Top Yumi-Nom room-Acc clean-Imp-Quot ask-PastDecl
'Mother asked Yumi to clean the room.'

I will take the T-JussiveP as the FP for imperatives, promissives, and exhortatives in JP/KR BQs. The configuration of (2.59) with an imperative BQ is provided in (2.4).

(2.59) Emeni-nun [Yumi-ka pang-ul chengsohay-la-ko]$_{BQ}$
mother-Top Yumi-Nom room-Acc clean-Imp-Quot
yongton-ul cwu-ess-ta.
pocket-money-Acc give-PastDecl
'Mother gave Yumi money to clean the room.'

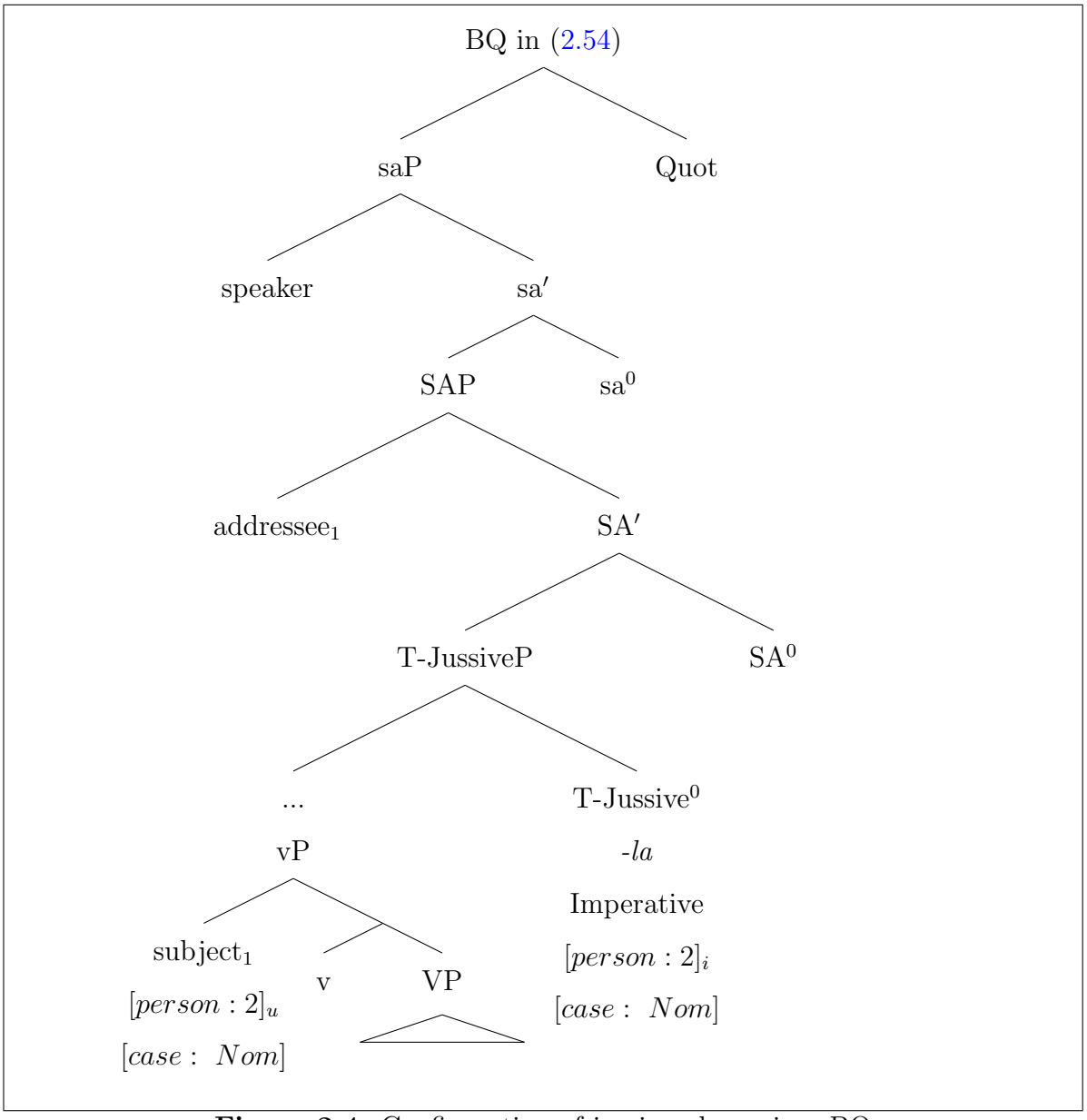


Figure 2.4: Configuration of jussive phrase in a BQ

2.4.3 Speech act phrases expressing speech and thoughts alike

Once we assume that Japanese (JP)/Korean (KR) BQs in general project speech act phrases (saPs), a new question arises: How can a bare quotative (BQ) denote the content of thoughts, and not just the content of speech? For example, the BQ 'too many cookies were baked' in (2.60) could be either what Grandma said or what she thought, depending on the context.

(2.60) KR halmeni-nun [kwaca-ka nemwu mahni kwuw-eci-ess-ta-ko]$_{BQ}$
grandma-Top cookie-Nom too many bake-Pass-Past-Decl-Quot
kwaca han sokuli-lul Mina-eykey cwu-ess-ta.
cookie one jar-Acc Mina-Dat give-Past-Decl
'Grandma, [too many cookies were baked]$_{BQ}$, gave a big jar of cookies to Mina.'

In this section, I will demonstrate that in JP/KR, speech acts are used to express thinking in bare quotatives (BQs).

Conceptually, speaking and thinking involve two distinguished actions with respect to the number of participants and the characteristics of the content. Speaking requires at least two participants, namely a speaker and one or more addressee(s), whereas thinking necessitates only one, a thinker. Also, in semantics and pragmatics, the content of speech has been regarded as any sequence of words that are actually uttered, including interjections like *Shhh* and *What the ....* However, the content of thoughts has traditionally been regarded as a proposition, and likened to the content of belief (c.f. Grice 1989, Stalnaker 1968). Although the content of question type could be a thought, as in the case of *I wonder who sent me the letter* in English, thoughts with an embedded question have been given little attention. Consequently, modern semantics has treated speaking and thinking separately: speech acts theories for speech and modal theories (propositional attitudes) for thought.

However, I claim that some languages including Japanese (JP) and Korean (KR) can make use of the syntax/semantics of speech acts in order to express thinking. This idea is motivated by the observation that JP and KR allow verbs of thinking to select for non-declarative clauses such as interrogatives and jussives. For instance in KR (2.61a) and (2.61b), the verb *sayngkakha* 'think' co-occurs with an interrogative and an exhortative quotative without a problem. In both cases, the quotatives can be re-interpreted as propositional attitudes like 'it must have rained yesterday' and '(she) would like to call her mom'. (2.61c) and (2.61d) are further examples of 'think' embedding an imperative and a promissive quotative clause.

(2.61) KR interrogative, imperative, exhorative, promissive SQs

a. Sarah-ka [ecey pi-ka nayli-ciahn-ass-nya-ko]
Sarah-Nom yesterday rain-Nom fall-Neg-Past-Int-Quot
sayngkakha-yss-ta.
think-Past-Decl
'Sarah thought, [Hadn't it not rained yesterday?].'

b. Sarah-ka [caki emeni-kkey cenhwaha-ca-ko]
Sarah-Nom sefl.3sg mother-to telephone-Exh-Quot
sayngkakha-yss-ta.
think-Past-Decl
'Sarah$_i$ thought, [Let's call up her$_i$ mom!].'

c. Sarah-ka [nayil pi-na nayli-ela-ko] sayngkakha-yss-ta.
Sarah-Nom tomorrow rain-rather fall-Imp-Quot think-Past-Decl
'Sarah thought, [Rain, fall tomorrow!].'

d. Sarah-ka [nayil cang-ey ka-ma-ko] sayngkakha-yss-ta.
Sarah-Nom tomorrow market-Loc go-Prom-Quot think-Past-Decl
'Sarah thought, [(I promise to) go to the market tomorrow].'

Note that the full translations of (2.61a)–(2.61d) in English may have different nuances from those of the original KR sentences. The English translations of the BQs sound like direct quotes of thought bubbles in a cartoon; however, the BQs of JP and KR are indirect quotes. As indirect quotes, *caki* 'self' in the BQ of (2.61b), which is the third person anaphora, can refer back to the speaker, Sarah.

As mentioned earlier in this section, the general consensus in semantics has been that the object of thinking is a propositional content. If we want to keep the consensus, how can we connect the syntactically non-declarative quotatives to the semantically propositional contents? I would like to argue that the expressed quotatives in (2.61) illustrate what Sarah thought *indirectly* by standing for what Sarah could have said to herself when she had the thoughts in question. Speech is an action of expressing one's thoughts in usual cases. Since thoughts are closely tied to speech, we frequently observe that the action of thinking leads to actual speech. While brain-storming, some of us tend to talk silently to ourselves. This observation is the idea behind why verbs

of thinking in JP/KR can select for quotatives just as speech verbs do. I believe that it is crosslinguistically common to paraphrase 'thinking' and 'wondering' with 'talking to oneself' and 'asking oneself'. Further more, JP and KR seem to treat the expressions for 'think' similarly to 'talk to oneself'. If that is the case, the process of interpretation for 'think' in JP/KR would be like that of a reflexive speech verb, wherein the speaker is identical to the addressee as in (2.62b).

(2.62) For speech act R, speaker x and addressee y:

a. $[\![\textit{malha} \text{ 'say'}]\!] = \lambda R \lambda x \lambda y.\ R(x, y)$

b. $[\![\textit{sayngkakha} \text{ 'think'}]\!] = \lambda R \lambda x.\ R(x, x)$

This is what distinguishes my analysis from Oshima (2015), who claims that bare quotatives are divided into two separate constructions: SAY-BQs and THINK-BQs as discussed in Section 2.3.2. Oshima's analysis fails to account for the close relationship between how the content of thinking and the content of speaking are encoded in JP and KR. My view is that the two interpretations originate from the same structure, and the only difference is that thinking is a reflexive function, wherein the addressee is identical with the speaker. This view does not have any philosophical implications for the concepts of thinking and saying; it is limited to how quotative constructions are interpreted in JP and KR. Indeed, as mentioned at the beginning of section 2.2.1, quotatives in JP/KR can be the complement of, not only verbs of saying, but also of verbs of thinking and believing. This is borne out by the example sentence in (2.63).

(2.63) JP Jon-wa [ame-ga futte-iru to] it/omot/shinji-ta
Jon-Top rain-Nom fall-Prog Quot say/think/believe-Past

KR Jon-un [pi-ka nayli-n-ta-ko]
Jon-Top rain-Nom fall-Non.past-Decl-Quot
malha/sayngkakha/mit-ess-ta
say/think-believe-Past-Decl
'Jon said/thought/believed that it was raining.'

My claim that the meanings of speech and thoughts can stem from one syntactic/semantic structure in JP and KR is on par with Vanderveken (1990), who claimed

'the universal laws that govern the successful performance and satisfaction of illocutionary acts reflect the *a priori* forms of thought and experience' (p. 226, from Kronfeld 1993). However, I do not extend my claim into whether or not the concept of thinking must be treated in the same way as the concept of speaking in philosophical terms. I leave this as an open question.

2.4.4 Semantic interpretation

Now we turn to the semantic interpretation of BQs in the sentence. The configuration is provided in Figure 2.5 on page 58. This is the complete configuration for the structure of BQs. Note that I adopt Heim and Kratzer (1998)'s idea that PRO syntactically undergoes movement to the higher location leaving its trace in the structure and it semantically abstracts away the argument in which it originates. However in this section, we will gradually build up our trees into the final structure in Figure 2.10 on page 68.

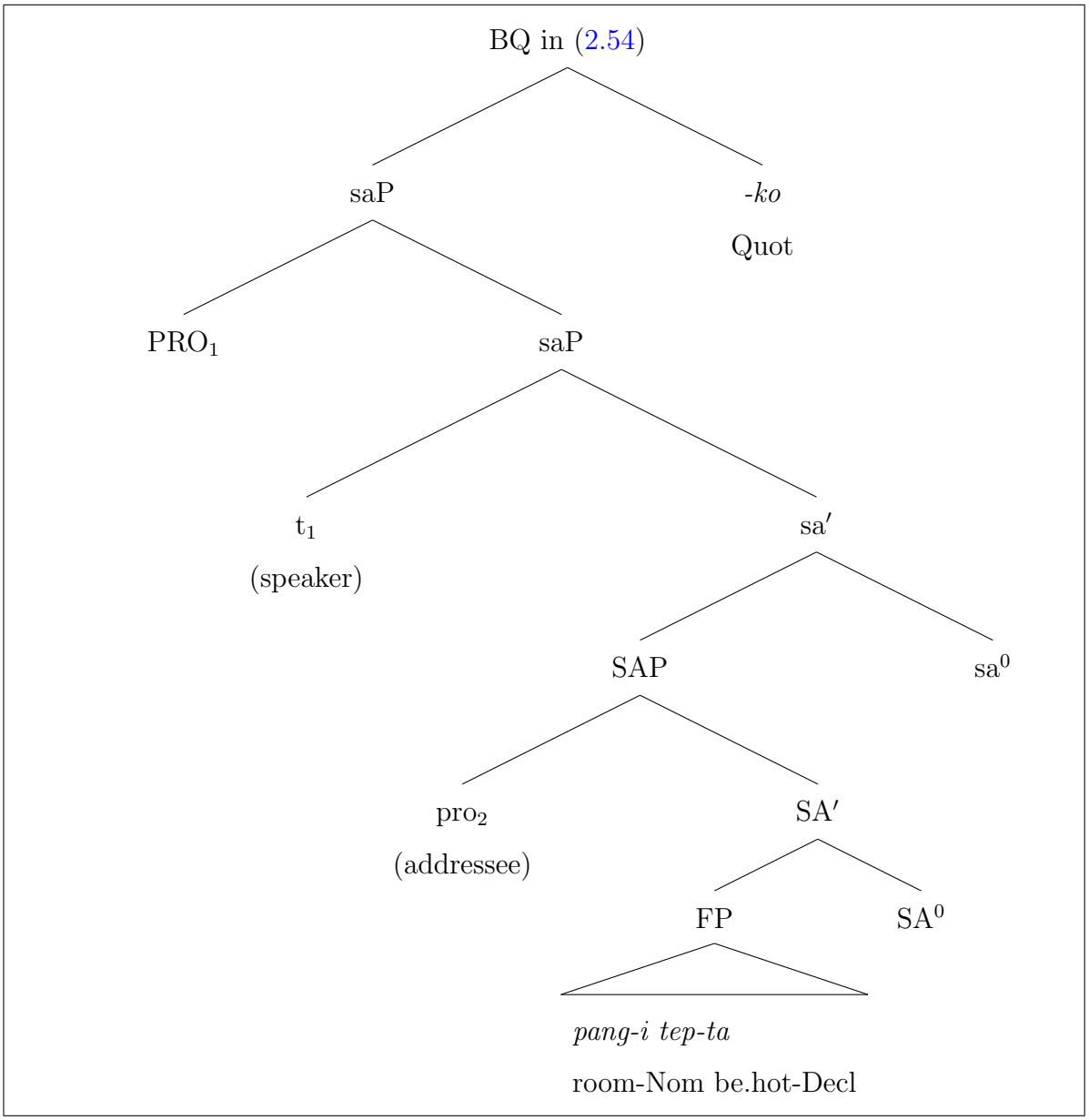


Figure 2.5: Configuration of quotatives in JP/KR

2.4.4.1 Definitions

Here, I first provide a model with semantic entities, functions, and temporal relations to interpret the BQ in Figure 2.5. Semantic entities in the interpretation of bare quotatives (BQs):

(2.64) Variables

a. $x, y, z, ...$ are variables of individuals, type e

b. $e, e_1, e_2, e_3, ...$ are variables of events, type v

c. $a, a_1, a_2, a_3, ...$ are variables of speech acts, type a

d. $t, t', t'', ...$ are time indices

For the interpretation of BQs, I adopt Krifka's treatment of relative order between multiple time periods. Krifka (1989) suggests precedence and overlap relationship between two events regarding their run time. Here I adopt the "overlap" relationship, in which two events have common time index. I develop the relationship into that between a speech event (i.e., an assertion) and an event, which may or may not be a speech event. They are described in (e)-(i) and -(ii) below. I adopt Krifka (1989)'s overlap relation τ between the duration times of two events (p.77, (D8)) and extend it to the overlap between the duration of a speech act denoted by a BQ, and the duration time of the matrix event. For example, in (2.65), Lucy might have thought that snowboarding was fun before she snowboarded the previous day and her appreciation might continue throughout her snowboarding; or, she might have found snowboarding fun while she was snowboarding 'yesterday'. In either case, the duration of Lucy's saying/thinking overlaps with the duration of her snowboarding.

(2.65) KR Lucy-ka ecey [caymi-iss-ta-ko]$_{BQ}$ snowupotu-lul
Lucy-Nom yesterday fun-exist-Decl-Quot snowboard-Acc
t-ass-ta
ride-Past-Decl

Literally: 'Lucy rode snowboard yesterday, [it was fun].'

(2.66) Relations and assignment functions

a. Logical connectives: conjunction $\wedge$, implication $\rightarrow$

b. Membership relation: $\in$

c. Assignment function g

d. A temporal trace function τ

(i) from event to its run time (Krifka 1989)

(ii) from speech act to its run time

e. A two-place relation of time overlap $\circ_T$:

(i) Between two events (developed from Krifka 1989, p.77 (D8))

$\forall e_{1\in D_v}\forall e_{2\in D_v}[\tau(e_1)\circ_T\tau(e_2)\leftrightarrow\exists e_3[\tau(e_3)\subseteq_T\tau(e_1)\wedge\tau(e_3)\subseteq_T\tau(e_2)]]$

(ii) Between an event and a speech act

$\forall e_{\in D_v}\forall a_{\in D_a}[\tau(e)\circ_T\tau(a)$

$\leftrightarrow\exists e'\exists a'[\tau(e')\subseteq_T\tau(e)\wedge\tau(a')\subseteq_T\tau(a)\wedge\tau(e')\subseteq_T\tau(a')\wedge\tau(a')\subseteq_T$

$\tau(e')]]$

(iii) $\circ_T$ is symmetrical and reflexive

f. A two-place relation of time precedence $<_T$:

(2.67) Compositional operations

a. Functional application: $f_{\langle\alpha,\beta\rangle}\ g_{\langle\alpha\rangle}\rightarrow h_{\langle\beta\rangle}=f(g)$

(Heim and Kratzer 1998, p.49: If α is a branching node, $\{\beta,\gamma\}$ is the set of α's daughters, then α is in the domain of $[\![\ ]\!]$ if both β and γ are, and $[\![\beta]\!]$ is a function whose domain contains $[\![\gamma]\!]$.

In this case, $[\![\alpha]\!]=[\![\beta]\!]([\![\gamma]\!]))$

b. Predicate modification: $f_{\langle e,t\rangle}\ g_{\langle e,t\rangle}\rightarrow h_{\langle e,t\rangle}=f\wedge g$

(Heim and Kratzer 1998, p.65: If α is a branching node, $\{\beta,\gamma\}$ is the set of α's daughters, and $[\![\beta]\!]$ and $[\![\gamma]\!]$ are both in $D_{\langle e,t\rangle}$, then

$[\![\alpha]\!]=\lambda x\in D_e.[\![\beta]\!](x)=[\![\gamma]\!](x)=1.$)

c. Event identification (Kratzer 1996, p.122): $f_{\langle e,\langle s,t\rangle\rangle}\ g_{\langle s,t\rangle}\rightarrow h_{\langle e,\langle s,t\rangle\rangle}=\lambda x_e\lambda e_s.f(x)(e)\wedge g(e)$

The next subsection applies the above predicates into determining the semantic/syntactic structure of a BQ.

2.4.4.2 The interpretation of saP within BQ

I will take (2.54) as an example sentence for semantic computation. In this section, I will start with interpreting an embedded speech act within the BQ; the

next section 2.4.4.3 will introduce the quotative *ko/to* and expand to the full BQ. Section 2.4.4.4 provides the adjunction of the BQ to the matrix clause.

(2.54) KR Sumi-ka [pang-i tep-ta-ko]$_{BQ}$ changmwun-ul yel-ess-ta.
Sumi-Nom room-Nom be.hot-Decl-Quot window-Acc open-Past-Decl
'Sumi opened the window, [the room is hot].'

The clause-type marker *ta* in KR is located at head FP and projects FP. As illustrated in [2], SAP and saP each introduces an argument: a speaker and an addressee respectively. This sentence is ambiguous because the BQ can be either a speech or a thought. If it is a speech, then the two arguments are not co-indexed. The following tree shows the structure of a BQ that refers to a speech.

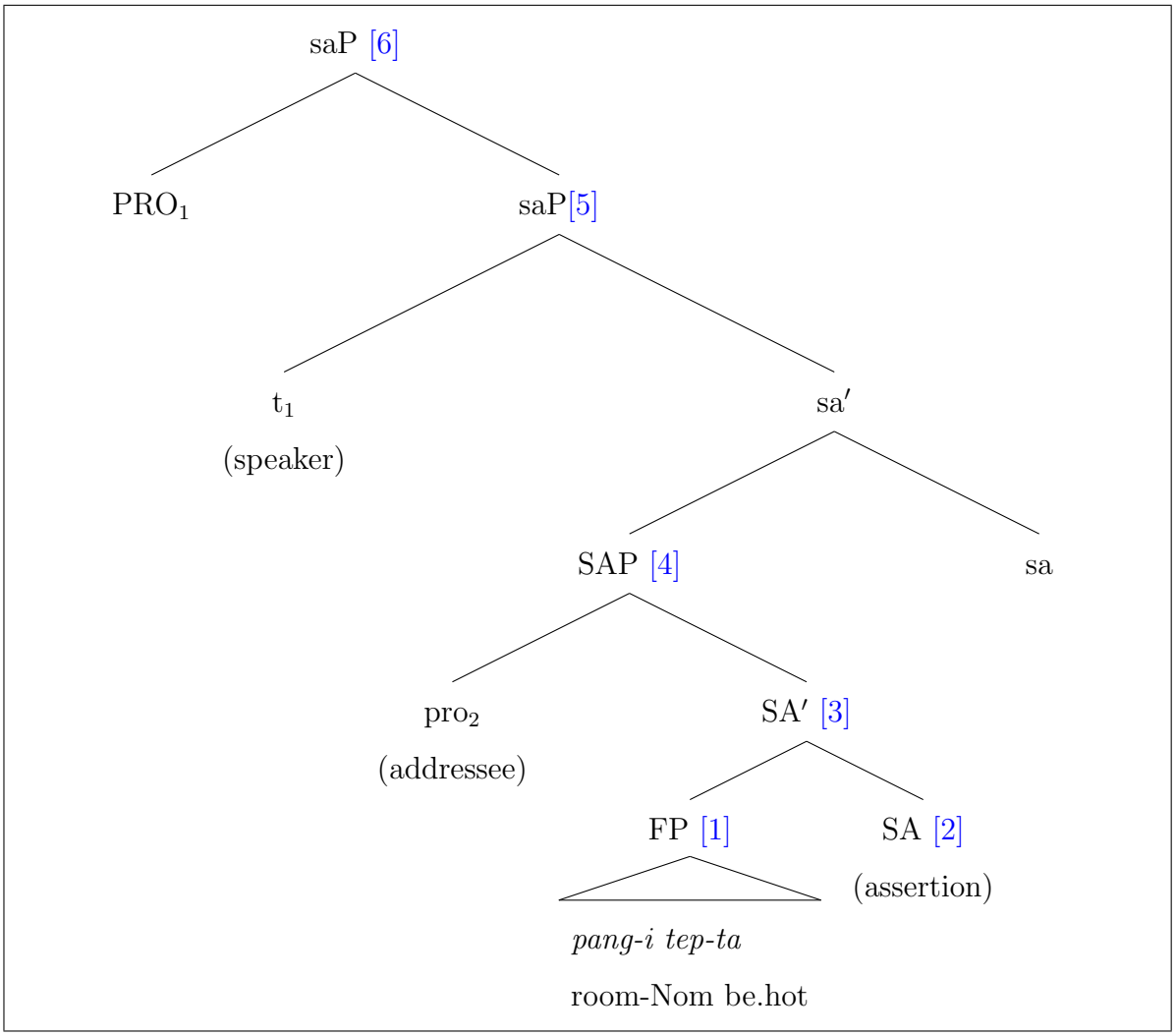


Figure 2.6: Inside of the BQ excluding the quotative marker in (2.54) KR

(2.68) [1]: $[\![\text{ FP }]\!]^g = \text{hot(the.room)}$

[2]: $[\![\text{ SA}^0]\!]^g = \lambda p \lambda x \lambda y[\text{ASSERT}(y, x, p)]$

[3]: $[\![\text{ SA}']\!]^g = [2]([1]) = \lambda x \lambda y[\text{ASSERT}(y, x, \text{hot(the.room)})]$

[4]: $[\![\text{ addresee SA}']\!]^g = [\![\text{ pro}_2 \text{ SA}']\!]^g = \lambda y[\text{ASSERT}(y, g(2), \text{hot(the.room)})]$

[5]: $[\![\text{ saP }]\!]^g = \text{ASSERT}(g(1), g(2), \text{hot(the.room)})$

[6]: $[\![\text{ PRO saP }]\!]^g = \lambda y.[\![\text{ saP }]\!]^{g[y/1]} = \lambda y.[5]^{g[y/1]}$
$= [\lambda y.\text{Assertion}(y, g(2), \text{hot(the.room)})]$

However, if the BQ is interpreted as a thought, then the two arguments, the speaker and the addressee, are co-indexed. The tree structure of (2.7) and the interpretation (2.69) illustrate the structure of the BQ when it is a thought.

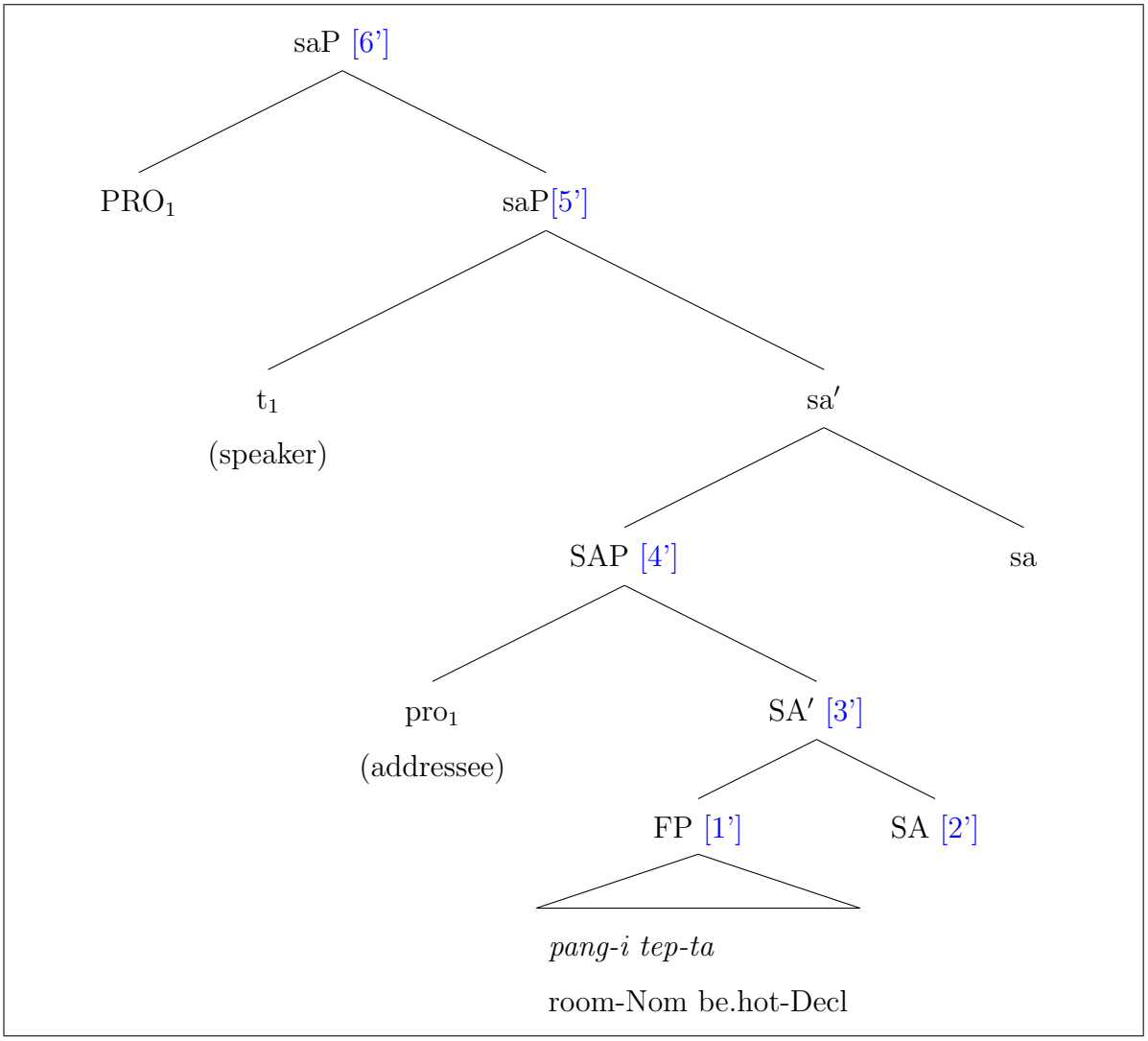


Figure 2.7: The case of a BQ that is interpreted as the content of thought

(2.69) [1']: $[\![\text{ FP }]\!]^g = \text{hot(the.room)}$

[2']: $[\![\textit{ ta }]\!]^g = \lambda p \lambda x \lambda y [\text{ASSERT}(y, x, p)]$

[3']: $[\![\text{ SA}']\!]^g = \text{[2']([1'])} = \lambda x \lambda y [\text{ASSERT}(y, x, \text{hot(the.room)})]$

[4']: $[\![\text{ addresee SA}']\!]^g = [\![\text{ pro}_1 \text{ SA}']\!]^g = \lambda y [\text{ASSERT}(y, g(1), \text{hot(the.room)})]$

[5']: $[\![\text{ saP }]\!]^g = \text{ASSERT}(g(1), g(1), \text{hot(the.room)})$

[6']: $[\![\text{ PRO saP }]\!]^g = \lambda y.[\![\text{ saP }]\!]^{g[y/1]} = \lambda y.[5']^{g[y/1]}$
$= [\lambda y.\text{ASSERT}(y, y,\text{hot(the.room}))]$

The difference between [1]-[6] in (2.68) and [1′]-[6′] in (2.69) is the indices for the addressee (i.e., 2 versus 1). In the following sections, I will proceed with the option of (2.68).

2.4.4.3 Quotative *to/ko* as a connective to the adjunction location in the matrix clause

Next, I suggest that quotative markers *to* (JP) and *ko* (KR) are connectives that glue a speech act event denoted by BQs to the matrix clause event. These markers take a speech act as an argument, and indicate that the speech act temporally overlaps with the matrix event. Thus, *to/ko* can be interpreted as a two-place operator that takes two arguments, a speech act a and an event e_1. It conjoins a and e_1, thus co-indexing their agents and making a and e_1 overlap in run time.

The definition of time overlapping is repeated below:

(2.66e) A two-place relation of time overlap $\circ_T$ (developed from Krifka 1989, p.77 (D8)):

(i) Between two events
$\forall e_{1\in D_v} \forall e_{2\in D_v} [\tau(e_1) \circ_T \tau(e_2) \leftrightarrow \exists e_3 [\tau(e_3) \subseteq_T \tau(e_1) \wedge \tau(e_3) \subseteq_T \tau(e_2)]]$

(ii) Between an event and a speech act
$\forall e_{1\in D_v} \forall a_{1\in D_a} [\tau(e_1) \circ_T \tau(a_1)$
$\leftrightarrow \exists e_2 \exists a_2 [\tau(e_2) \subseteq_T \tau(e_1) \wedge \tau(a_2) \subseteq_T \tau(a_1) \wedge \tau(e_2) \subseteq_T \tau(a_2) \wedge \tau(a_2) \subseteq_T \tau(e_2)]]$

(iii) $\circ_T$ is symmetrical and reflexive

The semantic interpretation of the quotative marker with its co-occurring speech act phrase (saP) is illustrated as in Figure 2.8:

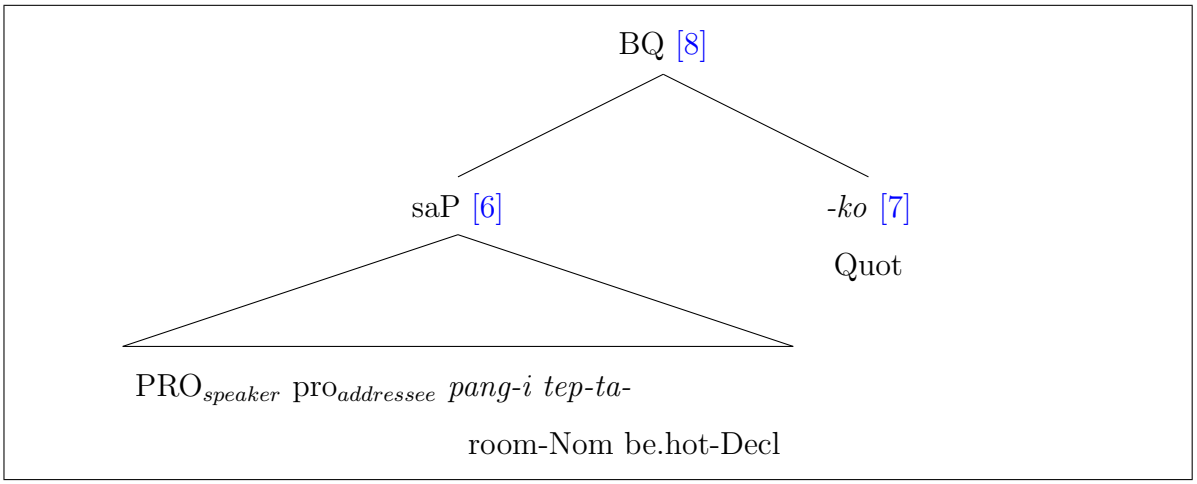


Figure 2.8: The quotative marker and its sister saP in the BQ of (2.54) KR

(2.70) (continued from 2.68)

[6]: $[\![\text{ saP }]\!]^g = [\lambda y.\text{ASSERT}(y, g(3),\text{hot}(\text{the.room}))]$

[7]: $[\![\text{ -}ko\text{ }]\!]^g = \lambda R_{\langle e,a\rangle}\lambda e\lambda x\exists a[a = R(x) \wedge \tau(a) \circ_T \tau(e)]$

[8]: $[\![\text{ saP -}ko\text{ }]\!]^g = [\![\text{ -}ko\text{ }]\!]^g([\![\text{ saP }]\!]^g)$
$= \lambda e\lambda x\exists a[\ [a{=}\text{ASSERT}(x, g(3),\text{hot}(\text{the.room}))] \wedge [\tau(a) \circ_T \tau(e)]\ ]$

The role of *to/ko* is thus to modify the matrix event by introducing an action of speech that overlaps with the matrix event. [8] is interpreted as a function from an event and an agent to a truth value. This is the logical interpretation of bare quotatives in JP and KR. Later in the structure, the event argument is co-indexed with the matrix event and the agent argument is co-indexed with the matrix agent.

2.4.4.4 BQs adjoined to the matrix clause

I argued that bare quotatives (BQs) are adjoined outside of the matrix VP but below S(entence)-adverbs such as 'probably'. BQs fall under the scope of S-adverbs. For example, in the sentences of (2.71), what is *probable* can be Laura's desire to make up her previous mistakes, Laura's visiting the room, or both. The content of the BQ there could be what looks probable to the speaker.

(2.71) KR [casin-uy calmos-ul manhoyha-kosiph-ta-ko] Laura-nun amato
self-Gen mistake-Acc make.up-hope-Decl-Quot Laura-Top probably
pang-ey tasi ka-lkessi-ta.
room-Loc again go-Fut-Decl
Literally: '[(She) hopes to make up her mistakes], probably Laura will go to the room again'

In contrast, VP-adverbs, such as 'quickly' or 'easily' cannot modify the content of BQs in Japanese and Korean. For example in (2.72), what is quick is Laura's action of going to the room, not her hope to make up the mistake.

(2.72) KR Laura-nun ppalli [casin-uy calmos-ul manhoyha-kosiph-ta-ko]
Laura-Top quickly self-Gen mistake-Acc make.up-hope-Decl-Quot
pang-ey tasi ka-ss-ta.
room-Loc again go-Past-Decl
'Laura quickly went to the room again, [(She) hopes to make up her mistakes], '

Based on this, I claim BQs are adjoined to v' and semantically undergo predicate modification. The configuration is provided in Figure 2.9.

(2.54) KR Sumi-ka [pang-i tep-ta-ko]$_{BQ}$ changmwun-ul
Sumi-Nom room-Nom be.hot-Decl-Quot window-Acc
yel-ess-ta.
open-Past-Decl
Literally: 'Sumi opened the window, [the room is hot].'

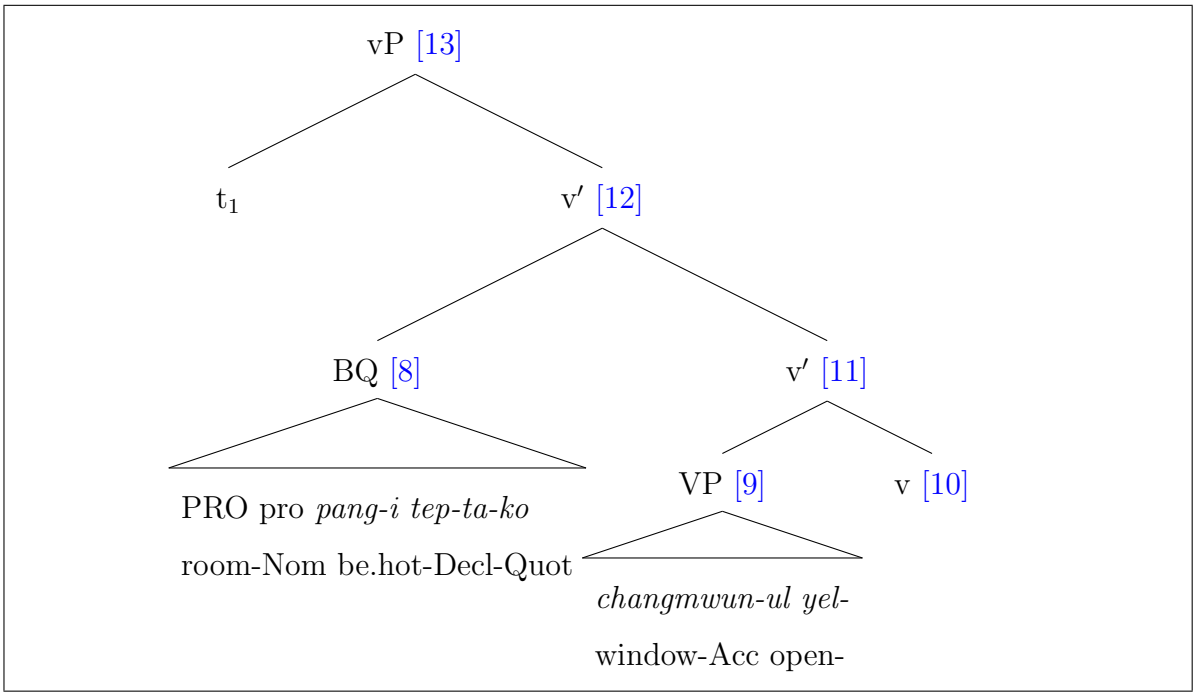


Figure 2.9: Tree structure of (2.54) until matrix vP

Regarding the internal structure of the verbal projection, I adopt the view that a lexical projection of a verb is VP (or $\sqrt{\text{P}}$) and it is responsible for the internal argument. However, the external argument (i.e., the subject) is introduced by the head of vP (Marantz 1997) (or VoiceP (Kratzer 1996)) and it is above VP. In the figure, BQ [8] and v′ [11] are of the same type, $\langle\langle e, s\rangle, t\rangle$. They are combined under the process of predicate modification and the result [12] takes its sister as the external argument. The noun phrase that is generated at the sister position moves up to the spec,IP and leaves a trace, t_1.

(2.73) (continued from 2.68, 2.70)

[8]: $[\![\text{ saP } \textit{-ko}]\!]^g = [\![\textit{ -ko }]\!]^g([\![\text{ saP }]\!]^g)$
$= \lambda e \lambda x \exists a[\ [a{=}\text{ASSERT}(x, g(3), \text{hot}(\text{the.room}))] \wedge [\tau(a) \circ_T \tau(e)]\ ]$

[9]: $[\![\text{ VP }]\!]^g = [\![\text{ 'opened the window' }]\!]^g = \lambda e[\text{open}(e) \wedge \text{Theme}(e, \text{the.window})]$

[10]: $[\![\text{ v }]\!]^g = \lambda P_{v,t} \lambda e \lambda x[P(e) \wedge \text{ Agent}(e, x)\ ]$

[11]: $[\![\text{ v}']\!]^g = [\![\text{ VP v}]\!]^g = [\![\text{ v}]\!]^g([\![\text{ VP}]\!]^g)$
$= \lambda e \lambda x[\text{open}(e) \wedge \text{Theme}(e,\text{the.window}) \wedge \text{Agent}(e,x)]$

[12]: BQ [8] adjoined to the matrix structure v′ [11]: PM of [8] and [11]
$= \lambda e \lambda x[\ [\text{open}(e) \wedge \text{Theme}(e,\text{the.window}) \wedge \text{Agent}(e,x)]$
$\wedge \exists a[\ [a{=}\text{ASSERT}(x, g(3), \text{hot}(\text{the.room}))] \wedge [\tau(a) \circ_T \tau(e)]\ ]\ ]$

[13]: $[\![\text{ vP}]\!]^g = [12]([\![t_1]\!]^g) = [12](g(1))$
$= \lambda e[\ [\text{open}(e) \wedge \text{Theme}(e,\text{the.window}) \wedge \text{Agent}(e, g(1))]$
$\wedge \exists a[\ [a{=}\text{ASSERT}(g(1), g(3), \text{hot}(\text{the.room}))] \wedge [\tau(a) \circ_T \tau(e)]\ ]\ ]$

The vP is further combined with Tense and an overt subject NP, as illustrated in Figure 2.10. The event argument is existentially closed.

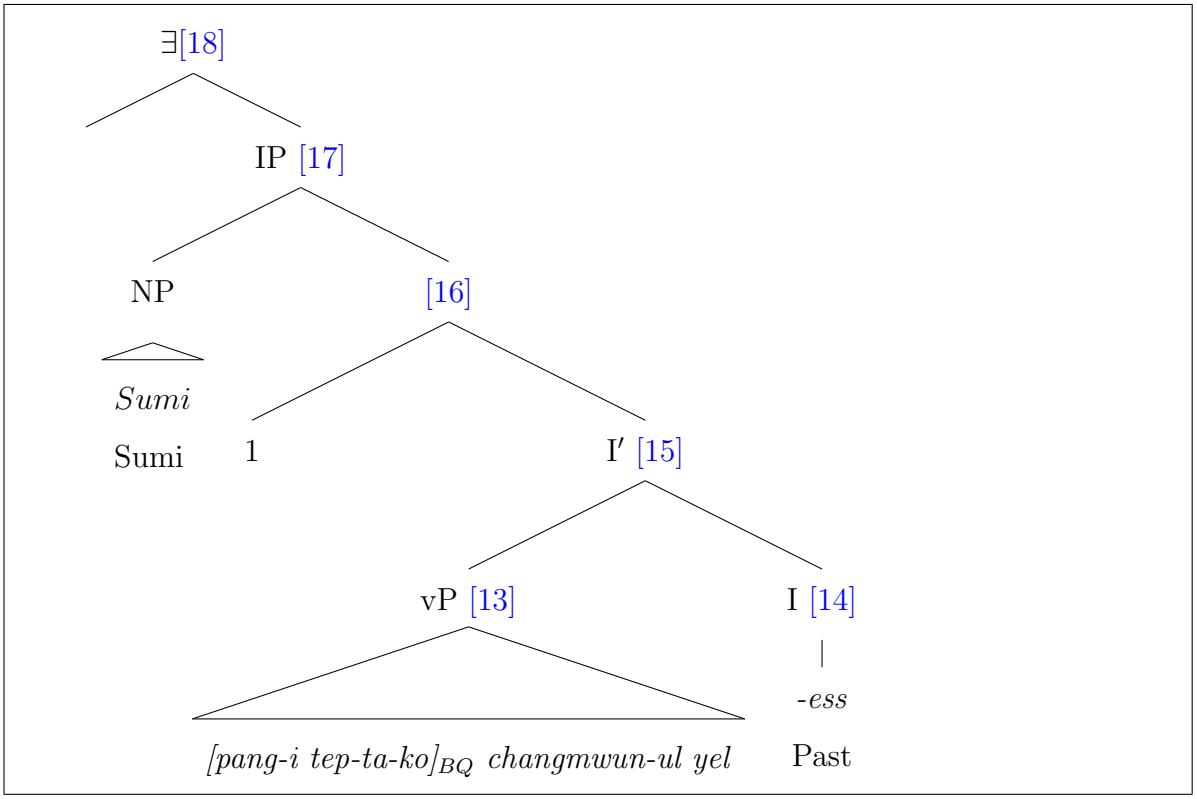


Figure 2.10: Tree structure of (2.54) above vP

(2.74) (continued from 2.68, 2.70, 2.73)

[13]: $[\![$ vP $]\!]^g$

$= \lambda e[$ [open(e) $\wedge$ Theme(e,the.window) $\wedge$Agent($e, g(1)$)]

$\wedge \exists a[$ [a=ASSERT($g(1), g(3)$,hot(the.room))] $\wedge$ [$\tau(a) \circ_T \tau(e)$]]]

[14]: $[\![$ *-ess* $]\!] = \lambda P_{v,t} \lambda t \lambda e[P(e) \wedge \tau(e) <_T t]$

[15]: $[\![$ I′ $]\!]^g = [\![$ *-ess* $]\!]^g([\![$ vP $]\!]^g)$

$= \lambda t \lambda e[$ [open(e) $\wedge$ Theme(e,the.window) $\wedge$Agent($e, g(1)$)]

$\wedge \exists a[$ [a=ASSERT($g(1), g(3)$,hot(the.room))] $\wedge$ [$\tau(a) \circ_T \tau(e)$]]

$\wedge$ [$\tau(e) <_T t$]]

[16]: Abstraction of t_1: $\lambda x.[\![$ I′ $]\!]^{g[x/1]} = \lambda x.$[15]$^{g[x/1]}$

$= \lambda x \lambda t \lambda e[$ [open(e) $\wedge$ Theme(e,the.window) $\wedge$Agent(e, x)]

$\wedge \exists a[$ [a=ASSERT($x, g(3)$,hot(the.room))] $\wedge$ [$\tau(a) \circ_T \tau(e)$]]

$\wedge$ [$\tau(e) <_T t$]]

[17]: $[\![$ *Sumi* 1 I′ $]\!]^g = [\![$ 1 I′ $]\!]^g([\![$ *Sumi* $]\!]^g)$ = [16](Sumi)

$= \lambda t \lambda e[$ [open(e) $\wedge$ Theme(e,the.window) $\wedge$Agent(e,Sumi)]

$\wedge \exists a[$ [a=ASSERT(Sumi,$g(3)$,hot(the.room))] $\wedge$ [$\tau(a) \circ_T \tau(e)$]]

$\wedge$ [$\tau(e) <_T t$]]

[18]: Assign speech time $t*$ onto t, existentially close e:

$\exists e[$ [open(e) $\wedge$ Theme(e,the.window) $\wedge$Agent(e,Sumi)]

$\wedge \exists a[$ [a=ASSERT(Sumi,$g(3)$,hot(the.room))] $\wedge$ [$\tau(a) \circ_T \tau(e)$]]

$\wedge$ [$\tau(e) <_T t*$]]

Line [18] reads as follows: There is an event in which an agent is opening a window and there is an assertion of the agent about the room being hot. The run times of the two events overlap with each other and the time of opening a window precedes the utterance time.

Therefore, semantically speaking, the assertion of the BQ and the matrix event are related only on account of their overlapping run-time. Their possible causal relationship may be added by pragmatic inferences depending on the context.

2.5 Concluding Remarks

In this section, I proposed the syntactic structure and the semantic interpretation of sentences in Japanese and Korean, which contain a bare quotative construction (BQ).

BQs are compatible only with matrix events whose agents are volitional. Also, the reference of the speaker/thinker of BQs is highly dependent on the presence of the matrix agent. Based on that, I argued that BQs are adverbials adjoined to v′, and share the agent argument and the time index with their matrix clauses.

I claimed that BQs are mapped to phrases that refer to speech acts and that these phrases contain the speaker deixis and possibly the addressee deixis. The presence of the speaker deixis makes it possible for BQs to host speaker-oriented adverbials, and also identifies the speaker/thinker as the matrix agent. I further argued that the difference between treating 'thinking' and treating 'saying' becomes minimal under the semantics of BQs in Japanese and Korean. Thus, both monologue and thought processes are encoded in BQs as speaking to oneself.

I rejected the three alternative views that (i) BQs have a hidden predicate, (ii) BQs are contained in a headless suspensive construction, and (iii) BQs are headed by a lexicalized causative marker.

Chapter 3

AGENT-ORIENTED EMBEDDED INTERROGATIVES (AOEIS)

Sections 3 and 4 present two kinds of adjunct embedded interrogative clauses attested in Japanese and Korean. The two interrogatives will be examined separately because they carry out significantly different meanings and pragmatic effects. Section 4.1 provides a detailed comparison between the two embedded interrogatives.

3.1 Introduction

Questions can be used to express the motivation of an action. For example, in context (3.1), Ann wants to know the purpose of Bert's action, and he answers indirectly by providing a question he has in mind. The question, *Is it raining now?*, explains that Bert was looking outside in order to resolve the question of *whether it is raining*.

(3.1) Ann: Why are you looking outside?

Bert: (Still looking outside) Is it raining now?

What this chapter will introduce is a kind of embedded interrogatives (EIs) in Japanese and Korean whose role is akin to questions that encode motivations, such as Bert's question in (3.1). Bert's behavior in (3.1) can be expressed as (3.2) in Japanese (JP) and Korean (KR), which roughly means that Bert is looking outside in order to find out whether it is raining. Embedded questions *ame-ga huttano-ka* (JP) and *pi-ka o-nun-ci* (KR), literally meaning 'whether it is raining' within square brackets, indicate the question Bert wants to resolve by looking outside.

(3.2) JP Bert wa [ame ga hutta-no-ka] soto ni mie-ta
Bert Top rain Nom come-NML-Int outside Dat look-Past.Decl

KR Bert-nun [pi-ka o-nun-ci] pakk-ul naytapo-n-ta.
Bert-Top rain-Nom come-Adn-Int outside-Acc look-Prog-Decl

Literally: 'Bert is looking outside, [whether it is raining].'

Intended: 'Bert is looking outside, (in order to find out) [whether it is raining].'

The EIs above are marked by the interrogative markers *ka* (JP) and *ci* (KR).

Sentences (3.3)–(3.5) contain KR examples of a polar EI, a constituent (*wh*) EI, and an alternative EI, respectively.[17] The EIs can be translated with *in order to* in English.

(3.3) [pi-ka w-ass-nun-ci] Paul-un pakk-ul naytapo-ass-ta.
rain-Nom come-Past-Adn-Int Paul-Top outside-Acc look-Past-Decl

Literally: '[Whether it was raining], Paul looked outside',

Intended: 'In order to find out [whether it was raining], Paul looked outside.'

(3.4) [nwu-ka o-koiss-nun-ci] Paul-un pakk-ul naytapo-ass-ta.
who-Nom come-Prog-Adn-Int Paul-Top outside-Acc look-Past-Decl

Literally: '[Who is coming], Paul looked outside',

Intended: 'In order to find out [who was coming], Paul looked outside.'

(3.5) [pi-ka kyeysok o-nun-ci] (ani-myen) [kuchi-ess-nun-ci] Paul-un
rain-Nom still come-Adn-Int Neg.Cop-if stop-Past-Adn-Int Paul-Top
pakk-ul naytapo-ass-ta.
outside-Acc look-Past-Decl

Literally: '[Whether the rain continued or stopped], Paul looked outside',

Intended: 'In order to find out [whether it was still raining or not], Paul looked outside.'

(3.3)–(3.5) all describe an event where Paul looked outside. His purpose of looking outside, however, varies depending on the meaning of the EI: Paul's intention was to find out whether it was raining in (3.3), to find out who was coming in (3.4),

[17]All these EIs are identified as EIs because they have a question-marking morpheme *ka*/*ci* in JP/KR at the end. Their morphosyntactic structure is further explained in section 3.2. Also consult section 1.2.2 for discussion that these *ka*/*ci*-clauses are truly embedded

and to find out whether it was raining or not in (3.5). Native speakers interpret these EIs as the motivating questions of the matrix clause event. Therefore, (3.3), for instance, becomes synonymous with (3.6), which has a standard purpose clause, the verb *alanay-* 'find out', and the purpose marker *-lyeko*. The absence of *alanay-lyeko* does not prevent the EI in (3.3) from indicating the purpose/goal of the matrix event.

(3.6) [[pi-ka w-ass-nun-ci]-(lul) alanay-lyeko] Paul-un
rain-Nom come-Past-Adn-Int-(Acc) find.out-PURPOSE Paul-Top
pakk-ul naytapo-ass-ta.
outside-Acc look-Past-Decl
'In order to find out whether it was raining, Paul looked outside.'

Cross-linguistically, it is rare, it seems, for a language to employ embedded interrogatives (IEs) to signal motivations behind the matrix event, as JP and KR do in (3.2)–(3.5). For example in English, the word-for-word translations of (3.3)–(3.4) are unacceptable as presented in (3.7a)–(3.7b). English speakers might regard the IEs there as deformed conditional clauses; the speakers might find it difficult to imagine that the EIs indicate motivating questions in JP and KR.

(3.7) a. * Whether it was raining, Paul looked outside.

b. * Who is coming, Paul looked outside.

Moreover, it is exceptional for an adjunct clause in JP and KR to lack a clause-final particle that specifies its logical connection with the matrix clause.[18] For example, *because*-clauses and *if*-clauses in KR become ungrammatical when the clause-final particles *ese* 'BECAUSE' and *myen* 'IF' disappear, as in (3.8). Without clause-final *ese*/*myen*, the two sentences in (3.8) become identical and the readers are unable to interpret the subordinate clauses within the squared brackets.

[18]This exceptionality (i.e., lack of clause-final particles) applies to all three topics of this thesis: bare quotatives (BQs) in Chapter 2, agent-oriented embedded interrogatives (AOEIs) in Chapter 3, and speaker-oriented embedded interrogatives (SOEIs) in Chapter 4.

(3.8) a. [nalssi-ka chwuw-*(ese)] motu cip-ey
weather-Nom be.cold-(BECAUSE)] everyone house-Loc
memu-n-ta.
stay-Prog-Decl
Intended: 'Because it is cold, everyone is staying in the house.'

b. [nalssi-ka chwuw-*(myen)] motu cip-ey memu-n-ta.
weather-Nom be.cold-(IF)] everyone house-Loc stay-Prog-Decl
Intended: 'If it is cold, everyone is staying in the house.'

By contrast, native speakers of JP/KR interpret the EIs in (3.2)–(3.5) clearly. Their role in the sentence is fixed without the help of clause-final particles: specifications of the goal or motivation of the matrix events.

This chapter aims to examine adjunct embedded interrogatives like those in (3.2)–(3.5), which will, henceforth, be called *agent-oriented embedded interrogatives (AOEIs)*. I use the term *agent-oriented* because the motivating questions denoted by AOEIs are attributed to the *agent* of the matrix event. The relationship between AOEIs and their matrix events is slightly different from the relationship between canonical agent-oriented adverbs—such as *cleverly* and *foolishly*—and their matrix events. In the latter case, agent-oriented adverbs take the matrix event as an argument to characterize the agent, just as adjectives characterize the subject (Jackendoff 1972, Ernst 2002, among others). But AOEIs describe the agent's attitude or characteristics towards the matrix event. The concept of agent-orientation is not directly related to the *agent-oriented modalities* in Bybee (1985), which refer to modalities reflecting "obligation, permission, ability, desire and intention" (p.166).

Section 3.2 provides some background on the internal structure of AOEIs and their relative order in the sentence. In section 3.3, I will discuss the close relationship between an AOEI and the matrix agent/predicate that an adequate analysis must account for. AOEIs encode the matrix agent's intention, and the availability of an AOEI in the sentence is dependent on the meaning of the matrix predicate. In section 3.4, I will evaluate two potential theories for AOEIs, and show that they fail to account for the data presented in section 3.3. In section 3.5, I will examine the predicates that are

compatible with AOEIs, and propose that AOEIs are overt realizations of an existentially quantified component in the denotation of the matrix predicate. Discussions will follow in section 3.6.

3.2 How Agent-Oriented Embedded Interrogatives Look

Before spelling out the details of agent-oriented embedded interrogatives (AOEIs), this section will show the internal structure of AOEIs in Japanese (JP) and Korean (KR) and also shows where they occur in the sentence.

As embedded interrogatives (EIs), AOEIs are morphologically identical with canonical EIs, which appear in argument positions. Tables 3.1 and 3.2 illustrate the morphemes that appear after the predicates in JP and KR EIs. *Ka* in JP and *ci* in KR are interrogative clause particles, and these mark the right edge of EIs.

Aspect		Tense		NML		Int.
-iru	Progressive	*-ta*	Past	*-no*	Nominalizer	*-ka*
Ø		Ø	Non-past	Ø		

Table 3.1: Post-verb scheme of embedded interrogatives in Japanese

Aspect		Tense		Adnominalizer		Int.
-koiss	Progressive	*-ess*	Past	*-nun*	(for verbs)	
-ess	Perfect	Ø	Non-past	*-(nu)n*	(for adjectives)	*-ci*
Ø				*-ul*	(prospective)	

Table 3.2: Post-verb scheme of embedded interrogatives in Korean

Note that AOEIs are distinguished from canonical argument EIs in two respects:

(i) syntactically, AOEIs are outside of the subcategorization frame, and (ii) semantically, they indicate the purpose/goal of the matrix event. (i) correctly predicts that AOEIs are incompatible with the nominative and accusative markers, as shown in (3.9). The EI 'whether it rained' here appears alongside the transitive verb 'search' and its object 'the weather history'; hence, it cannot get assigned any thematic role by the predicate, thus, there is no case marker either. This is in contrast with the case of (3.10), wherein an EI occurs as an object of the verb *mulepo* 'ask' and optionally takes the accusative marker *lul*.

(3.9) An AOEI incompatible with KR accusative marker *lul*:

[pi-ka w-ass-nun-ci]-(*lul/*ka) Paul-un kisang.kilok-ul
rain-Nom come-Past-Adn-Int-*Acc/*Nom Paul-Top weather.history-Acc
kemsaykha-yss-ta.
search-Past-Decl

Literally: '[Whether it had rained], Paul searched the weather history',

Intended: 'In order to find out [whether it rained], Paul searched the weather history.'

(3.10) An object EI compatible with KR accusative marker *lul*:

[pi-ka w-ass-nun-ci]-(lul) Paul-un chinkwu-eykey
rain-Nom come-Past-Adn-Int-(Acc) Paul-Top friend-Dat
mulepo-ass-ta.
ask-Past-Decl

'Paul asked a friend [whether it had rained].'

AOEIs are incompatible with all kinds of markers that are compatible with argument EIs. For example, in paradigm (3.11), the AOEI in JP/KR cannot occur with the topic marker and the particle meaning 'also', which can occur with argument EIs.

(3.11) JP [ame ga hutta-no-ka]-(*wa/*mo) Paul-wa soto-ni
rain Nom come-NML-Int-(*Top/*also) Paul-Top outside-Dat
mie-ta
look-Past.Decl

KR [pi-ka w-ass-nun-ci]-(*nun/*to) Paul-un pakk-ul
rain-Nom come-Past-Adn-Int-(*Top/*also) Paul-Top outside-Acc
naytapo-ass-ta.
look-Past-Decl

Literally: '[Whether it rained], Paul looked outside.'

Intended: 'In order to find out whether it rained, Paul looked outside.'

The location of Japanese and Korean EIs in a sentence is flexible since the word order of both languages is fairly free. Due to the fact that word order is flexible in JP and KR, EIs can occur in any position in the sentence except sentence-finally. (3.12) below demonstrates some of the possible locations of the EI in the Korean sentence. It cannot occur sentence-finally because JP/KR manifest heads on the right edge and, therefore, the matrix predicate must occur sentence-finally.

(3.12) Literally: '[Whether it rained], Paul looked outside.'

a. [Pi-ka w-ass-nun-ci] Paul-un pakk-ul chyetapo-ass-ta.

b. Paul-un [Pi-ka w-ass-nun-ci] pakk-ul chyetapo-ass-ta.

c. Paul-un pakk-ul [Pi-ka w-ass-nun-ci] chyetapo-ass-ta.

d. ?* Paul-un pakk-ul chyetapo-ass-ta [Pi-ka w-ass-nun-ci].

I will presents example EIs at the beginning of the sentence for convenience, yet they will be able to occur sentence-medially unless noted otherwise.

3.3 Semantic Characteristics of Agent-Oriented Embedded Interrogatives

3.3.1 Conventionalized intention and an intention-holder

Despite being interrogative, AOEIs contribute to the sentence in a very similar way that motive clauses do. I will use the term *motive clauses* to refer to subordinate clauses that stand for the motivation/purpose of the higher clause event. Motive clauses come in various forms cross-linguistically, including English purpose clauses (i.e. *to*-verb constructions) and rationale clauses (i.e. *in order to*-verb constructions).

The meaning in (3.3), repeated below, is two-fold, meanings I and II: The former is what is exactly denoted by the matrix clause excluding the EI. The latter is built out of the EI 'whether it was raining' in connection with the matrix event.

(3.3) [pi-ka w-ass-nun-ci] Paul-un pakk-ul naytapo-ass-ta.
rain-Nom come-Past-Adn-Int Paul-Top outside-Acc look-Past-Decl

Meaning I: Paul looked outside.

Meaning II: He had the intention of finding out whether it rained.

I argue that meaning II is conventionally given as a valid component of the truth condition of (3.3). In other words, meaning II is entailed by the denotation of (3.3) and is not cancellable. (3.13) sounds self-contradictory because the first sentence suggests that Paul is being ignorant of the answer to the AOEI while the second sentence states the contrary.

(3.13) KR [pi-ka o-nun-ci] Paul-un pakk-ul naytapo-ass-ta.
rain-Nom come-Adn-Int Paul-Top outside-Acc look-Past-Decl

kulentey ku-nun amwulen uyto-ka eps-ess-ta.
but 3sg-Top any intention-Nom non.exsit-Past-Decl

Literally: '[Whether it was raining] Paul looked outside. # But he did not have any intention.'

Intended: 'In order to find out whether it was raining, Paul looked outside. # But he did not have any intention.'

An AOEI implies that the intention or purpose linked to the AOEI belongs to the person who designed the matrix event. This *intention-holder* undertakes the matrix event, and his/her goal is to find an answer to the AOEI. The intention-holder is, in most cases, identified with the referent of the matrix subject. For instance, in (3.3) repeated below, Paul must be the intention-holder who wants an answer to *whether it was raining*; he also plays the Agent role in the matrix event. Paul is the only possible figure that can connect the two events described by Meanings I and II, and integrate the latter successfully into the former.

(3.3) [pi-ka w-ass-nun-ci] Paul-un pakk-ul naytapo-ass-ta.
rain-Nom come-Past-Adn-Int Paul-Top outside-Acc look-Past-Decl

Meaning I: Paul looked outside.

Meaning II: He had the intention of finding out whether it rained.

When the matrix clause lacks an argument with an Agent role, the intention-holder is taken from the context. An example is (3.14), where the matrix verb *pat-* 'receive' assigns a Benefactive role to the subject. In this case, the person that is possibly worried about Fido's physical condition can hold the purpose denoted by the AOEI. Thus, purpose-holders are not always the matrix subject.

(3.14) KR [kwangkyenpyeng-i iss-nun-ci]$_{AOEI}$ Fido-nun kemsa-lul
rabies-Nom exist-Adn-Int Fido-Top exam-Acc
pat-ass-ta.
receive-Past-Decl

Literally: '[whether it has rabies], Fido received a medical exam'

Intended: 'In order to find whether it had rabies, Fido received a medical exam.'

(3.15) KR [[kwangkyenpyeng-i iss-nun-ci] hwakinha-n-ta-ko]$_{BQ}$
rabies-Nom exist-Adn-Int find.out-Non.Past-Decl-Quot
Fido-nun kemsa-lul pat-ass-ta.
Fido-Top exam-Acc receive-Past-Decl

Literally: '[(They) find [whether it has rabies]], Fido received a medical exam'

Intended: 'In order to find whether it had rabies, Fido received a medical exam.'

Bare quotatives (BQs), discussed in Chapter 2, also describe the matrix agent's intention. For example, the BQ in (3.15) is near-synonymous with the AOEI in (3.14). However, the BQ in (3.15) is distinguished from the AOEI in (3.14) with respect to the presence of the verb *hwakinha* 'find' and the type of clause-final particle.

Meaning II in (3.3) is semantically at-issue. It is neither a presupposition nor a conversational implicature. Presupposition perseveres over negation, questioning, and

assumption. For example, all sentences in (3.16) presuppose that Dennis had been shouting. The added meaning of AOEIs cannot survive under these.

(3.16) a. Dennis stopped shouting. (S)

b. Dennis didn't stop shouting. (*not* S)

c. Did Dennis stop shouting? (S?)

d. If Dennis stopped shouting, we would start shouting. (*if* S)

e. Perhaps Dennis stopped shouting. (*perhaps* S)

For instance, (3.17) is the negative counterpart of (3.3). Meaning II fails to survive. This indicates that negation takes scope over AOEIs.

(3.17) [pi-ka w-ass-nun-ci] Paul-un pakk-ul
rain-Nom come-Past-Adn-Int Paul-Top outside-Acc
naytapo-ciahn-ass-ta.
look-Neg-Past-Decl
Literally: 'Paul did not look outside, [whether it rained].'

Meaning I: Paul did not looked outside.

~~Maning II: He had the intention of finding out whether it rained.~~

Also, the meaning of AOEIs is not cancellable, unlike conversational implicatures. The phrase *some x does P* is an example that triggers the conversational implicature *not all x does P*; this implicature can be cancelled as in the monologue (3.18). That is not the case with an AOEI in (3.19). Neither (3.19b) nor (3.19c) is felicitous while (3.19a) is true.

(3.18) a. Some chocolates taste good.

b. Actually, all chocolates taste good!

(3.19) a. KR [nwu-ka o-nun-ci] Paul-un pakk-ul naytapo-goiss-ta.
who-Nom come-Adn-Int Paul-Top outside-Acc look-Prog-Decl
Literally: '[Who is coming], Paul is looking outside.'

b. # Actually, he did not have any intention of finding out who is coming.

c. # Actually, nobody has an intention of finding out who is coming.

To summarize, agent-oriented embedded interrogatives (AOEIs) encode the existence of an intention and the intention holder. The intention-holder is identical with the matrix agent.

3.3.2 Restriction on the predicates that can occur with AOEIs

Not all predicates are able to occur with AOEIs. There are two groups of lexical verbs, one auxiliary verb, and a small group of adverbs that are compatible with AOEIs. The semantic restrictions on the predicates embedding AOEIs are depicted in (3.20) with Korean examples.

(3.20) Words in a higher VP that usually occur with an AOEI

a. Verbs of investigation:

[nwu-ka kay-lul teylyw-ass-n-ci] Bert-nun swukpakpwu-lul
who dog-Acc carry-Past-Adn-Int Bert-Top hotel.book-Acc
cosaha-yss-ta.
check-Past-Decl

'[(In order to find out) who was carrying a dog], Bert checked the hotel book.']

b. Verbs of visual perception:

[nwu-ka kay-lul teylyw-ass-n-ci] Ann-nun pangmwunkayak-tul-ul
who dog-Acc carry-Past-Adn-Int Ann-Top visitor-PL-Acc
kwanchalha-yss-ta.
observe-Past-Decl

'[(In order to find out) who was carrying a dog], Abe observed the visitors.']

c. Auxiliary verb *mi* (Japanese) and *po* (Korean), roughly meaning 'try':

[nwu-ka iss-nun-ci] Chris-ka pyekcang mwun-ul
who-Nom exist-Adn-Int Chris-Nom closet door-Acc
yele-po-ass-ta.
open-try-Past-Decl

'[(In order to find out) who was (there)], Chris tried opening the closet door.']

d. Adverbs that denote high degree of caution:

[elmana ttukewu-n-ci] Dave-ka cosimsulepkey ttwukkeng-ul
how hot-Adn-Int Dave-Nom cautiously lid-Acc
mancy-ess-ta.
touch-Past-Decl

'[(In order to find out) how hot it was], Dave cautiously touched the lid.'

(3.20c) and (3.20d) above become unacceptable when *po* 'try' and *cosimsulepkey* 'cautiously' are omitted as below:

(3.20c′) ?# [nwu-ka iss-nun-ci] Chris-ka pyekcang mwun-ul
who-Nom exist-Adn-Int Chris-Nom closet door-Acc
yele-~~po~~-ass-ta.
open-Ø-Past-Decl
Intended: 'In order to find out who is there, Chris opened the closet door.'

(3.20d′) # [elmana ttukewu-n-ci] Dave-ka ~~cosimsulepkey~~ ttwukkeng-ul
how hot-Adn-Int Dave-Nom Ø lid-Acc
mancy-ess-ta.
touch-Past-Decl
Intended: 'In order to find out how hot it is, Dave touched the lid.'

(3.20c′) and (3.20d′) become acceptable if the AOEI are taken out as well.

Thus, the acceptability of an AOEI seems to be affected by the presence/absence of some constituents in the matrix predicate. We will come back to the issue of the close relationship between AOEIs and the matrix predicates in section 3.5.1.

3.4 Two Potential Theories of the Interpretation of Agent-Oriented Embedded Interrogatives

How does an agent-oriented embedded interrogative (AOEI) achieve a similar meaning to that of the corresponding motive clause? And what accounts for their close relationship with the matrix agent and predicate? I will examine two potential theories:

(i) AOEIs have an underlying predicate that denotes 'in order to find out'; (ii) AOEIs are free adverbial clauses that gain motive clause-like meanings due to pragmatics.

(3.21) Hypothesis 1 (ellipsis): AOEIs are arguments of the (hidden) expression that means 'in order to find out'.

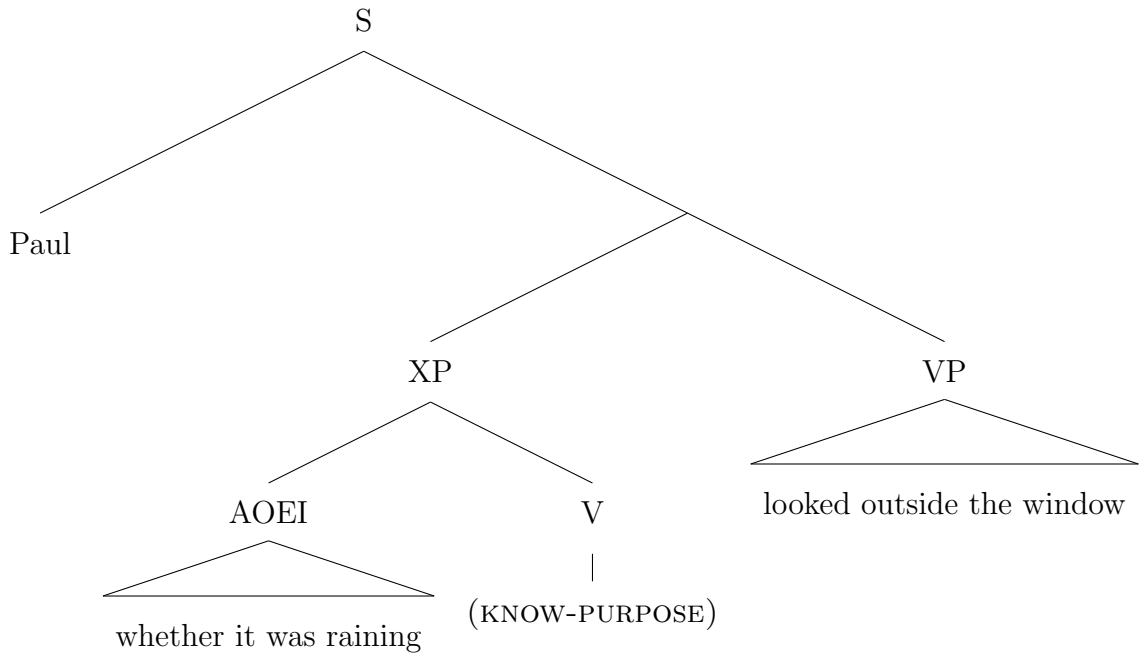
(3.22) Hypothesis 2 (pragmatics): AOEI are adjuncts, and 'in order to find out' is added by pragmatic inferences.

(3.21) suggests that there is a mismatch between underlying and surface structures in sentences containing AOEIs. For example, AOEIs might have started as part of a motive clause with *po-lyeko* 'find.out-INTENTIVE' or *po-ki wiha-y* 'find.out-NML do.in.favor.of-Aff' in Korean, which is eliminated before PF. (3.22) suggests that each AOEI has a simple structure, and that pragmatics adds the meaning of 'in order to find out' to the sentence. Sections 3.4.1 and 3.4.2 provide evidence that hypotheses 1 and 2 prove inadequate and must be ruled out. My proposal will be presented in section 3.5.

3.4.1 Against the ellipsis hypotheses

We can imagine a hidden knowledge verb that takes an AOEI as its complement. Consider that embedded interrogatives are commonly the objects of knowledge verbs such as *wakaru/al* 'know' and *shiru/alanay* 'find out' in Japanese/Korean. There might be a covert selector and a covert purpose marker that transform AOIEs into the answers of the question and add the meaning of 'in order to'. The syntactic structure in that case would be as in (3.23).

(3.23)



The hidden predicate *know* and the clause end-marker PURPOSE may explain why AOEIs denote the purpose of the matrix event. If that is the case, the syntactic composition of the sentences with an AOEIs is very similar to that of the sentences with the corresponding *because*-clauses. However, this configuration does not explain why this kind of ellipsis happens only between a particular clause, embedded interrogative, and a particular predicate, 'know.'

In Japanese and Korean, verbs are not easily elided with their object remaining, as in (3.24). The elided verb here is illustrated with the element crossed out.

(3.24) KR * Chelswu-to sakwa-lul ~~mek-ess-ta.~~
Chelswu-also apple-Acc ~~eat-Past-Decl~~
Intended: 'Chelswu also ate apples.'

The only case in which verbs are dropped is when they appear in the first conjunct of a coordinate structure as in (3.25); however, this is viewed more as right node raising (RNR) than ellipsis (Kuno 1978, Saito 1987, Ahn and Cho 2006, Park 2009).

(3.25) KR Chelswu-ka sakwa-lul ~~mek-ess-ta~~ kuliko Younghi-ka
Chelswu-Nom apple-Acc ~~eat-Past-Decl~~ and Younghi-Nom
oleynci-lul mek-ess-ta.
orange-Acc eat-Past-Decl

'Chelswu ate apples and Younghi ate oranges.'

Crosslinguistically, there are cases wherein a deleted or unpronounced item in a sentence is recovered through some means other than parallelism with an antecedent. (3.26) presents examples in text boxes: English *that* (Chomsky and Lasnik 1977), the subject of English imperatives (Bach 1974), the auxiliary *haben* in German (den Besten 1989) and the string *la citta de* in Italian (Cinque 2017).

(3.26) English, German, and Italian examples of specified deletion

a. I think ~~that~~ John left.

b. ~~You~~ Come back!

c. ..., weil er gelacht ~~hat~~
because he laughed has (den Besten 1989, p.19,(7))

d. ~~la citta de~~ il Cairo ...
the city of the Cairo ... (Cinque 2017, p.524,(9))

What happens in these examples is different from the cases of classical ellipsis under identity: Deletion takes place on specific lexical items under specific circumstances. Let us call this *specified deletion*, following van Riemsdijk (2003).

If AOEIs have resulted from deletion, it must be a specified deletion, since the elided part is very specific without an antecedent: a verb of attaining knowledge and a purposive connective. For example, (3.27) is acceptable only with the meaning in (3.27a); none of (3.27b) and (3.27c) are possible from the native speaker's view.

(3.27) KR [mues-i san-ey swume-iss-nun-ci] kyenchal-un thamsayk-ul
what-Nom hills-Loc lurk-Prog-Adn-Int police-Top trace-Acc
kyeysokha-yss-ta.
continue-Past-Decl

Literally: '[What was lurking in the hills],the police continued the search operation.'

a. (O): 'In order to find out [what was lurking in the hill], the police continued the search operation.'

b. (X): 'In order to wonder [what was lurking in the hills], the police ...'
(X): 'In order to ask [what was lurking in the hills], the police ...'
(X): 'In order to shout [what was lurking in the hills], the police ...'

c. (X): 'While they found out [what was lurking in the hills], the police ...'
(X): 'Since they found out [what was lurking in the hills], the police ...'
(X): 'Although they found out [what was lurking in the hills], the police...'

The ellipsis hypothesis does not seem to explain how the "missing" element for the AOEI is recovered to be (3.27a) only. Let us compare this with the canonical cases of specified deletion in (3.26), which have enough lexical cues to guess what the elided elements are. (3.27) lacks such lexical cues as we can see from its literal meaning. Indeed, it is verbs of asking and curiosity such as 'ask' and 'wonder' that occur with an embedded interrogative most frequently.

In addition, the distributions of an AOEI and its corresponding motive clause are significantly different. The distribution of AOEIs is far more restricted than that of motive clauses, which is quite free as are typical adjunct clauses. (3.28) illustrates that motive clauses can appear under a higher clause event that is usually not purposeful, 'jogging in the park' in this case. It is the presence of the motive clause that makes the jogging a purposeful event. By contrast, the same kind of coercion does not work with AOEIs, as in (3.29).

(3.28) KR [[talamcwi-lul macuchi-l-ci]
chipmunk-Acc come.across-Fut.Ind-Q
alanay-lyeko/kiwiha-y] Paul-un kongwen-ul ttwi-ess-ta.
find.out-INTENTIVE/$_{\text{do.in.favor.of}}$-Aff Paul-Top park-Acc jog-Past-Decl
'In order to find out whether he will come across a chipmunk, Paul was jogging in the park.'

(3.29) KR * [talamcwi-lul macuchi-l-ci] Paul-un kongwen-ul
chipmunk-Acc come.across-Fut.Ind-Q Paul-Top park-Acc
ttwi-ess-ta.
jog-Past-Decl

Intended: 'In order to find out whether he will come across a chipmunk, Paul was jogging in the park.'

Some might point out that structures with ellipsis generally have a more restricted distribution than the unreduced counterparts since ellipsis requires recoverability and some grammatical rules apply to only surface structure. But I cannot see how an ellipsis theory could distinguish the cases of a legitimate transformation from a motive clause to an AOEI as in (3.3) and (3.30) from the cases of illegitimate transformation as in (3.28) and (3.29).

(3.30) KR [Pi-ka w-ass-nun-ci-(lul) alanay-lyeko] Paul-un
rain-Nom come-Past-Adn-Int-(Acc) find.out-CAUSE Paul-Top
pakk-ul naytapo-ass-ta.
outside-Acc look-Past-Decl
'In order to find out [whether it rained], Paul looked outside.'

(3.3) KR [Pi-ka w-ass-nun-ci] Paul-un pakk-ul naytapo-ass-ta.
rain-Nom come-Past-Adn-Int Paul-Top outside-Acc look-Past-Decl

In my analysis in section 3.5, I will explain that the acceptability of AOEIs depends on the matrix predicate's capability of holding a special kind of implicit argument. In (3.29), the event of jogging does not entail a purpose of acquiring knowledge and is incompatible with AOEIs, whereas the event of looking in (3.3) entails a purpose of acquiring knowledge and is compatible with AOEIs.

Also, the ellipsis theory fails to explain why embedded statements cannot appear in the position of AOEIs. Actually, knowledge verbs (e.g., 'find out') select for declarative CP by default in Japanese and Korean. For instance, in Korean (3.31), the embedded statement ending with *kes* occurred as a clausal complement of *alanay* 'find out'. Under the ellipsis hypothesis, the grammaticality of (3.32a)–(3.32b), each of which contains a declarative in the motive clause, leads to the prediction that embedded statements could substitute AOEIs. The prediction fails to be borne out as demonstrated in (3.33).

(3.31) KR Paul-un [pi-ka nayli-nun-kes]-lul alana-yss-ta.
Paul-Top rain-Nom fall-Adn-Decl-Acc find.out-Decl

'Paul found out that it was raining.'

(3.32) a. KR [Pi-ka w-ass-nun-kes-(lul) alanay-lyeko]
rain-Nom come-Past-Adn-Decl-(Acc) find.out-INTENTIVE
Paul-un pakk-ul naytapo-ass-ta.
Paul-Top outside-Acc look-Past-Decl
'In order to find out that it was raining, Paul looked outside.'

b. KR [Pi-ka w-ass-nun-kes-(lul) alanay-ki-(lul)
rain-Nom come-Past-Adn-Decl-(Acc) find.out-NML-(Acc)
wiha-y] Paul-un pakk-ul naytapo-ass-ta.
do.in.favor.of-Aff Paul-Top outside-Acc look-Past-Decl
'(Doing it) for the sake of finding out it rained, Paul looked outside.'

(3.33) KR *[pi-ka w-ass-nun-kes] Paul-un pakk-ul naytapo-ass-ta.
rain-Nom come-Past-Adn-Decl Paul-Top outside-Acc look-Past-Decl
Intended: '(In order to find out) it rained, Paul looked outside',

Lastly, no constituent in AOEIs can be scrambled out of the clause boundaries as in (3.34). This is contrasted by canonical argument EIs in Japanese/Korean, which allow their constituents to be scrambled out of the clause boundaries as illustrated in (3.35).

(3.34) KR * matang-ey$_i$ John-un [nwu-ka t$_i$ iss-nun-ci]$_{AOEI}$ pakk-ul
garden-Loc John-Top who-Nom exist-Adn-Int outside-Acc
po-koiss-ta.
look-Prog-Decl
Intended: John is looking outside, (in order to find out) who is in the garden.'

(3.35) KR matang-ey$_i$ John-un [nwu-ka t$_i$ iss-nun-ci-(lul) po-lyeko]
garden-Loc John-Top who-Nom exist-Adn-Int-Acc see-in.order.to
pakk-ul po-koiss-ta
outside-Acc look-Prog-Decl
'John is looking outside, in order to see who is in the garden.'

To summarize, an abundance of data indicates that the ellipsis hypothesis is not viable. First, verb ellipsis is not attested in any other constructions in Japanese and

Korean. Second, the ellipsis theory fails to explain why the recovered meaning is only mapped to 'in order to find out' without enough context. Furthermore, they differ in the distribution. Therefore, we should conclude that AOEIs are not arguments of a hidden verb.

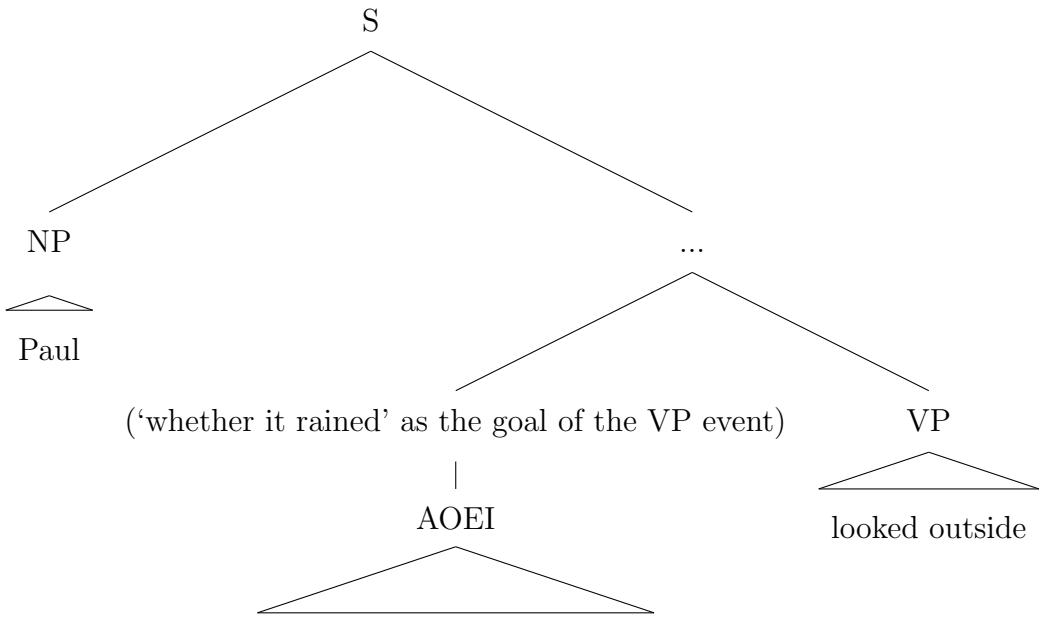
3.4.2 Evidence against the pragmatics(-takes-it-all) hypothesis

The second potential theory consists of two claims: (i) The internal and external structures of Agent-oriented embedded interrogatives (AOEIs) are identical to those of standard EIs; (ii) it is by pragmatic inference that the purposeful meaning of 'in order to find out' is added to the semantics of AOEIs. Under this view, the meaning of 'in order to find out' is relevant to the event described by the higher clause. I will call this theory the pragmatics(-takes-it-all) hypothesis since it chooses a simple syntax, and puts a heavy load on pragmatics.

The pragmatics hypothesis regards AOEIs as adjuncts whose role in the sentence is specified along with the information given in the discourse. Since the denotation of AOEIs should be questions, pragmatics might have to work to find out the relevant role of the question (or the answer) in the matrix event.

Under this view, the embedded interrogative 'whether it was raining' in (3.36) is generated as a pure question and open to be interpreted as a most probable question that could be made in the matrix event.

(3.36)



pi-kaw-ass-nun-ci

rain-Nom fall-Past-Adn-Int

'whether it rained'

The problem of the pragmatics hypothesis is that it cannot account for why the question should always be linked to the meaning of 'in order to find out'. If the meaning of AOEIs was recoverable from the context and enforced by the pragmatics, then the pragmatics could flexibly assign different functions to AOEIs (meanings of 'wonder', etc.). All those interpretations are, however, ruled out. Thus, the pragmatics hypothesis cannot explain why the appearance of AOEIs (3.4.2) is much more restricted than that of their counterpart motive clauses (3.4.2).

(3.28) KR [[talamcwi-lul macuchi-l-ci]
chipmunk-Acc come.across-Fut.Ind-Q
alanay-lyeko/kiwiha-y] Paul-un kongwen-ul ttwi-ess-ta.
find.out-INTENTIVE/$_{\text{do.in.favor.of}}$-Aff Paul-Top park-Acc jog-Past-Decl
'In order to find out whether he will come across a chipmunk, Paul was jogging in the park.'

(3.29) KR * [talamcwi-lul macuchi-l-ci] Paul-un kongwen-ul
chipmunk-Acc come.across-Fut.Ind-Q Paul-Top park-Acc

ttwi-ess-ta.
jog-Past-Decl

Intended: 'In order to find out whether he will come across a chipmunk, Paul was jogging in the park.'

Note that pragmatic coercion cannot make AOEIs available in a sentence. For example, the actions of writing and murdering are usually unrelated to the goal of attaining knowledge; however, the events described in (3.37)–(3.38)[19] are clearly carried out for the purpose of attaining knowledge. Even in these cases, the sentences are unacceptable, as will be further discussed in section 3.5.1.

(3.37) KR # [ku-uy saynkak-i cimyen-eyse ettehkey poi-l-ci] John-un
3sg-Gen thoughts-Nom paper-Loc how look-Fut-Int John-Top
cangmwun-uy cinswulse-lul ss-ess-ta.
full-Gen confession-Acc write-Past-Decl

Literally '[What would his thoughts look like on paper], John wrote out a full confession.'

Intended: 'In order to find out what his thoughts would look like, John wrote out a full confession.'

(3.38) KR # [casin-i mokswum-ul ppayas-ulswiss-nun-ci] Mary-ka cechye
self-Nom life-Acc take.away-can-Adn-Int Mary-Nom complete
molununsalam-ul salhayha-yss-ta.
stranger-Acc murder-Past-Decl

Literally: '[Whether oneself is capable of taking a life], Mary murdered a complete stranger.'

Intended: 'In order to find out if she is capable of taking a life, Mary murdered a complete stranger.'

Also, it does not explain why AOEIs reject the topic marker *wa/nun* (JP/KR). The topic marker can be attached to phrases quite freely as in (3.39). Argument embedded interrogatives are also compatible with the topic marker. However, it is not carried over to the case of AOEIs in (3.40).

[19]Thanks goes to Muffy Siegel for suggesting these sentences to test pragmatic coercion.

(3.39) KR Paris-ey-nun Paul-i k-ass-ta.
Paris-Loc-Top Paul-Nom go-Past-Decl
'As for Paris, Paul went (there).'

(3.40) KR * [pi-ka w-ass-nun-ci-nun] Paul-i pakk-ul
rain-Nom come-Past-Adn-Top Paul-Nom outside-Acc
naytapo-ass-ta.
look-Past-Decl
Intended: '(In order to find out) whether it was raining, Paul looked outside.'

To summarize, the pragmatic hypothesis cannot explain why the added meaning is fixed ('in order to') independently of the context. It fails to account for the restricted distribution of AOEIs as well as their incompatibility with the topic marker.

3.5 Analysis

The previous subsection, 3.3.2, showed that the acceptability of agent-oriented embedded interrogatives (AOEIs) is determined by the meaning of matrix predicates. Here I will further identify the matrix predicates containing an AOEI as those which denote *purposeful* events whose goal is *acquiring knowledge* by default.

Also I will show that the compatibility of an AOEI with the matrix predicate is determined on the phrasal level, considering that adverbials that imply intention or care (.e.g., *chuuibukaku/cosimsulepkey* 'cautiously') can contribute to the compatibility.

3.5.1 The matrix predicates with purpose of acquiring knowledge

The matrix predicates that are compatible with agent-oriented embedded interrogatives (AOEIs) in section 3.3.2 looked highly heterogenous. Some of the predicates were identified in terms of the meaning of the lexical verb (i.e., investigation/ visual perception), while some others were identified with the presence of an auxiliary (i.e., *po/miru* 'try –ing'), while still others were identified with adverbials (e.g., *chuuibukaku/cosimsulepkey* 'carefully'). (3.41) presents a list with Korean/Japanese examples.

(3.41) AOEI-Compatible Predicates (KR/JP)

a. Predicate whose lexical verb means actions pertaining to investigation or seeking such as,
cosaha/shiraberu 'investigate', *chekhuha/chekku-suru* 'check', *chac/sagasu* 'look for', ...

b. Predicate whose lexical verb means observation such as,
po 'look', *chyetapo* 'watch', ...

c. Predicate that is led by the auxililary verb *po/te-miru* 'try V-ing','V and see'

d. Predicate that contains a manner verb signaling high attention or care, such as,
chosimsulepkey/chuuibukaku 'carefully', *hanahana/hitotsuhitotsu* 'one by one', ...

In this section, I will examine what distinguishes the predicates in (3.41) from those that are *incompatible* with AOEIs. The predicates that are incompatible with AOEIs are divided into two groups, (3.42a) and (3.42b). The predicates in (3.42a) become non-sensical when they contain an AOEI; the predicates in (3.42b) sound awkward with an AOEI but not as hopelessly bad as the former.

(3.42) a. Predicates become non-sensical with AOEIs, when:

i. Headed by a non-agentive verb like (KR/JP): *cwuk/shinu* 'die', *taoreru/korobu* 'fall down', *chimmolha/chinbotsu-suru* 'sink', ...

ii. Modified by an adverbial like: *shonbori* 'absentmindedly' *guuzenni* 'by accident', ...

b. Predicates become certainly awkward with AOEIs, when headed by one of (KR/JP): *sayongha/syoo-suru* 'use', *salhayha/satsugai-suru* 'murder', *ilk/yomu* 'read', *kwikaha/kitaku-suru* 'return home', ...

The two sentences in (3.43) are examples of (3.42a-i), *kalaanc* 'sink' and *ssuleci* 'fall' in Korean. The sentences become good without the AOEIs.

(3.43) a. KR # [pro elmana-olay mwulmith-ey iss-ulswuiss-nun-ci]
how-long underwater-Loc stay-can-Adn-Int
canswuham-i pata-sok-ulo kalaanc-ass-ta.
submarine-Nome sea-inside-Loc sink-Past-Decl
'The submarine sanked into the sea (in order to find out) how long (it) can stay under water.'

b. KR # [patak-i phuksinha-n-ci] Yael-un ssuleci-ess-ta.
floor-Nom be.cushy-Adn-Int Yael-Top fall.down-Past-Decl
'Yael fell down (in order to find out) whether the floor is cushy.'

Likewise, (3.44) below shows examples of (3.42a-ii) with *wuyenhi* 'by accident' in Korean. Note that the sentences were acceptable without the adverb *wuyenhi* in (3.20a)–(3.20b) on page 81; it is *wuyenhi* that leads to the unacceptability.

(3.44) a. KR # Anne-nun [nwu-ka o-koiss-nun-ci] wuyenhi
Anne-Top who-Nom com-Prog-Adn-Int by.accident
pangmwunkayak-tul-ul kwanchalha-yss-ta.
visitor-PL-Acc observe-Past-Decl
'[Who was coming], Anne observed the visitors by accident.'

b. KR # Bert-nun [nwu-ka mwuk-ess-nun-ci] wuyenhi
Bert-Top who-Nom stay-Past-Adn-Int by.accident
swukpakpwu-lul cosaha-yss-ta.
hotel.book-Acc check-Past-Decl
'[Who was staying], Bert checked the hotel book by accident.'

The matrix events depicted in (3.43)–(3.44) give rise to the events that lack purposes and/or the subject's intention. This lack of purpose or intention is attributed to the use of verbs like *kalaanc* 'sink', or adverbs like *wuyenhi* 'by accident' which lack sentience or volition. In fact, all the verbs in (3.42a-i) and the adverbs in (3.42a-ii) signal such as lack of volition and/or sentience. Volition indicates that the event is involved with an agent's intention and desire to initiate the event (Dowty 1991, Ramchand 2013), and sentience indicates that the agent is aware that the event is in process. Volition and

sentience have been regarded as crucial parts of the agentivity in semantics (Dowty 1991 and Hopper and Thompson 1980). The agentivity of a predicate enables it (i) to appear in the imperative clause-type, (ii) to occur in the construction of "*persuade* (someone) *to* __", and (iii) to be compatible with agent-oriented adverbials like *deliberately* (Dowty 1979, p.184). The expressions in (3.42a) fail all the three tests. I consider that the third test applies, especially, to the case of AOEIs. AOEIs are "agent-oriented adverbial" clauses. Therefore, a non-purposeful, non-agentive event cannot occur with AOEIs.

Now let us move on to the second group of predicates that become awkward with AOEIs, (3.42b) repeated below.

(3.42b) Predicates are awkward with AOEIs when headed by one of (KR/JP): *sayongha/syoo-suru* 'use', *salhayha/satsugai-suru* 'murder', *ssu/kaku* 'write', *kwikaha/kitaku-suru* 'return home', ...

The list of predicates here suggests that purposefulness or agentivity is not the only condition for hosting AOEIs. These predicates are all agentive with a clear goal. For instance, *salhayha/satsugai-suru* 'murder' is highly purposeful and volitional, but it cannot co-occur with AOEIs. What distinguishes these predicates from AOEI-compatible predicates? The answer is the characteristics of the goal/purpose. The events denoted by the AOEI-compatible predicates are in *pursuit of information* and their goals are restricted to *attain knowledge*. By contrast, the events denoted by (3.42b) are regarded as having a variety of other types of purposes: murder for revenge, use for the agent's convenience, writing for communication, returning home for rest, etc.

Let's consider the pair of examples in (3.45) that contrast in whether or not they have a goal of attaining knowledge. The two sentences, (3.45a) and (3.45b), are identical except that the latter has the auxiliary *po* 'try V-ing', a AOEI-compatible predicate introduced in (3.41c). Both (3.45a) and (3.45b) denote an event wherein Morgan bit a certain apple. In addition to that, as described in (ii), (3.45b) implies that Morgan's biting is out of curiosity and/or to know the consequence of biting.

(3.45) a. KR Morgan-i sakwa-lul kkaymwul-ess-ta.
Morgan-Nom apple-Acc bite-Past-Decl
'Morgan bit the apple.'

b. KR Morgan-i sakwa-lul kkaymwule po-ess-ta.
Morgan-Nom apple-Acc bite try-Past-Decl
'Morgan tried biting the apple.'

(i) Morgan bit the apple.

(ii) Morgan had been curious about something that may be caused from biting the apple; she wanted to find it out.

Similarly, the actions of investigation and observation have a strong implication that (i) the denoted actions are goal-oriented and (ii) the goal is about finding out some information. (3.46) is infelicitous because the first and the second sentences are in contradiction.

(3.46) KR # na-nun ku saken-lul swusaha-yss-ta. alanayko sip-un
1sg-Top the case-Acc investigate-Past-Decl find.out want-Adn
kes-un eps-ess-ta.
thing-Top not.exist-Past-Decl
Intended: 'I investigated the case. #There was nothing at all that I wanted to find out.'

Not only investigation but also observation is closely related to acquiring knowledge. Vision is the primary and the most frequently used perception to acquire knowledge, more than, for example, auditory and tactile perception (Sjöström 1999, Shuici 2004). As pointed out by Shuici (2004, p.183), "the progression from visual perception to understanding is extremely natural, since visual perception is often an important basis for understanding." It may not be a coincidence that the auxiliary verb *mi/po* 'try V-ing' in JP/KR originated from the homophonous word meaning 'see' (Sohn 2015).

To summarize, I claim that matrix predicates that are compatible with AOEIs meet two conditions: (i) being agentive and purposeful and (ii) having a goal of attaining knowledge. The role of an AOEI in a sentence is to signal the details of the knowledge needed. This account leaves two further questions to be clarified:

(3.47) How can interrogative clauses like AOEIs signal purposes or goals?

(3.48) What is the relationship between the denotations of an AOEI and the matrix clause—an argument, modifier, or something else?

Question (3.47) is based on the fact that purpose clauses and rationale clauses typically denote events or properties, while (3.48) is about how we should define the close relationship between an AOEI and the matrix clause. I aim to provide answers to the two questions in section 3.5.2.

3.5.2 Questions as implicit arguments

Previously in section 3.5.1, we concluded that AOEI-compatible predicates denote events wherein the agent is in pursuit of knowledge. In this section, I draw a parallel between actions of acquiring information and dialogues/language games proposed in Carlson (1983) and Roberts (1996), among others. Roberts takes the view that a dialogue is a language game set by a central question, which is called a *question under discussion (QUD)*. She likens the ensuing assertions by discourse participants to moves by players with the desired end result being the resolution of the QUD. I suggest that the role of an AOEI in the matrix event is similar to the role of a QUD, except that the former takes place under the context of a matrix event rather than a real-world discourse. The events denoted by AOEI-compatible predicates can be regarded as games of pursuing information. The gap of information presumes the presence of a question. It can be illustrated as in (3.49).

(3.49) '[Who is the killer], Paul investigated the serial homicide' in JP/KR denotes an event wherein

a. 'Paul investigated the serial homicide', which entails the gap of information.

b. An overt specification about the gap of information: 'who is the killer'.

This gap of information is entailed by the action of the investigation in (3.49), regardless of the presence and absence of an overt AOEI.

The gap of information entailed by the matrix events of AOEIs is reminiscent of the location and time information entailed by events in general. Canonical events presume that the events took place at a certain location at a certain time. For example, (3.50a) is near synonymous with (3.50b); in contrast, (3.50c) can hardly be true in usual situations. The unacceptability of (3.50c) is not due to an overt lexical item. The verb *meet* calls for two arguments, and assigns two Thematic roles (i.e., meeter and meettee); however, denial of the existence of the event space leads to infelicity. The infelicity of (3.50c) is in contrast with the felicity of (3.50d), which denies the existence of a plan of the meeting.

(3.50) a. Jane met John.

b. Jane met John somewhere.

c. # Jane met John; but it took place nowhere.

d. Jane met John; but it was not planned.

The contrast of (3.50c) and (3.50d) seems to parallel with that of (3.51b) and (3.51c) with an AOEI-compatible predicate, *swusaha* 'investigate' in Korean.

(3.51) a. Paul-i yensoyay salinsaken-ul swusaha-yss-ta.
Paul-Nom serial homicide.case-Acc investigate-Past-Decl
'Paul investigated the serial homicide.

b. # Paul-i yensoyay salinsaken-ul swusaha-yss-ta; kulena
Paul-Nom serial homicide.case-Acc investigate-Past-Decl but
ku-nun amwu uymwun-i ep-ess-ta.
3sg-Top any question-Nom not.exist-Decl
'Paul investigated the serial homicide; but he had no question.

c. Paul-i yensoyay salinsaken-ul swusaha-yss-ta; kulena
Paul-Nom serial homicide.case-Acc investigate-Past-Decl but
kukes-un yeceng-ey ep-ess-ta.
it-Top plan-Loc not.exist-Past-Decl
'Paul investigated the serial homicide; but it had not been planned.

The spatio-temporal information of an event is present rather as implicit argument, which enriches the event. (3.52a) and (3.52b) below are the semantic interpretations of (3.50a) and (3.50b).

(3.52) a. $\exists e$[meet$e$ $\wedge$ Agent(Jane, e $\wedge$ Theme(John, e)]

b. $\exists e \exists x$[meet$e$ $\wedge$ Agent(Jane, e $\wedge$ Theme(John, e) $\wedge$ Location(x, e)]

For locative adverbials and root adverbials, McConnell-Ginet (1982) claims that they can be implicit arguments that become overtly realized. The *AD-verbs*, coined by McConnell-Ginet, specify the values of the implicit arguments that are presumed by the root verb but not syntactically realized. She claims those AD-verbs augment the valency of verbs they operate on, and "specify the value(s) of the added argument(s)". For instance, the verb *run* in English is intransitive as in (3.53a), but it has an implicit argument that has to do with the speed of running. The presence of the manner adverb *slowly* in (3.53c) opens an overt slot for the speed argument and specifies it.

(3.53) a. Sally ran.

$\exists e$[run(e) $\wedge$ Agent(Sally,e)]

b. Sally ran at a certain speed.

$\exists e \exists x$[run(e) $\wedge$ Agent(Sally,e) $\wedge$ Speed(x,e)]

c. Sally ran slowly.

$\exists e$[run(e) $\wedge$ Agent(Sally,e) $\wedge$ Speed(slow,e)]

If we assume that AOEI-compatible predicates, which are denoted by verb phrases, have a similar function of augmenting valency, then the semantic representation of an AOEI-compatible predicate would be roughly like (3.54). The underlined part pertains to the entailment of the existence of the question, which does not appear in the semantic representation of a typical agentive predicate shown in (3.55). The underlined part is *conventionally* added by the entailed meaning of the whole predicate.

(3.54) The event of an AOEI-compatible predicate P:

$\exists e[\, P(e) \wedge \text{Agent}(a, e) \wedge$ there is some question Q such that for all w' which is relevant to the goals of a relevant to e, a knows the answer of Q in w']

$= \exists e[\, P(e) \wedge \text{Agent}(a, e) \wedge \exists Q \forall w'.\ w'$ is relevant to the goals of a relevant to e. $\exists p \in Q.\ p(w') \wedge Dox_{a,w'} \subseteq p\ ]$

(3.55) The event of a typical agentive predicate P:

$\exists e[P(e) \wedge \text{Agent}(a, e)]$

However, it is difficult to view AOEIs as AD-verbs in the sense of McConnell-Ginet for the following reason. AD-verbs are adjoined inside of a VP and have a close connection with the head verb (McConnell-Ginet 1982). By contrast, the compatibility of a predicate with AOEIs takes into account components outside of a VP, such as adverbs. On the list of AOEI-compatible predicates in (3.41), we could find adverbs and an auxiliary verb as well as lexical verbs as crucial components for being compatible with AOEIs. For example, *cosimsulepkey* 'cautiously' in (3.20d) is a key word that determines the (un)acceptability of (3.20d)–(3.20d′).

(3.20d) [elmana ttukewu-n-ci] Dave-ka cosimsulepkey ttwukkeng-ul
how hot-Adn-Int Dave-Nom cautiously lid-Acc
mancy-ess-ta.
touch-Past-Decl
Intended: 'In order to find out how hot it is, Dave cautiously touched the lid.'

(3.20d′) # [elmana ttukewu-n-ci] Dave-ka ~~cosimsulepkey~~ ttwukkeng-ul
how hot-Adn-Int Dave-Nom lid-Acc
mancy-ess-ta.
touch-Past-Decl
Intended: 'In order to find out how hot it is, Dave touched the lid.'

If AOEIs were adjoined under the location of manner adverbs, then those additional manner adverbs would not have been visible at the time of adjunction. If manner adverbs are adjoined VP-internally, the entailment of the gap of information is endowed above the node that contains the verb root and the manner adverb. Consequently,

AOEIs does not have a local relationship with the root verb as AD-verbs do, and McConnell-Ginet's model of augmenting valency cannot be applied.

The origin of the gap of information, which enables a predicate to host an AOEI, can come from various hypothetical sources. One intuitive idea is that certain items, such as the verbs and adverbs in (3.41) introduce a gap of information as an implicit argument. This gap is percolated up to the entire phrase or utterance so that it can license the AOEI. Although intuitive, this item-based percolation hypothesis faces problems. For one thing, it can be the case that an utterance can be compatible with an AOEI not because of how a specific item in the utterance creates a gap of information, but because multiple items in the utterance create this gap. For example, the adverb *hanahana* 'one by one' typically signals the agent's thoroughness but does not presuppose a goal of acquiring knowledge; however, in the event where an agent is opening drawers as in (3.57), *hanahana* signals that the agent has a goal of acquiring knowlege.

The same predicate has different acceptabilities of an AOEI, as in (3.56) and (3.57).

(3.56) ?* Paul-un [mokkeli-ka eti iss-nun-ci] selapcang-ul yel-ess-ta.
Paul-Top necklace-Nom where be-Adn-Int drawers-Acc open-Past-Decl
Intended: 'Paul pulled the drawers (in order to see) where the necklace was.'

(3.57) Paul-un [mokkeli-ka eti iss-nun-ci] selapcang-ul cosimsulepkey
Paul-Top necklace-Nom where be-Adn-Int drawers-Acc carefully
hanahana yel-ess-ta.
one.by.one open-Past-Decl
'Paul carefully pulled the drawers one by one (in order to see) where the necklace was.'

Instead, I claim that the entailment of the gap of information is determined at above VP, after the basics of the matrix event are fully specified. I suggest (3.58) as the semantic representation of AOEI-compatible predicates.

(3.58) The event of an AOEI-compatible predicate P:
$\lambda e[\ P(e) \wedge \text{Agent}(a,\ e) \wedge \exists Q.\forall w',\ w'$ is relevant to the goals of a relevant to $e,\ \exists p \in Q.\ p(w') \wedge Dox_{a,w'} \subseteq p]$

Along with the original denotation of the predicate (i.e., $P(e) \wedge \text{Agent}(a,\ e)$), the representation indicates the existence of a question, Q, which the matrix agent will know the answer to in all possible worlds in which the agent's goal relevant to the matrix event is fulfilled. Here I adopt Hamblin (1971, 1973)'s formal representation on the meaning of questions, in which questions are sets of propositions, possible answers. The parts $p(w')$ and $Dox_{a,w'} \subseteq p$ represent that an answer p is true in the possible world and the answer is added to the agent's belief set in the world.

For instance, (3.51a) contains its predicate that involves an action of investigation. The semantic interpretation of the sentence is provided in (i); what is added in (ii) is the existence of a question Q, which signals the gap of information regarding the matrix event.

(3.51a) Paul-i yensoyay salinsaken-ul swusaha-yss-ta.
Paul-Nom serial homicide.case-Acc investigate-Past-Decl
'Paul investigated the serial homicide.

(i) $\exists e[\ investigate(e) \wedge \text{Agent}(Paul,\ e) \wedge \text{Theme}(the.serial.homicide,\ e)]$

(ii) $\exists e[\ investigate(e) \wedge \text{Agent}(Paul,\ e) \wedge \text{Theme}(the.serial.homicide, e) \wedge \exists Q.\forall w',\ w'$ is relevant to the goals of a relevant to $e,\ \exists p \in Q.\ p(w') \wedge Dox_{a,w'} \subseteq p]$

I claim that the added content in (3.51a-ii) from the basic content (3.51a-i) is the result of *pragmatic enrichment*. Earlier in section 3.4.2, I showed that pragmatic coercion does not work for making AOEIs available in the sentence. But, I view that, if lexicon brings a strong purposiveness for attaining knowledge into the event, pragmatics can add an existence of a research question onto the semantic denotation. This enrichment is executed context-independently and conventionally.

The next question is how an AOEI is blended into a sentence like (3.51a-ii), wherein the question is existentially closed. To resolve this issue, I will adopt Dekker (1993)'s idea of existential disclosure. According to him, some existentially quantified items such as indefinites and implicit arguments can be available for further specification upon the presence of the specifier. When we apply it to the case of AOEI-compatible predicates, $\exists Q$ becomes abstracted with the presence of an AOEI in the structure, as in figure 3.1.

(3.59) $\lambda Q \exists e[\ \mathit{investigate}(e) \wedge \text{Agent}(\mathit{Paul},\ e) \wedge \text{Theme}(\mathit{the.serial.homicide}, e) \wedge$
$\forall w'$, w' is relevant to the goals of a relevant to e, $\exists p \in Q.\ p(w') \wedge \mathit{Dox}_{a,w'} \subseteq p]$

Figure 3.1 provides a simplified structure of (3.51a), wherein (i) pragmatic enrichment of a question Q takes place due to the meaning of the matrix event and (ii) lambda abstraction of Q follows due to the presence of the AOEI in its sister position.

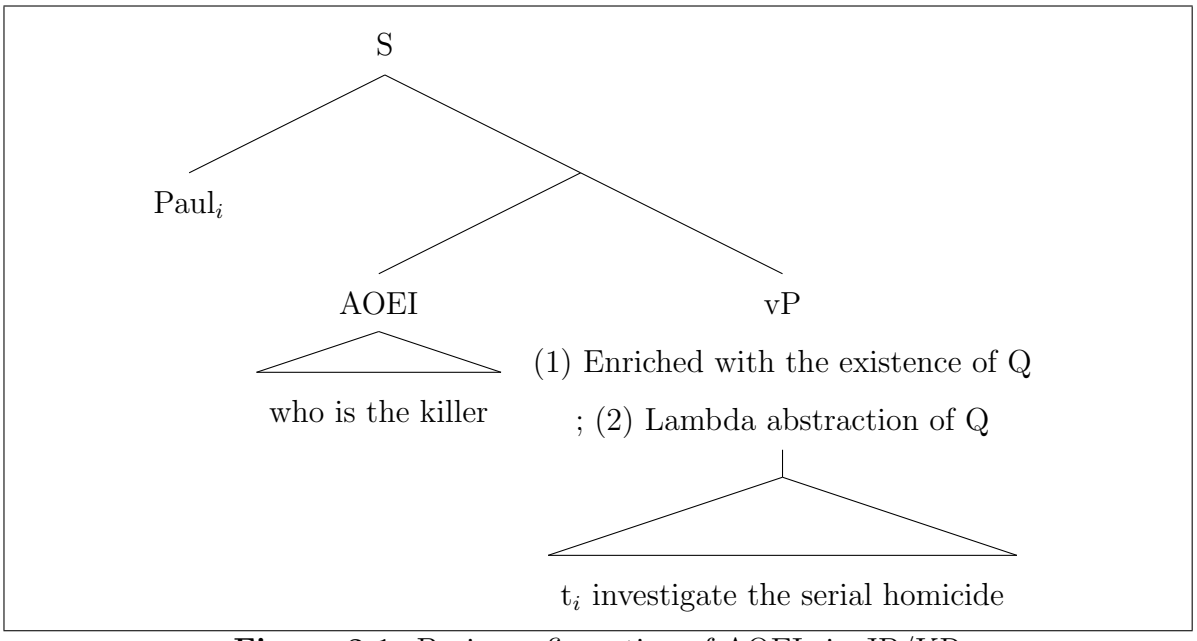


Figure 3.1: Basic configuration of AOEIs in JP/KR

This configuration accounts for the contrast in acceptability between (3.20d–3.20d′).

The relative order of AOEIs between modal and manner adverbs also support the argument that AOEIs are adjoined outside of VP. AOEIs must be below modal adverbs but above manner adverbs.

(3.60) Relative order of AOEIs, Modal adverbs, and Manner adverbs
[Modal adverb > [AOEI > [Manner adverb]]]

(3.61) is with the modal adverb *thulimepsi* 'certainly'; (3.62) is with the manner adverb *yelcencekulo* 'passionately'.

(3.61) Modal adverb (*thulimepsi* 'certainly') > AOEI

a. thulimepsi [nwu-ka pepin-i-n-ci] Dave-ka ku saken-ul
certainly who-Nom culprit-Cop-Adn-Int Dave-Nom the case-Acc
swusaha-yss-ta.
investigate-Past-Decl
'Certainly Dave investigated the case [(in order to find out) who is the culprit].'

b. * [nwu-ka pepin-i-n-ci] thulimepsi Dave-ka ku saken-ul
who-Nom culprit-Cop-Adn-Int certainly Dave-Nom the case-Acc
swusaha-yss-ta.
investigate-Past-Decl

(3.62) AOEI > Manner adverb (*yelcencekulo* 'passionately')

a. [elmana ttukewu-n-ci] yelcencekulo Dave-ka ttwukkeng-ul mancye
how hot-Adn-Int passionately Dave-Nom lid-Acc touch
po-ass-ta.
try-Past-Decl
'Dave tried passionately touching the lid [(in order to find out) how hot it is] .'

b. * yelcencekulo [elmana ttukewu-n-ci] Dave-ka ttwukkeng-ul mancye
passionately how hot-Adn-Int Dave-Nom lid-Acc touch
po-ass-ta.
try-Past-Decl

3.5.3 Semantic interpretation

In this section I will provide three sentences with AOEIs and present their semantic interpretations. The first is with a verb of investigation, the second is with an adverb that means cautiously, the third is with the auxiliary verb *po*, which means 'try V-ing'.

Hamblin (1973)'s system defines questions as sets of propositions that are possible answers. The examples of polar questions, constituent questions, and alternative questions are as follows:

(3.63) $[\![$ whether it is raining $]\!]^w = \lambda p[p = rain(w) \vee p = \neg rain(w)]$

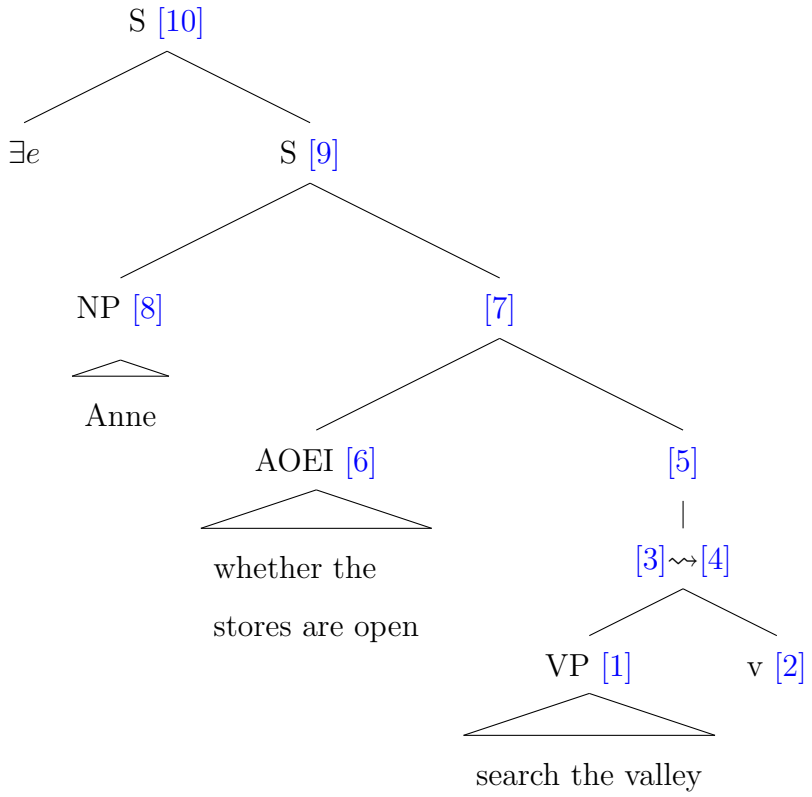
(3.64) $[\![$ what is pretty $]\!]^w = \lambda p \exists x[p = pretty(x)(w)]$

(3.65) $[\![$ whether it is raining or snowing$]\!]^w = \lambda p[p = rain(w) \vee p = snow(w)]$

3.5.3.1 The case of AOEI-compatible predicates with a verb of investigation/observation

The first tree structure I will present is of a sentence with an AOEI and a verb of investigation. The matrix predicate in (3.66) gains an additional meaning about the presence of the goal in the event ([3]$\rightsquigarrow$[4]). The existential closure over the knowledge is abstracted away by the presence of an AOEI [6].

(3.66)



[1]: ⟦kyeyko-ul swusaykhassta 'searched the valley '⟧^{c}
$= \lambda e[search(valley)(e)]$

[2]: ⟦ v ⟧$^c = \lambda P \lambda x \lambda e[Agent(x)(e) \wedge P(e)]$

[3]: [1] + [2] $= \lambda x \lambda e[Agent(x)(e) \wedge search(valley)(e)]$

[4]: [3] with pragmatic addition $\rightsquigarrow \lambda x \lambda e[Agent(x)(e) \wedge search(valley)(e) \wedge$ $\exists Q \forall w'$, w' is relevant to the goals of x relevant to e, $\exists p \in Q$: $p(w') \wedge$ $Dox_{x,w'} \subseteq p]]$

[5]: [4] with abtracted Q $\rightsquigarrow \lambda Q \lambda x \lambda e[Agent(x)(e) \wedge search(valley)(e)(w) \wedge$ $\forall w'$, w' is relevant to the goals of x relevant to e: $\exists p \in Q.\ p(w') \wedge$ $Dox_{x,w'} \subseteq p]]$

[6]: ⟦kakey-ka yengepcwung-i-n-ci 'whether the stores are open'⟧^{g}
$= \lambda p[p = \lambda w''.open(the.stores)(w'') \vee p = \lambda w''.\neg open(the.stores)(w'')]$

[7]: [6] + [5] = $\lambda x \lambda e[Agent(x)(e) \wedge search(valley)(e) \wedge \forall w'$, w' is relevant to the goals of x relevant to e, $\exists p.[p = \lambda w''.open(the.stores)(w'') \vee p = \lambda w''.\neg open(the.stores)(w'')]$: $p(w') \wedge Dox_{x,w'} \subseteq p]]$

[8]: $[\![\text{Anne}]\!]^g = Anne$

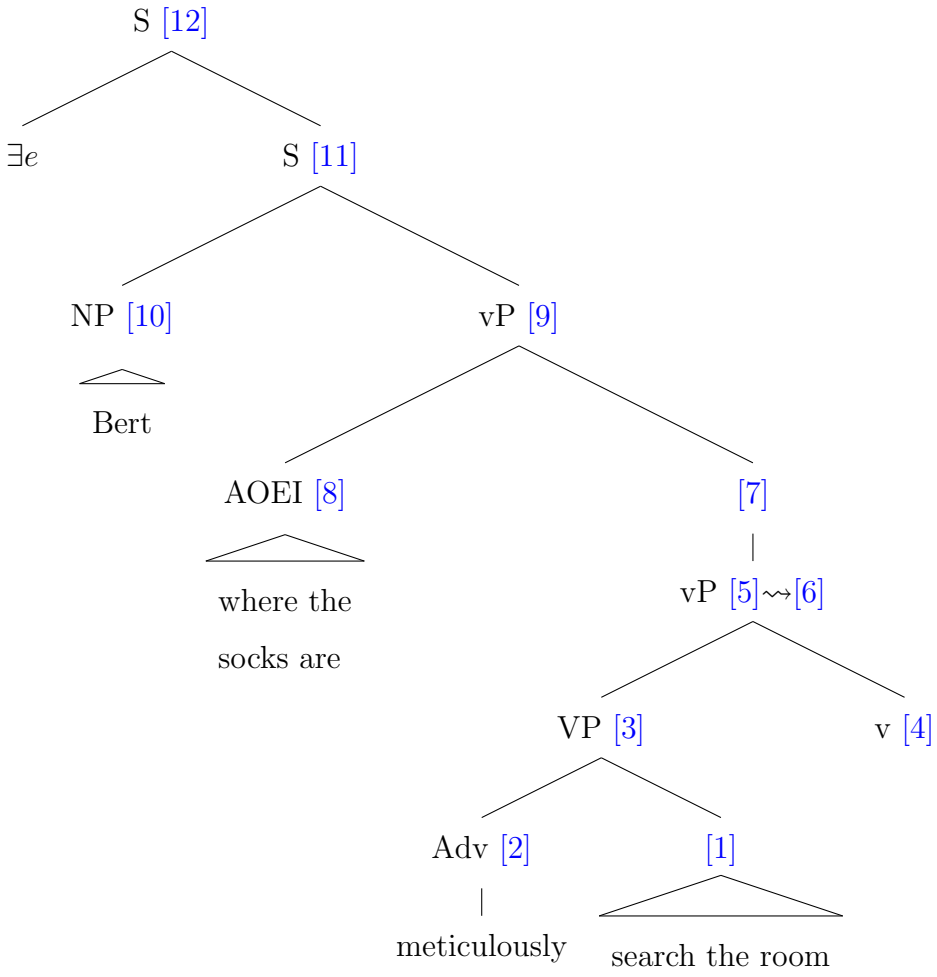
[9]: [8] + [7] = $\lambda e[Agent(Anne)(e) \wedge search(valley)(e) \wedge \forall w'$, w' is relevant to the goals of $Anne$ relevant to e, $\exists p.[p = \lambda w''.open(the.stores)(w'') \vee p = \lambda w''.\neg open(the.stores)(w'')]$: $p(w') \wedge Dox_{Anne,w'} \subseteq p]]$

[10]: $\exists e$[9] = $\exists e[Agent(Anne)(e) \wedge search(valley)(e) \wedge \forall w'$, w' is relevant to the goals of $Anne$ relevant to e, $\exists p \in [p : p = \lambda w''.open(the.stores)(w'') \vee p = \lambda w''.\neg open(the.stores)(w'')]$: $p(w') \wedge Dox_{Anne,w'} \subseteq p]]$

3.5.3.2 The case of AOEI-compatible predicates containing an adverb of attention

The next formalization is on the higher predicate that has the adverbi *kkomkkom-hakey* 'meticulously'. Since manner verbs are regarded as originating inside VP, we can suspect that AOEIs are generated above it, outside VP. The tree below shows that the pragmatic addition about the goal is added at vP ([5]⇝[6]). The presence of the AOEI [8] abstract away the content of the knowledge in the hypothetical goal state as in [7].

(3.67)



[1]: ⟦pang-ul twiciessta 'search the room '⟧^{g}
$= \lambda e[search(the.room)(e)]$

[2]: ⟦kkomkkomhakey 'meticulously'⟧$^g = \lambda P \lambda e[meticulous(P)(e) \wedge P(e)]$

[3]: [1] + [2] (Predicate Modification) $= \lambda e[meticulous(search(the.room))(e) \wedge$
$search(the.room)(e)]$

[4]: ⟦ v ⟧$^g = \lambda P' \lambda x \lambda e[Agent(x)(e) \wedge P'(e)]$

[5]: [4] + [3] $= \lambda x \lambda e[Agent(x)(e) \wedge meticulous(search(the.room))(e)$
$\wedge search(the.room)(e)]$

[6]: [5] with pragmatic addition $\rightsquigarrow \lambda x \lambda e[Agent(x)(e)$
$\wedge meticulous(search(the.room))(e) \wedge search(the.room)(e)$

$\wedge\exists Q\forall w'$, w' is relevant to the goals of x relevant to e, $\exists p \in Q$:
$p(w') \wedge Dox_{x,w'} \subseteq p]]$

[7]: [6] with abstracted Q $\rightsquigarrow$ $\lambda Q\lambda x\lambda e[Agent(x)(e)$
$\wedge meticulous(search(the.room))(e)$ $\wedge search(the.room)(e)$
$\wedge\forall w'$, w' is relevant to the goals of x relevant to e, $\exists p \in Q$:
$p(w') \wedge Dox_{x,w'} \subseteq p]]$

[8]: $[\![$yangmal-i edi iss-nun-ci 'where the socks are'$]\!]^g$
$= \lambda p\exists y[p = \lambda w.[be(e) \wedge Theme(the.socks, e) \wedge At(y, e)](w)]$

[9]: [8] + [7] $= \lambda x\lambda e[Agent(x)(e) \wedge meticulous(search(the.room))(e)$
$\wedge search(the.room)(e) \wedge \forall w'$, w' is relevant to the goals of x relevant to e, $\exists p\exists y[p = \lambda w.[be(e) \wedge Theme(the.socks, e) \wedge At(y, e)](w)]$: $p(w') \wedge Dox_{x,w'} \subseteq p]]$

[10]: $[\![$Bert$]\!]^g = Bert$

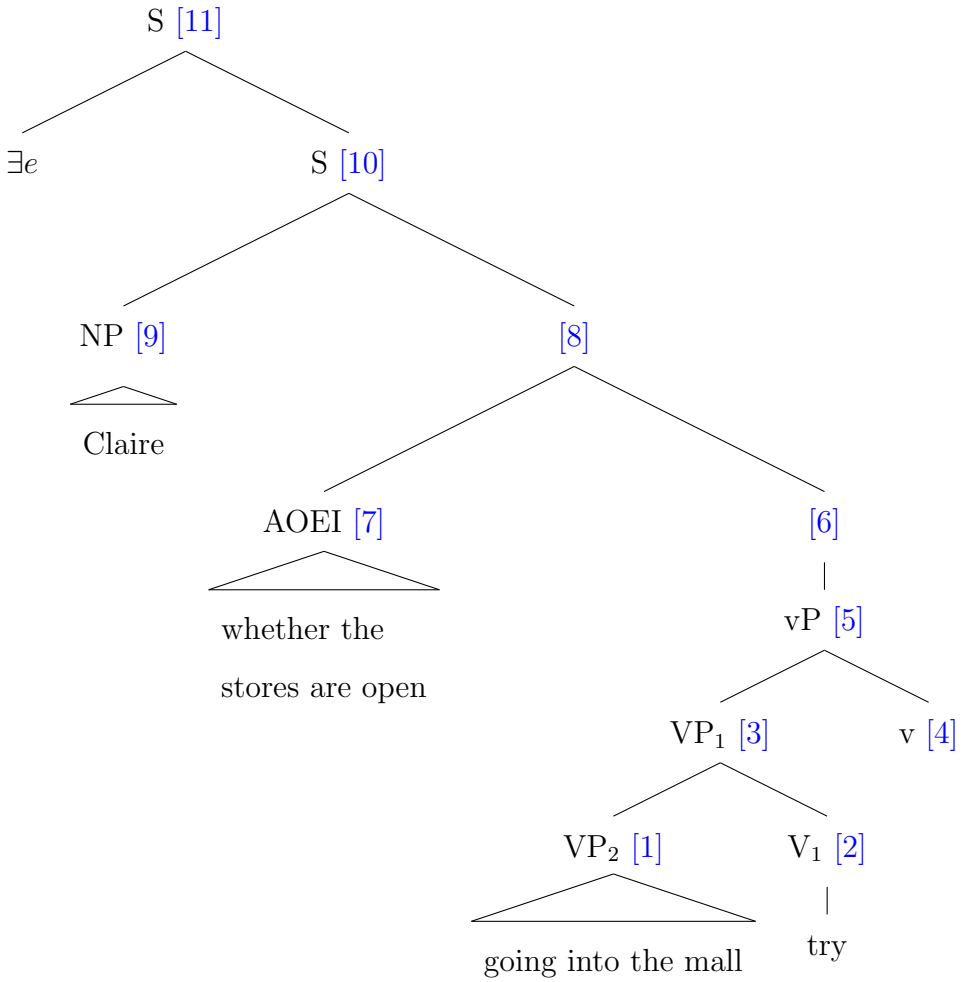
[11]: [10] + [9] $= \lambda e[Agent(Bert)(e) \wedge meticulous(search(the.room))(e)$
$\wedge search(the.room)(e) \wedge \forall w'$, w' is relevant to the goals of $Bert$ relevant to e, $\exists p\exists y[p = \lambda w.[be(e) \wedge Theme(the.socks, e) \wedge At(y, e)](w)]$:
$p(w') \wedge Dox_{Bert,w'} \subseteq p]]$

[12]: $\exists e$[11] $= \exists e[Agent(Bert)(e) \wedge meticulous(search(the.room))(e)$
$\wedge search(the.room)(e) \wedge \forall w'$, w' is relevant to the goals of $Bert$ relevant to e, $\exists p\exists y[p = \lambda w.[be(e) \wedge Theme(the.socks, e) \wedge At(y, e)](w)]$:
$p(w') \wedge Dox_{Bert,w'} \subseteq p]]$

3.5.3.3 The case of auxiliary *mi/po* 'try'

The last formalization is the sentence with *mi/po* in Japanese and Korean. *Mi/po* is an auxiliary verb that selects for VP headed by a lexical verb. The role of *po/mi* is to introduce the goal related to the event denoted by the lexical verb. The semantic interpretation of *mi/po* is as in [2]; the content of the knowledge is abstracted [5]$\rightsquigarrow$[6]

(3.68)



[1]: ⟦sicang-ul pangmunhay 'go into the mall'⟧^{g}
$= \lambda e[go.into(the.mall)(e)]$

[2]: ⟦po 'try'⟧$^g = \lambda P \lambda e[P(e) \wedge \exists Q \forall w'$, w' is relevant to the goals of x relevant to e, $\exists p \in Q$: $p(w') \wedge Dox_{x,w'} \subseteq p]]]$

[3]: [1] + [2] $= \lambda e[go.into(the.mall)(e) \wedge \exists Q \forall w'$, w' is relevant to the goals of x relevant to e, $\exists p \in Q$: $p(w') \wedge Dox_{x,w'} \subseteq p]]$

[4]: ⟦ v ⟧$^g = \lambda P \lambda x \lambda e[Agent(x)(e) \wedge P(e)]$

[5]: [4] + [3] $= \lambda x \lambda e[Agent(x)(e) \wedge go.into(the.mall)(e) \wedge \exists Q \forall w'$, w' is relevant to the goals of x relevant to e, $\exists p \in Q$: $p(w') \wedge Dox_{x,w'} \subseteq p]]$

[6]: [5] with abtracting Q $\rightsquigarrow \lambda Q \lambda x \lambda e[Agent(x)(e) \wedge go.into(the.mall)(e) \wedge \forall w'$, w' is relevant to the goals of x relevant to e, $\exists p \in Q$: $p(w') \wedge Dox_{x,w'} \subseteq p]]$

[7]: $[\![$kakey-ka yengepcwung-i-n-ci 'whether the stores are open'$]\!]^g$
$= \lambda p[p = \lambda w''.open(the.stores)(w'') \vee p = \lambda w''.\neg open(the.stores)(w'')]$

[8]: [7] + [6] $= \lambda x \lambda e[Agent(x)(e) \wedge go.into(the.mall)(e) \wedge \forall w'$, w' is relevant to the goals of x relevant to e, $\exists p[p = \lambda w''.open(the.stores)(w'') \vee p = \lambda w''.\neg open(the.stores)(w'')]$: $p(w') \wedge Dox_{x,w'} \subseteq p]]$

[9]: $[\![$Claire$]\!]^g = Claire$

[10]: [9] + [8] $= \lambda e[Agent(Claire)(e) \wedge go.into(the.mall)(e) \wedge \forall w'$, w' is relevant to the goals of $Claire$ relevant to e, $\exists p[p = \lambda w''.open(the.stores)(w'') \vee p = \lambda w''.\neg open(the.stores)(w'')]$: $p(w') \wedge Dox_{Claire,w'} \subseteq p]]$

[11]: $\exists e$[10] $= \exists e[Agent(Claire)(e) \wedge go.into(the.mall)(e) \wedge \forall w'$, w' is relevant to the goals of $Claire$ relevant to e, $\exists p[p = \lambda w''.open(the.stores)(w'') \vee p = \lambda w''.\neg open(the.stores)(w'')]$: $p(w') \wedge Dox_{Claire,w'} \subseteq p]]$

3.6 Discussions: With or Without Selection

The previous section provided three cases of agent-oriented embedded interrogatives (AOEIs) interpreted in the matrix clause. The examples demonstrate that AOEIs become part of the matrix event if the event entails the existence of a motivating question. The motivating question signals the gap of information that is expected to be resolved by conducting the matrix event. My claims in Section 3.5.2 were that (i) the matrix event is *enriched* with the existence of a motivating question during the semantic interpretation and that (ii) the existentially closed question becomes open to specification with an AOEI. I also showed that AOEIs cannot be complements or arguments to a verb head.

The strong dependence of AOEIs on the meaning of their matrix clauses might make AOEIs look as if they are selected by co-occurring predicates. However, I will

demonstrate that AOEIs are not in an ordinary selectional relationship. AOEIs present an entirely different set of problems from *true* arguments, which are internal arguments of either verbs or applicative heads. Before moving on, let us remind ourselves that AOEIs are trully embedded, as proven in section 1.2.2

Increasing valency and introducing a new argument in the structure has been discussed in relation to applicatives in the recent literature. Pylkkänen (2002, 2008) extensively discusses the cases in which a language has an applicative head, which assigns Case to an NP in the spec of its projection. Jung (2014) shows that Korean has causative applicative heads that introduce an NP with a Benefactive role. The location of applicative projections is dependent on each item. It can be the sister of the VP, vP, or above.

The case of AOEIs does not seem to fit the applicative phenomena. First of all, there is no overt applicative head in the structure. It is not convincing to assume that AOEIs are added arguments without an overt head hosting them. AOEIs are optional components. All grammatical sentences with an AOEI stay well-formed without the AOEI.

Secondly, the arguments of applicative heads discussed in the previous literature are all noun phrases; our AOEIs are interrogative clauses. Although Korean interrogative marker *ci* in AOEIs was originally a bound noun, distributional facts of AOEIs are distinguished from regular NPs.[20] Furthermore, the argument NPs of applicatives in JP/KR are overtly case-marked, whereas AOEIs are not. For example in (3.69) in Korean, the AOEI becomes ungrammatical when it ends with the accusative marker *lul*.

(3.69) KR Paul-i [Hana-ka chamsekha-yss-nun-ci](*-lul/ey) chwulsekpu-lul
Paul-Nom Hana-Nom attend-Past-Adn-Int(*-Acc/Dat) roster-Acc
hwakinha-yss-ta.
check-Past-Decl
'[Whether Haha attended], Paul checked the roster.'

[20]The fact that AOEIs prohibit either clause-final markers or scrambling was already discussed in section 3.4.1. Here I provide the examples again to make contrast with true arguments.

The incompatibility of the AOEI with *lul* is contrasted by the standard EI in (3.70a), which is compatible with *lul*. The verb *hwakinha* 'check' in (3.69–3.70) is a transitive verb, which selects for either an embedded interrogative or a noun phrase. The object EI and the object NP in the sentences are compatible with the Korean accusative marker *-lul*.

(3.70) a. KR Paul-i [Hana-ka chamsekha-yss-nun-ci]-lul hwakinha-yss-ta.
Paul-Nom Hana-Nom attend-Past-Adn-Int-Acc check-Past-Decl
'Paul checked whether Haha attended.'

b. KR Paul-i chwulsekpu-lul hwakinha-yss-ta.
Paul-Nom roster-Acc check-Past-Decl
'Paul checked the roster.'

If the AOEI in (3.69) were a true object as the one in (3.70a), it would have occured with the accusative *lul* or the dative *ey*. I would like to mention that Korean allows the accusative marker *lul* to attach to various constituents relatively easily. Korean has double accusative constructions, wherein two NPs occur with *-lul*; locative and benefatctive NPs are compatible with *-lul* under certain circumstances. Therefore, AOEIs are clearly outside of the subcategorization of the matrix verb.

Indeed, all kinds of nominal markers such as the topic and focus markers are incompatible with AOEIs. (3.71) has an ungrammatical example with the topic marker *nun* and the exclusive marker *man* in Korean. This incompatibility is not observed in the case of argument NPs of any sort.

(3.71) KR Paul-i [Hana-ka chamsekha-yss-nun-ci](*-nun/*-man)
Paul-Nom Hana-Nom attend-Past-Adn-Int-*Top/*only
chwulsekpu-lul hwakinha-yss-ta.
roster-Acc check-Past-Decl
Intended: 'About finding out/only to find out [Whether Haha attended],
Paul checked the roster.'

In addition, no constituent in AOEIs can scrambled out of the clause boundaries as in (3.72). This is contrasted by canonical JP/KR complement clauses, which allow their constituents to be scrambled out of the clause boundaries as illustrated in (3.73).

(3.72) KR * matang-ey$_i$ John-un [nwu-ka t$_i$ iss-nun-ci] pakk-ul
garden-Loc John-Top who-Nom exist-Adn-Int outside-Acc
po-koiss-ta.
look-Prog-Decl

Intended: John is looking outside, (in order to find out) who is in the garden.'

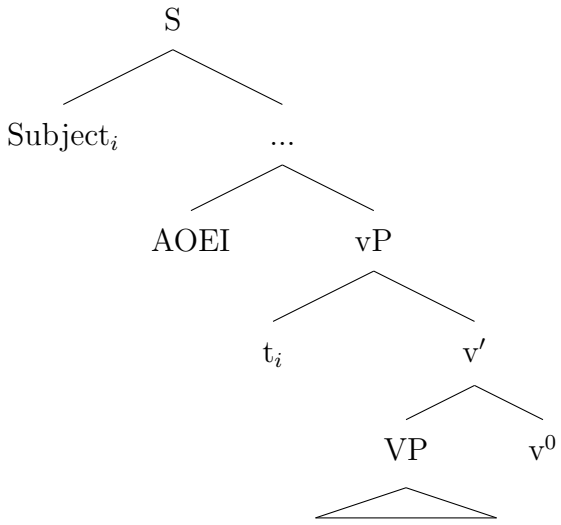
(3.73) KR matang-ey$_i$ John-un [nwu-ka t$_i$ iss-nun-ci]-(lul)
garden-Loc John-Top who-Nom exist-Adn-Int-Acc
kungkumhayha-koiss-ta.
wonder-Prog-Decl

'John is wondering who is in the garden.'

Therefore, in terms of syntax, AOEIs must be viewed as adjuncts. An AOEQ and its matrix predicate must be in a modifier-modified relationship.

AOEIs are syntactically modifiers, whereas their existence is semantically presumed, as suggested with the existentially closed question in section 3.5.2. In our analysis, AOEIs and their matrix predicates are sisters in the configuration, as simplified in (3.74).

(3.74)



This sisterhood between the AOEI and vP reflects that the entailment of the gap of information is made at the phrase level (i.e., vP). AOEIs are compatible with predicates after the components of the vP are defined. Sisterhood relationships can be used for

both complement-head relationships and modifier-modified relationships. My view on the modifier-modified relationship rests upon the assumption of Sportiche (1988)'s Adjunct Projection Principle, which is defined as follows:

(3.75) Adjunct Projection Principle (Sportiche 1988:(7))
If some semantic type X "modifies" some semantic type Y, and X and Y are syntactically realized as a and b, a is projected as adjacent either to b or to the head of b.

Sportiche claims that this principle applies only to the adjuncts "whose lexical meaning makes it clear what they can modify (p.430)". His work shows that the relationship between an adjunct and a verb (or a verb phrase) is analogous to that of an internal argument and a predicate.

Thus, under Sportiche's syntactic framework, AOEIs are modifiers for their sister predicates while the semantic licensing of the AOEIs takes place by the meaning of the predicates.

3.7 Concluding Remarks

In this chapter, we observed that the predicates compatible with an agent-oriented embedded interrogative (AOEI) denote events that signal the agent's volition and the gap of information. The AOEI-compatible predicates entail the existence of a motivating question and the entailment provides environment for an AOEI to appear as a syntactic modifier in the structure.

In order to represent the semantics of AOEIs, I claimed that a question in the action of pursuing information is analogous to a question under discussion (QUD) in a language game. In the semantic interpretation, AOEIs fill the place of an existentially quantified component in the matrix event.

I ruled out two alternative analyses such that (i) there is a hidden verb licensing AOEIs and that (ii) AOEIs are linked to the matrix predicate by pragmatic machinery.

Chapter 4

SPEAKER-ORIENTED EMBEDDED INTERROGATIVES (SOEIS)

This chapter introduces another case of adjunct embedded interrogatives attested in Japanese (JP) and Korean (KR). (4.1) contains an example of each language in square brackets. These embedded interrogatives are appositive questions, playing as the speaker's editorial comments on the matrix clause.

(4.1) JP [ame-ga hut-ta-no-ka] jimen-ga nurete-iru.
rain-Nom fall-Past-NML-Int ground-Nom wet-Prog

KR [pi-ka w-ass-nun-ci] ttang-i cec-eiss-ta.
rain-Nom come-Past-Adn-Int ground-Nom wet-Prog-Decl

Literally: 'The ground is wet, [whether it rained].'

Intended: 'The ground is wet; I am wondering if it has rained.'

The speaker of (4.1) reports an event in which the ground is wet. In addition to the report, *ame-ga hut-ta-no-ka/pi-ka w-ass-nun-ci* 'whether it rained' in Japanese(JP)/ Korean(KR) expresses two pieces of thoughts that the speaker has: (i) the speaker is ignorant of the correct answer; yet (ii) if it rained, the rain could be the cause for the ground to be wet. The thoughts (i)–(ii) would be roughly translated as *I am wondering if it has rained* in English. Thoughts (i)–(ii) are separated out from the semantics of sentence (4.1) because they do not contribute to the truth condition of the sentence. (4.1) is true if and only if the ground is wet. Whether or not it had rained is not taken into consideration in determining the truth value of (4.1).

When the embedded interrogative is a polar question, like *whether it rained*, it also delivers the speaker's bias toward the assertive answer. For example in (4.1), the

speaker suspects that it was raining. The same kind of bias is also observed in the English sentence *The ground is wet; I am wondering if it rained.*

Thus, by uttering (4.1), the speaker expresses the following:

(4.2) The utterance of (4.1) delivers:

a. An assertion: 'The ground is wet.'

b. Subsidiary remarks of the speaker's:

i. Speculation over the causal link: The speaker speculates that the wet ground resulted from raining, if it actually rained.

ii. Ignorance: The speaker does not know whether it has rained or not.

iii. (In the case of polar questions) Bias: The speaker suspects that it has rained.

The speaker's remarks (4.2b-i)–(4.2b-iii) work independently from the assertion (4.2a) as if they are uttered by two different sentences. Indeed, very close semantic/pragmatic effects can be achieved by uttering a root question and a root statement as in (4.3). Each of the JP and KR examples below contains a root question followed by a root statement.[21] The statement makes an assertion identical to (4.2a); the question here is interpreted in connection with the co-occurring statement. A valid inference is that the speaker is curious about the cause of the ground's being wet, and considers raining as one possibility (4.2b-i)–(4.2b-iii).

(4.3) JP ame-ga hut-ta-no? jimen-ga nurete-iru.
rain-Nom come-Past-NML ground-Nom wet-Prog

KR pi-ka w-ass-ni? ttang-i cec-eiss-ta.
rain-Nom come-Past-Int ground-Nom wet-Prog-Decl

Meaning: 'Did it rain?' 'The ground is wet.'

[21] In (4.3), I placed a question before a statement. But the reversed statement-question order delivers the same discourse effects described in (4.2). In section 4.3.2, I will explain that the relative order between a consecutive pair of an assertion and a question is insignificant in monologues.

Let us remind ourselves that the EI *ame-ga hut-ta-no-ka/pi-ka w-ass-nun-ci* 'whether it rained' in (4.1) has been shown to be truly embedded in section 1.2.2. Hence, the EI works like an independent root question while it stays within a statement.

The EI in (4.1) differs from the root question in (4.3) in terms of the expected responses. Only root questions force answers from the addressee. In contrast, the hearer of (4.1) can ignore the EI part when responding in the conversation since the EI sounds supplementary, outside of the main content that the speaker intends to deliver. Such comment-like EIs are the topic of this chapter.

This chapter aims to account for how and why SOEIs are distinguished from the EIs that contribute to the truth condition (i.e., argument EIs and agent-oriented embedded interrogatives, AOEIs, in Chapter 3). The account includes identifying the semantic/pragmatic representations of SOEIs in JP/KR and their relation to the main clause event in the discourse.

4.1 AOEIs versus SOEIs

The first step toward the analysis of speaker-oriented embedded interrogatives (SOEIs) must be to justify their necessity. Do SOEIs call for a separate analysis from that of agent-oriented embedded interrogatives (AOEIs) in chapter 3? My answer is *yes*, and the evidence will be given in this section. I will show that the apparatus for AOEIs cannot manage the speaker-orientation of SOEIs. Also, the distributions of AOEIs and SOEIs are too differrent to reduce one to the other.

Like AOEIs, SOEIs can be polar (4.4), constituent (*wh*-) (4.5), and alternative questions (4.6). All the forms yield the speaker's editorial questions on the matrix clause event. The three sentences (4.4)–(4.6) each is interpreted as a conjunction of one statement and one subsidiary question.

(4.4) Polar-question

KR [swuep-i kkuthna-ss-nun-ci]$_{SOEI}$ haksayng-tul-i kanuysil-ul
class-Nom be.over-Past-Adn-Int student-PL-Nom class.room-Acc
ppacyenao-n-ta.
leave-Prog-Decl

Literally: '[Whether the class is over], students are leaving the classroom.'

Intended: 'Students are leaving the classroom; I am wondering if the class is over.'

(4.5) *Wh*-question

KR [Paul-i mwues-ul ppwuly-ess-nun-ci]$_{SOEI}$ matang-i ceceiss-ta.
Paul-Nom what-Acc sprinkle-Past-Adn-Int ground-Nom wet-Decl

Literally: '[What Paul sprinkled (on it)], the ground is wet.'

Intended: 'The ground is wet; I am wondering what Paul sprinkled on the ground.'

(4.6) Alternative question

KR [Pi-ka w-ass-nun-ci]$_{SOEI}$ [nwukwunka-ka mwul-ul
rain-Nom come-Past-Adn-Int somebody-Nom water-Acc
ppwuly-ess-nun-ci] matang-i ceceiss-ta.
sprinkle-Past-Adn-Int ground-Nom wet-Decl

Literally: '[Whether it rained or somebody sprinkled water], the ground is wet.'

Intended: 'The ground is wet; I am wondering whether it rained or somebody sprinkled water on it.'

The speaker of (4.5) wonders what Paul sprinkled on the ground since s/he suspects that the ground became wet as a consequence. Likewise, the speaker of (4.6) wonders whether it had rained or whether there was someone who sprinkled water on the ground since s/he expects these two possibilities to be the most plausible scenarios for how the ground became wet.

The categories SOEI and AOEI are defined by whether the denoted question belongs to the speaker or the matrix agent. The internal structures are identical and both are adjuncts. Thus, an adverbial EI can be ambiguous between an SOEI, expressing the speaker's remarks, and an AOEI, expressing the matrix agent's intention. (4.7) is an example in Korean. Meaning$_{AOEI}$ and meaning$_{SOEI}$ are the two possible readings of the sentence.

(4.7) [nwu-ka o-nun-ci]$_{AOEI or SOEI}$ Paul-un chang-pakk-ul
who-Nom come-Adn-Int Paul-Top window-outside-Acc
naytapo-ass-ta.
look.out-Past-Decl

Literally: '[Who was coming], Paul looked outside the window.'

Meaning$_{AOEI}$: 'Paul looked outside the window in order to find out who was coming.'

Meaning$_{SOEI}$: 'Paul looked outside the window; and I am wondering who was coming.'

The two interpretations of the EI in (4.7) underlined reflect the perspectives of two different persons. The former reflects the view of the matrix agent, Paul, while the latter reflects the view of the speaker. The semantic apparatus that I suggested for AOEIs in chapter 3 is to make an additional argument slot for the matrix predicate, because the matrix predicates that could host an AOEI denote purposeful events. As an argument, an AOEI specifies the question that the matrix agent has in mind when the matrix event takes place. If we apply the same relationship with the matrix event to SOEIs, they become connected to the matrix agent and lose the link to the speaker's perspectives.

Meaning$_{AOEI}$ expects the matrix event to be purposeful and goal-oriented, whereas meaning$_{SOEI}$ lacks such expectation. They show a clear contrast in points-of-view and expectation of purposefulness, which makes it difficult to reduce the case of SOEIs to the case of AOEIs. The irreducibility is further supported by their difference in distribution.

SOEIs and AOEIs differ in distribution in three ways. First, SOEIs can occur regardless of the meaning of the matrix predicate, whereas AOEIs require their matrix predicate to signal purposefulness. Second, SOEIs occurs only in declaratives, whereas AOEIs can occur in interrogatives and imperatives too. Third, AOEIs contribute to the truth condition of the matrix clause, whereas SOEIs do not. I will lay out these cases one by one.

First, AOEIs require the matrix predicates to be purposeful and intentional, whereas SOEIs' occurrence is insensitive to the meaning of matrix predicates. In chapter 3, we have seen a number of examples that show AOEIs cannot appear with non-purposeful matrix event. The repeated example (3.20c) below with an AOEI shows that the sentence becomes bad when the auxiliary verb *po* 'try' is omitted.

(3.20c) [nwu-ka iss-nun-ci]$_{AOEI}$ Chris-ka pyekcang mwun-ul
who-Nom exist-Adn-Int Chris-Nom closet door-Acc
yele-***(po)**-ass-ta.
open-**try**-Past-Decl
Intended: 'In order to find out who is there, Chris **tried** opening the closet door.']

In contrast with this, the SOEI in (4.1) repeated below is acceptable when the matrix predicate is non-purposive and non-intentional.

(4.1) JP [ame-ga hut-ta-no-ka])$_{SOEI}$ jimen-ga nurete-iru.
rain-Nom fall-Past-NML-Int ground-Nom wet-Prog

KR [pi-ka w-ass-nun-ci]$_{SOEI}$ ttang-i cec-eiss-ta.
rain-Nom come-Past-Adn-Int ground-Nom wet-Prog-Decl

Literally: 'Whether it rained, the ground is wet',

Meaning: 'The ground is wet; (I am wondering) whether it has rained.'

Secondly, AOEIs have no restriction on the clause-type or modality of matrix clauses, whereas the matrix clause of SOEIs must be declarative without epistemic modality. For example, (4.8) is an interrogative counterpart of declarative (4.7) on page 120. Here, only the AOEI reading survives.

(4.8) [nwu-ka o-nun-ci] Paul-un chang-pakk-ul
somebody-Nom come-Adn-Int Paul-Top window-outside-Acc
naytapo-ass-ni?
look.out-Past-Int

Literally: '[Who was coming], did Paul look outside the window?'

Meaning$_{AOEI}$: 'Did Paul look outside the window in order to find out who was coming?'

~~Meaning$_{SOEI}$: 'Did Paul look outside the window? I am wondering who was coming.'~~

Likewise, the SOEI in KR (4.9) leads to unacceptability because the matrix clause includes the epistemic possibility modal particle *keyss* 'may'; the sentence becomes acceptable once *keyss* is removed.

(4.9) # [pi-ka w-ass-nun-ci]$_{SOEI}$ ttang-i cec-eiss-keyss-ta.
rain-Nom come-Past-Adn-Int ground-Nom wet-Prog=Evid-Decl
Intended: 'The ground may$_{(epistemic)}$ be wet; I am wondering if it rained.'

In section 4.3.3, we will come back to this issue of SOEIs' restriction on the clause-type and modality in the matrix clause. This restriction is a natural consequence from the analysis of SOEIs.

The last difference between AOEIs and SOEIs is that the former must, but the latter must not contribute to determining the truth condition of the matrix clause. For example, speaker B in (4.10) disagrees with speaker A's statement containing an AOEI.

(4.10) A: Mina-ka ecey [cayko-ka eps-nun-ci]$_{AOEI}$ cangpwu-lul
Mina-Nom yesterday stock-Nom not.exist-Adn-Int list-Acc
hwakinha-yss-ta.
check-Past-Decl
Literally: 'Mina [whether goods are not in stock] checked the list yesterday?'
Meaning: 'Mina checked the list yesterday in order to find out whether goods are not in stock.'

B: Ani. Mina-ka ecey cangpwu-nun hwakinha-yss-ciman,
No Mina-Nom yesterday list-Top check-Past-but
cayko-ey sinkyengssu-ciahn-ass-e.
stock-Dat pay.attention-Neg-Past-Decl
'No. (She) checked the list yesterday, but didn't pay attention to the stock.'

Although speaker B agrees with the statement of the higher clause, his/her response is negative because the content of the EI is incorrect. This shows that AOEIs compositionally contribute to the interpretation of the embedding sentence. However, as shown in (4.11), the content of an SOEI is independent of the truth condition of the main statement.

(4.11) A: [mok-i malu-n-ci]$_{SOEI}$ Mina-ka mwul-ul masi-ess-ta.
neck-Nom dry-Adn-Int Mina-Nom water-Acc drink-Past-Decl

Literally: '[Whether she was thirsty] Mina drank water.'

Meaning: 'Mina drank water; I am wondering if she was thirsty.'

B: ung. Mina-ka mwul-ul masi-ess-e. kuciman ne-nun gunye-ka
yes Mina-Nom water-Acc drink-Past-Decl but you-Top she-
mokmala-seo gulay-ss-ta-ko sayngkakha-ciahn-cyanha.
neck-Nom thirsty-because do.so-Past-Decl-Quot

think-Neg-Decl

'Yes. She drank water. #But you don't think that she did so because she was thirsty, (do you?)'

The contrast between the two conversations indicates that the content of SOEIs is unrelated to the matrix event.[22] The analysis that I provided for AOEIs was to integrate the meaning of the AOEIs into the truth condition of the matrix clause event. The analysis must neither predict nor work for the case of SOEIs because the two do not seem to be interpreted at the same level despite their syntactic identity.

Indeed, the content of SOEIs cannot take scope under the negation of the matrix clause. For example, the negation in (4.12) only takes scope over the event of Mina's not eating; the speaker's wondering is not affected by the negation at all.

(4.12) KR [daietu-lul ha-nun-ci]$_{SOEI}$ Mina-ka mek-ciahn-goiss-ta.
diet-Acc do-Adn-Int Mina-Nom eat-Neg-Prog-Decl

Literally: '[Whether (she) is on a diet], Mina is not eating.'

Intended: 'Mina is not eating, and I am wondering if she is on a diet.'

~~Intended: 'It is not that Mina is eating and I am wondering if she is on a diet.'~~

To summarize, SOEIs are distinguished from AOEIs, in that (i) they do not have any restriction on the matrix predicate; (ii) their matrix sentence must be declarative without epstemic modality; and (iii) they cannot participate in determining the truth condition of the matrix sentence. For these reasons, I will treat SOEIs as different

[22]The not-at-issueness of SOEIs will be discussed further in section 4.2.1.

semantic items from AOEIs throughout the thesis. Therefore, we need a separate semantic and pragmatic analysis of SOEIs in this chapter.

4.2 Speaker-Oriented Embedded Interrogatives in Another Dimension

My goal is to account for the meanings that speaker-oriented embedded interrogatives (SOEIs) deliver, as described below:

(4.13) An SOEI $\underline{q}$ in a sentence $\underline{q,\ P}$ delivers (from 4.2b-i–4.2b-iii)

a. The speaker's bias on the prospective answer to q.

b. The speaker's speculation over the causal link: If his/her prospective answer of q turns out to be correct, it could be the cause of the event P.

c. The speaker's ignorance: The speaker does not know the correct answer of q.

The analysis consists of two parts. In this section 4.2, I will explain that the speaker's ignorance (4.19a) is due to the fact that SOEIs denote *not-at-issue questions*. In the next section 4.3, I will argue that the speaker's bias and speculation result from explanation-seeking characteristics of SOEIs. The analysis of this section will enable the further analysis of SOEIs at the discourse level in the next section. Let me first provide theoretical background on not-at-issue contents and the subkind, conventional implicatures.

4.2.1 Previous literature on not-at-issueness/conventional implicature

Since Grice (1975), it is commonly assumed that a sentence can have a secondary meaning beside the main assertion or the part that contributes to the truth condition. Interpretation of the secondary content takes place on a different track from that of the main part of assertion called "what is said" or "at-issue entailments" (Karttunen and Peters 1976, Bach 1999, Potts 2005, Farkas and Bruce 2010, among others).

Potts (2005) discusses three different secondary, *not-at-issue* meanings that sentences can deliver beside at-issue entailments: (i) presuppositions, (ii) conversational

implicatures, and the main focus of this section, (iii) conventional implicature (CIs). (4.14) provides examples of the expressions that trigger CIs: the nominal appositive *the cyclist* in (4.14a) and the non-restrictive relative clause *which is based on extensive research* in (4.14b), both of which are marked with commas.[23] The at-issue entailment and the CI of the sentences are provided as well.

(4.14) a. *Lance Armstrong, the cyclist, battled cancer.*
AT-ISSUE ENTAILMENT = Lance Armstrong battled cancer.
CI = Lance Armstrong is a cyclist. (Potts 2007, p. 668)

b. *Ed's claim, which is based on extensive research, is highly controversial.*
AT-ISSUE ENTAILMENT = Ed's claim is highly controversial.
CI = Ed's claim is based on extensive research. (Potts 2005, p. 670)

The two layers of meaning in each sentence are independent of each other, similarly to how the meaning of an SOEI is seperated from the meaning of the matrix clause.

Potts (2005, 2007) introduced the notion of multidimensionality to account for the semantic characteristics of CIs. Based on Bach (1999)'s idea that a sentence can denote more than one proposition, Potts claims that the interpretation of "CI elements" takes place in a dimension that is independent of the dimension where canonical statements are interpreted. This interpretation in another dimension is triggered conventionally, hence the process is context-independent as well. For example, in figure 4.1, commas around the boundaries of the non-restrictive relative clause *which is based on extensive research* play as the COMMA operator. COMMA takes an at-issue meaning on its sister node, and lays it on the CI dimension. Consequently, the uppermost NP has two meanings in at-issue and CI dimensions: an entity, Ed's claim, is at-issue and a proposition, Ed's claim is based on extensive research, is a CI, not-at-issue.

[23] According to Potts (2005, 2007) conventional implicatures (CIs) fall into two categories: supplements and expressives. The former gives supplementary information independent of regular asserted contents, while the latter indicates the speaker's attitude on the event or entities referred to in the main clause. This paper focuses on supplements. (4.14) contains examples of supplements.

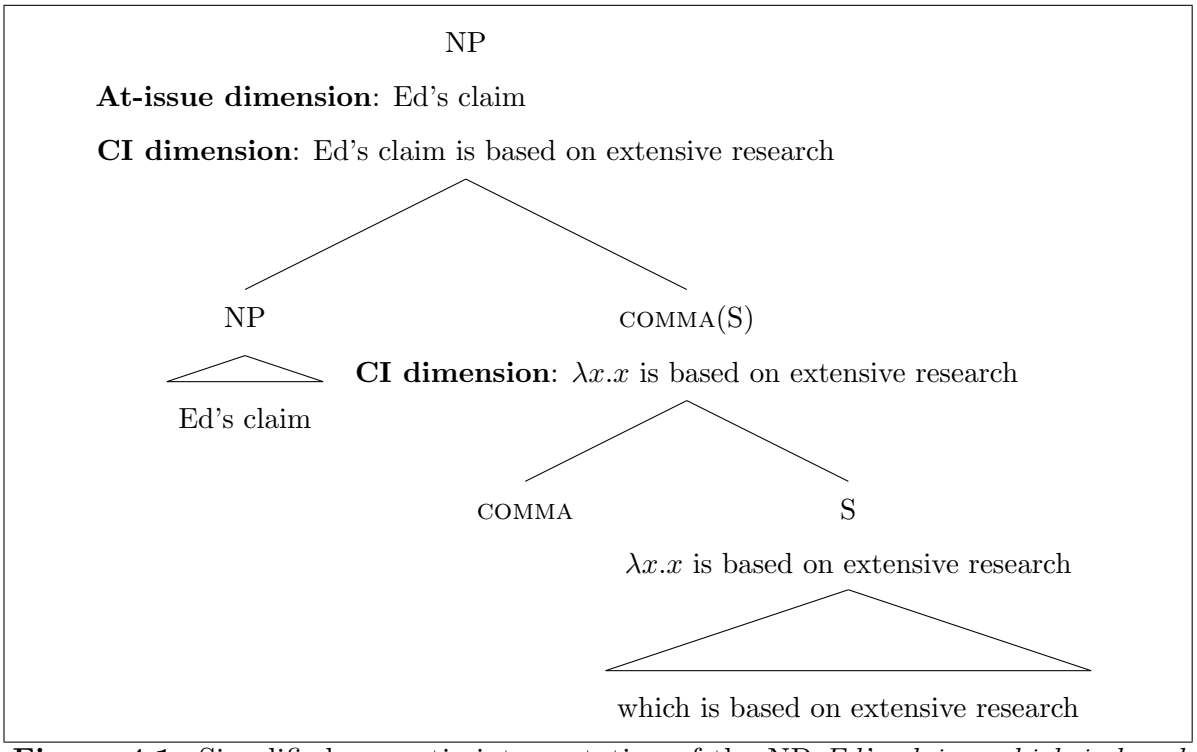


Figure 4.1: Simplified semantic interpretation of the NP *Ed's claim, which is based on extensive research,* in the sense of Potts (2005)

The characteristics of CIs are distinguished from those of the other not-at-issue items, conversational implicatures, and presuppositions, as well as from those of at-issue entailments. (4.15) illustrates the characteristics of Conventional Implicatures presented by Potts (2005).

(4.15) a. CIs are not-disputable.

b. CIs cannot be backgrounded.

c. CIs are speaker-oriented

d. CIs are conventionally or lexically triggered.

As for (4.15a), CIs are non-disputable and cannot be cancelled unlike conversational implicatures. For example, the use of the English word *some* conversationally implicates that the description does not apply to all. However, the implicature can be canceled as in (4.16a). This contrasts with (4.16b), where the overtly disputed CI leads to infelicity.

(4.16) *Lance Armstrong, a cyclist, ate some of the fruits.*

⇒ Conversational implicature: Lance Armstrong did not eat all of the fruits.

⇒ Conventional implicature (CI): Lance Armstrong is a cyclist.

a. *Lance Armstrong actually ate them all.*

b. *# Lance Armstrong is not a cyclist.*

Unlike presuppositions, CIs must be new to discourse. They cannot be backgrounded. In each monologue of (4.17), the second statement sounds infelicitous because the information has been given before.

(4.17) a. *Lance Armstrong is a cyclist. #Lance Armstrong, a cyclist, battled cancer.*

b. *Ed's claim is based on extensive research. #Ed's claim, which is based on extensive research, is highly controversial.*

About (4.15c), CIs reflect the speaker's point of view. For instance, what is contained in the relative clause in (4.14b) is the speaker's comment on the at-issue content, Ed's claim. Also, the CI content of a sentence holds under presuppositional holes such as negation, questioning, modalization, and conditionalization, as well as under presuppositional plugs like *say* and other performative verbs.

(4.14b) Ed's claim, which is based on extensive research, is highly controversial.

As for (4.15d), Potts (2005) claims that CIs are marked by the semantic feature COMMA, which is manifested by symbols or intonation. It sets a boundary of CI expressions and induces them to be interpreted in the CI tier.

If Potts's characterization is correct, one may predict that a newly found CI element must have all those characteristics. If SOEIs are interpreted in the CI-dimension, they must have the four characteristics as well.

4.2.2 SOEI as being not-at-issue

The characteristics of CIs are summarized below.

(4.18) a. CIs are non-refutable, unlike conversational implicature.

b. CIs are not backgrounded, unlike presuppositions.

c. CIs are speaker-oriented.

d. CIs are conventionally triggered (e.g., commas in text or a pause in speech).

If the meaning carried out by SOEIs has all the characteristics, we could conclude that SOEIs also contribute to the CI dimension. (4.2b) describes the meaning of an SOEI, repeated below.

(4.19) An SOEI $\underline{q}$ in a sentence $\underline{q,\ P}$ delivers (from 4.2b-i–4.2b-iii)

a. The speaker's ignorance: The speaker does not know the correct answer of q.

b. The speaker's speculation over the causal link: If his/her prospective answer of q turns out to be correct, it could be the cause of the event P.

c. (In the case of polar SOEIs) The speaker's bias on the prospective answer to q.

Here, I justify the CI-status of SOEIs by showing that their meanings have all four characteristics in (4.18).

First of all, for non-cancellability (4.18a), SOEIs cannot be cancelled. The sentences in (4.20) are in contradiction with either meaning i or 2 in (4.2b). All of them are infelicitous after uttering '[Whether it rained], the ground is wet.'

(4.20) a. # Actually I know that it actually rained.

b. # And I believe that it didn't rain.

c. # But I think the raining would not make the ground wet.

(4.20a)–(4.20c) do not sound coherent with the content of '[Whether it rained], the ground is wet.' and that is the reason for their infelicity.

Secondly, the content of SOEIs cannot be backgrounded. Imagine the situation where a group of people are talking about the results of a test that their friend Mina took. The result had come out but nobody knew whether Mina passed it or not. Given that context, (4.21a) is inappropriate to say in the discourse.

(4.21) KR

a. # kulentey Mina-ka [sihem-ey hapkyekha-yss-nun-ci] halucoingil
by.the.way Mina-Nom test-Dat pass-Past-Adn-Int all.day
wus-koiss-ess-ta.
smile-Prog-Past-Decl
'By the way, Mina [did she pass the test?] was smiling all day.'

b. kulentey Mina-ka halucoingil wus-koiss-ess-ta.
by.the.way Mina-Nom all.day smile-Prog-Past-Decl
'By the way, Mina was smiling all day.'

(4.21a) sounds inappropriate compared to the natural (4.21b) because the role of SOEIs is to bring a new issue related to the main clause; what is implicated by the EI in (4.21a) is already salient in the discourse.

The fourth characteristic described in (4.18d) is observed in speech. In Potts (2005), intonational markings in speech, and commas and parentheses in print are considered as syntactic markers for CI readings. When an EI appears without any marking around its boundaries, as in (4.22a), classifying it as an AOEI or an SOEI is dependent on the context.

(4.22) KR

a. Mina-nun [os-ey mwenka-lul huly-ess-nun-ci] chima-lul
Mina-Top clothes-Loc something-Acc spill-Past-Adn-Int skirt-Acc
kkomkkomhi salphyepo-ass-ta.
carefully look-Past-Decl
Literally: 'Mina [did she spill something on her clothes?] looked carefully at her skirt.'
Meaning$_{AOEI}$: 'Mina looked carefully at her skirt to see whether she spilled something on it.'

Meaning$_{SOEI}$: 'Mina looked carefully at her skirt, and I am wondering whether she spilled something on it.'

b. Mina-nun ... [os-ey mwenka-lul huly-ess-nun-ci] ... chima-lul
Mina-Top clothes-Loc something-Acc spill-Past-Adn-Int skirt-Acc
kkomkkomhi salphyepo-ass-ta.
carefully look-Past-Decl
[Only meaning$_{SOEI}$ is possible]

It is worth noting, however, that although intonations are usually not distinctive in Korean, if a speaker reads the sentence with long pauses around the EI, as illustrated in (4.22b), the EI can only be interpreted as an SOEI. This may indicate that Korean also employs an operator like COMMA to distinguish speaker-orientation from other readings.

To summarize, the meaning delivered by SOEIs has the characteristics owned by CIs. The figure below shows how an SOEI is connected to the main statement. COMMA separates the EI from the main clause, and syntactically, the EI is adjoined to the main clause. This does not constitute a coordination since clauses of varied clause-types (i.e., interrogative and declarative here) cannot be coordinated.

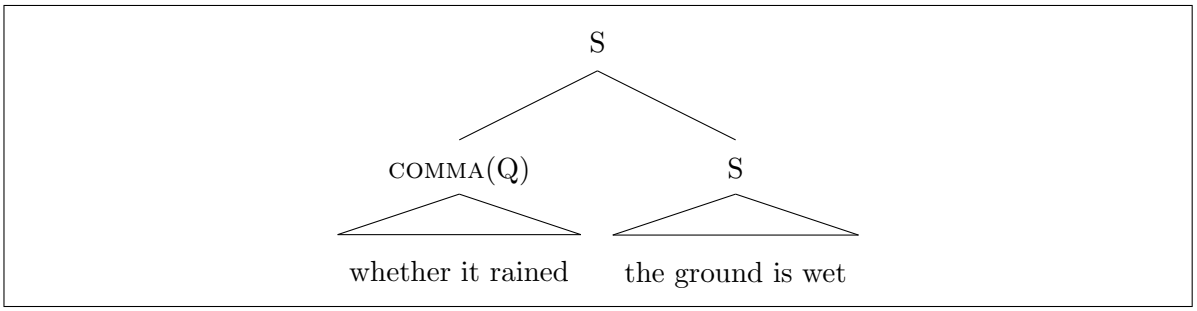


Figure 4.2: Speaker-oriented EI within a declarative clause

Here, COMMA(Q) is adjoined to the lower S to show that SOEIs are independent of their matrix clauses in interpretation. However, the adjunction location of SOEIs is not important because COMMA(Q) will be treated in the not-at-issue dimension and become invisible for further interpretation in the structure.

4.2.3 SOEI as denoting non-propositional content

The earlier section 4.2.2 showed that the meanings that are delivered by speaker-oriented embedded interrogatives (SOEIs) are categorized as not-at-issue, conventional implicatures (CIs). Consequently, interpretations of an SOEI and its matrix clause will be laid out in separate dimensions, the at-issue dimension and the CI-dimension. The next question is of what semantic type SOEIs are mapped to in the CI-dimension.

The not-at-issue contents discussed in the previous literature have mostly been propositional.(4.23) is an example of nominal appositives that yield a CI. The nominal appositive *Mary's favorite fictional character* denotes a function that takes an at-issue argument, Miss Marple, and becomes a proposition at the CI-dimension.

(4.23) *Miss Marple, Mary's favorite fictional character, was created by Agatha Christie.*
⇒ CI: Miss Marple is Mary's favorite fictional character.

The discussions of the at-issue entailment versus the CI have centered around how information updates the context and becomes part of the interlocutors' knowledge. Hence, non-propositions like questions have rarely received attention because questions have been regarded as providing the topic of conversation by indicating the information that needs to be resolved. If SOEIs denote questions, the semantics and pragmatics of SOEIs may expand the boundary of CIs and throw new light on the definitions of not-at-issueness and CIs.

At first glance, it appears that a careful analysis is needed to ascertain whether SOEIs are questions or propositions, since they seem to possess properties of both. On the one hand, they are interrogative clauses. It is commonly assumed that an interrogative clause denotes a question, which is a set of propositions ($\langle\langle s,t\rangle,t\rangle$ or $\langle t,t\rangle$). On the other hand, the semantic/pragmatic effects of SOEIs such as the speaker's bias, speculation, and ignorance can be illustrated with propositions ($\langle s,t\rangle$ or $\langle t\rangle$), as in (4.19) on page 128. Here I will consider two arguments that could be made for viewing SOEIs as denoting propositions or contributing to propositional contents.

Although SOEIs do not have an overt verb selecting for them, one might imagine the existence of a covert predicate meaning 'not know'. For example, the sentences in (4.24) are near-synonymous to the repeated (4.1), with additional *moll-ado* 'not.know but' in Korean.[24] Just like the SOEI in (4.1), the embedded interrogative in (4.24) signals the speaker's ignorance of the correct answer and his/her speculation over a causal link between raining and the wet ground.

(4.24) KR [pi-ka w-ass-nun-ci moll-ado]$_{not-know}$, matang-i
rain-Nom come-Past-Adn-Int not.know-but ground-Nom
ceceiss-ta.
wet-Decl
'I do not know whether it rained, but the ground is wet.'

(4.1) KR [pi-ka w-ass-nun-ci]$_{SOEI}$ matang-i cec-eiss-ta.
rain-Nom come-Past-Adn-Int ground-Nom wet-Prog-Decl
Literally: 'Whether it rained, the ground is wet.'

The EIs in (4.24) are selected by the verb *mol*(*u*)- 'not know.' I will call the construction *not-know* constructions from now on. If SOEIs are the EIs that have a covert *Not-know* element, one may raise a possibility that the *Not-know* predicate semantically selects for proposition. In that case, an EI in the argument position triggers type-shifting from a question to an answer to the question. However, SOEIs and the argument EIs of *not-know* constructions have different patterns enough to say they do not have similar underlying structures.

First, *not-know* constructions lack the speaker's bias. The meaning of *not-know* constructions does not change when the polar EI in (4.24) turns into an alternative question by adding *ani-i-n-ci* 'or not', as in (4.25).

(4.25) KR [Pi-ka w-ass-nun-ci ani-i-n-ci moll-ado]$_{not-know}$,
rain-Nom come-Past-Adn-Int not-Cop-Adn-Int-Top not.know-but
matang-i ceceiss-ta.
ground-Nom wet-Decl

[24]The relationship between SOEIs and *not-know* constructions in Korean is also observed in Japanese.

'I do not know whether it rained or not, but the ground is wet.'

(4.26) KR # [Pi-ka w-ass-nun-ci ani-i-n-ci]$_{SOEI}$ matang-i
rain-Nom come-Past-Adn-Int not-Cop-Adn-Int ground-Nom
ceceiss-ta.
wet-Decl

Literally: '[Whether it rained or not], the ground is wet.'

By contrast, (4.26) does not sound the same as (4.1) because it loses the implication that 'it is likely that the raining caused the ground's being wet.'

Secondly, more evidence shows that *not-know* constructions do not necessarily implicate the causal link between the EI and the matrix clause. For example, the *not-know* construction occurring in (4.27) simply reports that the speaker has no idea on whether Mina wanted to buy the book in question. Its counterpart with an SOEI sounds bad as in (4.28). This sentence sounds infelicitous because, according to world knowledge, Mina's desire to buy a book cannot cause her to not buy the book. The infelicity of (4.28) confirms that polar SOEIs deliver the speaker's bias on the assertive answer to the question.

(4.27) KR [ku chayk-ul maywu sa-kosip-un-ci moll-ado]$_{not-know}$,
the book-Acc very.much buy-want-Adn-Int not.know-but
Mina-nun sa-ciahn-ass-ta.
Mina-top buy-Neg-Past-Decl

'I do not know if Mina wanted to buy the book very much, but she didn't buy it.'

(4.28) KR # [ku chayk-ul maywu sa-kosip-un-ci]$_{SOEI}$ Mina-nun
the book-Acc very.much buy-want-Adn-Int Mina-top
sa-ciahn-ass-ta.
buy-Neg-Past-Decl

Literally: '[Whether Mina wanted to buy the book very much], she didn't buy it.'

Intended: 'Mina didn't buy the book; I am wondering if she wanted to buy it very much.

Thus, if SOEIs were underlyingly *not-know* constructions, it is difficult to explain why only part of *not-know* constructions that does not imply causal relationships can undergo deletion.

In addition, *not-know* constructions can occur within questions and commands, whereas SOEIs cannot. Let us remind ourselves that section 4.1 showed that SOEIs must occur in declarative sentences without epistemic modality, unlike agent-oriented embedded interrogatives (AOEIs). *Not-know* constructions can occur in non-declaratives such as imperatives (4.29a) and exhortatives (4.29b). The grammaticality of these sentences is contrasted by infelicitous SOEIs in (4.30) and (4.29).

(4.29) KR *not-know* constructions in an imperative and an exhortative clause

a. [cokum himtul-ci molla-do]$_{not-know}$, nayil tungsan-ul
a.little arduous-Q not.know-but tomorrow climbing-Acc
ka-la.
go-Imper
'I do not know whether it is a bit arduous, but go climbing tomorrow!'

b. [cokum himtul-ci molla-do]$_{not-know}$, nayil
a.little arduous-Q not.know-but/not.know-may-but tomorrow
tungsan-ul ka-ca.
climbing-Acc go-Exh
'I do not know whether it is a bit arduous, but let's go climbing tomorrow!'

(4.30) KR SOEIs in an imperative and an exhortative clause

a. # [cokum himtul-ci]$_{SOEI}$ nayil tungsan-ul ka-la.
a.little arduous-Q tomorrow climbing-Acc go-Imper
'[Whether it is a bit arduous] Go climbing tomorrow!'

b. # [cokum himtul-ci]$_{SOEI}$ nayil tungsan-ul ka-ca.
a.little arduous-Q tomorrow climbing-Acc go-Exh
Intended: '[Whether it is a bit arduous] Let's go climbing tomorrow!'

So far we have compared SOEIs and *not-know* constructions. They are not always interchangeable. Their differences in meaning and distribution make it difficult

to regard them as having the same underlying structure. Therefore, I rule out the possiility that SOEIs have a hidden predicate meaning not-know.

There is another theory of Sohn (1999), who claims that Korean (KR) SOEIs are actually not interrogatives. He claims that the clause-final *-nun-ci* 'Adn-Int' were lexicalized to *-nunci*, whose meaning is 'probably because' or 'perhaps it does ..., so' (p.306). He glossed the lexicalized *-nunci* with 'perhaps' in his example (4.31).

(4.31) [ai-tui-i ca-nunci] cip-i coyongha-kwun!
child-PL-Nom sleep-perhaps house-Nom be.quiet-App
'P erhaps the children are sleeping; the house is quiet!' (Sohn 1999, (73b))

I believe that the interpretation of SOEIs does not result from lexicalization. Section 4.3 will show that the interpretation of SOEIs is compositional. Also, the lexicalization view has three major drawbacks. First, it fails to explain why the meaning of SOEI's cannot be integrated into the meaning of the matrix clause. In his example (4.31), Sohn used a semicolon to segregate the interpretation of the SOEI from the main statement. He left this segregation unexplained.

Secondly, the lexicalization view cannot explain why SOEIs cannot occur in root questions or commands. If *-nunci* simply means 'probably because' or 'perhaps it does ..., so' as Sohn (1999) observes, SOEIs have no reason for avoiding root questions and commands, the way standard adverbial clauses do in Japanese and Korean. For example, (4.32a) contains a canonical *because*-clause with the adverbial *ama* 'perhaps', and sounds good as a question. This sentence becomes unacceptable when we replace the *because*-clause with an SOEI of the similar meaning, as in(4.32b).

(4.32) a. ama pi-ka nayly-ese ttang-i cec-ess-na?
perhaps rain-Nom fall-because ground-Nom be.wet-Past-Int
'Is the ground wet perhaps because it rained?'

b. # [pi-ka nayly-ess-nun-ci]$_{SOEI}$ ttang-i cec-ess-na?
rain-Nom fall-Past-Adn-Int ground-Nom be.wet-Past-Int
Literally: 'Is the ground wet, [whether it rained]?'
Intended: 'Is the ground wet perhaps because it rained?'

Another counterevidence against Sohn (1999) is that SOEIs can be wh-questions, which is obviously incompatible with expressions like 'perhaps'. (4.33) is a JP/KR example in which the SOEI is an embedded wh-question. Sohn's analysis may translate it as '... perhaps from whom she heard it' at best, which does not sound well-formed.

(4.33) JP [dare kara kiita-no-ka]$_{SOEI}$, Mary-wa nyusu-o shitteita.
who from heard-NMZ-Int Mary-Top news-Acc knew.

KR [nwu-eykeyse tul-ess-nun-ci]$_{SOEI}$ Mary-ka ku soski-lu
who-from hear-Past-Adn-Int Mary-Nom the news-Acc
al-koiss-ta.
know-Prog-Decl

Literally: '[From whom (she) heard it], Mary knew the news.'

Meaning: 'Mary knew about the news; (I am wondering) from whom she heard it.'

Therefore, SOEIs cannot be lexicalized *because*-clauses.

So far, we examined possibilities of a hidden predicate and lexicalization for SOEIs. Neither of them fit consistently with the data. I conclude that SOEIs are just as they appear. Thus, they are interpreted in the CI-dimension as questions. This directly accounts for one of the meanings that SOEIs deliver: the speaker's ignorance about the correct answer. Discourse participants in conversations are expected to be sincere at what they say (Grice 1975). Thus, inquirers who are posing questions are expected to lack the information they are requesting. This leads SOEIs to the indicator of the speaker's ignorance about the correct answer.

4.3 Rhetorical Relation of Speaker-Oriented Embedded Interrogatives

In the previous section, I showed two main characteristics of speaker-oriented embedded interrogatives (SOEIs). First, the semantic type of SOEIs is consistently the question type throughout the semantic interpretation. Secondly, the interpretation takes place in the CI-dimension. Thus, uttering a sentence with an SOEI introduces two discourse units, one statement and one question.

The goal of this section is to examine the rhetorical relation between SOEIs and their matrix clauses. In section 4.3.1, I will claim that SOEIs are not proposed questions in the discourse and become self-addressing questions. In the next section 4.3.2 I will examine the discourse relation between SOEIs and define the relationship as "explanation-seeking". By doing so, I will suggest that the speaker's bias and speculation over the causal link are by-products of SOEIs' discourse function.

4.3.1 SOEIs as self-addressing questions

(4.34) A: *Was it raining?*

B: *I don't think so.*

The action of asking as in dialogue (4.34) has been regarded as requiring the interlocutors' commitment for finding the answer (Roberts 1996, Ginzburg 1996, Portner 2004, among others). When a question, q, is accepted by discourse participants, q becomes the topic of immediate discussion and answering q becomes the common goal among them. Here, a question being "accepted" means that the participants have agreed to commit themselves to answering the question. I will call the set of accepted questions in the discourse *the question-under-discussion (QUD)* following Roberts (1996). QUD yields a time-sensitive ordered stack of questions, on top of which the current question to be answered is located. If the question is answered or deemed unanswerable, it is removed from the top of the stack. Since Carlson (1983) and Roberts (1996), those who assume the existence of QUD regard a conversation as a language game of setting a mutual goal and trying to accomplish it. The goal here is the question on top of the QUD; the discourse participants make assertions or other speech acts to resolve the question. Hence, propositional contents uttered by the participants are also closely related to the QUD. I adopt the concept of QUD and will assume that the QUD is where canonical questions are placed. I will also assume that the QUD is a proper subset of the question set, which also contains non-proposed questions.

If canonical questions are accepted and stacked on the QUD, where is the place reserved for de-emphasized, ignorable questions like SOEIs? Since there has not been previous works examining CI questions in detail, I will first look at the works on the relationship of CIs and QUD in general. Anderbois et al. (2015) claimed that CIs cannot interact with the QUD. For example, A's question in (4.35) cannot be answered in the CI-dimention, by B's non-restrictive relative clause. They also mentioned that not-at-issue questions cannot be put on the QUD and a sentence like (4.36) containing a not-at-issue question is not acceptable in spoken English.

(4.35) A: Who had prostate cancer?

B: ??Tammy's husband, who had prostate cancer, was being treated at the Dominican Hospital.

(Anderbois et al. 2015, (43))

(4.36) This unknown person fell in love with Carlos, and, in a moment of rage and jealousy (who knew what Carlos felt?) beat Warren to death.
(Anderbois et al. 2015, (40), from Corpus of Contemporary American English)

I agree with Anderbois et al. (2015)'s idea that not-at-issue contents cannot interact with the QUD directly. Regardless of propositions or questions, only at-issue contents can be proposed, negotiated, and accepted/rejected in discourse, related to the QUD. Just like the case of Anderbois et al.'s example (4.36), the SOEI in (4.1) cannot be directly related to the QUD. For instance, in context (4.37), the SOEI 'whether it rained' cannot be a proper response to A's question, although it relevantly describes B's suspicion of raining on the previous day.

(4.37) A: *How was the weather yesterday?*

B: JP ??[sakujitsu ame-ga hut-ta-no-ka]$_{SOEI}$ jimen-ga
yesterday rain-Nom fall-Past-NML-Int
nurete-iru.
ground-Nom wet-Prog

KR ??[ecey pi-ka w-ass-nun-ci]$_{SOEI}$ ttang-i
yesterday rain-Nom come-Past-Adn-Int ground-Nom
cec-eiss-ta.
wet-Prog-Decl
Literally: '[Whether it rained yesterday], the ground is wet',
Intended: 'The ground is wet; I am wondering whether it has rained yesterday.'

In addition, the speaker of an SOEI does not impose any duty for answering it on other participants. In the repeated example, (4.1) below, native speakers may find that the content of the SOEI is less highlighted than the matrix event, and does not have to be responded to further.

(4.1) JP [ame-ga hut-ta-no-ka] jimen-ga nurete-iru.
rain-Nom fall-Past-NML-Int ground-Nom wet-Prog

KR [pi-ka w-ass-nun-ci] ttang-i cec-eiss-ta.
rain-Nom come-Past-Adn-Int ground-Nom wet-Prog-Decl
Literally: 'Whether it rained, the ground is wet',
Intended: 'The ground is wet; (I am wondering) whether it has rained.'

(4.38) has two possible ways of responding to (4.1) in Korean. (4.38a) responds to the at-issue entilament and (4.38b) responds to the SOEI. In dialogues, responding to SOEIs like (4.38b) is significantly less frequent than responding to at-issue entailments.

(4.38) Possible response to the utterance of (4.1) KR

a. Mac-a, matang-i ceceiss-ney.
right-Decl, ground-Nom wet-Decl
'You're right, the ground is wet.'

b. Mac-a, pi-ka cincca w-ass-e.
right-Decl, rain-Nom indeed come-Past-Decl
'You're right, it indeed rained.'

The next question is, how do the non-proposed questions affect the context? There will be no global update that affects the common ground or the QUD; however,

SOEIs may indicate that the speaker has such questions and curiosity over them. To formalize this speaker's curiosity, I will borrow Hara and Davis (2013)'s idea of self-addressing question.

Asking a question q is, by and large, a request for providing unknown information (Athanasiadou 1991, 1994). The action of asking usually commits the hearer to answering the question; however, as Hara and Davis (2013) showed, Japanese root questions ending with *darou* turn into self-addressing questions by lowering the tone. According to Hara and Davis, *darou*-questions with a falling tone cannot update the "global question set" in the discourse shared among interlocutors; they only modify the speaker's belief. I believe that SOEIs, which fail to be stacked on QUD, have a similar discourse function. SOEIs are not accepted/proposed questions and therefore they only deliver the speaker's curiosity. The speaker's curiosity can be represented as the inquisitive update of his/her own belief. The way of inquisitive update on the speaker's belief is, as in Groenendijk (1999), to partition one's belief into the equivalent sets of possible worlds. (4.39b) is the formula for the inquisitive update on formula. It applies a question ϕ into the existing context, and partitions the context into the sets of possible worlds wherein the answer to ϕ is the same.

(4.39) (Isaacs and Rawlins 2008, (4–5), reformulated from Groenendijk 1999)

a. Assertive update ($\oplus$) on contexts

For any context (set) c and clause ϕ:

$c \oplus \phi =_{def} \{ \langle w_1, w_2 \rangle \in c \mid [\![\phi]\!]^{w_1,c} = [\![\phi]\!]^{w_2,c} = 1 \}$

b. Inquisitive update ($\oslash$) on contexts

For any context c and clause ϕ:

$c \oslash \phi =_{def} \{ \langle w_1, w_2 \rangle \in c \mid [\![\phi]\!]^{w_1,c} = [\![\phi]\!]^{w_2,c} \}$

For example in (4.40), the assertion *Santa came to town* proposes the update of p= 'Santa came to town' to the knowledge set. As a consequence, only the possible worlds that are compatible with p can stay in the set. Those that are incompatible with p are eliminated from knowledge. An example of an inquisitive update is (4.41).

Here, a polar question *Did Santa come to town?* updates the context by partitioning all possible worlds into two groups: ones wherein Santa came to town, and the others wherein Santa did not.

(4.40) *Santa came to town.*

$$\begin{aligned}&\text{c}\oplus p\text{=Santa came to town}\\&=\{\ \langle w_1, w_2\rangle \in c\ |[\![p]\!]^{w_1,c} = [\![p]\!]^{w_2,c} = 1\}\end{aligned}$$

(4.41) *Did Santa come to town?*

$$\begin{aligned}&\text{c}\oslash q\text{ =Santa came to town}\\&=\{\ \langle w_1, w_2\rangle \in c\ |[\![q]\!]^{w_1,c} = [\![q]\!]^{w_2,c}\ \}\end{aligned}$$

I believe that SOEIs provoke an inquisitive update. But the domain is neither common ground nor context because they have no power to be proposed to the context. Instead, just like *darou*-questions, SOEIs make an update into the speaker's belief sets. The logical form of the meaning of SOEIs will be formalized as follows:

(4.42) The representation of the SOEI 'whether it rained'
$\text{Dox}_{spkr}(c)\oslash\ [\![whether\ it\ rained]\!] = \{\ \langle w_1, w_2\rangle \in c\ |[\![\text{ it rained }]\!]^{w1,c} = [\![\text{ it rained }]\!]^{w2,c}\ \}$

Note that in (4.42), on the left side of the inquisitive operator resides the speaker's belief set Dox_{spkr}(c) instead of the utterance context c.

Therefore, the meaning of SOEIs is neither proposed nor negotiated in the context, similarly to propositional CIs. CIs are not part of proposals for updating the common ground, whereas at-issue contents are proposals "to change the context by adding the propositional content of the asserted sentence to the common ground" (Stalnaker 1978, Clark and Schaefer 1989, Ginzburg 1996, Farkas and Bruce 2010, among others). Propositional CIs become part of the common ground without negotiation while non-propositional CIs like SOEIs become part of the question set without negotation, and play as self-addressing questions.

4.3.2 SOEIs as explanation-seeking question

When utterances are introduced into the discourse consecutively, they are expected to be relevant to one another (Grice 1975). The rhetorical relation between the contents of two neighboring utterances is determined usually by what role the following utterance has for the preceding utterance. It could be elaboration, explanation, narration, etc. In this section, I will claim that the role of the questions denoted by SOEIs is *explanation-seeking*, which can be categorized as a subkind of the $Explanation_q$ relation in the sense of Asher and Lascarides (2003). This explanation-seeking characteristic will allow us to account for the speaker's speculation over the causal link (4.19b) and bias (4.19c) below :

(4.19) An SOEI $\underline{q}$ in a sentence $\underline{q,\ P}$ delivers (from 4.2b-i–4.2b-iii)

a. The speaker's ignorance: The speaker does not know what the correct answer of q.

b. The speaker's speculation over the causal link: If his/her prospective answer of q turns out to be correct, it could be the cause of the event P.

c. (In the case of polar SOEIs) The speaker's bias on the prospective answer to q.

The recurring example (4.1) is shown below as an example. Previously in sections 4.2.2 and 4.3.1, I proved that the SOEI 'whether it rained' and the rest of the sentence 'the ground is wet' are interpreted in separate dimensions and laid out in the discourse as two distinct segments, like (4.43):[25]

(4.43) *The ground is wet. Did it rain?*

The roles of the question *Did it rain?* in the two monologues look coherent regardless of the order. In both cases, the speaker poses the question *Did it rain?* because s/he wants to know why the event described by *The ground is wet* took place. In

[25]Because SOEIs are subordinated within their matrix clauses, the relative order may not be clear sometimes. I will discuss this at the later part of this section

other words, the purpose of the question is to assist the assertion by speculating on the cause of the event described in the assertion. The speaker of an SOEI also expects that its answer will supply additional information (i.e., cause) about the matrix event. This assistantship between a sentence and a question is reminiscent of *Explanation*$_q$, which is a variant of the *Explanation* relation suggested by Asher and Lascarides (2003). Asher and Lascarides suggest discourse relations among propositions, an approach initiated by Hobbs (1985), and suggest rules for what one could infer from a sequence of utterances. For example in the *Explanation* relation, the event described by the following assertion explains why the event described by the preceding assertion happened. As another example, in (4.44), the event denoted by *John pushed him* explains why Max fell.

(4.44) *Max fell. John pushed him.*
(Asher and Lascarides 2003, p.159)

The *Explanation* relation presents a cause relation between two events, wherein the event described by the following utterance is a cause and the event described by the preceding utterance is the effect. The definition is in (4.45). The definition states that the explaining event β must precede or co-occur with the explainee event α with regard to time.[26]

(4.45) *Explanation*(α, β): The event described in β explains why α's event happened (perhaps by causing it) (Asher and Lascarides 2003, p.459)

- Temporal consequence of explanation

[26]The explanation relation in Kehler (2002) is defined in a similar way to Asher and Lascarides', but Kehler's model stands between two assertions. A brief definition is given below. For the current analysis, it does not make much difference. I continue to use Asher and Lascarides (2003) for convenience.

(i) a. Infer P from the assertion of S_0 and Q from the assertion of S_1, where normally $Q \rightarrow P$. (Kehler 2002, p.4)

b. Infer that the second sentence describes a cause or reason for the eventuality described in the first sentence (Kehler and Rohde 2013, p.6)

(i) $\phi_{Explanation}(\alpha, \beta) \Rightarrow (\neg e_\alpha \prec e_\beta)$

(ii) $\phi_{Explanation}(\alpha, \beta) \Rightarrow (event(e_\beta) \Rightarrow e_\alpha \prec e_\beta)$

Explanation$_q$ is a variant of *Explanation*, wherein the following segment is a question, as defined in (4.46). In this rhetorical relation, the purpose of the following question is to explain the event described by the preceding assertion. (4.47) and (4.48) are example dialogues in which the following question is seeking the explanation of the event denoted by the preceding statement. The question in the former dialogue is a polar question and the question in the latter dialogue is a constituent (*wh*-) question.

(4.46) *Explanation*$_q(\alpha, \beta)$: An answer to the question β explains why α's event happened (perhaps by causing it)
(Asher and Lascarides 2003, based on pp.463-4)

(4.47) A: John failed his degree.

B: Was he living in student dorms at the time?

(Asher and Lascarides 2003, p.333,(49))

(4.48) C: I want to go to the party tonight.

D: Why?

(Asher and Lascarides 2003, p.464, (16))

I claim that the relation between SOEIs and their matrix clauses is a subkind of the *Explanation*$_q$ relation. The speaker's speculation over the causal link between an answer to a SOEI and the matrix clause event naturally follows by the definition of *Explanation*$_q$. The discourse function of B's and D's questions is explanation-seeking just as that of SOEIs is. What distinguishes B's and D's questions from SOEIs is that the former relation, *Explanation*$_q$, is defined in a dialogue setting. SOEIs and their matrix clauses must be presented in a monologue since they are bound to be uttered by a single speaker. I propose that SOEIs are in an *Explanation*$_q$ relationship happening in a monologue setting.

The speaker's bias that polar SOEIs deliver is also predicted by the $Explanation_q$ relation. In the Asher and Lascarides' example (4.47), B anticipates that the assertive answer to the question s/he has made would explain the event A described. The existence of B's biases is supported by the following dialogue, extended version of the former: I added two more lines of A and B, which might naturally follow.

(4.47′) A: John failed his degree.

B: Was he living in student dorms at the time?

A: No, he was not living in student dorms at the time.

B; *Then I don't know what would explain his failure.*

A's negative answer *No, ...* is a legitimate answer to B's question; however, B does not consider the event of John's not living in the dorm as a reason for why John failed his degree. We must take B's intentions into account. I suggest that the model for $Explanation_q$ must contain the consideration of the speaker's intention and expectation about the prospective answer.

I believe the speaker's intention to *explain* an event is responsible for his/her bias. For example, in dialogue (4.47), B would not have asked if John was living in a dorm unless he anticipated that could be a likely explanation for John's failure. In this case, only the assertive answer could be an explanation for the event deescribed by A's assertion. Likewise, D's question *Why?* tells us that D anticipates that there must be a reason why C wants to go to the party. This anticipation is exactly what we find in the case of SOEIs.

The speaker's biases on the prospective answers are easily found in root questions in the $Explanation_q$ relation. Polar questions can be used pragmatically to express linguistic or situational inferences (Ladd 1981, Romero and Han 2004, van Rooy and Šafářová 2003, cf.)). For example, (4.49) shows that a polar question, *p?*, as opposed to *p or not?*, can express the speaker's bias towards the truth of p even when she does not know for sure that p is true.

(4.49) A: Maria says that she saw David last night at the gym.
B: Oh? Is David back from Toronto (#or not)?
(van Rooy and Šafářová 2003, page 294)

Assuming that SOEIs stand on the speaker's biases, it is predicted that a question of the form, *p or not?*, or an alternative question in general, can occur as an SOEI when the speaker considers multiple plausible causes for the matrix event. This prediction is borne out by (4.50a) and (4.50b). In these sentences, SOEIs are alternative questions and the speaker suspects that one of the alternatives may be a true cause for the matrix clause event.

(4.50) a. [Pi-ka wass-nun-ci] [mwul-lul ppwulyess-nun-ci] matang-i
rain-Nom came-Adn-Int water-Acc sprinkle-Adn-Int ground-Nom
ceceiss-ta.
wet-Decl
'[Whether it rained] [whether (somebody) sprinkled the water] the ground is wet.'

b. John-un [nay mam-ul [al-nun-ci] [molu-nun-ci]] ttenass-ta.
John-Top my heart-Acc know-Ind- not.know-Adn-Int left-Decl
'John, [whether he knows my heart] [whether he does not know my heart], left.'

In (4.50a), raining and water being sprinkled were the two possible causes that the speaker is considering. (4.50b) is particularly revealing. We do not often encounter a situation in which a proposition **p** and its negation are both plausible causes for the same event, but (4.50b) depicts such a case: The speaker is entertaining two possible scenarios: John left because he knew the speaker's feelings for him (thus, he does not love the speaker) or he left because he was unaware of them (thus, possibly he loves the speaker). Thus, the assumption that is found here is on par with root disjunctive questions, which"implicate that one and only one of the presented alternatives is true (Karttunen 1977)."

The speaker's bias makes an interesting contrast between (4.51) and (4.52). The two sentences are a minimal pair in Korean with and without the negation within the

SOEI. As a consequence of the presence and the absence of negation, they provide two opposing conjectures of the speakers on what caused Mina to fall asleep. The speaker of the former sentence guesses that the medicine helps falling asleep, whereas the latter speaker guesses that the medicine prevents sleeping. Thus, uttering (4.52) is infelicitous when the speaker suspects that the medicine is sleeping pills.

(4.51) KR [yak-i cal tul-ess-nun-ci] Mina-ka cam-ey
medicin-Nom well work-Past-Adn-Int Mina-Nom
ppaci-ess-ta.
sleep-Loc fall-Past-Decl

Literally: '[Whether the medicine works well], Mina fell asleep',

Meaning: 'Mina fell asleep; (I am wondering) if the medicine worked well.'

(4.52) KR [yak-i cal tul-ciahn-ess-nun-ci] Mina-ka
medicin-Nom well work-Neg-Past-Adn-Int
cam-ey ppaci-ess-ta.
Mina-Nom sleep-Loc fall-Past-Decl

Literally: '[Whether the medicine did not work well], Mina fell asleep',

Meaning: 'Mina fell asleep; (I am wondering) if the medicine didn't work well.'

Japanese SOEIs provide stronger evidence. Polar questions in Japanese take two possible ending forms: one with the nominalizer *n(o)* and the other without it. The ones without *n(o)* are regular polar questions, whereas the ones with *n(o)* show the speaker's bias toward the positive answer. For example in the context below, wherein B suspects clearly that Hana came back, (4.53a) with *n* is the correct question but not (4.53b).

(4.53) A: Mina says that she saw Hana last night at the gym.

B: Oh really? Then, did *Hana come back from Toronto?*

a. Hana-wa Toronto-kara kaette-kita-**n**-desu-ka?
Hana-Top Toronto-from return-came-NML-Cop-Q

b. # Hana-wa Toronto-kara kaette-kimashita-ka?
Hana-Top Toronto-from return-came(Ind)-Q

The SOEI in (4.1) below also requires *no*; the sentence becomes unacceptable without it.[27]

(4.1) JP [ame-ga hut-ta-**no**-ka] jimen-ga nurete-iru.
rain-Nom fall-Past-NML-Int ground-Nom wet-Prog

(4.1′) # [ame-ga hut-ta-ka] jimen-ga nurete-iru.
rain-Nom fall-Past-NML-Int ground-Nom wet-Prog

Therefore, the speaker's bias delivered by SOEIs is identical to the discourse function that is carried out by questions in *Explanation* relationship in general. SOEIs inherit the epistemic biases (or weak presuppositions) of the speaker that root questions have. The anticipated causal relation between the answer of an SOEI and the matrix event can also be viewed as a canonical case for $Explanation_q$.

The question is, why is the relation between SOEIs and the matrix clauses restricted to Explanation_q? I would like to find the answer to the possible overlapping nature of SOEIs and the matrix clause. Their relative order in the discourse is not completely determined because SOEIs can be encoded anywhere before the matrix predicate in the sentence. For example, the SOEI in (4.1) precedes the rest of the sentence, while the one in (4.1′) occurs in the middle of the sentence. Thus, it is not exactly like two linearly ordered utterances we usually assume in discourse theory.

(4.1) JP [ame-ga hut-ta-no-ka]$_{SOEI}$ jimen-ga nurete-iru.
rain-Nom fall-Past-NML-Int ground-Nom wet-Prog

KR [pi-ka w-ass-nun-ci] ttang-i cec-eiss-ta.
rain-Nom come-Past-Adn-Int$_{SOEI}$ ground-Nom wet-Prog-Decl

Literally: '[Whether it rained], the ground is wet',

Meaning: 'The ground is wet; (I am wondering) if it has rained.'

[27]The requirement of the nominalizer *n(o)* is lifted when an argument in the SOEI is marked by the particle *demon*. The sentence below is an example.

(i) Hana-wa Toronto-demo kaette-kimashita-ka?
Hana-Top Toronto-like return-came(Ind)-Q
'Did Hana come back from somewhere like Toronto?'

(4.1′) JP jimen-ga [ame-ga hut-ta-no-ka]$_{SOEI}$ nurete-iru.
ground-Nom rain-Nom fall-Past-NML-Int wet-Prog

KR ttang-i [pi-ka w-ass-nun-ci]$_{SOEI}$ cec-eiss-ta.
ground-Nom rain-Nom come-Past-Adn-Int wet-Prog-Decl

Due to the possibility of overlaping with each other, I need to consult the two orders of an SOEI and the matrix clause: a question-statement sequence and the reversed sequence, as in the two monologues (4.54)

(4.54) a. *Did it rain? The ground is wet.*

b. *The ground is wet. Did it rain?*

I believe that the *Explanation*$_q$ is the only relation that remains when the relative order between an assertion and a question is reversed even in the monologue setting. For example, the *Result*$_q$ relation and the *Elaboration*$_q$ relation sound bad when the question seeking a result and an elaboration are placed before the main assertion.

(4.55) *Result*$_q$: # Which job did he get finally? He applied to over twenty places.

(4.56) *Elaboration*$_q$: # What shirt did he wear? He looked very gorgeous.

To summarize, SOEIs and their matrix clauses have *Explanation*$_q$ relations. The speaker's bias and speculation over the causal link are naturally predicted by the relationship.

4.3.3 Additional characteristics of SOEIs: Restrictions on clause-type and modality

Speaker-oriented embedded interrogatives (SOEIs) and their matrix clauses are shown to be in the *Explanation*$_q$ relation. By the definition of *Explanation*$_q$, the correct answer for an SOEI is regarded as the cause of the event described by the matrix clause. In this section, I will show that this leads SOEIs to be banned from occuring in sentences that do not denote events, spanning the spectrum from those that express the speaker's epistemic stance to the speaker's question or command.

In section 4.1, I mentioned that speaker-oriented embedded interrogatives (SOEIs) appear only in declarative sentences without epistemic modal. This section will show that the restriction applies to all questions in the *Explanation*$_q$ relation. Then I will argue that the restriction is cloely tied with the explanation-seeking role of the questions.

(4.57) is an example with the epistemic possibility marker *-keyss* in Korean, which makes the sentence unacceptable along with the SOEI. One can also see infelicity in the conversation (4.58); the explanation-seeking question cannot appear with a root statement with the epistemic modal.

(4.57) # [ecey lobi-ka hyokwa iss-ess-nun-ci] kutul-i uli
yesterday lobbying-Nom effect exist-Past-Ind-Int 3pl-Nom our
mwulken-ul cwumwunha-keyss-ta.
product-Acc order-may-Decl
Intended: '[Whether our lobbying yesterday was effective], they may/might order our products.'
⇒ English translation: *They might have ordered our product; #I am wondering if our lobbying yesterday played a role in the order.*

(4.58) a. # ecey lobi-ka hyokwa iss-ess-ni?
yesterday lobbying-Nom effect exist-Past-Int
'Was our lobbying yesterday effective?

b. # kutul-i uli mwulken-ul cwumwunha-keyss-ta.
3pl-Nom our product-Acc order-may-Decl
'They may/might order our products.'

This incompatibility is contrasted by the following set of examples, which have similar meanings to (4.57) but without any modal. (4.59) uses the word *kath* 'seems' and the sentence becomes acceptable. We can see the same effect in the conversation (4.60)

(4.59) [ecey lobi-ka hyokway iss-ess-nun-ci] kutul-i uli
yesterday lobbying-Nom effect exist-Past-Ind-Int 3pl-Nom our
mwulken-ul cwumwunha-l-kes kath-ta.
product-Acc order-Fut-Comp seem-Decl

Literally: '[Whether our lobbying yesterday was effective], they seem to order our products.'

⇒ English translation: *They seem to have ordered our products; I'm wondering if our lobbying yesterday played a role in it.*

(4.60) a. ecey lobi-ka hyokway iss-ess-ni?
yesterday lobbying-Nom effect exist-Past-Int
'Was our lobbying yesterday effective?

b. kutul-i uli mwulken-ul cwumwunha-l-kes kath-ta.
3pl-Nom our product-Acc order-Fut-Comp seem-Decl
'They seem to order our products.'

We can explain the availability of explanation-seeking questions as follows: The action of seeking an explanation is based on the speaker's recognition of a firm fact or an event. Hence, epistemic modal which lacks the truthfulness of a statement cannot appear with such questions. We can apply this to the fact that SOEIs cannot appear with root questions and imperatives. Let us remind ourselves that Asher and Lascarides (2003) assume that what is explained in the *Explanation* and *Explanation*$_q$ relations is an event, not opinions or speculations. A sentence with epistemic modal expresses the speaker's speculation over the described event in the sentence from his/her point of view. *Explanation*$_q$ cannot exist because this relation does not target why the speaker had such speculation

Root interrogatives and imperatives cannot embed an SOEI for a similar reason. These sentences are involved in the speaker's intention and preferences, hence are not proper to form the *Explanation*$_q$ relationship. The next examples contrast imperatives and statements with deontic modal. The former cannot, but the latter can appear with a root explanation-seeking question. The root imperative (4.61) is unacceptable, whereas the root statement with deontic modal (4.63) is acceptable. We can see the same pattern with the sequences of KR sentences (4.62) and (4.64). One can see that their English translations also lead to oddity.

(4.61) # [patak-i yakha-n-ci] ku cip-eyse-nun salsal kel-ela.
floor-Nom be.weak-Adn-Int the house-Loc-Top gently walk-Imp
Intended: '[Whether the floor is weak], walk gently in the house!'
⇒ English translation: *Walk gently in the house!; # I'm wondering if the floor is weak.*

(4.62) a. # patak-i yakha-ni?
floor-Nom be.weak-Adn-Int
'Is the floor weak?'

b. # ku cip-eyse-nun motu salsal kel-ela.
the house-Loc-Top everybody gently walk-Imp
'Walk gently in the house!'

(4.63) [patak-i yakha-n-ci] ku cip-eyse-nun motu salsal
floor-Nom be.weak-Adn-Int the house-Loc-Top everybody gently
kel-eyaha-n-ta.
walk-must-NonPast-Decl
Intended: '[Whether the floor is weak], everybody in the house must walk gently.'
⇒ English translation: *Everybody in the house has to walk gently; I'm wondering if the floor is weak.*

(4.64) a. patak-i yakha-ni?
floor-Nom be.weak-Adn-Int
'Is the floor weak?'

b. ku cip-eyse-nun motu salsal kel-eyaha-n-ta.
the house-Loc-Top everybody gently walk-must-NonPast-Decl
'Everybody in the house has to walk gently.'

To summarize, the restriction on the clause-type and modality of the matrix clause of SOEIs follows that of the root clauses occurring with a root (explanation-seeking) question. This proves a close link between root "explanation-seeking" questions and SOEIs.

4.4 Concluding Remarks

In this section, I examined speaker-oriented embedded interrogatives (SOEI), and showed that they form individual discourse segments independent of their matrix sentences. I used Potts (2005)'s diagnostics of conventional implicatures to prove that the meaning of SOEIs can be categorized as a conventional implicature.

Regarding their rhetorical relations and discourse functions, I showed that an SOEI and the matrix clause form an $Explanation_q$ relation in the discourse. The speaker's bias and speculation over the causal link were consequences of the relation.

Finally, I showed that SOEIs cannot be part of the question-under-discussion, which plays a central role for choosing the topic of conversation. The questions denoted by SOEIs have unproposed, de-emphasized properties and they remain as self-addressing questions in the sense of Hara and Davis (2013).

Chapter 5

CONCLUSION

In this dissertation, I have attempted to explain how apparently unselected adjunct quotatives and interrogatives in Japanese and Korean are licensed and interpreted in a sentence. These adjuncts come in three distinct types—two types of interrogatives and one type of quotatives—and lack an overt clause-final marker specifying their roles in the sentence, thus appearing to violate the principle of compositionality (Frege 1892). I have explained how the meanings of each of the three clauses can be accounted for in a compositional way.

First, I highlighted the possibility of speech acts being a proper part of syntax, at least in Japanese and Korean, by analyzing adjunct quotatives. There have been debates over whether speech acts can be encoded within the domain of syntax and/or semantics. In chapter 2, I presented cases wherein a quotative clause itself contains the meaning of 'saying' or 'thinking'. My aim here was to argue that quotatives in JP/KR refer to speech acts, which is on a par with Rizzi (1997)'s cartographic view.

Second, I presented a case wherein adjunct interrogatives function as implicit arguments of the matrix predicate. In chapter 3, I outlined a list of verbs and adverbs compatible with agent-oriented embedded interrogatives, which describe what kind of question the matrix agent had in mind when s/he conducts the matrix event. The verbs and adverbs on the list entailed the existence of a specific goal—acquiring knowledge—together with other components of the verb phrase they were in. Agent-oriented embedded interrogatives thus functioned as adjuncts syntactically but as arguments semantically.

Third, in chapter 4, I showed that Japanese and Korean encode non-propositional conventional implicatures, which reflect the speaker's explanation-seeking questions

about why the matrix events occur. I argued that the meanings of adjunct interrogatives are categorized as conventional implicatures (CIs) in the sense of Potts (2005). As CIs, adjunct interrogatives are interpreted as de-emphasized speech acts in the discourse, whose effect is similar to that of self-addressing questions (Hara and Davis 2013).

These analyses are integrated within my dissertation to show the landscape of unselected embedded clauses.

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