

FREE CHOICE AND NEGATIVE POLARITY: A COMPOSITIONAL
ANALYSIS OF KOREAN POLARITY SENSITIVE ITEMS

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A DISSERTATION

In

Linguistics

Presented to the Faculties of the University of Pennsylvania in Partial
Fulfillment of the Requirements for the Degree of Doctor of Philosophy

2007

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To my father, Chul-kyu Choi

Acknowledgments

I would like to express my deepest gratitude to my advisor, Maribel Romero. She has been not only an outstanding researcher, excellent teacher, and a great academic advisor, but also a warm-hearted person who has always been caring and willing to help and encourage me. Without her caring, encouragement and patience, I couldn't have made it this far.

Special thanks go to my dissertation committee members, Anthony Kroch and Veneeta Dayal. Anthony Kroch's thrusting questions at my proposal defense made me thoroughly think about what I really aimed for in this dissertation. The discussions with him thereafter led my arguments to be far more clear and incisive. Also, I was very fortunate to attend Veneeta Dayal's seminar on Free Choice at Rutgers University in 2003, in which I very much benefited from her teaching and the discussion. Veneeta Dayal always made herself available to me, dedicated her time to reading this manuscript and gave her tremendously insightful and balanced questions and suggestions.

I also want to thank my teachers at Penn: Ellen Prince, David Embick, Robin Clark, Gene Buckley, Aravind Joshi, Martha Palmer and Anna Papafragou at various stages of my graduate studies. Thanks also go to my teachers back in Seoul, Korea. This dissertation originally stems from the "NPI project" that I participated in as a research assistant at Seoul National University from 1998 to 1999. I deeply thank Chungmin Lee, Seungho

Nam and Daeho Chung, who led the project meetings and shared their insights.

I am also grateful to Luis Alonso-Ovalle, Adrian Brasoveanu, Gennaro Chierchia, Larry Horn, Jacque Jayez, Angelika Kratzer, Chungmin Lee, Arthur Merin, Hotze Rullmann, Yael Sharvit, Satoshi Tomioka and Lucia Tovená for very helpful comments and discussions at earlier stages of this dissertation.

My graduate life at Penn was so much more fun and easier thanks to these people: I would like to thank all my classmates and friends at Penn, especially Suzanne Evans Wagner, Sergio Romero, Zhiyi Song, Sophia Malamud, Sudha Arunachalam, Na-rae Han, Tanja Scheffler, Yoon-kyoung Joh, Jiyeon Lee, Youngon Choi, Seung-yeon Yang, and Kyung-ran Ko. I deeply thank our house church group members in Philly, Mr. and Mrs. Cho, Kwang-kyo Oh, Sunghye Kim, Jeong-eun Sohn, Kang Lee, Joo-kyung Lim, and Won Dong for their love, caring and prayers. Min Lee, Soohyung Lee and their boy Jaden deserve my very special thanks and love for their caring and friendship. Thanks also go to Sophia Malamud, Sudha Arunachalam, Marjorie Pak, Aviad Eilam and Jonathan Wright for proofreading this manuscript as well as its earlier versions, and to my Korean informants Min Lee, Soo-yeon Jeong, Yoon-kyoung Joh, Hyeonjoo Kim, Yoon-shin Kim, Lucy Lee, Seunghoon Lee, Youngjoo Lee, Na-rae Han, Dongsik Lim and Jiyeon Lee for their judgments on Korean data.

Thank you to the members of my family who have supported me and prayed for me all along: my mother Sanghoo Nam, my two brothers, Jinwoo and Jinkoo, my aunt Sang Lee

and her family, mother-in-law Hyewon Hahn and especially my father Chu-kyu Choi in heaven, who was a great physicist and philosopher and guided me to the field of linguistics with his academic enthusiasm when he was alive. I am very happy that he would be very proud of me in heaven. Finally, I am deeply grateful to Chan Park, my husband, who has been changing me a lot with his positive attitude, warm heart and unfailing love. This dissertation would not have been finished without his constant love, support, and encouragement. *Soli Deo Gloria*.

ABSTRACT

FREE CHOICE AND NEGATIVE POLARITY: A COMPOSITIONAL ANALYSIS OF KOREAN POLARITY SENSITIVE ITEMS

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This dissertation addresses the following three questions regarding polarity sensitivity.

- What is the nature of the relationship between NPIs and FCIs? What forms the common core of Polarity Sensitive Items (PSIs)?
- If there is a common core, is it derived from only one source or could there be more than one source? How many sources can be detected in natural language?
- What makes the distinction between NPIs and FCIs?

In an attempt to answer these questions, this dissertation investigates Korean PSIs, where it is transparent from the morphology which part is common to FCIs and NPIs and which components are responsible for differentiating them. Korean PSIs consist of one of the two indefinite roots, *amwu-* and *wh-*, and one of the three particles, *-to* ‘also/even’, *-lato* ‘even’ and *-na* ‘or’. Combining these components results in the six items: *amwu-(N)-to/-lato/-na* and *wh-(N)-to/-lato/-na*.

I propose that the Korean indefinite root *amwu-* induces “proper domain-widening” à la Kadmon and Landman (1993), and that the other root *wh-* does not induce domain-widening but rather ranges over a regular or a contextually salient domain. From the fact that all the *wh*-PSIs, which lack the property of domain-widening, still function as NPIs

or FCIs, I suggest that the “proper domain-widening” of *amwu-* is not a necessary condition for polarity sensitivity, and propose that it is the particles *-na*, *-to*, and *-lato* that are responsible for deriving NPI-hood/FC-ness in Korean. All these particles commonly yield a “no matter wh...” or “indifference” reading.

Furthermore, I argue that two kinds of sources of PSIs are observable in Korean. The first source is the disjunctive particle *-na* ‘or’, which I analyze as equivalent to English *-ever* in a subtype of *-ever* free relatives. Their semantic contributions are formulated with the presupposition of counterfactual variation (von Stechow, 2000), from which an indifference reading is inferred. The second source is the scalar focus particles *-to*, which is analyzed as “PPI-*even*” (Rooth, 1985), and *-lato*, which is analyzed as “NPI-*even*” (Guerzoni, 2003). I show that the combination of the presuppositions that the *even*-particles trigger derives an indifference reading.

Table of Contents

ACKNOWLEDGMENTS	iv
ABSTRACT	vii
TABLE OF CONTENTS	ix
ABBREVIATIONS	xvi
CHAPTER 1 INTRODUCTION	1
1.1 Types of polarity sensitivity	1
1.1.1 Cross-linguistic variation in polarity sensitivity	1
1.1.2 NPIs and FCIs: coincidence or deep connection?	3
1.1.3 The issues	5
1.2 Sources of polarity sensitivity: review of the previous literature	6
1.2.1 Domain-widening as the source	7
1.2.2 <i>Even</i> as the source	14
1.2.3 Two independent sources	20
1.3 What can we learn from Korean?	23
1.3.1 Composition of Korean PSIs and their licensing environments	23
1.3.2 The indefinite roots	27
1.3.3 The two sources of polarity sensitivity	28
1.3.4 Derivation of polarity sensitivity in Korean	31
1.3.4.1 The <i>-na</i> ‘or’ source	31
1.3.4.2 The <i>-to/-lato</i> ‘even’ source	35

1.4 Theoretical implications	39
1.5 Organization	41

CHAPTER 2 THE INDEFINITE ROOTS: DOMAIN-WIDENING *AMWU-* VS. REGULAR

DOMAIN <i>WH-</i>.....	42
2.1 Introduction	42
2.2 Previous studies on the indefinite roots: <i>amwu-</i> and <i>wh-</i>	43
2.2.1 Morpho-syntactic properties of <i>amwu-</i> and <i>wh-</i>	44
2.2.2 Specific reading	47
2.2.3 Scope with respect to negation	49
2.2.4 Scalar implicature.....	55
2.3. Proposal: Korean <i>amwu-</i> as a proper domain-widening indefinite	58
2.3.1 Domain-widening of English <i>any</i> : Kadmon and Landman (1993)	58
2.3.2 Evidence for domain-widening of <i>amwu-</i>	60
2.3.2.1 <i>Wh-</i> as denoting a salient domain vs. <i>amwu-</i> denoting a widened domain	60
2.3.2.2 Existential sentences	62
2.3.2.3 Scope with respect to modality and other operators	66
2.4 More examples.....	69
2.4.1 Contextual marginality of <i>amwu-</i>	69
2.4.2 Rhetorical questions	70
2.5 Conclusion and discussion	72
2.5.1 Conclusion.....	72
2.5.2 Discussion	74

CHAPTER 3 FREE CHOICE FROM THE DISJUNCTIVE PARTICLE –NA ‘OR’	79
3.1 Introduction	79
3.2 – <i>Na</i> ‘or’ is the culprit for free choiceness.....	80
3.2.1 Is <i>wh</i> -(N)- <i>na</i> a universal quantifier or an FCI?.....	80
3.2.2 Both <i>amwu</i> -(N)- <i>na</i> and <i>wh</i> -(N)- <i>na</i> ARE free choice items	82
3.2.2.1 Essential link	82
3.2.2.2 Vague quantificational force.....	88
3.2.2.3 Restrictions on licensing environments	92
3.3 The nature of – <i>na</i> ‘or’ as a source for FC-ness.....	97
3.3.1 Is – <i>na</i> a scalar particle like – <i>to</i> /- <i>lato</i> ‘even’ ?	97
3.3.2 The essential link.....	99
3.4 Formalization of the essential link	103
3.4.1 The essential link of – <i>ever</i> FRs in English.....	104
3.4.1.1 External indifference	104
3.4.1.2 Agent Indifference.....	106
3.4.1.3 Von Fintel’ s (2000) formalization	107
3.4.1.4 Ignorance	110
3.4.2 Extension to Korean – <i>na</i> -based FCIs	113
3.4.2.1 The formalism	113
3.4.2.2 <i>Amwu</i> -/ <i>wh</i> -(N)- <i>na</i> in simple episodic sentences.....	116
3.4.2.3 <i>Amwu</i> -/ <i>wh</i> -(N)- <i>na</i> in complex sentences with global presupposition projection	119
3.4.2.4 <i>Amwu</i> -/ <i>wh</i> -(N)- <i>na</i> in complex sentences with local accommodation	125
3.5 Common properties of – <i>na</i> -based FCIs and indifference – <i>ever</i> FRs	131

3.5.1 The presence of an essential link	131
3.5.2 Orientations of the FC effects.....	134
3.5.3 Not cancelable	135
3.6 Summary	138
CHAPTER 4 THE SEMANTICS OF <i>AMWU-(N)-NA</i>	140
4.1 Introduction	140
4.2 Licensing environments.....	141
4.3 Quantificational variability.....	155
4.3.1 <i>Amwu-(N)-na</i> is existential.....	156
4.3.2 Universal effects	159
4.3.3 Plural effects.....	160
4.4 Applying von Stechow-style semantics to <i>amwu-(N)-na</i>	164
4.4.1 Pieces of meaning	164
4.4.2 Generic contexts.....	169
4.4.3 Modal contexts	176
4.4.3.1 Possibility modal.....	176
4.4.3.2 Necessity modal.....	180
4.4.4 Episodic sentences.....	183
4.4.4.1 Affirmative episodic sentences.....	183
4.4.4.2 Negative episodic sentences.....	186
4.4.5 DE contexts	188
4.5 Comparison with Menéndez-Benito's (2005) account	190
4.5.1 Exclusivity account in Menéndez-Benito (2005).....	191
4.5.2 Our account	200

4.6 More on licensing environments: how to rescue <i>amwu</i> -(N)- <i>na</i> in episodic sentences.....	210
4.6.1 Agentivity	210
4.6.2 Hidden modality.....	212
4.7 Summary	214
CHAPTER 5 THE SEMANTICS OF <i>WH</i>-(N)-<i>NA</i>	216
5.1 Licensing environments and quantificational force	216
5.1.1 Free choice contexts	218
5.1.2 Episodic sentences.....	222
5.1.3 DE contexts	228
5.2 Applying von Stechow-style semantics to <i>wh</i> -(N)- <i>na</i>	230
5.2.1 Pieces of meaning	230
5.2.2 Generic contexts.....	235
5.2.2.1 External indifference.....	235
5.2.2.2 Agent indifference.....	236
5.2.3 Modal contexts	238
5.2.3.1 The universal force of <i>wh</i> -(N)- <i>na</i>	239
5.2.3.2 The existential force of <i>wh</i> -(N)- <i>na</i>	246
5.2.4 Episodic sentences.....	251
5.2.4.1 Ungrammaticality of <i>wh</i> -(N)- <i>na</i>	252
5.2.4.2 Rescuing strategy 1: topicalization	253
5.2.4.3 Rescuing strategy 2: subtriggering.....	257
5.2.4.4 Rescuing strategy 3: agentivity.....	259
5.2.5 DE contexts	262
5.3 Rescuing strategies revisited	263

5.4 Summary	265
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CHAPTER 6 EVEN-BASED POLARITY SENSITIVE ITEMS : *AMWU/WH-(N)-TO* AND *AMWU*

<i>/WH-(N)-LATO</i>	267
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6.1 The data: licensing environments.....	268
6.1.1 <i>-TO</i> -PSIs: <i>amwu-(N)-to</i> vs. <i>wh-(N)-to</i>	269
6.1.2 <i>-LATO</i> -PSIs: <i>amwu-(N)-lato</i> vs. <i>wh-(N)-lato</i>	273
6.2 The properties of the indifference reading of <i>-to</i> / <i>-lato</i>	282
6.3 Semantics of the particle <i>-to</i> , in comparison with <i>-lato</i>	286
6.3.1 Two theories of English <i>even</i>	286
6.3.2 Korean <i>-to</i> vs. <i>-lato</i> : PPI- <i>even</i> vs. NPI- <i>even</i>	291
6.4 A compositional analysis of <i>amwu-(N)-to</i> and <i>wh-(N)-to</i>	293
6.4.1 Pieces of meaning	293
6.4.2 Negative episodic sentences	294
6.4.3 Affirmative episodic sentences.....	297
6.4.4 DE contexts	298
6.4.5 FC contexts.....	300
6.4.5.1 Generic contexts	300
6.4.5.2 Modal contexts	302
6.4.6 Interim Summary	305
6.5 The semantics of the particle <i>-lato</i>	306
6.5.1 <i>-lato</i> as the wide-scope- <i>even</i> under the simple scope theory.....	306
6.5.2 <i>-lato</i> as the NPI- <i>even</i> à la Guerzoni (2003, 2005)	308
6.6 A compositional analysis of <i>amwu-(N)-lato</i> and <i>wh-(N)-lato</i>	311
6.6.1 DE contexts.....	312

6.6.2 FC contexts.....	314
6.6.3 Affirmative episodic sentences.....	319
6.6.4 Negative episodic sentences	320
6.6.5 Summary of section 6.6	321
CHAPTER 7 CONCLUDING REMARKS	323
7.1 First question: the common core of polarity sensitivity.....	324
7.2 Second question: how many sources?	326
7.2.1 The <i>-na</i> ‘or’ source.....	327
7.2.2 The <i>EVEN</i> source.....	329
7.2.2.1 <i>-to</i> ‘PPI- <i>even</i> ’	329
7.2.2.2 <i>-lato</i> ‘NPI- <i>even</i> ’	330
7.3 Third question: distinction between NPIs and FCIs.....	332
BIBLIOGRAPHY	335

Abbreviations

The following abbreviations are used in this dissertation:

NOM	Nominative marker
ACC	Accusative marker
DAT	Dative marker
LOC	Locative marker
TOP	Topic marker
CONTRS	Contrastive marker
PL	Plural marker
GEN	Generic
HAB	Habitual
PRT	Particle
NEG	Negation
PAST	Past tense
PRES	Present tense
FUT	Future tense
PROG	Progressive
REL	Relative clause marker
DEC	Declarative ending
IMP	Imperative ending
Q	Interrogative ending
RHEQ	Rhetoricalmarker

Chapter 1 Introduction

1.1 Types of polarity sensitivity

1.1.1 Cross-linguistic variation in polarity sensitivity

English *any* has drawn a great deal of attention from semanticists for its dual quantificational force (i.e., \exists vs. \forall) and restricted licensing environments. On its NPI (Negative Polarity Item) use, as illustrated in (1) and (2), *any* is interpreted existentially. On its FCI (Free Choice Item) use, however, it seems to have universal force, as shown in (3) and (4).

- | | |
|--|-----------------------|
| (1) I didn't pick <u>any card</u> . | <i>Negation</i> |
| (2) If you pick <u>any card</u> , you will win the game. | <i>If-conditional</i> |
| (3) <u>Any owl</u> hunts mice. | <i>Generic</i> |
| (4) You can pick <u>any card</u> . | <i>Modal</i> |

As for its licensing environments, NPI *any* is known to occur in downward entailing (DE) contexts, including negation and the antecedent of a conditional, as in (1) and (2)

(Ladusaw 1979).¹ FCI *any* that takes on universal quantification prefers generic contexts like (3), and some modal statements like (4) (Carlson 1981; Dayal 1998).

While English employs one item *any* to do the dual function, there are many other languages in which the NPI use and the FCI use are realized by two (or more) distinct lexical items (e.g., Korean, Japanese, Dutch, German, Greek, and Romance languages). Catalan is one such language. Catalan employs *cap* as an NPI, as shown in (5) and *qualsevol* as an FCI, as in (6).

(5) No he agafat **cap** carta.
not I-have taken any-NPI card
'I didn't take any card.'

(6) Pots agafar **qualsevol** carta.
You-can take any-FCI card
'You can take any card.'

Let us call NPIs and FCIs together Polarity Sensitive Items (PSIs). Now a question arises as to why it is the case that, in languages like English, the two types of PSIs are realized by the same morpheme, e.g., *any*, whereas two (or more) lexically distinct items are

¹ DE contexts also include the restrictor of a universal quantifier, *before* clause, *at most* phrase, comparatives, etc. Linebarger (1991) shows that some DE contexts do not license *any*, and that some non-DE contexts license *any*. Giannakidou (1998) proposes that it is not DE-ness but non-veridicality that plays a role in licensing Greek PSIs.

employed for the two uses in other languages like Catalan. Are the two types of PSIs mutually independent but accidentally lexicalized by one item in some group of languages? Or, alternatively, are they two sides of the same coin that look different but have a deeper connection with each other?

1.1.2 NPIs and FCIs: coincidence or deep connection?

One possible way to answer the questions raised above would be to assume that NPIs and FCIs are mutually unrelated, separate lexical items. Researchers including Carlson (1980, 1981), Ladusaw (1979), and Linebarger (1981) gave two lexical entries to *any*, on the grounds that the two uses of *any* show different behavior in terms of quantificational force and distribution. This approach can be called an “ambiguist” analysis, adopting Horn’s (2000) term. A most typical argument for the ambiguity analysis comes from *almost*-modification. Adverbs like *almost* and *absolutely* are known to modify a universal quantifier, but not an existential quantifier. The contrast in (7) shows that *almost* can modify FCI *any* but not NPI *any*, which strongly suggests that FCI *any* is universal while NPI *any* is existential.

- (7) a. Almost any lawyer could answer that question.
b. *I don’t have almost any potatoes.

Another possible way of addressing the relationship between NPIs and FCIs would be to

assume that NPIs and FCIs have a deeper connection with each other. In his typological study, Haspelmath (1997) reports that among approximately 150 languages he investigated, roughly half of them use the same items and the other half use different items for NPIs and FCIs. Chierchia (2005) notes the following in regard to this:

If for such seemingly diverse functions, the same morphemes are selected in so many unrelated languages, the link between those two functions cannot be accidental. FCIs and NPIs must form grammatical classes that while not identical have a deep systematic relationship to one another. However, the exact nature of such relationship remains the object of an intense debate which hasn't reached as of yet firm conclusions. (Chierchia 2005: 536)

In this spirit, many scholars have taken the “unitarian” approach.² Quine (1960), Kroch (1974), and LeGrand (1975) treat both NPIs and FCIs as universal quantifiers. The following group of researchers propose that both of them are indefinites: Horn (1972, 2000), Fauconnier (1975, 1979), Haspelmath (1993), Kadmon and Landman (1993), Lee and Horn (1994), Lahiri (1998), Tovená (1998), Jayez and Tovená (2005), and C. Lee et al. (2000).

Agreeing with the spirit of the unitarian approach, this dissertation starts from the assumption that there is a deep systematic link between NPIs and FCIs.

² The term “unitarian” is borrowed from Horn (2000).

1.1.3 The issues

Given the unitarian assumption, this dissertation addresses the following interrelated questions:

- What is the nature of the relationship between NPIs and FCIs? What forms the common core of Polarity Sensitive Items?

- If there is a common core, is it derived from only one source or could there be more than one source? How many sources can be detected in natural language?

- What makes the distinction between NPIs and FCIs?

In short, this dissertation is interested in exploring (i) the nature of polarity sensitivity, (ii) the source(s) of polarity sensitivity, and (iii) the difference between NPIs and FCIs. In addressing these issues, I will examine Korean PSIs, where it is transparent from the morphology which micro-pieces contribute to polarity sensitivity.

Before introducing Korean PSIs in section 1.3, I will present in the next section some of the previous studies regarding the nature and source(s) of polarity sensitivity.

1.2 Sources of polarity sensitivity: review of the previous literature

In this section, I discuss the three groups of previous studies on the nature and source(s) of polarity sensitivity, regardless of whether they take the “unitarian” approach or the “ambiguist” approach. The first group proposes that the common core of NPIs and FCIs lies in the property of domain-widening (Kadmon and Landman 1993, among others). The second group argues that the (overt or covert) EVEN meaning is the common denominator of polarity sensitivity (Lee and Horn 1994, among others). The third group suggests that there can be two different sources that derive NPIs and FCIs within a single language (Rullmann 1996).³ Rullmann (1996) argues that one type of PSIs in Dutch stems from the Dutch EVEN item, *ook maar*, and that the other type of PSIs cannot stem from the EVEN item, by presenting their semantically distinct properties. He further suggests that the second type of PSIs might be accounted for by adopting Kadmon and Landman’s (1993) domain-widening. In the spirit of Rullmann (1996), this dissertation will propose that there are two sources of polarity sensitivity in Korean; the first source is the presupposition of variation which is triggered by the disjunctive particle *-na* ‘or’ and the second source is the scalar focus particles *-to* ‘also/even’ and *-lato* ‘even’.

³ Besides these three groups, there are many other researchers who propose a source of polarity sensitivity. Dayal (1995, 1998) suggests “contextual vagueness” plays a role for polarity sensitivity. Jayez and Tovena (2005) propose the notion of “no singling out” as the core of free choiceness. C. Lee et al.’s (2000) claim that “concessive” operators derive polarity sensitivity in Korean.

1.2.1 Domain-widening as the source

In the first group of studies, the domain-widening action of PSIs is argued to be the unitary source for polarity sensitivity (Kadmon and Landman 1993, Chierchia 2002, 2005 for both NPIs and FCIs; Kratzer and Shimoyama 2002, Aloni 2002 for FCIs).

Kadmon and Landman (1993) are the first pioneers who introduced the notion of domain-widening. They argue that ‘*any* CN (common noun)’ is basically an indefinite like ‘*a* CN’. Different from ‘*a* CN’, *any* induces additional semantic and pragmatic characteristics, namely, widening the interpretation of ‘*a* CN’ along a contextual dimension. Let us first consider an example of NPI *any*. Compare (8a) and (8b).

- (8) a. I don't have potatoes.
b. I don't have ANY potatoes.

Assuming that a “cooking/non-cooking” dimension is considered in the context, (8a) conveys that the speaker has in mind only potatoes in a regular domain such as edible potatoes. In contrast, (8b) may indicate that the speaker considers relevant contextually marginal potatoes such as rotten potatoes as well. Thus, we can say that the domain of *ANY potatoes* in (8b) is wider than the domain of *potatoes* in (8a).

Kadmon and Landman (1993) account for the licensing environments of *any* in such a

way that *any* is licensed only if its domain-widening creates a stronger statement.⁴ In a DE context such as negation, widening the domain of an indefinite (or an existential quantifier) leads to a statement that is stronger. However, in a positive sentence, widening creates a weaker statement. In this way, Kadmon and Landman's (1993) analysis successfully predicts the grammaticality of (9a) and the ungrammaticality of (9b).

- (9) a. I don't have any potatoes.
b. *I have any potatoes.

In contrast, a plain indefinite like *potatoes* that does not induce domain-widening can occur in both negative and affirmative sentences, as shown in (10).

- (10) a. I don't have potatoes.
b. I have potatoes.

Furthermore, in the same vein as NPI *any*, FCI *any* is argued to induce domain-widening. Imagine a "healthy/sick" dimension in (11). While *an owl* in (11a) only ranges over healthy owls, *any owl* in (11b) may include contextually marginal owls such as sick owls.

- (11) a. An owl hunts mice.
b. Any owl hunts mice.

⁴ The term "stronger" is defined in terms of entailment. If p entails q, p is stronger than q.

As for the licensing environments of FCI *any*, Kadmon and Landman (1993) analyze FCI *any* as being a generic indefinite in the sense that it occurs in the same contexts where a generic indefinite occurs, receiving universal quantification from the generic operator. Accordingly, (11b) is interpreted as: ‘Every owl, which includes healthy and sick owls, hunts mice’. Note that ‘*any* CN’ is located in the restriction of the generic operator which is taken to be roughly equivalent to a universal quantifier. This position, taken to be identical to the restrictor of a universal quantifier, forms a DE context. Thus, widening the domain (more specifically, widening the restriction of the generic operator) creates a stronger statement in (11b). Hence, *any* is licensed in a generic sentence.

However, their analysis fails to explain why FCI *any* can also occur in a modal context like (12), where domain-widening does not lead to a stronger statement.

(12) You can pick any card.

To solve this problem, Aloni (2002) revised the semantics of the possibility modal as in (13). The revised possibility modal creates universal quantification over the propositional alternatives of an indefinite, assuming that an indefinite introduces Hamblin-style propositional alternatives. Due to the universal quantification of the possibility modal, the occurrence of *any* in a possibility modal sentence is explained in the same way as the occurrence of *any* in a generic sentence.

- (13) $\diamond\phi$ is true in w iff every alternative induced by ϕ is compatible with the relevant sets of worlds A_w

In Kratzer and Shimoyama (2002), the notion of domain-widening is slightly different from the one that Kadmon and Landman (1993) proposed. Kratzer and Shimoyama (2002) remark that the difference between *an owl* and *any owl* is that *any owl* denotes the set of all owls while *an owl* denotes a subset of the set of owls, as shown in (14). That is, *any owl* cannot denote a proper subset of the owls.

- (14) $g(D) \subseteq D$ (D is the set of possible individuals)

a. $\llbracket \text{an}_D \text{ owl} \rrbracket^{w,g} = \{x: x \text{ is an owl in } w \ \& \ x \in g(D)\}$

b. $\llbracket \text{any } -[\text{an}_D \text{ owl}] \rrbracket^{w,g} = \{x: \exists g' [x \text{ is an owl in } w \ \& \ x \in g'(D)]\}$
 $= \{x: x \text{ is an owl in } w\}$

To account for the licensing environments of FCIs (in particular, their occurrence in modal contexts), Kratzer and Shimoyama (2002) propose that a motivation other than strengthening, anti-exhaustivity, can be linked to domain-widening. According to them, the speaker chooses to widen the domain to avoid a false exhaustivity inference. For instance, (15a) may carry an implication that only the subset of the owls is a catching option for you. By using *any owl* as in (15b), however, the speaker conveys that any subset of the owls is not excluded.

- (15) a. You can catch an owl.
 b. You can catch any owl.

From this meaning of “not excluding any subset of all owls”, the FC effects that “every possible owl is an option for you” is derived on the basis of Gricean reasoning. The FC effects are formalized as in (16) with Kratzer and Shimoyama’s (2002) term, the “distribution requirement”. The distribution requirement is paraphrased as: “For every propositional alternative p , there is an accessible world w ” where p is true”.

- (16) Distribution requirement (Kratzer and Shimoyama 2002:17)

$$\{\lambda w'. \forall p [p \in \llbracket P \rrbracket^{w',g} \rightarrow \exists w'' [w'' \text{ is accessible from } w' \ \& \ p(w'')=1]]\}$$

Menéndez-Benito (2005), however, shows that the distribution requirement alone does not capture the right kind of free choiceness, and introduces the exclusivity operator, “Excl”, which roughly revises the FC component in (16) into something like “for each propositional alternative p , there is an accessible world w ”, in which p , and only p is true”. A detailed review of her analysis will be given in Chapter 4 (See 4.5).

In Chierchia (2005), polarity sensitivity phenomena are understood within a more general framework of scalar implicatures. On his account, NPIs and FCIs are assumed to obligatorily induce domain-widening and domain-widening takes place in two dimensions: a quantitative dimension and a qualitative dimension. Quantitatively, PSIs

pick the largest domain among the reasonable domain alternatives so that “all entities that for all we know might exist” are considered. Qualitatively, the largest domain includes epistemically uncertain entities, which Chierchia (2005) argues form a marginality (cf. Kadmon and Landman 1993). For instance, *any potatoes* induces a qualitative widening in such a way that it includes potatoes for which the speaker is not certain whether they have the property of “being potatoes”.

However, NPIs and FCIs are distinct in that they activate different kinds of “domain alternatives”. In the case of NPIs, the domain alternatives look like (17).

(17) A system of “large” domain

$D = \{a,b,c\}$

$D1 = \{a,b\}$

$D2 = \{b,c\}$

$D3 = \{a,c\}$

Choosing the largest domain D over the other “domain alternatives”, i.e., $D1$, $D2$ and $D3$, would lead to an *even*-like flavor. For example, (18a) below conveys “I didn’t eat a potato even out of the largest domain D_w ”, which is formalized in (18b). The widest domain selected by *any potatoes* makes a stronger statement in DE contexts on the same grounds as Kadmon and Landman’s (1993) strengthening, as shown in (18c).

(18) a. I didn't eat any_D potatoes.

b. Asserts: $\neg \exists x \in D_w \exists w' [\text{potato}(x, w') \ \& \ \text{eat}(I, x, w)]$

c. Implicature: $\neg \exists x \in D_w \exists w' [\text{potato}(x, w') \ \& \ \text{eat}(I, x, w)] \subseteq$
 $\neg \exists x \in D_{i, w} \exists w' [\text{potato}(x, w') \ \& \ \text{eat}(I, x, w)], \text{ where } 1=i=3.$

In the case of FCIs, the “domain alternatives” that are activated form a different shape from (17). The domain alternatives of FCIs have the form of a semi lattice structure, as shown in (19).

(19)

	D={a,b,c}		
D1={a,b}	D2={b,c}	D3={a,c}	
D4={a}	D5={b}	D6={c}	

The choice of the maximal domain D conveys that the speaker does not exclude any option whatsoever, à la Kratzer and Shimoyama's (2002) anti-exhaustivity. For instance, in (20a), domain alternatives with the shape of (19) are activated by FCI *any*. The sentence asserts that I ate some potatoes (that Mom gave me) out of the largest domain D, as shown in (20b). Then the potential alternative assertion would be like (20c): “I ate potato y out of a subset of all potatoes”, as obtained via Gricean reasoning in (21). If the speaker chooses (20b) over (20c), it means that the speaker does not single out any subset of the potatoes. From this anti-exhaustivity, the FC reading is inferred: “For every possible potato x (that Mom gave me), I ate x”, as shown in (22).

(20) a. Yesterday I ate any potatoes (that Mom gave me).

b. Asserts: $\exists x \in D_w \exists w' [\text{potato}(x, w') \ \& \ \text{eat}(I, x, w)]$

Abbreviated as: $\text{some}_D (\text{potato}) (\lambda x. I \text{ ate } x)$

c. Potential alternative assertion:

$\text{some}_{D_i} (\text{potato}) (\lambda x. I \text{ ate } x)$, for any $D_i \subset D$

(21) Gricean reasoning about the alternatives

$\forall D_i \forall D_j \neg [\text{some}_{D_i} (\text{potato}) (\lambda x. I \text{ ate } x) \wedge \neg \text{some}_{D_j} (\text{potato}) (\lambda x. I \text{ ate } x)]$

$= \forall D_i \forall D_j [\text{some}_{D_i} (\text{potato}) (\lambda x. I \text{ ate } x) \rightarrow \text{some}_{D_j} (\text{potato}) (\lambda x. I \text{ ate } x)]$

(22) $\forall D [\text{some}_D (\text{potato}) (\lambda x. I \text{ ate } x)]$, where D contains possible potatoes.

1.2.2 *Even* as the source

The second group of researchers propose that the scalar meaning of (overt or covert) EVEN gives rise to polarity sensitivity (Lee and Horn 1994, Krifka 1995, Lahiri 1998, C. Lee et al. 2000, Farkas 2005, among others). They claim that PSIs are basically a combination of an indefinite NP and a scalar focus particle that corresponds to English *even*.

The licensing environments of *any* are predicted according to the focus semantics of *even* (Karttunen and Peters 1979; Rooth 1985). The focus particle *even* is analyzed as

triggering two presuppositions: a scalar presupposition (ScalarP, henceforth) and an existential presupposition (ExistP, henceforth). Depending on the position of focus, the presuppositions of *even* are determined.

- (23) a. John even introduced [MARY]_F to Bill.
b. John even introduced Mary to [BILL]_F.

For instance, (23a), where *Mary* is focused, conveys that *Mary* is the least likely person for John to introduce to Bill (ScalarP), and that there is someone other than *Mary* that John introduced to Bill (ExistP). In contrast, in (23b), where *Bill* is focused, *Bill* is the least likely person for John to introduce *Mary* to (ScalarP) and there is someone other than *Bill* that John introduced *Mary* to (ExistP).

According to Rooth (1985), focus particles take propositional scope, triggering a set of alternatives which is obtained by replacing the denotation of the focused item with elements of the same semantic type. Focus particles quantify over a contextually salient subset of C of their complement's focus value as defined above. For instance, (23a), repeated in (24a), has the LF (24b). (24c) illustrates the set of alternatives.

- (24) a. John even introduced MARY to Bill.
b. LF: [even C [John introduced [Mary]_F to Bill]

- c. $C = \{ \text{that John introduced Mary to Bill, that John introduced Ann to Bill, that John introduced Kathy to Bill, ...} \}$

Sentence (24a) asserts (25a), the proposition without *even*, and it triggers the ExistP in (25b) and the ScalarP in (25c).

- (25) a. Assertion: John introduced Mary to Bill.
 b. ExistP: John introduced someone other than Mary.
 c. ScalarP: “That John introduced Mary to Bill” is the least likely element among the alternatives.

Rooth (1985) claims that the focus particle *even* behaves like a PPI (Positive Polarity Item) in negative contexts (cf. Karttunen and Peters 1979). That is, it obligatorily takes wide scope over negation at LF, as shown in (26b). The ScalarP entails that the focused proposition with negation is the least likely alternative.

- (26) a. John didn't even introduce MARY to Bill.
 b. LF: [even [Neg [John introduced [Mary]_F to Bill]]]
 c. Assertion: John didn't introduce Mary to Bill.
 d. ExistP: There is some x other than Mary such that John didn't introduce x to Bill.
 e. ScalarP: “That John didn't introduce Mary to Bill” is the least likely alternative.
 \Leftrightarrow “That John introduced Mary to Bill” is the most likely alternative.

Now let us consider Lahiri's (1998) analysis of Hindi PSIs, where he argues that polarity sensitivity comes from the Hindi EVEN item, *bhii*. In Hindi, PSIs can be formed by combining indefinites like *ek* 'one' or *koi* 'someone' with an overt EVEN item like *bhii* 'also, even', as illustrated in (27). They are licensed in DE contexts as well as in generic and possibility modal environments.

- (27) a. *ek bhii* 'any, even one' = *ek* 'one' + *bhii* 'also, even'
 b. *koi bhii* 'anyone, any (count)' = *koi* 'some(count)' + *bhii* 'also, even'
 c. *kuch bhii* 'anything, any (mass)' = *kuch* 'some(mass)' + *bhii* 'also, even'
 d. *zaraa bhii* 'even a little' = *zaraa* 'little' + *bhii* 'also, even'

(28) shows that *bhii* functions as a scalar focus particle when the associate of *bhii* is focused.

- (28) a. [Ram]_F *bhii* *aayaa*
 Ram even came
 'Even Ram came.'
 b. ExistP: There is someone other than Ram who came.
 c. ScalarP: "That Ram came" is the least likely alternative.

In Lahiri (1998), PSIs are taken to be inherently focused. The associates of *bhii* in a PSI are "weak" cardinality predicates, meaning roughly "one". The relevant alternatives to

(29), for instance, are obtained by replacing *ek* ‘one’ with other cardinality predicates: {that one came, that two came, ..., that n came}. *Ek* ‘one’ is entailed by all its contextual alternatives and can be seen as the most likely item on a cardinality scale. Then it clashes with the ScalarP triggered by *bhii*, that “that one came” is the least likely proposition among the alternative propositions. Due to this presupposition clash, (29) is predicted to be ungrammatical in Lahiri (1998).

(29) *[Ek]_F bhii aayaa.
 one even came

However, such a presupposition clash is removed in a negative sentence, as shown in (30). Since the likelihood scale is reversed with the help of negation, no presupposition clash obtains. In this way, Lahiri’s analysis predicts that as long as there is a DE operator, the *bhii* PSIs are licensed.

(30) [Ek]_F bhii nahiiN aayaa.
 one even didn’t came
 ‘No one came.’
 a. LF: [even [Neg [[One]_F person came]]]
 b. Assertion: One person didn’t come.
 c. ExistP: There is some cardinality x other than one such that x didn’t come.

d. ScalarP: “That one person didn’t come” is the least likely alternative.

⇔ “That one person came” is the most likely alternative.

In Lee and Horn (1994), both uses of English *any* incorporate a hidden *even*. NPI *any* is a combination of an existential indefinite and *even*, and it always presupposes a quantity scale. FCI *any* is analyzed as being a combination of a generic indefinite with *even*, which presupposes a kind scale. Thus, NPI *any* conveys the meaning *an X, even a single one* while FCI *any* carries the meaning, *an X, even + superlative*.

Let us take an example of NPI *any*, as in (31). In (31) *any* is interpreted as an NPI but not as an FCI. It produces the scalar reading (31b), based on a quantity scale. A superlative reading like (31c) is not available here.

(31) a. There isn’t any boy running around in the garden.

b. = There isn’t even a single boy running around in the garden.

c. ≠ *There isn’t even the most lively boy running around in the garden.

In (32), *any* is unambiguously interpreted as an FCI, and conveys the scalar reading in (32c), which is based on a kind scale. A quantity scale is not available in this case, as shown in (32b).

- (32) a. Any owl hunts mice.
b. ≠ *Even a single owl hunts mice.
c. = Even the weakest owl hunts mice.

According to Lee and Horn (1994), *any* can occur in a sentence where either a quantity or a kind scale associated with an indefinite can be constructed. That is, if *any* is not licensed in a position, neither *even a single* nor *even + (appropriate) superlative* can occur in that position. Because neither a quantity nor a kind scale can be constructed in (33) and (34), (33a) and (34a) are predicted to be ungrammatical.

- (33) a. *There is any boy running around in the garden.
b. *There is even a single boy running around in the garden.
c. *There is even the least active boy running around in the garden.
- (34) a. *Any boy must have made this mess.
b. *Even a single boy must have made this mess.
c. *Even the tidiest boy must have made this mess.

1.2.3 Two independent sources

Rullmann (1996) questions if both types of PSIs, namely, NPIs and FCIs, have a common source, be it domain-widening or be it *even*. He shows that Dutch PSIs are of two kinds,

i.e., one with a scalar particle *ook maar* ‘even’ and the other one with the particle-combination *dan ook* (lit. ‘then also’), as shown in (35). The former is labeled “*even*-PSIs” and the latter “*wh*-PSIs”.

- (35) a. *Even*-PSIs: *ook maar iemand* ‘even somebody’, *ook maar iet* ‘even something’
b. *Wh*-PSIs: *wie dan ook* ‘who then also’, *welke jongen dan ook* ‘which boy then also’, etc.

He argues that the two types of NPIs display different semantic properties. First, *even*-NPIs are sensitive to focus, while *wh*-NPIs are not. In (36a), the numeral *een* ‘one’ is focused, whereas in (36b), the head noun *stripboek* ‘comic book’ is focused. As we noted in 1.2.2, the interpretation of *even* depends on the position of the focus. Therefore, in (36a), the ScalarP is evoked that “one book is the least likely number of books for someone not to read”, whereas in (36b), the ScalarP is “a comic book is the least likely type of books for someone not to read”.

- (36) a. Niemand heeft ook maar [EEN]_F stripboek gelezen.
No one has even one comic book read
‘No one has read even one comic book.’
- b. Neimand heft ook maar een [STRIPBOEK]_F gelezen.
No one has even a comic book read
‘No one has read even a comic book.’

In contrast, the interpretation of *wh*-PSIs has nothing to do with focus. “To the extent that it is possible to focus different parts of the noun phrase in sentences like (37), this merely has the effect of an unbound focus: the focused constituent contains new information or is contrasted with something else. No scales are introduced and there is no scalar presupposition of the kind we get in (36)” (Rullmann, 1996:338). In sum, while *even*-PSIs are sensitive to focus, *wh*-PSIs are not.

(37) a. Niemend heeft welke stripboek dan ook gelezen.

No one has which comic book then also read

‘No one has read any comic books.’

b. Niemnad heft welk artikel over welke popster dan ook gelezen.

no one has which article about which rock star then also read

‘No one has read any article about any rock star.’

Second, *even*-PSIs can associate with minimizers, but *wh*-PSIs cannot. Minimizers are known to denote a minimal value on some scale. As shown in (38), the minimizer ‘(to last) a minute’ can combine with *even*-PSIs but not *wh*-PSIs.

(38) a. Ik denk niet dat dit ook maar een minut zal duren.

I think not that this even a minute will last

‘I don’ t think this will even last a minute.’

b. *Ik denk niet dat dit welke minuut dan ook zal duren.

I think not that this which minute PRT PRT will last

Given these semantic differences between *even*-PSIs and *wh*-PSIs, Rullmann (1996) claims that the two types of PSIs should not be analyzed within one framework, whether it be domain-widening or the focus semantics of *even*.

So far, we have summarized three lines of research on PSIs regarding the source(s) of polarity sensitivity. This dissertation, in line with Rullmann (1996), argues that there are two types of sources that derive polarity sensitivity in Korean.

1.3 What can we learn from Korean?

1.3.1 Composition of Korean PSIs and their licensing environments

Korean provides an excellent set of empirical data with regard to the source(s). It helps better understand the nature and source(s) of polarity sensitivity, because in Korean it is transparent from the morphology which part is common to FCIs and NPIs and which components are responsible for differentiating each item.

In Korean, where there is no article, the interpretations of indefinite roots are determined by the particles⁵ that they combine with. For instance, Korean indefinite *nwukwu* ‘who’

⁵ They include case markers, post-positions, and focus particles.

can take on interrogative, existential and negative polarity interpretations depending on what kind of particle it combines with, as illustrated in (39)-(41).

(39) Nwukwu-ka o-ass-ni? Interrogative-use
 WHO-NOM come-PAST-Q
 ‘Who came?’

(40) Nwukwu-ka o-ass-e. Existential-use
 WHO-NOM come-PAST-DEC
 ‘Someone came.’

(41) a. Nwukwu-to an o-ass-e. NPI-use
 WHO-EVEN NEG come-PAST-DEC
 ‘No one came.’
 b. *Nwukwu-to o-ass-e.
 WHO-EVEN come-PAST-DEC

Korean PSIs are composed of one of the two indefinite roots, *amwu-* and *wh-*, and one of the three particles, *-to* ‘also/even’, *-lato* ‘even’, and *-na* ‘or’. A common noun can be inserted between the indefinite root and the particle. Thus, each combination results in the following six items, all of which correspond to English *any*. These six items are the main interest of the current dissertation.

(42) Formation of Korean polarity sensitive items

Particles Ind roots	<i>-to</i> ‘also/even’	<i>-lato</i> ‘even’	<i>-na</i> ‘or’
<i>Amwu</i> -(N)	<i>Amwu</i>-(N)-<i>to</i>	<i>Amwu</i>-(N)-<i>lato</i>	<i>Amwu</i>-(N)-<i>na</i>
<i>Wh</i> -(N)	<i>Wh</i>-(N)-<i>to</i>	<i>Wh</i>-(N)-<i>lato</i>	<i>Wh</i>-(N)-<i>na</i>

The licensing environments of the PSIs are shown roughly in Table (43) and Table (44). The environments in the tables are divided into four sub-groups. The first group is episodic negation. The second group consists of DE contexts, such as the antecedent of conditionals and the restrictor of universal quantifiers. Episodic negation does not belong to this group although it is also downward-entailing. The third group includes so-called FC contexts where FCIs typically appear across languages, such as generic contexts, possibility modal and necessity modal contexts, and imperatives. The last group contains affirmative episodic sentences.

(43) Licensing environments of *amwu*-PSIs

<i>Amwu</i> -PSIs Contexts	<i>AMWU</i>-(N)-<i>TO</i>	<i>AMWU</i>-(N)-<i>LATO</i>	<i>AMWU</i>-(N)-<i>NA</i>
Negative episodic	√	*	*√
DE contexts other than negation	*	√	√
FC contexts	*	√	√
Affirmative episodic	*	*	*√

(44) Licensing environments of *wh*-PSIs

<i>Wh</i> -PSIs Contexts	<i>WH</i> (N)- <i>TO</i>	<i>WH</i> (N)- <i>LATO</i>	<i>WH</i> (N)- <i>NA</i>
Negative episodic	√	*	*√
DE contexts other than negation	*	√	√
FC contexts	√	√	√
Affirmative episodic	*	*	*√

The first item *amwu*-(N)-*to* in (43) is characterized as a strong NPI, which only occurs with negation. The other *-to* PSI, *wh*-(N)-*to* in (44), can function as both an NPI and an FCI. *-lato*-PSIs and *-na*-PSIs show the same distribution: they cannot occur in negative or affirmative episodic sentences, but rather only appear in DE contexts and so-called FC contexts. Unlike *-lato*-PSIs, *-na*-PSIs can be rescued in episodic sentences by some rescuing strategies (see Chapters 4 and 5), as indicated by “*/√” marks. From the fact that both the *-lato*-PSIs and the *-na*-PSIs are not licensed by negation, which is the most typical feature of run-of-the-mill NPIs, and the fact that both are allowed in FC contexts, I (tentatively) assume that both the *-lato* PSIs and the *-na* PSIs are FCIs.

Accordingly, the Korean PSIs can be characterized as follows.

(45) Characterization of Korean polarity sensitive items

Particles	<i>-to</i> ‘also/even’	<i>-lato</i> ‘even’	<i>-na</i> ‘or’
Ind roots			
<i>Amwu</i> -(N)	NPI	FCI	FCI
<i>Wh</i> -(N)	NPI/FCI	FCI	FCI

1.3.2 The indefinite roots

To reveal what derives polarity sensitivity (i.e., NPI-hood and FC-ness) in Korean, this dissertation first investigates the role of the two indefinite roots, *amwu*- and *wh*- in Chapter 2. I will argue that Korean *wh*-(N) ranges over a regular domain or a contextually salient domain in the discourse, whereas *amwu*- induces domain-widening, à la Kadmon and Landman (1993).

As shown in (46), while *wh*-(N)-*na* includes regular people, i.e., people who received a college education with average I.Q. etc., *amwu*-(N)-*na* ranges over a larger domain that includes contextually marginal people as well, for instance, people who have not received any education or are severely handicapped. Thus, the domain of *amwu*-(N) can be seen as being larger than the domain of *wh*-(N).

- (46) Ku il-un nwukwu-na ha-l.swu.iss-ciman, amwu-na ha-l.swu-eps-ta.
 The job-TOP WHO-OR do-can-but AMWU-OR do-can-NEG-DEC
 ‘(Lit.) As for the job, anyone can do it, but not just ANYone can do it.’

In Chapter 2, I will present several sets of empirical data that strongly suggest that *amwu-* induces domain-widening. One of the pieces of evidence relates to the different scope behavior of the two roots. *Wh-(N)* with a regular or salient domain behaves like a partitive indefinite (e.g., *any of the owls*) and can take either wide or narrow scope with respect to a logical operator. However, *amwu-(N)* with a widened or open domain always takes narrow scope. This difference in scope taking will be shown to play a crucial role in deriving the universal force of *wh-(N)-na* (Chapter 5) and the FC-ness of *wh-(N)-to* and *wh-(N)-lato* (Chapter 6).

1.3.3 The two sources of polarity sensitivity

Note that all of the *wh*-items, that is, *wh-(N)-to*, *wh-(N)-lato* and *wh-(N)-na*, which lack the property of domain-widening, still function as PSIs. In other words, polarity sensitivity – NPI-hood and FC-ness – obtains regardless of whether we have the domain-widening indefinite root *amwu-* or the non-widening root *wh-*. In view of this, we eliminate the domain-widening of *amwu-* from the common core of polarity sensitivity in Korean. Accordingly, we are left with the three particles *to* ‘even’, *-lato* ‘even’, and *-na* ‘or’, which I argue to be essential in deriving polarity sensitivity.

(47) below shows that the particles *-to* and *-lato* are scalar focus particles that correspond to English *even*, and (48) shows that the particle *-na* is a disjunctive particle in Korean, meaning ‘or’.

- (47) a. elinay-to ku mwuncey-lul ihayhay-ass-e.
kids-EVEN the question-ACC understand-PAST-DEC
‘Even kids understood the question.’
- b. elinay-lato ku mwuncey-lul ilayha-l.swu.iss-e.
kids-EVEN the question-ACC understand-can-DEC
‘Even kids can understand the question.’

- (48) John-un khephi-na thi-lul cohaha-y.
J.-TOP coffee-OR tea-ACC like-DEC
‘John likes coffee or tea.’

If these two types of particles are dropped and another particle is attached to the indefinite roots, polarity sensitivity is not derived. For instance, if the particles are replaced by a case marker, then either ungrammaticality arises as in (49), where *amwu-* is combined with the case marker *-ka* ‘NOM’, or as shown in (50), the indefinite root *wh-* with the case marker is interpreted as a plain, possibly specific indefinite.

- (49) a. ***amwu-ka** o-ci.anh-ass-ta.
 AMWU-NOM come-NEG-PAST-DEC
 ‘(Lit.) ‘Amwu’ person didn’t come.’
- b. ***amwu-pwuengi-ka** cwui-lul cap-nun-ta.
 AMWU-owl-NOM mice-ACC catch-GEN-DEC
 ‘(Lit.) ‘Amwu’ owl catches mice.’
- (50) a. **nwukwu-ka** o-ci.anh-ass-ta.
 WHO-NOM come-NEG-PAST-DEC
 ‘Some (specific) person didn’t come.’
- b. **etten-pwuengi-ka** cwui-lul cap-nun-ta.
 WHAT-owl-NOM mice-ACC catch-GEN-DEC
 ‘Some owl catches mice.’

Consequently, reconsidering the PSI characterizations in (45) in terms of the sources of polarity sensitivity, the two sources are mapped as in (51).⁶

⁶ Dutch PSIs have a different mapping, as shown in the following table (cf. Rullmann 1996).

Sources	<i>EVEN</i>	<i>WH-then-also</i>
Dutch PSIs		
NPI	√	√
FCI	*	√

(51) Two sources of polarity sensitivity in Korean

Sources Korean PSIs	EVEN (<i>-to, -lato</i>)	OR (<i>-na</i>)
NPI	√	*
FCI	√	√

As seen in the above table, NPIs are derived from EVEN and FCIs are derived from both EVEN and OR. In order to show the deeper relationship between NPIs and FCIs, I aim to show that the two sources (i.e., EVEN and OR) yield (almost) the same effect, which is roughly interpreted as “no matter wh...”.

This effect can be seen as the common characteristic of NPIs or FCIs, depending on the contexts PSIs occur in (cf. Chierchia 2005). In the next section, I will briefly present how to obtain the “no matter wh...” effect, which I call an “indifference reading” (cf. von Stechow 2000, Tredinnick 2005).

1.3.4 Derivation of polarity sensitivity in Korean

1.3.4.1 The *-na* ‘or’ source

Let us first see how the particle *-na* ‘or’ gives rise to polarity sensitivity, more specifically, free choice effects. In Chapter 3, the particle *-na* is shown to trigger an essential link between the property of the NP headed by *-na* and the VP property. For example, in (52), the particle *-na* ‘or’ induces a causal or essential relation between

“being five years old” and “being allowed/able to solve the problem”. If the universal quantifier *mot(w)u* with the nominative marker *-ka* is used, then the essential or causal link is not present anymore, as shown in (53).

(52) amwu-/etten-tasus-salccali-na ku mwuncey-lul phul-swu.iss-e.
 AMWU/WHAT-five-year-OR that problem-ACC solve-can-DEC
 ‘Any five-year-old can solve the problem.’

(53) motun-tasus-salccali-ka ku mwuncey-lul phul-swu.iss-e.
 ALL-five-year-NOM that problem-ACC solve-can-DEC
 ‘Every five-year-old can solve the problem.’

This dissertation observes a parallelism between the contribution of the particle *-na* in *amwu-wh-(N)-na* and the contribution of *-ever* in *-ever* free relatives in English. As shown in (54a), *whoever* conveys an essential link between “being in Mary’s semantics seminar” and “writing a paper on polarity items”. (54b) does not necessarily convey such an essential link.

- (54) a. Whoever is in Mary’s semantics seminar is writing a paper on polarity items.
 b. Everyone who is in Mary’s semantics seminar is writing a paper on polarity items.

Adopting Dayal's (1997) insight that *-ever* FRs introduce a layer of quantification over possible worlds, von Stechow (2000) proposes that English *-ever* in *-ever* FRs triggers a presupposition of variation based on either counterfactual or epistemic worlds. Compare (55a) and (55b).

- (55) a. In yesterday's election, who was at the top of the ballot won.
b. In yesterday's election, whoever was at the top of the ballot won.

Both of them assert the same statement containing a definite description, that is, the person who was at the top of the ballot won the election yesterday. Unlike (55a), (55b) conveys an extra meaning triggered by *-ever*, such that if the person who was at the top of the ballot had been a different person, say John, not Brian, the essential link between "a person's name being at the top of the ballot" and "the person's winning the election" would still hold. This essential link follows from the "presupposition of variation" based on counterfactual worlds given in (56), which is identified as the nature of *-ever*'s contribution.

- (56) Presupposition of variation: In every counterfactual world w' that is minimally different from the actual world w_0 with respect to the denotation of the person at the top of ballot, if the person who was at the top of the ballot had been different in w' , the person would have won in w' .⁷

⁷ The assertion and presupposition of (55b) is formalized roughly as below. I will discuss it more

I will propose that the essential or causal link induced by the particle *-na* can be captured by the same formal source as the one for *-ever* (Dayal 1997, von Fintel 2000, Tredinnick 2005). Compare (57a), which contains a plain indefinite, and (57b), which contains *-na*-PSIs.

(57) a. John-un koki-lul mek-ul.swu.iss-e.

J.- TOP meat-ACC eat-can-DEC

‘John can eat meat.’

b. John-un amwu/etten-koki-na mek- ul.swu.iss-e

J.-TOP AMWU/WHAT-meat-OR eat- can-DEC

‘John can eat any meat, every meat is an eating option for John.’

(57a) and (57b) share the assertion that John is allowed to eat meat. Compared with (57a), however, (57b) conveys an essential link, triggered by *-na*, between “having the property of meat x” and “John’s having permission to eat x”. That is, the particle *-na* is seen as introducing the presupposition of counterfactual variation as in (58), as proposed for *-ever* in von Fintel (2000).

extensively in Chapter 3.

a. **Assertion:** $\lambda w_0. \text{win}(\text{ty.top-of-ballot}(y, w_0), w_0)$

b. **Presupposition:**

$\lambda w_0. \forall w' \in \min_{w_0} [F \cap (\lambda w'. \text{ty.top-of-ballot}(y, w') \neq \text{ty.top-of-ballot}(y, w_0))]:$
 $\text{win}(\text{ty.top-of-ballot}(y, w'), w') = \text{win}(\text{ty.top-of-ballot}(y, w_0), w_0)$

(58) Presupposition of variation: If a different set x of meat had been considered, John would have permission to eat meat out of x .⁸

From the presupposition of counterfactual variation, it is inferred that all types of meat are a possible eating option for John. Hence, freedom of choice (Free Choice) obtains as in (59).

(59) FC effects: For every (type of) meat x , John is allowed to eat x .

1.3.4.2 The *-to/-lato* ‘even’ source

Now let us consider *even*-based PSIs in Korean and see how the scalar focus particles *-to* ‘even’ and *-lato* ‘even’ give rise to NPI-hood and/or FC effects. Take an example of *-to*-PSIs in a negative sentence, as in (60).

(60) John-un **amwu-/etten-koki-to** mek-ci.anh-ass-ta.
 J.-Top AMWU-/WHAT-meat-EVEN eat-NEG-PAST-DEC
 ‘John didn’t eat any meat’.

⁸The assertion and presupposition of (57b) are roughly formalized as below (see Chapter 3).

- a. **Assertion:** $\lambda w_0. \exists w \in \text{Deo}_{w_0}. [\exists x.\text{meat}(x,w) \ \& \ \text{eat}(j,x,w)]$
 b. **Presupposition:**
 $\lambda w_0. \forall w' \in \min_{w_0}. [F \cap \lambda w''. \{x:\text{meat}(x,w'')\} \neq \{x:\text{meat}(x,w_0)\}]$:
 $\exists w^+ \in \text{Deo}_{w'} [\exists x.\text{meat}(x,w^+) \ \& \ \text{eat}(j,x,w^+)] =$
 $\exists w \in \text{Deo}_{w_0}. [\exists x.\text{meat}(x,w) \ \& \ \text{eat}(j,x,w)]$

In Chapter 6, I will propose a Lahiri-style analysis for the *-to* PSIs. Given that *amwu-/wh-koki* ‘some meat’ is focused, it is interpreted as “some piece of meat”, as opposed to “many pieces of meat” or “all pieces of meat”. As discussed in 1.2.2, the focus particle *-to* corresponding to *even* takes wide scope over negation at LF, as shown in (61a). The particle *-to* evokes the ScalarP and ExistP, as shown in (61b) and (61c) respectively.

- (61) a. LF: [*-to* [Neg [John eats *amwu-/wh*-meat (x)]]]
- b. ScalarP: “That John did not eat some piece of meat (x)” is the least-likely alternative.
- c. ExistP: There is some other meat *y* such that John didn’t eat *y*.

The ScalarP is paraphrased as: “Some piece of meat is the most likely amount for John to eat. No presupposition clash obtains, and thus *amwu-/wh-(N)-to* is licensed in this context.

By contrast, *amwu-/wh-(N)-to* is not allowed in the positive counterpart, as shown in (62). The ungrammaticality is due to the presupposition clash between the least-likely ScalarP in (63b) and the property of *amwu-/wh-koki* ‘some meat’ which is the most likely amount to eat. Thus, the NPI-hood of the *-to* items is accounted for in such a way that they are only licensed in a context where the presuppositions of *-to* do not clash.

- (62) *John-un amwu-/etten-koki-to mek-ess-ta.
 J.-TOP AMWU-/WHAT-meat-EVEN eat-PAST-DEC
 ‘(Lit.) John ate any meat’ .

- (63) a. LF: [-to [John eats *amwu-/wh*-meat (x)]]
 b. ScalarP: “That John ate a piece of meat (x)” is the least-likely.
 c. ExistP: There is some other meat y such that John ate y.

Now let us consider an example of *-lato*-PSIs. In Chapter 6, *-lato* will be analyzed as an NPI-*even* (Guerzoni 2003, 2005), which triggers a most-likely scalar presupposition. In (64), where *amwu-/wh-(N)-lato* appears in the antecedent of a conditional, the ScalarP and the ExistP of *-lato* are analyzed as in (65).

- (64) amwu/etten-koki-lato mek-umyen, ne-nun chaysikcwuuyca-ka an-i-ta.
 AMWU-/WHAT-meat-EVEN eat-if you-TOP vegetarian-NOM not-be-DEC
 ‘No matter what (amount/kind of) meat it may be, if you eat it,
 you are not a vegetarian.’

(65) The presuppositions of *-lato*⁹

- a. ScalarP: *Amwu koki* (x), i.e., some meat (x) is the most likely/insignificant (amount/kind of) meat for you to eat.
- b. ExistP: There is some (amount/kind of) meat y other than x such that if you eat y, you are not a vegetarian.

Sentence (64) can be paraphrased as follows: “If you eat even the smallest amount of meat or even the most likely/insignificant kind of meat, then you’re not a vegetarian”. The “no matter wh...” reading is easily inferred by the combination of the two presuppositions. That is, even the most likely/insignificant/trivial meat (x) may be taken into account as an option for you, although there are other alternatives (y) to it, so that the identity of meat is not important in proving that you are not a vegetarian. Hence, FC effects like (66) obtain.

(66) FC effects: No matter what (amount/kind of) meat x is, if you eat x, you are not a vegetarian. ~ For every meat x, John is allowed to eat x.

In the previous section, we saw that FC effects can be derived from the presupposition of variation triggered by the particle *-na* ‘or’. Now (66) shows us that a similar effect obtains from the combination of the ScalarP and the ExistP in (65), which are triggered by the scalar focus particle *-lato* ‘even’.

⁹ Another presupposition, ExclP (or exclusive presupposition) will be added to the meaning of *-lato* in Chapter 6, in order to account for occurrences of *amwu-/wh-(N)-lato* in modal contexts.

To sum up, I will show throughout this dissertation that NPI-hood and/or FC-ness in Korean can be derived by the particle *-na* ‘or’ as well as by the particles *-to* ‘also/even’ and *-lato* ‘even’. In addition, the licensing environments of each PSI follow from the semantics of the particles. That is, as long as the presuppositions (i.e., the presupposition of counterfactual variation triggered by *-na*, and the presuppositions triggered by *-to/-lato*) are felicitous and do not clash with any other meaning component of the sentence where the PSIs occur, the PSIs are predicted to be licensed. Furthermore, the quantificational force of each PSI is derived as an epiphenomenon. The PSIs at issue are indefinites, whose basic quantification is existential. To this, the combination of the presuppositions of *-to/-lato* can give rise to a universal inference, as shown in (60) and (64). In addition, the presupposition of variation of *-na* adds the layer of universal quantification over possible worlds, which gives the *-na*-PSIs a universal-like FC flavor.

1.4 Theoretical implications

This dissertation intends to help reveal the nature and sources of polarity sensitivity. Beyond this, this dissertation aims to contribute to the following theoretical aspects.

First, it provides a general and thorough picture of Korean polarity sensitive phenomena. Most of the previous studies on Korean PSIs have been limited to one or two of the PSIs of high frequency. For instance, Y. Lee (1999) was concerned with *wh*-(N)-*na*, M. Hong

(1995) with *amwu/wh-(N)-to*, and Kim and Kaufmann (2006) with *amwu/wh-(N)-na*. Thus, they fall short of showing what is really responsible for the properties of polarity sensitivity in general. This dissertation offers a unified (i.e., NPIs as well as FCIs) and compositional analysis of Korean PSIs, a great benefit in accounting for the sources of polarity sensitivity, the licensing environments and the quantificational force of each PSI. Second, this dissertation suggests a direct link between the focus particle *even* and polarity sensitivity on the one hand, and between the operator *or* and polarity sensitivity on the other hand. There have been many researchers who captured the relationship between *even* and polarity sensitivity (Lee and Horn 1994, Krifka 1995, Lahiri 1998, C. Lee et al. 2000). Also, some scholars have suggested a link between *or* and PSIs like *any* (Kamp 1973, LeGrand 1975, Kadmon and Landman 1993, Kratzer and Shimoyama 2002, Aloni 2002). The investigation of Korean PSIs, where the particles' contributions are transparent from the morphology, helps us to better understand the relationship between polarity sensitivity and the semantics of those operators. This dissertation particularly confirms the suspicion about *or* by showing that the disjunctive particle *-na* 'or' gives rise to free choice effects.

Third, this dissertation shows a direct link between the semantics of FCIs and the semantics of English *-ever* FRs. Some scholars have noted an intuitive similarity between FCI *any* and *-ever* FRs (Horn 2000, among others). While most of them suggested that domain-widening plays a role (Kratzer and Shimoyama 2002, Chierchia 2005), this dissertation pursues Dayal's (1997) idea that *-ever* provides universal quantification over

possible worlds, rather than domain-widening. I will spell out a full-fledged analysis that applies the same formalism that was proposed for *-ever* FRs to Korean *-na*-FCIs. Furthermore, the proposed analysis covers the most recent discovery regarding FCIs, i.e., Menéndez-Benito (2005).

1.5 Organization

In Chapter 2, I characterize *amwu-* as inducing domain-widening by providing several pieces of empirical data. While *amwu-* widens the domain maximally, *wh-* ranges over a regular domain. Chapter 3 proposes a von Fintel-style semantics for the particle *-na*, as argued for *ever* in *ever* free relatives (Dayal, 1997; von Fintel, 2000; Tredinnick, 2005). Chapter 4 and Chapter 5 extend the proposed analysis to *amwu-(N)-na* and *wh-(N)-na* respectively. Chapter 6 provides a focus semantics of the particles *-to* and *-lato*. *-To* is characterized as the normal/PPI *even*, which evokes the least-likely scalar presupposition, whereas *-lato* is analyzed as the NPI *even* (Guerzoni, 2003, 2005), which triggers the most-likely scalar presupposition.

Chapter 2 The Indefinite Roots: Domain-widening

Amwu- vs. Regular Domain *Wh-*

2.1 Introduction

In order to provide a unified and compositional analysis of *amwu*-(N)-*to/-lato/-na* and *wh*-(N)-*to/-lato/-na*, it is necessary to know the contribution of each component. This chapter is concerned with investigating the semantic characteristics of the indefinite roots, i.e., *amwu-* and *wh-*. The chapters to follow will, then, turn to exploring the semantic contributions of each particle.

I start from the assumption that *amwu-* and *wh-* are indefinites whose basic quantificational force is existential and that they, as quantifiers, have implicit domain restrictions. I will argue that Korean *wh*-(N) ranges over a regular domain that is explicitly stated or implicitly understood whereas Korean *amwu-* induces domain-widening, as Kadmon and Landman (1993) proposed for English *any*. That is, *amwu-* widens the domain maximally along a contextual dimension.

This chapter is organized as follows. Section 2.2 reviews the previous studies on the indefinite roots, mainly C. Lee et al. (2000) and Kim and Kaufmann (2006). In section 2.3, I argue that *amwu-* induces domain-widening, in contrast to *wh-*, by providing

several pieces of evidence. In section 2.4, I present more evidence that strongly suggests the domain-widening effect of *amwu-*. Section 2.5 summarizes the chapter and puts forth what we will be discussing in chapters to follow.

2.2 Previous studies on the indefinite roots: *amwu-* and *wh-*

The previous literature on Korean PSIs has primarily discussed highly frequent PSIs such as *amwu-/wh-(N)-to* and *wh-(N)-na* among the six PSIs that concern us in this dissertation (M. Hong 1995; Y. Kim 1993; Y. Lee 1999). Moreover, it was not the main interest in the previous studies to show the semantic differences between the *amwu-* root and the *wh-* root. For example, M. Hong (1995) and Y. Lee (1999) treat both *amwu-* and *wh-* in the same way as Heimean indefinites that do not have quantificational force on their own, and fail to express the differences between the two. C. Lee et al. (2000) is, as far as I know, the first attempt to investigate the semantic properties intrinsic to the *amwu-* root in their unified account of *amwu-(N)-to/-lato/-na*. However, because they fall short of distinguishing the contribution of *amwu-* and the contribution of the particles, they inaccurately attribute some semantic properties to the role of *amwu-*. In addition, Kim and Kaufmann (2006), who focus on the difference between *amwu-(N)-na* and *wh-(N)-na*, seem to report a couple of incorrect observations. In this section, I will revise the semantic generalizations that are made for the indefinite roots *amwu-* and *wh-* mainly by C. Lee et al. (2000) and Kim and Kaufmann (2006). Before doing so, I will briefly discuss morpho-syntactic descriptions of *amwu-* and *wh-*.

2.2.1 Morpho-syntactic properties of *amwu* and *wh-*

As reported in the literature (C. Lee et al. 2000, among others), *amwu*-(N) does not take structural case markers like *-ka* ‘NOM’ or *-lul* ‘ACC’, as in (1), but must combine with the particles *-to/-lato/-na* directly, as in (2), or occur with the particles long-distance, as in (3). Note that when *amwu-* associates with the particles long-distance, a case marker attaches to *amwu-* directly by default in accordance with the Korean morphology system.

- (1) a. ***amwu-haksayng-i** o-ass-ta.
 AMWU-student-NOM come-PAST-DEC
 ‘(Lit.) Any student came.’
- b. *John-un **amwu-haksayng-ul** cohaha-n-ta.
 J.-TOP AMWU-student-ACC like-GEN-DEC
 ‘(Lit.) John likes any student.’
- (2) a. John-un **amwu-chayk-to** ilk-ci.anh-ass-ta.
 J.-TOP AMWU-book-EVEN read-NEG-PAST-DEC
 ‘John didn’t read any book.’
- b. John-un **amwu-chayk-ilato**¹⁰ ilk-ul.kes-ita.
 J.-TOP AMWU-book-EVEN read-FUT-DEC
 ‘John will read any book.’

¹⁰ When the last syllable of the noun that *-lato* attaches to has a coda, *-i-* sound is inserted between the noun and the particle *-lato*. I treat *-ilato* as a variant of *-lato*.

c. John-un amwu-chayk-ina¹¹ ilk-nun-ta.
 J.-TOP AMWU-book-OR read-GEN-DEC
 ‘John reads any book.’

(3) amwu-sonnim-i o-a-to/-te-lato/-ke-na¹²,
 AMWU-customer-NOM come-though
 paykhwacem-un hwanyengha-n-ta.
 dept.store-TOP welcome-GEN-DEC
 ‘No matter what kind of customer comes, department stores welcome them.’

In contrast to *amwu*-(N), *wh*-(N) can combine with case markers, as in (4), repeated from (39) and (40) in Chapter 1.

(4) a. nwukwu-ka o-ass-e.
 WHO-NOM come-PAST-DEC
 ‘Somebody came.’
 b. nwukwu-ka o-ass-ni?
 WHO-NOM come-PAST-DEC
 (A) ‘Who came?’ (B) ‘Did somebody come?’

¹¹ When the last syllable of the noun that *-na* attaches to has a coda, *-i-* sound is inserted between the noun and the particle *-na*. I treat *-ina* as a variant of *-na*.

¹² The *-a-*, *-te-*, and *-ke-* between the verb stem and the particles *-to*, *-lato*, and *-na*, respectively, seem to be inserted not only on a phonological ground but also for a morphological or syntactic reason, which is not a main interest of the dissertation.

Wh-(N) can also associate with the particles *-to/-lato/-na* locally as in (5) as well as long-distance as in (6).

(5) a. John-un **etten-chayk-to** ilk-ci.anh-ass-ta.
 J.-TOP WHAT-book-EVEN read-NEG-PAST-DEC
 ‘John didn’t read any book.’

b. John-un **etten-chayk-ilato** ilk-ul.kesi-ta.
 J.-TOP WHAT-book-EVEN read-FUT-DEC
 ‘John will read any book.’

c. John-un **etten-chayk-ina** ilk-nun-ta.
 J.-TOP WHAT-book-OR read-GEN-DEC
 ‘John reads any book.’

(6) **etten**-sonnim-i o-a-**to**/**te-lato**/**ke-na**, paykhwacem-un hwanyengha-n-ta.
 WHAT-customer-NOM come-though dept.store-TOP welcome-GEN-DEC
 ‘No matter what kind of customer comes, department stores welcome them.’

Besides the observations in the literature, I note that *wh*-(N) can combine with other particles such as the contrastive particle *-nun* in (7) and the focus particle *-man* ‘only’ in (8) while *amwu-* cannot. See the contrasts in (7) and (8).

- (7) a. emma-nun **nwukwu-nun** ippeha-ko **nwukwu-nun** miweha-ay.
 mom-TOP WHO-CONTRS like-and WHO-CONTRS dislike-DEC
 ‘Mom likes somebody, but dislikes some other.’
- b. *emma-nun **amwu-nun** ippeha-ko **amwu-nun** miweha-ay.¹³
 mom-TOP AMWU-CONTRS like-and AMWU-CONTRS dislike-DEC
- (8) a. John-un **etten-aytul-man** kukcang-ey teylieka-ass-e.
 J.-TOP WHAT-guy-ONLY theater-to take-PAST-DEC
 ‘John took only some guys to the theater.’
- b. *John-un **amwu-aytul-man** kukcang-ey teylieka-ass-e.
 J.-TOP AMWU-guy-ONLY theater-to take-PAST-DEC

Now I will revise the semantic generalizations made for *amwu-* and *wh-* particularly by C. Lee et al. (2000) and Kim and Kaufmann (2006).

2.2.2 Specific reading

First, C. Lee et al. (2000) claim that *amwu*-(N) does not induce a specific reading, contrary to *etten*-N ‘what N’. They report that *amwu*-(*salam*)-*ilato* ‘anyone’ in (9a) is

¹³ *Amwu-kay* is a grammaticalized indefinite noun, meaning “unidentified person” which could translate to “John-dou”, is fine in such contexts. Compared to *wh-* with case marking, *amwu-kay* sounds more specific.

Wuli sensayngnim-un **amwu-kay-nun** ippeha-ko **amwu-kay-nun** miweha-ay.
 Our teacher-TOP AMWU-thing-CONTRS like-and AMWU-thing-CONTRS hate-DEC
 ‘Our teacher likes somebody, and hates somebody.’

never interpreted specifically, whereas *etten-salam-i* ‘what-person-NOM’ in (9b) can be interpreted either specifically or non-specifically.

- (9) a. **amwu-(salam)-ilato** o-myen, John-un Ø panki-n-ta.
 AMWU-(person)-EVEN come-if J.-TOP Ø welcome-GEN-DEC
 ‘If anyone comes, John welcomes him.’
- b. **etten-salam-i** o-myen, John-nun Ø panki-n-ta.
 WHAT-person-NOM come-if J.-TOP Ø welcome-GEN-DEC
 (A) ‘If a person comes, John welcomes him.’
 (B) ‘If some (specific) person comes, John welcomes him.’

However, (9) does not clearly show whether it is *amwu-* or the particle *-lato* ‘even’ that is responsible for the non-specificity because *amwu-* in (9a) combines with the particle *-lato* ‘even’ whereas *wh-* in (9b) combines with the nominative case marker *-i*. If the nominative marker is replaced by *-lato* ‘even’, then the sentence containing *wh-* can only read non-specifically, as in (10).

- (10) **etten-salam-ilato** o-myen, John-un Ø panki-n-ta.
 WHAT-person-EVEN come-if J.-TOP Ø welcome-GEN-DEC
 (A) ‘If a person comes, John welcomes him.’
 (B) ‘If some (specific) person comes, John welcomes him.’

Therefore, we can't tell from the data in (9) whether it is *amwu-* that blocks a specific reading because the particles are not constant.

2.2.3 Scope with respect to negation

Secondly, C. Lee et al. (2000) argue that *amwu-(N)-to/lato/na* do not induce scope ambiguity with other quantifiers or scope-bearing operators. However, their examples are limited to scope relations of *amwu-(N)-to* with respect to negation (shown in (11) below). This section is devoted to exploring scope relations of *amwu/wh*-PSIs with respect to negation. In order to make a pair to see whether a semantic difference is captured between *amwu-* and *wh-*, I first compare *amwu-(N)-to* in C. Lee et al. (2000) with *wh-(N)-to*, which is newly added. Then I compare *amwu-(N)-na* and *wh-(N)-na*, reconsidering Kim and Kaufmann's (2006) claim that *amwu-(N)-na* takes narrow scope under negation while *wh-(N)-na* takes wide scope over negation.

Let us first take a look at C. Lee et al.'s (2000) example, given in (11).

- (11) a. han/twu salam-i o-ci.anh-ass-ta.
 one/two person-NOM come-NEG-PAST-DEC
 (A) 'It is not the case that one/two person(s) came.' $\neg > \text{one/two}$
 (B) 'One/Two person(s) didn't come.' $\text{One/two} > \neg$

- b. **amwu-to** o-ci.anh-ass-ta.
 AMWU-EVEN come-NEG-PAST-DEC
 ‘No one came.’

C. Lee et al. (2000) observe that while (11a) containing numerals is ambiguous between Reading (A) where negation scopes over the numerals and Reading (B) where the numerals take scope over negation, (11b) with the *amwu-* root has only one reading, ‘No one came’. However, it is not clear whether it is to be analyzed as a wide-scope universal (i.e., $\forall > \neg$) or a narrow-scope existential (i.e., $\neg > \exists$).

To make a minimal pair with *amwu-(N)-to*, I add an example of *wh-(N)-to* that corresponds to (11b), as in (12). The difference between (11b) and (12) is subtle. While (11b) simply says that zero persons came, (12) seems to be interpreted in two ways. Under reading (12A), *wh-(N)-to* induces the same reading as *amwu-(N)-to*, where *amwu/wh-(N)-to* function only as operators. Under reading (12B), the sentence reads that there is some specific group of people, and no one out of the group came.

- (12) **nwukwu-to** o-ci.anh-ass-ta.
 WHO-EVEN come-NEG-PAST-DEC
 (A) ‘No one came.’
 (B) ‘No one out of the relevant domain D came.’

Then, one might want to represent Reading (12A) which can be conveyed by both *amwu*-(N)-*to* and *wh*-(N)-*to* as a narrow-scope existential as in (13a), and Reading (12B) which is conveyed only by *wh*-(N)-*to* as a wide-scope existential as in (13b), in which C refers to a contextual variable.

- (13) a. $\neg\exists x[\text{person}(x) \ \& \ \text{came}(x)]$ $\surd_{amwu-to}$ \surd_{wh-to}
 b. $\exists x[(\text{person}(x) \ \& \ C(x)) \ \& \ \neg\text{came}(x)]$ $*amwu-to$ \surd_{wh-to}

Since these representations do not take into account the meaning of the particle *-to* ‘even’¹⁴, the representations do not perfectly capture the interpretations of *amwu*-(N)-*to* and *wh*-(N)-*to*. But for now I will leave them as they are, until the representation is revised in Chapter 6 where we explore the semantics of *-to* ‘even’. The point here is that, for some mysterious reason, *amwu*-(N)-*to* is interpreted under the scope of negation while *wh*-(N)-*to* takes either wide or narrow scope with respect to negation.

Now let us consider Kim and Kaufmann’s (2006) example of *amwu*-(N)-*na* and *wh*-(N)-*na*. Kim and Kaufmann (2006) claim that *wh*-(N)-*na* takes scope over negation while *amwu*-(N)-*na* takes scope under negation, as illustrated in (14). Note that *amwu*-(N)-*na* and *wh*-(N)-*na* correspond to English FCI *any*. However, in (14), although they are not exactly equivalent to a universal quantifier, both of them are paraphrased with *all* due to

¹⁴ If the meaning of *to* ‘even’ is involved, then (13b) is roughly interpreted as “Even the least likely person *x* not to come, out of the relevant domain *D*, didn’t come”, from which one can infer that every one out of the domain didn’t come.

the FCIs' free choice flavor.

- (14) a. ??¹⁵John-un **nwukwu-na** manna-ci.ahn-ass-ta.
 J.-TOP WHO-OR meet-NEG-PAST-DEC
 (A) 'For all x, John did not meet x, regardless of who x is.' $\sqrt{\forall\neg}$
 (B) '*It is not the case that: for all x, John met x, regardless of who x is.' $*\neg\forall$
- b. John-un **amwu-na** manna-ci.ahn-ess-ta.
 J.-TOP AMWU-OR meet-NEG-PAST-DEC
 (A) '*For all x, John did not meet x, regardless of who x is.' $*\forall\neg$
 (B) 'It is not the case that: for all x, John met x, regardless of who x is.' $\sqrt{\neg\forall}$
- (Kim and Kaufmann, 2006:377-378)

I agree that *amwu-(N)-na* in (14b) is only interpreted under the scope of negation like (B).¹⁶ However, I find (14a) to be very marginal if uttered out-of-the-blue. If a contextual restriction is provided, e.g., a salient set of people has been evoked in the discourse, the sentence slightly improves, being ambiguous between (A) and (B) readings of (14a), contrary to Kim and Kaufmann's (2006) judgments.

Taking their judgments at face value, let us take another example. If *wh-(N)-na* occurs as

¹⁵ Kim and Kaufmann (2006) judge (14a) as grammatical. I find the sentence marginal and add the "??" mark.

¹⁶ In Chapter 4, I will show that it is because *amwu-(N)-na* must be under the scope of a volitional agent in order to occur in an episodic sentence. If *amwu-(N)-na* is interpreted under the scope of an agent, then it follows that it gets inside the scope of negation.

a subject as in (15), then the sentence strikingly improves.¹⁷ Moreover, (15) is ambiguous in terms of scope with respect to negation, as shown by (15A) and (15B).

- (15) **nwukwu-na** John-ul manna-ci.ahn-ess-ta.
 WHO-OR J.-ACC meet-NEG-PAST-DEC
- (A) ‘For all x, x did not meet John, regardless of who x is.’ $\sqrt{\forall}\neg$
- (B) ‘It is not the case that: for all x, John met x, regardless of who x is.’ $\sqrt{\neg}\forall$

From the data set of *amwu-(N)-to* and *wh-(N)-to* (see (11b) and (12)) and the set of *amwu-(N)-na wh-(N)-na* (see (14b) and (15)), one might want to conclude that *wh-(N)* is ambiguous with respect to negation and *amwu-(N)* always takes narrow scope with respect to negation. I note that it could be a general tendency of *wh-(N)* and *amwu-(N)*. However, it is not always the case that *amwu-(N)* only takes narrow scope under negation. Consider (16) and (17).

- (16) John-hanthey-nun **etten-moca-na** ewuli-ci.ahn-a.
 J.-to-TOP WHAT-hat-OR go.well-NEG-DEC
- (A) ‘For a general hat x, x does not go well with John’ GEN > $\exists x$ > \neg
- (B) ‘It is not the case that: for a general hat x, x goes well with John.’ \neg > GEN > $\exists x$

¹⁷ This subject vs. non-subject asymmetry detected for *wh-(N)-na* will be accounted for in Chapter 5. In contrast to *wh-(N)-na*, if *amwu-(N)-na* occurs as a subject in an episodic sentence, the sentence is ungrammatical. As I note in Footnote 16, *amwu-(N)-na* needs a volitional agent to occur in an episodic sentence.

- (17) John-hanthey-nun amwu-moca-na ewuli-ci.ahn-a.
 J.-to-TOP AMWU-hat-OR go.well-NEG-DEC
- (A) ‘For a general hat x, x does not go well with John’ GEN > $\exists x$ > \neg
- (B) ‘It is not the case that: for a general hat x, x goes well with John.’
 \neg > GEN > $\exists x$

When *wh*-(N)-*na* and *amwu*-(N)-*na* occur in a generic sentence, both of them are interpreted as generic indefinites. That is, both are interpreted in the restriction of the generic operator, i.e., “GEN > $\exists x$ ” or simply “GEN x ”. As you see in (16) and (17), both of *wh*-(N)-*na* and *amwu*-(N)-*na*, as generic indefinites, can take wide scope over negation as in (A) readings or take narrow scope under negation as in (B) readings. That is, *amwu*-(N)-*na* sometimes takes wide scope over negation.

In conclusion, first, C. Lee et al.’s (2000) claim that *amwu*-PSIs do not exhibit scope ambiguity is too strong a generalization. It is not born out because one of the *amwu*-PSIs, i.e., *amwu*-(N)-*na* can be ambiguous with respect to negation especially in generic contexts (e.g., (17)). Second, Kim and Kaufmann’s (2006) claim that *wh*-(N)-*na* always takes wide scope over negation is not born out either, because *wh*-(N)-*na* is ambiguous with respect to negation, as shown in (15) and (16).

Importantly, we observed a general tendency that *amwu*-(N) takes narrow scope and *wh*-(N) takes either wide or narrow scope with respect to negation. This tendency will be

elaborated on more in section 2.4.

2.2.4 Scalar implicature

Thirdly, C. Lee et al. (2000) claim that *amwu-* induces a scalar implicature on a quantity or a quality scale of likelihood. That is, *amwu-* is considered to evoke a least likely scalar implicature. In their example (18), for instance, *amwu-* is taken to denote the least likely person to be able to do the job.

- (18) **Amwu-lato/-na** ku il-ul ha-l.swu.iss-ta. (C. Lee et al., 2000:6)
AMWU-EVEN/-OR the job-ACC do-can-DEC
'Anyone can do that' = 'Even the least-likely person can do that.'

Kim and Kaufmann (2006) also suggest that *amwu-(N)-na* conveys a scalar implicature while *wh-(N)-na* doesn't. Although they are not clear about whether they have in mind a likelihood scale, their paraphrase of *amwu-(N)-na* involves 'even', as shown in (19).

- (19) **amwu-na** teylie-wa-la.
AMWU-OR bring-come-IMP
'Bring anyone (even if he's an idiot).' (Kim and Kaufmann, 2006: 379)

I agree that only *amwu-*, but not *wh-*, usually conveys a derogatory or pejorative reading

that C. Lee et al. (2000) and Kim and Kaufmann (2006) characterize as a scalar implicature. Now the question is whether such a derogatory reading really comes from *amwu*-‘s denoting a minimal or least-likely value on the likelihood scale, or from another characteristic, namely, domain-widening.

Let us reconsider the domain-widening effect of English *any* proposed in Kadmon and Landman (1993). Consider their example, repeated in (20).

- (20) a. I don't have potatoes.
b. I don't have ANY potatoes.

According to Kadmon and Landmann (1993), *ANY potatoes* in (20b), compared with the plain indefinite *potatoes* in (20a), widens the relevant domain maximally along a contextual dimension. As a result, *ANY potatoes* includes contextually marginal entities like rotten potatoes, yielding something similar to the derogatory reading. However, the contextual marginality is not necessarily equivalent to the least-likely reading, as Rullmann (1996) puts as follows:

“Although the proposals by Kadmon and Landman (1993) and Lee and Horn (1994) are similar in certain ways, they also differ in some respects. In K&L's analysis, the notion of scale does not play any role. Widening just refers to the replacement of the set denoted by the CN by a superset; the elements of these sets do not have to be ordered on a scale. In K&L's theory there also is no sense in which *any* is associated

with an endpoint of a scale.” (Rullmann, 1996: 336)

In the spirit of Rullmann (1996), I distinguish the effect coming from domain-widening from the effect stemming from the likelihood scale of items like *even*. In this chapter, I argue that the inherent contribution of the *amwu-* root is to induce maximal domain-widening, as suggested in Choi (2005). Whether this widened domain is construed as the bottom of some scale depends on the particle that *amwu-* combines with: if it combines with *-to/-lato* ‘even’, it is interpreted as denoting a minimal value, whereas if it combines with *-na* ‘or’, there is no scale involved. Sometimes this domain-widening produces similar effects to the one with the least-likely of *even*, as Rullmann (1996) remarks. Nevertheless, some contexts can show that the real difference between *amwu-* and *wh-* is while *wh-* ranges over a regular domain, *amwu-* induces maximal domain-widening, similar to *any* in Kadmon and Landman (1993). In the next section 2.3, I will present those contexts that strongly suggest the domain-widening function of *amwu-*.

Since the shortcomings found in C. Lee et al.’s (2000) and Kim and Kaufmann’s (2006) proposals originate either from the fact that they mix up the contributions of the indefinite roots (*amwu-* and *wh-*) and the ones of the particles, or from the fact that they consider limited items in limited environments, I will make a comparison of *amwu-* and *wh-* on the basis of all other factors (especially the particles) being constant. Also, I will consider various contexts where each pair of PSIs shows contrast, i.e., modal contexts, existential sentences, and rhetorical questions.

2.3. Proposal: Korean *amwu* as a proper domain-widening indefinite

As suggested in Choi (2005), I argue in this dissertation that *amwu*- is a domain-widening indefinite. I will briefly summarize Kadmon and Landman's (1993) domain-widening effects of English *any*, and then present three sets of evidence suggesting that *amwu*- widens the domain maximally along some contextual dimension while *wh*- ranges over a regular or contextually salient domain.

2.3.1 Domain-widening of English *any*: Kadmon and Landman (1993)

Kadmon and Landman (1993) account for the difference between plain indefinites like “a CN” and the domain-widening indefinite “*any* CN” as follows. The generic sentence (21a) that contains a plain indefinite is interpreted as: “Every possible owl with the right/normal properties hunts mice”. *An owl* is considered to range over a regular domain, that is, a set consisting of owls with the regular/normal properties.

- (21) a. An owl hunts mice.
b. Every owl, which is normal, hunts mice.

Sentence (22a) that contains *any owl* instead of *an owl* has a domain-widening effect applied to it. Then the normality is defined in a broader sense, as shown in (22b).

- (22) a. Any owl hunts mice.
 b. Every owl, which is “normal” in a widened sense, hunts mice.

To see how to obtain the broader/widened definition of normality with domain-widening, imagine a “HEALTHY-SICK” dimension. Before widening as in (23a), the property of being healthy is included to define the normality of an owl, as represented in (23b).

- (23) Before widening
 a. An owl hunts mice.
 b. $\forall \uparrow X_{\text{owl}} (\text{Healthy owl}) (\text{Hunts mice})$
 c. Every owl that is “normal” – in a sense that includes being healthy - hunts mice.

After domain-widening is applied by *any* as in (24a), then the property of being healthy is eliminated from defining the domain, as in (24b). In their terms, *any* induces minimally changing the relevant domain X_{owl} so as to make both HEALTHY and SICK compatible with “normal”. In the end, *any* ranges over a widened domain than plain indefinites. That is, the set denoted by “a CN” is replaced by a superset when “a CN” is replaced by “any CN”. The choice of the superset is determined by contextual factors.

- (24) After widening
 a. Any owl hunts mice.
 b. $\forall \uparrow X_{\text{owl, healthy or sick}} (\text{Owl, healthy or sick}) (\text{Hunts mice})$

- c. Every owl that is “normal”- in a sense that it is compatible with being healthy or being sick - hunts mice.

2.3.2 Evidence for domain-widening of *amwu*-

In this section, I present three pieces of evidence that strongly suggest that *amwu*- induces domain-widening, which is proposed for English *any* in Kadmon and Landman (1993).

2.3.2.1 *Wh*- as denoting a salient domain vs. *amwu*- denoting a widened domain

I first note that *wh*-(N) is usually linked to a contextually salient domain while *amwu*-(N) is not restricted to such a salient domain. Consider the scenario in (25).

(25) Mother: You’ve been having a lot of blind dates so far. Now is the time to decide.

John: Well, I met Ann and Betty who are doctors, and Cathy who is a nurse and
Dianna and Fiona who are professors,
but I haven’t made up my mind.

Under the scenario (25), suppose the mother thinks being a doctor is better than any other job and says one of the sentences in (26) and (27). In sentences (26), the particle *-na* ‘or’ is kept constant: it combines with *wh*-(N) in (26a), and with *amwu*-(N) in (26b). In

sentences (27), the particle *-lato* ‘even’ is constant: it combines with *wh*-(N) in (27a), and with *amwu*-(N) in (27b).

- (26) a. (ne- nun) **etten/enu-uysa-hako-na** kyelhonhay-to.kwaynchanh-e.
 you-TOP WHAT/WHICH-doctor-with-OR marry-can-DEC
 ‘ You are allowed to date any doctor (of those you have been dating).’
- b. (ne- nun) **amwu- uysa- hako- na** kyelhonhay-to.kwaynchanh-e.
 you-TOP AMWU-doctor-with-OR marry-can-DEC
 ‘ You are allowed to marry any doctor.’

- (27) a. (ne- nun) **etten/enu-uysa-hako-lato** kyelhonhay-to.kwaynchanh-e.
 you-TOP WHAT/WHICH-doctor-with-EVEN marry-can-DEC
 ‘ You are allowed to date any doctor (of those you have been dating).’
- b. ne- nun **amwu- uysa- hako- lato** kyelhonhay-to.kwaynchanh-e.
 you-TOP AMWU-doctor-with-EVEN marry-can-DEC
 ‘ You are allowed to marry any doctor.’

Empirically, regardless of whether *wh*-(N) combines with *-na* ‘or’ (26a) or *-lato* ‘even’ (27a), *wh*-(N) conveys that the mother gives John permission to marry one out of the two doctors that John has had a blind date with, namely, Ann and Betty. In contrast, in the cases where *amwu*-(N) combines with *-na* ‘or’ (26b) or *-lato* ‘even’ (27b), the mother is not committed to the two doctors but gives John the more general permission to marry a

doctor and all possible doctors are a marriage option for John.

In (26), we still cannot distinguish whether *amwu*-(N) induces domain-widening or denotes the least-likely alternative to give rise to the contrast in (26). However, we can learn from (27) that it is something other than denoting the least-likely alternative that is responsible for the contrast in (27).

First, both of the sentences in (27) carry a likelihood scale due to the scalar focus particle *-lato* ‘even’ combined with the indefinites in the sentences. Second, assuming that both *amwu*-(N) and *wh*-(N) are indefinites, both of them are supposed to denote the bottom of the scale. Nevertheless, there is still the difference between *amwu*-(N) and *wh*-(N) with respect to the size of the domain (i.e., a contextually salient domain vs. a broader domain).

Wh-(N) refers to a set of individuals that are mentioned in the discourse, that is, a contextually salient set. Compared to *wh*-(N), *amwu*-(N) is not limited to the salient set, but ranges over a superset of the salient set. Therefore, it must be the case that while *wh*-(N) is linked to a contextually salient domain, *amwu*-(N) induces a maximal widening of the domain.

2.3.2.2 Existential sentences

Now consider the sentences in (28), a minimal pair with the particle *-to* ‘even’.

- (28) a. *sensayngnim-un kyosil-ese* **amwu-to** *po-ci.mos.ha-ass-ta.*
 teacher-TOP classroom-LOC AMWU-EVEN see-NEG-PAST-DEC
 ‘The teacher didn’t see anyone in the classroom.’
- b. *sensayngnim-un kyosil-ese* **nwukwu-to** *po-ci.mos.ha-ass-ta.*
 teacher-TOP classroom-LOC WHO-EVEN see-NEG-PAST-DEC
 ‘The teacher didn’t see anyone in the classroom.’

Assuming that the particle *-to* is a Korean counterpart to English *even* and both *amwu-* and *wh-* are indefinites, (28) shows that not only *amwu-(N)* but also *wh-(N)* denotes a minimal value (i.e., “one person”, as opposed to “two persons” or “many persons”) on the likelihood scale presupposed by the particle *-to* ‘even’. Consequently, both of the sentences, literally meaning “The teacher didn’t see even one person in the classroom”, convey that “The teacher saw no one in the classroom”.

Now observe the contrast between *amwu-(N)-to* and *wh-(N)-to* in an existential sentence as in (29).

- (29) a. *kyosil-ey* **amwu-to** *eps-e.*
 classroom-LOC AMWU-EVEN not.exist-DEC
 ‘There isn’t anyone in the classroom.’
- b. **kyosil-ey* **nwukwu-to** *eps-e.*
 classroom-LOC WHO-EVEN not.exist-DEC

While *amwu*-(N)-*to* is grammatical in an existential sentence like (29a), *wh*-(N)-*to* is very marginal as in (29b). Given that both *amwu*-(N) and *wh*-(N) are associated with a minimal value in a negative sentence, how can we account for the contrast in (29)?

It is well known that weak determiners, but not strong determiners can occur in an existential sentence, as exemplified by the contrast in (30) (Milsark 1977; Barwise and Cooper 1981).

- (30) a. There is (are) one/many/some book(s) on the table.
b. *There is (are) most/all/every/that/his book(s) on the table.

Furthermore, weak quantifiers are argued to be ambiguous between a proportional (partitive) reading and a cardinal (non-partitive) reading (Milsark 1974, 1977). For instance, the weak quantifier *some superheroes* in (31) can be given two interpretations, as in (32a) and (32b).

- (31) Some superheroes are playing in our neighbor's garden.
- (32) a. Some of the superheroes are playing in our neighbor's garden.
b. Some number of superheroes are playing in our neighbor's garden.

On the so-called proportional reading, *some* is considered to be equivalent to the partitive “some of the superheroes”, as in (32a). On the cardinal reading, *some superheroes* means “some in number”, and is not paraphrased with a partitive, as shown in (32b).

Note importantly that the indefinite *some superheroes* cannot take on the proportional or partitive reading in an existential sentence, as illustrated in (33). It is only interpreted on the cardinal reading.

- (33) There exist some superheroes.
≠ Some of the superheroes exist, as opposed to others.
= Some number of superheroes exist.

The blockage of the partitive reading in an existential sentence seems to have something to do with the marginality of *wh-(N)-to* in an existential sentence like (29b). If we assume that *wh-(N)-to* in (29b) takes on the strong or partitive reading while *amwu-(N)-to* in (29a) takes on the cardinal reading, the contrast in (29) can be accounted for on the same grounds as in (33). That is, the two sentences in (29) are paraphrased as in (29' a) and (29' b) below. Due to the conflict of the partitive reading of *wh-(N)-to* in an existential sentence, *wh-(N)-to* is judged marginal.

- (34) a. Jane-un **nwukwu-hako-lato** kyelhonha-yahan-ta.
 J.-Top WHO-with-EVEN marry-must-DEC
 √ ?>\$: ‘Jane has to marry a man, whose identity does not matter’
 √ \$>? : ‘Some person(s) is such that Jane has to marry, the speaker doesn’t care
 who it is.’
- b. Jane-un **amwu-hako-lato** kyelhonha-yahan-ta.
 J.-Top AMWU-with-EVEN marry-must-DEC
 √ ?>\$: ‘Jane has to marry a man, whose identity does not matter’
 * \$>?

While *wh*-(N)-*lato* can take either narrow scope under the necessity modal or wide scope over the modal as in (34a), *amwu*-(N)-*lato* can only be interpreted inside the scope of the modal, as shown in (34b). Recall this scope pattern coincides with the tendency noted in 2.2.3 that *amwu*-(N) tends to take narrow scope (with respect to negation) whereas *wh*-(N) takes either wide or narrow scope.

On the wide scope reading in (34a), *wh*-(N)-*lato* indicates that there is some group of people in the actual world, and that Jane has an obligation to marry one of them. Calling it a *de re* reading, *amwu*-(N)-*lato* lacks such a *de re* reading, and is only interpreted as *de dicto*: “Jane has an obligation to marry a man, any man can be a marriage option for her”.

This scope pattern of *wh*-(N) is, first, in a way similar to Musolino and Gualmini’s (2004)

observation that NPs with a specific domain (e.g., partitives) can take wide scope more easily than NPs without a specific domain. For instance, the partitive indefinite *two of the birds* is easily construed as taking wide scope over negation whereas the non-partitive indefinite *two birds* in (35b) is hard to be interpreted as taking wide scope.

- (35) a. The Smurf didn't catch two of the birds.
b. The Smurf caught all the cats but she didn't catch two birds.

(Musolino and Gualmini, 2004)

Secondly, the contrast between *wh-(N)-lato* and *amwu-(N)-lato* in (34) seems related to the contrast in (36). *Which problem* can make a long-distance movement as in (36a) whereas *how* can't as in (36b).

- (36) a. Which problem were you wondering whether to tackle?
b. *How were you wondering which problem to tackle?

This contrast has been attributed to the referentiality of *wh*-phrases. That is, so-called referential or d-linked *wh*-phrases like *which problem* can move long-distance whereas non-referential or non-d-linked *wh*-phrases like *how* cannot (Rizzi 1989; Cinque 1989; Kroch 1989). Cinque's (1989) definition of referential or d-linked phrases is the following: d-linked *wh*- phrases refer to members of a set that has been evoked in the discourse, while non-d-linked *wh*- phrases, being operators, make no such reference.

His distinction of being referential vs. non-referential seems to apply to our analysis of “ranging over a contextually salient domain” vs. “domain-widening”. The contrast in (36) is taken to show that *wh*-phrases that range over a specific domain can move to the sentence-initial position to form a question, while *wh*-phrases that do not link to a specific domain are blocked from making a long movement. This contrast in a way suggests that Korean *amwu*-, which is blocked from taking wide scope, must be non-referential, i.e., it ranges over a non-specific or open/widened domain.

In conclusion, these three sets of data strongly suggest that *amwu*- ranges over an open or widened domain while *wh*- ranges over a regular or specific domain.

2.4 More examples

2.4.1 Contextual marginality of *amwu*-

I provide more examples to show the domain-widening property of *amwu*- in this section.

Very intuitive evidence comes from sentences like (37a).

(37) a. Ku il-un nwukwu-na ha-l.swu.iss-ciman,

The job-TOP WHO-OR do-can-but

amwu-na ha-l.swu-iss-ci.ahn-ta.

AMWU-OR do-can-NEG-DEC

‘(Lit.) As for the job, anyone can do it, but not just ANYone can do it.’

b. #Ku il-un amwu-na ha-l.swu.iss-ciman,

The job-TOP AMWU-OR do-can-but

nwukwu-na ha-l.swu.iss-ci.ahn-ta.

WHO-OR do-can-NEG-DEC

‘(Lit.) As for the job, just ANYone can do it, but not everyone/anyone can do it.’

Sentences in (37) indicate that the domain of *amwu-(N)-na* is wider than the domain of *wh-(N)-na*. While *wh-(N)-na* only includes normal people, i.e. people who received a college education with average I.Q., etc., *amwu-(N)-na* ranges over a larger domain that includes contextually marginal people as well, that is, people who have not received any education or are severely handicapped. If the positions for *wh-(N)-na* and *amwu-(N)-na* are switched as in (37b), the sentence does not make sense.

2.4.2 Rhetorical questions

Borkin (1971) and Heim (1984) observed that while NPIs like *any* and *ever* can be used in information-seeking questions in (38a), NPIs like *lift a finger* always give a rhetorical reading to a question, as shown in (38b).

(38) a. Did John give any help to Mary?

b. Did John lift a finger to help Mary? (rhetorical reading only.)

Rhetorical questions are described as assertion of the opposite polarity to that of the question, rather than as ordinary information-seeking questions. Van Rooy (2003) proposes that the rhetorical effects of so-called minimizers like *lift a finger* come from the combination of the scalar presupposition of (hidden) *even* and their denoting a minimal value. In other words, the presupposition of (hidden) *even* needs to associate with a ridiculously small amount to convey the rhetorical meaning.

Choi (2005) notes that in Korean, rhetorical questions with the rhetorical-Q morpheme *-kessni* can be formed with *amwu-(N)*, but not with *wh-(N)*, as in (39).¹⁸

- (39) a. John-i **amwu-towum-ilato** cwu-ess-kessni?
 John-NOM AMWU-help-EVEN give-PAST-RHEQ
 ‘Did John lift a finger to help (somebody)?’ (John must have done nothing.)
- b. *John-i **etten-towum-ilato** cwu-ess-kessni?
 John-NOM WHAT-help-EVEN give-PAST-RHEQ

The ungrammaticality of (39b) seems to indicate that it is not enough to pick a minimal

¹⁸ In some contexts, a question that ends with *-kessni* can be ambiguous between an information-seeking question or a rhetorical question when *wh-(N)-lato* is used in the question, as shown in (a). In contrast, *amwu-(N)-lato* is always interpreted as negative-biased, not inducing ambiguity.

- a. John-i **mwues-ilato** mek-ess-kessni?
 John-NOM WHAT-EVEN eat-PAST-RHEQ
 (i) ‘Did John eat anything?’
 (ii) ‘Did John eat a single bite?’
- b. John-i **amwu-kes-ilato** mek-ess-kessni?
 John-NOM WHAT-EVEN eat-PAST-RHEQ
 ‘Did John eat a single bite?’

value on a relatively small scale which consists of the entities out of a regular or specific domain. To induce the rhetorical effect that John did nothing to help somebody, the scale must be stretched maximally and a ridiculously small amount must be associated with – *lato* ‘even’. That is, *amwu-*’s domain-widening is necessary to induce the rhetorical effect.

2.5 Conclusion and discussion

2.5.1 Conclusion

In this chapter, I argued that *amwu-* induces domain-widening as proposed for English *any* in Kadmon and Landman (1993), and that *wh-(N)* ranges over a regular or specific domain.

Wh-(N) usually denotes a set of normal individuals, as shown in (40), repeated from (37a).

Here *wh-(N)-na* ranges over normal people.

(40) Ku il-un **nwukwu-na** ha-l.swu.iss-ciman,

The job-TOP WHO-OR do-can-but

amwu-na ha-l.swu.iss-ci.ahn-ta.

AMWU-OR do-can-NEG-DEC

‘(Lit.) As for the job, anyone can do it, but not just ANYone can do it.’

In Korean, an article-less language, the domain restriction of a quantifier is made implicitly, without being explicitly specified by a relative clause or a postpositional clause. In the same vein, *wh*-(N) gets easily restricted by a contextually salient domain, and behaves like a partitive indefinite, as illustrated in (41), repeated from (26a). *Wh*-(N)-*na* in this case ranges over the doctors that you have been dating.

- (41) (ne- nun) etten/enu-uysa-hako-na kyelhonhay-to.kwaynchanh-e.
 you-TOP WHAT/WHICH-doctor-with-OR marry-can-DEC
 ‘You are allowed to date any doctor (of those you have been dating).’

In contrast to *wh*-, *amwu*- widens the domain along a contextual dimension. For instance, in (42), *amwu-pwueng-ina* ‘*amwu*-owl-or’ includes not only healthy owls but also sick owls, with the HEALTHY/SICK dimension taken into consideration.

- (42) amwu-pwueng-ina cwi- lul cap-nun-ta.
 AMWU-owl-OR mice-ACC catch-GEN-DEC
 ‘Any owl, healthy or sick, catches mice.’

Furthermore, the domain-widening of *amwu*- is sometimes so maximal that *amwu*-expressions convey a derogatory or pejorative reading, as exemplified by (40) above and by the rhetorical question in (43). In (40), *amwu*-(N) includes contextually marginal individuals that are considered as being below norm, such as an idiot. In (43), *amwu*-(N)

denotes a ridiculously minimal amount on the likelihood scale introduced by the particle *-lato* ‘even’. This pejorative or derogative reading can be seen as similar effects to the ones with the least-likely reading of *even*.

- (43) John-i amwu-towum-ilato cwu-ess-kessni?
 John-NOM AMWU-help-EVEN give-PAST-RHEQ
 ‘Did John lift a finger to help somebody?’ (John must have done nothing.)

2.5.2 Discussion

Given these semantic characteristics of the indefinite roots *amwu-* and *wh-*, the upcoming chapters will be concerned with exploring the contributions of each particle *-to* ‘also/even’, *-lato* ‘even’, and *-na* ‘or’. Before moving on to the next chapter, I would like to describe a general picture about the roles of the particles, in relation to the notion of domain-widening.

In Chapter 1, we summarized that the notion of the domain-widening function proposed in Kadmon and Landman (1993) has been adopted in many subsequent studies on polarity sensitivity, such as Kratzer and Shimoyama (2002) and Chierchia (2002, 2005). I point out that in the literature on domain-widening, two different functions are subsumed under the notion of domain-widening. The first function is what I call “**proper widening**”. This is the one that Kadmon and Landman (1993) originally suggested as the property of

English *any*. Repeating what we have discussed in this chapter, the sentence *Any owl hunts mice* indicates that contextually marginal owls such as sick owls are also taken into account, whereas the indefinite *an owl* in *An owl hunts mice* only includes healthy owls. As a result, the domain ranged over by *any owl* is larger than the domain ranged over by *an owl*. The former is a superset of the latter.

The other one that is subsumed under the category of domain-widening is what I call “**no singling out**”¹⁹ (Jayez and Tovenà, 2005). Consider the following.

- (44) a. You can pick a card.
b. You can pick any card.

Suppose that the sentences in (44) are uttered in a card game. Since the number of cards that are played within a card game is fixed, and it is hard to imagine a marginal card given that all the cards are the same in quality, there is no room for “proper widening” in this context.

Then, what would be the difference between (44a) and (44b)? By using *any card* over *a card*, the speaker intends to convey that every card of the set is taken into account. That is, any particular member or any particular subset of the members of the contextual domain D is not singled out (Chierchia 2002, 2005, Jayez and Tovenà 2005). Plain existential *a card* does not have this kind of meaning, and thus *a card* can easily exclude a subset of D.

¹⁹ Thanks to Anthony Kroch for pointing this out to me.

Therefore, (44a) can continue with the speaker's pointing out a specific card as in (45a), but (44b) cannot as in (45b) because the continuation contradicts the “no singling out” of *any*.

- (45) a. You can pick a card, namely, this card. (Anthony Kroch, p.c.)
 b. *You can pick any card, namely, this card.

This “no singling out” is exactly what Kratzer and Shimoyama (2002) think to be domain-widening, whose insight is followed by Chierchia (2005). For Kratzer and Shimoyama (2002), domain-widening of FCIs is very similar to the one of disjunction. The existential quantificational force of German FCI *irgendein* turns into a universal in modal contexts, just as disjunction reads as conjunction in some modal contexts. The “no singling out” function which is what they consider domain-widening is formalized as the “distribution requirement” in (46).

(46) Distribution Requirement

$$\{\lambda w'. \forall p[p \in [[IP]]^{w'.g} \rightarrow \exists w''[w'' \text{ is accessible from } w' \ \& \ p(w'')=1]]\}$$

The distribution requirement is paraphrased as: “For every propositional alternative created by FCIs like *irgendein*, there should be an accessible world introduced by a modal”. With this distribution requirement, (44b) can be interpreted as: “For every card *x*, you are allowed to pick *x*”.

These two functions, namely, “proper widening” and “no singling out” seem to have been considered inalienable in the previous literature. In this dissertation, I suggest that the two functions can be distinguished in Korean. I have proposed in this chapter that the indefinite root *amwu-* induces the “proper widening”, à la Kadmon and Landman (1993). In the upcoming chapters, I will show that the “no singling out” function is carried out by the inherent meaning of the particle *-na* ‘or’ (as a presupposition), and that a similar effect to the “no singling out” function is also obtained as a by-product of the scalar meaning of the particles *-to* ‘also/even’ and *-lato* ‘even’. In particular, Chapter 3 is devoted to the semantics of *-na* ‘or’, and Chapter 6 is concerned with the focus semantics of *-to* ‘also/even’ and *-lato* ‘even’.

Given the fact that *wh*-PSIs, which lack “proper widening”, still function as polarity sensitive items, I suggest that proper-widening or domain-widening is not a necessary condition of NPI-hood or FC-ness. I also propose that what forms the common core of polarity sensitivity is the “no singling out” meaning, which is contributed by the particles *-to/-lato/-na* in Korean.

Note, however, that the two functions, that is, “proper widening” and “no singling out”, are closely related in the following two respects. First, in many languages, where there is no overt morphology for “proper widening”, the two functions are usually carried out by the same morpheme (e.g., English *any*). In addition, the two functions are closely related in Korean, too, as we can see from the restricted distribution of *amwu-*. That is, the

“proper domain-widening” root *amwu-* must be combined with one of the particles that induce “no singling out”, i.e., *-to/-lato/-na*; otherwise, *amwu-* is not acceptable (see (1)-(3)).

Chapter 3 Free Choice from the Disjunctive

Particle *-NA* ‘or’

3.1 Introduction

In Chapters 3, 4 and 5, I present a unified and compositional analysis of *amwu*-(N)-*na* and *wh*-(N)-*na*, where the disjunctive particle *-na* ‘or’ combines with the indefinite roots *amwu*- and *wh*-. This chapter is particularly concerned with identifying the source(s) for their FC-ness. I will propose that the FC-ness of *amwu*-(N)-*na* and *wh*-(N)-*na* comes solely from the particle *-na*, not from any combination of (some of) the indefinites (i.e., *amwu*- and *wh*-) and the particle, and explore the semantic nature of the *-na* source by comparing it with English *-ever* free relatives (FRs).

As a basis for such proposal, section 3.2 shows that both *wh*-(N)-*na* and *amwu*-(N)-*na* are free choice items by presenting several pieces of evidence. I argue that their FC-ness stems from their common part, the particle *-na*, but not from any other factors such as domain-widening of *amwu*-. In 3.3, I propose that the semantic property of the particle *-na* is to convey that there is an essential link between the property of the NP headed by *-na* and the VP property. In 3.4, this essential property is shown to be equivalent to the contribution of *-ever* in (a subtype of) *-ever* FRs in English, and then is characterized as the presupposition of variation that is proposed for *-ever* in von Stechow (2000). We

extend von Fintel's (2000) analysis to Korean *-na*-based FCIs and shows that the essential link and the FC-ness of the *-na*-FCIs follow from the presupposition of variation triggered by the particle *-na*. Section 3.5 recapitulates and adds further comments to the common properties that the *-na*-FCIs and indifference *-ever* FRs share with each other. Section 3.6 is a summary of Chapter 3.

In order to make these points, I will start by reviewing some of the previous approaches to *amwu*-(N)-*na* and/or *wh*-(N)-*na*.

3.2 *-Na* 'or' is the culprit for free choiceness

In this section, I argue that the free choice flavor of both *amwu*-(N)-*na* and *wh*-(N)-*na* comes solely from the particle *-na*, and not from the domain-widening of *amwu*- or any combination of one of the indefinite roots (i.e., *amwu*- and *wh*-) and the particle. In order to make this point, I will first demonstrate that *wh*-(N)-*na* as well as *amwu*-(N)-*na* is a free choice item by presenting several pieces of evidence.

3.2.1 Is *wh*-(N)-*na* a universal quantifier or an FCI?

In the previous literature, while it has been taken for granted that *amwu*-(N)-*na* is an FCI (Y. Kim 1993; C. Lee 1997; Y. Lee 1999), the most wide-spread view on *wh*-(N)-*na* has been that it is a universal quantifier, rather than a free choice (Y. Lee 1999; Ohno 1991; D.

Chung 1996).²⁰ Following Nishigauchi's (1990) treatment of Japanese *-mo* 'also', Ohno (1991) states that the particle *-na* is an unselective binder that provides universal quantification for indefinites like *wh-*. Y. Lee (1999) argues that *wh-(N)-na* is a distributive universal quantifier with example (1).²¹ In (1a), the collective predicate *moi-* 'gather' co-occurs with the universal quantifier *mot(w)u-* 'all' that is placed in a floated position. However, *nwukwu-na* 'who-or' cannot appear with the predicate in the same position. This incompatibility of *wh-(N)-na* leads to the claim that it is distributive.

- (1) a. haksayngtu-l-i **motwu** moi-ess-ta.
 student-NOM ALL gather-PAST-DEC
 'Students all gathered.'
- b. *haksayngtu-l-i **nwukwu-na** moi-ess-ta.
 student-NOM WHO-OR gather-PAST-DEC
 '(Lit.) Students whoever gathered.'

There are only a few researchers like C. Lee (1997) and Kim and Kaufmann (2006) who categorized *wh-(N)-na* as an FCI. C. Lee (1997) describes *wh-(N)-na* as being a universal FCI that prefers modal contexts. Kim and Kaufmann (2006) simply assume that *wh-(N)-na* is an FCI on the grounds that it translates into *any* in English. However, neither of them presents a sufficient amount of evidence to support that *wh-(N)-na* is not merely a

²⁰ I myself took this position in Choi (2005).

²¹ Y. Lee (1999) speculates that *wh-(N)-na* historically started as a free choice, and then was grammaticalized as a universal quantifier. Y. Lee (1999) sees that the particle *-na* relates to the likelihood scale in Fauconnier (1979).

universal quantifier; but a free choice item.

Now I am going to demonstrate that *wh*-(N)-*na* as well as *amwu*-(N)-*na* is a free choice item by comparing them with the regular universal quantifier *mot(w)u*- ‘every, all’ in Korean. This will lead us to converge on the argument that the FC-ness of both *wh*-(N)-*na* and *amwu*-(N)-*na* comes from their common part, i.e., the particle *-na* ‘or’. That is, it is incorrect to claim that while *amwu*-(N)-*na* is a free choice, *wh*-(N)-*na* is a universal quantifier and that the free choiceness of *amwu*-(N)-*na* comes from its domain-widening action.

3.2.2 Both *amwu*-(N)-*na* and *wh*-(N)-*na* ARE free choice items

In this section, I present three kinds of evidence to support that both of the *-na*-based items convey FC-ness: essential link, vague quantificational force and restrictions on licensing environments. I show that *amwu*-(N)-*na* and *wh*-(N)-*na* pattern alike with each other and behave different from the regular universal quantifier *mot(w)u*- ‘every, all’ in those three dimensions.

3.2.2.1 Essential link

Among the semantic similarities of *amwu*-(N)-*na* and *wh*-(N)-*na*, the first thing I note is that both *amwu*-(N)-*na* and *wh*-(N)-*na* convey that there exists an essential link between

the denotation of the NP headed by *-na* and the remainder of the sentence (cf. Kim and Kaufmann, 2006). For example, both (2a) and (2b) convey that there is an essential or causal link between “being a five-year-old kid” and “being allowed/able to solve it”. The sentences can be paraphrased as: “As long as a kid (out of a domain D) is five years old, the kid is allowed/able to solve the problem.”

- (2) a. **amwu-tasus-salccali-na** ku mwuncey-lul phul-swu.iss-e.
 AMWU-five-year-OR that problem-ACC solve-can-DEC
 ‘Just any five-year-old can solve the problem.’
- b. **etten-tasus-salccali-na** ku mwuncey-lul phul-swu.iss-e.
 WHAT-five-year-OR that problem-ACC solve-can-DEC
 ‘Any five-year-old can solve the problem.’

The only difference between (2a) and (2b) lies in the size of the domain for *amwu*-(N) and *wh*-(N). As we have seen in Chapter 2, *amwu*-(N) triggers domain-widening effects, whereas *wh*-(N) ranges over a regular or contextually salient domain. Thus, *amwu*-(N)-*na* can take into account contextually marginal entities such as mentally retarded five-year-old kids. As a result, the domain for *amwu*-(N)-*na* is larger than the one for *wh*-(N)-*na*. The domain-widening effect of *amwu*- is usually expressed by an emphatic marker like *just* in English translation.

In contrast to this, a case-marked universal quantifier phrase like *motun-tasus-salccali-ka* ‘every five-year-old (kid)-NOM’ does not necessarily convey the essential or causal link, as shown in (3).

- (3) motun-tasus-salccali-ka ku mwuncey-lul phuł-swu.iss-e.
 ALL-five-year-NOM that problem-ACC solve-can-DEC
 ‘Every five-year-old can solve the problem.’

According to Dayal (1998), English FCI *any* can only appear in non-accidental generalization, but not in accidental statements, as given in (4). In (4a), the interpretation is “being in Mary’s semantics seminar” and “writing a paper on NPIs” are in a non-accidental, namely, essential relation to each other. However, in (4b), it is hard to imagine from world knowledge that there is an essential relation between “being in Mary’s Field Methods course” and “writing a paper on NPIs” which cannot be a topic of a Field Methods course. *Any* is fine in (4a), but not in (4b). The oddness of (4b) leads us to think that there is an incompatibility between the essential nature of *any* and expressing an accidental generalization with *any*. Plain universal quantifier *every* does not exhibit such contrast, as illustrated in (5). (5b) is good as an accidental generalization.

- (4) a. Anybody who is in Mary’s semantics seminar is writing a paper on NPIs.
 b. #²²Anybody who is in Mary’s Field Methods course is writing a paper on NPIs.

²² Dayal (1998) marked this sentence with an asterisk.

- (5) a. Everybody who is in Mary's semantics seminar is writing a paper on NPIs.
 b. Everybody who is in Mary's Field Methods course is writing a paper on NPIs.

Turning to Korean cases, *amwu-(N)-na* and *wh-(N)-na* are fine in non-accidental generalizations like (6), but sound odd in accidental generalizations, as in (7).

- (6) a. uymilon-ul tul-un **amwu-haksayng-ina**
 Sem.-ACC took-REL AMWU-student-OR
 NPI-ey.tayhan nonmwun-ul ssu- n-ta.²³
 NPI-on paper-ACC write-GEN
 'Just anybody who has taken a semantics class writes a paper on NPIs.'
- b. uymilon-ul tul-un **etten-haksayng-ina**
 Sem.-ACC took-REL WHAT-student-OR
 NPI-ey.tayhan nonmwun-ul ssu- n-ta.
 NPI-on paper-ACC write-GEN
 'Anybody who has taken a semantics class writes a paper on NPIs.'

²³ The reason I changed the Korean counterpart of Dayal's example into a generic sentence is that *amwu-(N)-na* is not grammatical in episodic sentences if there is no volitional agent available for *amwu-(N)-na*. The correlation of *amwu-(N)-na* and agentivity will be dealt with in Chapter 5.

- (7) a. #kwuksa-lul tul-un **amwu-haksayng-ina**
 history-ACC took-REL AMWU-student-OR
 NPI-ey.tayhan nonmwun-ul ssu-n-ta.
 NPI-on paper-ACC write-GEN
 ‘Anybody who has taken a history class writes a paper on NPIs.’
- b. #kwuksa-lul tul-un **etten-haksayng-ina**
 history-ACC took-REL WHAT-student-OR
 NPI-ey.tayhan nonmwun-ul ssu-n-ta.
 NPI-on paper-ACC write-GEN
 ‘Anybody who has taken a history class writes a paper on NPIs.’

In contrast, the regular universal quantifier *mot(w)u-* ‘all, every’ can occur in both the non-accidental and accidental generalizations, as given in (8).

- (8) a. uymilon-ul tul-un **motun-haksayng-i**
 sem.-ACC took-REL ALL-student-NOM
 NPI-ey.tayhan nonmwun-ul ssu-n-ta.
 NPI-on paper-ACC write-GEN
 ‘Everybody who has taken a semantics class writes a paper on NPIs.’

b. kwuksa-lul tul-un motun-haksayng-i

history-ACC took-REL ALL-student-NOM

NPI-ey.tayhan nonmwun-ul ssu-n-ta.

NPI-on paper-ACC write-GEN

‘Everybody who has taken a history class writes a paper on NPIs.’

So far, I have demonstrated that regardless of whether there are domain-widening effects (triggered by *amwu-*) or not, both *amwu-(N)-na* and *wh-(N)-na* convey an essential link between the denotation of the NP headed by the particle *-na* and the remainder of the sentence. Note that if the particle *-na* is eliminated, then the essential link goes away. Consider (9).

(9) a. *uymilon-ul tul-un amwu-haksayng-i

Sem.-ACC took-REL AMWU-student-NOM

NPI-ey.tayhan nonmwun-ul ssu-n-ta.

NPI-on paper-ACC write-GEN

b. uymilon-ul tul-un etten-haksayng-i

Sem.-ACC took-REL WHAT-student-NOM

NPI-ey.tayhan nonmwun-ul ssu-n-ta.

NPI-on paper-ACC write-GEN

‘Some student who has taken a semantics class writes a paper on NPIs.’

If *-na* is omitted, then the nominative case marker *-i* is to be inserted as default, according to the Korean morphology system. Then, as discussed in Chapter 2, *amwu*-(N) with a case marker yields ungrammaticality, as shown in (9a). In (9b), the case marking turns *wh*-(N) into a plain indefinite which can be interpreted either specifically or non-specifically. That is, the sentence (9b) is interpreted as: “Some student who has taken a semantics course (accidentally) writes a paper on NPIs.” No causal link between “being in a semantics course” and “writing a paper on NPIs” is detected there. Therefore, the conclusion that can be drawn here is that *wh*-(N)-*na* as well as *amwu*-(N)-*na* behaves like FCI *any* in delivering an essential relation, and that the essential or causal link of *amwu* / *wh*-(N)-*na* comes from the particle *-na*.

3.2.2.2 Vague quantificational force

Another piece of evidence that both *amwu*-(N)-*na* and *wh*-(N)-*na* are free choice comes from their quantificational interpretation. Recall that Y. Lee (1999) considers *wh*-(N)-*na* a distributive universal quantifier, while seeing *amwu*-(N)-*na* as having no inherent quantificational force. C. Lee (1997) contends both *amwu*-(N)-*na* and *wh*-(N)-*na* are universal FCIs.

In this section, I show that both *amwu*-(N)-*na* and *wh*-(N)-*na* exhibit different quantificational interpretations from the regular universal quantifier *mot(w)u*- ‘every, all’ . Let’s take an example of possibility modal contexts. Consider (10).

- (10) John-un **motun-yecaay(tul)-lul** chotayha-l.swu.iss-ta.
 J.-TOP ALL-girl-ACC invite-can-DEC
 (A) ‘It is permitted that John invites all girls.’
 (B) ‘For every girl x, John is permitted to invite x.’

When the universal quantifier *mot(w)u-* occurs in a possibility modal sentence like (10), the sentence is ambiguous depending on the relative scope between the universal quantifier and the modal. If the modal takes wide scope over the universal quantifier, the (A) reading obtains: “It is permitted that John invites all of the girls together”. If the universal quantifier takes wide scope over the modal, then the (B) reading obtains: ‘For every girl x, John is permitted to invite x’. Let us call the (A) reading “narrow-scope universal paraphrase” and the (B) reading “wide-scope universal paraphrase”.²⁴ Now compare (10) with (11), where the universal quantifier is replaced by *-na*-FCIs.

- (11) a. John-un **amwu-yecaay-na** chotaeha-l.swu.iss-ta.
 J.-TOP AMWU-girl-OR invite-can-DEC
 ‘John can invite any girl.’
 b. John-un **etten-yecaey-na** chotaeha-l.swu.iss-ta.
 J.-TOP WHAT-girl-OR invite-can-DEC
 ‘John can invite any girl.’

²⁴ I borrowed the label “wide scope universal paraphrase” from Menéndez-Benito (2005).

First of all, note that the sentences in (11) lack the “narrow-scope universal paraphrase” in (10A). Putting aside the domain-widening effect of *amwu-*, the sentences in (11) read: “John is permitted to invite a girl; every girl is his inviting option”. In terms of who is invited, while it is the universal “all of the girls” that is invited in (10A), it is the existential “a girl” who is invited in (11). Thus, the “narrow-scope universal paraphrase” in (10A) is excluded as a possible interpretation of (11). Now let us compare (11) with the “wide-scope universal paraphrase” in (10B). Let us label the reading in (11) “narrow-scope existential paraphrase” for convenience, because what is permitted is for John to invite a girl, not all the girls (i.e., $\exists >$). Additionally, (11) conveys the free choice part that every girl is John’s inviting option. One might think that the “narrow-scope existential paraphrase” and the “wide-scope universal paraphrase” are the same interpretation. But, they are not identical, as Menéndez-Benito (2005) shows. She argues that the wide-scope universal paraphrase does not capture the free choice component of FCIs like Spanish *cualquiera*. Consider her canasta scenario as in (12).

(12) The Canasta scenario

One of the rules of the card game Canasta is: when a player has two cards that match the top card of the discard pile, she has two options: (i) take all the cards in the discard pile and (ii) take no card from the discard pile (but take the top card of the regular pile instead). Those are her only two options.

The addressee is not granted the freedom of choice to take whatever card she/he likes

under this scenario. The addressee has only two options, as in (12i) and (12ii). Therefore, the sentence (13) containing FC *cualquiera* is not true in the scenario (12).

(13) Juan puede coger cualquiera des las cartas del mazo.

Juan can take any of the cards in the discard pile (when you have two cards that match its top card).

Nevertheless, the wide scope universal account wrongly predicts sentence (13) to be true under this scenario. Suppose that the addressee has two cards that match the top card of the discard pile. Also suppose there are only two cards in the discard pile, namely, the Queen of Hearts and the Ace of Spades. Then the addressee has two options:

Option 1: take both the Queen and the Ace in the discard pile.

Option 2: take no card from the discard pile.

Because the wide-scope universal paraphrase of (13), i.e., for every card *x* in the discard pile, you are permitted to take *x*, is true under option 1, (13) is predicted to be true, contrary to fact. Therefore, the wide-scope universal paraphrase needs to be abandoned for the interpretation of an FCI.²⁵ That is, *wh*-(N)-*na* as well as *amwu*-(N)-*na* cannot be reduced to a simple universal quantifier.

²⁵ To resolve this problem, Menéndez-Benito (2005) introduces the exclusiveness operator under the scope of the universal quantifier. We will look into her analysis in more detail in 4.5 to compare with our analysis.

Now we are left with the “narrow-scope existential paraphrase” for (11). In terms of who is invited, *wh*-(N)-*na* as well as *amwu*-(N)-*na* is interpreted as an existential quantifier, not universal. Additionally, the free choice part that every girl is John’s inviting option is conveyed. Here again, the only difference of *amwu*-(N)-*na* from *wh*-(N)-*na* is that the domain for *amwu*-(N)-*na* can expand to include contextually marginal individuals due to its domain-widening action.

3.2.2.3 Restrictions on licensing environments

A well-known fact about free choice items is that they only appear in restricted environments. FCIs typically occur in generic and modal contexts, as shown in (14) with English FCI *any*. Moreover, FCIs are usually not licensed in episodic sentences, as illustrated in (15).

(14) a. Any owl hunts mice.

b. You can pick any card.

(15) a. *John picked any flower.

b. *Anybody contributed to the fund.

This section argues that *wh*-(N)-*na* and *amwu*-(N)-*na* must be FCIs on the grounds that they display similar restrictions on licensing environments. They are contrasted with the

regular universal quantifier *mot(w)u-* ‘all, every’ which does not have such restrictions. First, both *wh-(N)-na* and *amwu-(N)-na* are happy in generic and modal contexts, as given in (16) and (17).

(16) a. **Amwu-pwuengi-na** cwi-lul cap-nun-ta.
 AMWU-owl-OR mice-ACC hunt-GEN-DEC
 ‘Just any owl hunts mice.’

b. **Etten-pwuengi-na** cwi-lul cap-nun-ta.
 WHAT-owl-OR mice-ACC hunt-GEN-DEC
 ‘Any owl hunts mice.’

(17) a. John-un **amwu-yecaay-na** chotayha-l.swu.iss-e.
 J.-TOP AMWU-girl-OR invite-can-DEC
 ‘John can invite just any girl.’

b. John-un **etten-yecaay-na** chotayha-l.swu.iss-e.
 J.-TOP WHAT-girl-OR invite-can-DEC
 ‘John can invite any girl.’

Second, both of them are deviant in episodic sentences, as in (18).

- (18) a. ***amwu-namca-na** se-iss-ta.
AMWU-guy-OR stand-PROG-DEC
'(Lit.) Any guy is standing.'
- b. ***etten-namca-na** se-iss-ta.
WHAT-guy-OR stand-PROG-DEC
'(Lit.) Any guy is standing.'

In contrast, the universal quantifier *mot(w)u*- 'all, every' does not exhibit such restrictions. As shown in (19) and (20), the universal quantifier is happy in generic and modal contexts. Also, as in (21), it can occur in episodic sentences.

- (19) **motwn-pwuengi-ka** cwi-lul cap-nun-ta.
EVERY-owl-NOM mice-ACC hunt-GEN-DEC
'Every owl hunts mice.'
- (20) John-un **motun-yecaay-lul** chotayha-l.swuiss-e.
J.-TOP EVERY-girl-ACC invite-can-DEC
'John can invite every girl.'

- (21) **motun-namca-ka** se-iss-ta.
 EVERY-guy-NOM stand-PROG-DEC
 ‘Every guy is standing.’

As we have seen, *amwu-(N)-na* and *wh-(N)-na*, unlike *mot(w)u-* ‘every’, show the same distributional properties as typical FCIs. This supports that both *amwu-(N)-na* and *wh-(N)-na* are free choice items in Korean.

Furthermore, I present a novel observation regarding the licensing conditions for *wh-(N)-na*, which has never been reported in Korean literature. I observe that adding a relative can rescue *wh-(N)-na* in its non-licensing environments, e.g., episodic sentences, as in (22). While (18b) is ungrammatical, adding a relative clause as in (22) improves *wh-(N)-na*.

- (22) Pa-ese chwukkwu-lul po-ko.iss-nun **etten-namca-na** se-iss-ta.
 Bar-LOC soccer-ACC watch-PROG-REL WHAT-guy-OR stand-PROG-DEC
 ‘(Lit.) Any guy who is watching the soccer game is standing.’

This method of adding a relative clause has been known as “subtriggering” (LeGrand 1975) as a typical characteristic of (some type of) FCIs in languages like English and Italian (See Dayal 1995, 1998; Chierchia, 2005; cf. Quer 2000; Menéndez-Benito, 2005 for Spanish). See, first, examples of English *any*, given in (23). The contrast in (23a) and

(23b) reveals that unlike the regular universal quantifier *every*, *any* cannot appear in an episodic sentence. In (23c), where a relative clause *who heard the news* is inserted, *any* is allowed to appear in the episodic sentence.

(23) English

- a. Everyone contributed to the fund.
- b. *Anyone contributed to the fund.
- c. Anyone who heard the news contributed to the fund.

Similarly, Italian FCI *qualsiasi* and Spanish FCI *cualquiera* are rescued in episodic sentences with the help of subtriggering, as illustrated in (24) and (25) respectively.

(24) Italian

- a. Tutti le persone contribuirono al fondo.
- b. *Qualsiasi persona contribuì al fondo.
- c. Qualsiasi persona che sentì la notizia contribuì al fondo.

(25) Spanish

- a. Toda persona contribuyó en la recolecta.
- b. *Cualquier persona contribuyó en la recolecta.
- c. ?Cualquier persona *are* hubiese escuchado las noticias contribuyó en la recolecta.

Going back to Korean *wh*-(N)-*na*, if *wh*-(N)-*na* is merely a universal quantifier, it is hard to explain why it shows such a limited distribution and why it is rescued by adding a relative clause. I argue, therefore, that the restrictions on licensing environments found in *amwu*-(N)-*na* and *wh*-(N)-*na* as well as subtriggering effects detected for *wh*-(N)-*na* as a rescuing method support that *amwu*-(N)-*na* and *wh*-(N)-*na* are free choice items in Korean.

3.3 The nature of *-na* ‘or’ as a source for FC-ness

Given that both *wh*-(N)-*na* and *amwu*-(N)-*na* are FCIs, the simplest hypothesis is that it is the particle *-na* ‘or’ that induces free-choiceness for both. Now I will explore in more detail what is the nature of the contribution of the particle *-na* to the FC-ness.

3.3.1 Is *-na* a scalar particle like *-to/-lato* ‘even’?

C. Lee et al. (2000), while trying to make a unified analysis of *amwu*-PSIs, treat *amwu*-(N)-*na* as introducing a scalar meaning that is associated with the same likelihood scale as the one with *-to/-lato* ‘even’. They claim that all of the particles *-to*, *-lato*, and *-na* are “concessive” operators that denote the least likely entity on a pragmatic likelihood scale.

I argue that *even*-based items and disjunction-based items should not be treated in the same way because the disjunctive particle *-na* ‘or’ has nothing to do with the likelihood

scale (cf. Rullmann, 1996). As shown in (26), items like *even* that operate on the likelihood scale can usually co-occur with so-called minimizers, e.g., *lift a finger*. Korean *even*-items such as *-to* ‘PPI-*even*’ and *-lato* ‘NPI-*even*’ can also combine with the minimizer *sonkalak hana kkattakha-*, the Korean counterpart to *lift a finger*, as illustrated in (27).

(26) John couldn’t even lift a finger.

(27) a. John-un **sonkalak hana-to** kkattakha-ci.anh-ass-ta.

J.-TOP finger one-EVEN lift-NEG-PAST-DEC

‘John didn’t even lift a finger.’

b. John-i **sonkalak hana-lato** kkattakha-myen motwu cwuk-nun-ta.

J.-NOM finger one-EVEN lift-if ALL die-FUT-DEC

‘If John even lifts a finger, everyone will die.’

However, the disjunctive particle *-na* ‘or’ cannot combine with the minimizer, as illustrated in (28). It shows us that the particle *-na* does not operate on the likelihood scale, and thus that *-na*-based PSIs *amwu-(N)-na* and *wh-(N)-na* cannot fall under the same semantics as *even*-based PSIs *amwu/wh-(N)-to* and *amwu/wh-(N)-lato*.

- (28) a. *John-un **sonkalak** **hana-na** kkattakha-ci.anh-ass-ta.
 J.-TOP finger one-OR lift-NEG-PAST-DEC
- b. *John-i **sonkalak** **hana-na** kkattakha-myen motwu cwuk-nun-ta.
 J.-NOM finger one-OR lift-if ALL die-FUT-DEC

The orientation of FC-ness also supports the argument that the particle *-na* ‘or’ cannot be subsumed under the focus semantics of *-to/-lato* ‘even’. We will see in Chapter 6 that the FC-ness of *-lato*-FCIs is always attributed to the speaker or a higher locus. In contrast to this, the FC-ness of *amwu*-(N)-*na* and *wh*-(N)-*na* can be attributed either to an agent or a higher locus (including the speaker). This will be discussed in more detail in 3.4 and 3.5.

3.3.2 The essential link

I propose in this dissertation that the nature of the contribution of the particle *-na* ‘or’ is to trigger an essential relation between the property expressed by the restrictor of the NP with *-na* and the main predicate of the sentence.

For example, in (2) repeated in (29) below, the particle *-na* ‘or’ induces an essential or a causal relation between “being five years old” and “being allowed/able to solve the problem”. Recall that if the particle *-na* is omitted, (and a case marking is inserted as default,) then the essential or causal relation is not generated, as in (30), repeated from (9).

- (29=2) a. amwu-tasus-salccali-na ku mwuncey-lul phul-swu.iss-e.
 AMWU-five.old-OR that problem-ACC solve-can-DEC
 ‘Just any five-year-old can solve that problem.’
- b. etten-tasus-salccali-na ku mwuncey-lul phul-swu.iss-e.
 WHAT-five.old-OR that problem-ACC solve-can-DEC
 ‘Any five-year-old can solve that problem.’
- (30=9) a. *amwu-tasus-salccali-ka ku mwuncey-lul phul-swu.iss-e.
 AMWU-five.old-NOM that problem-ACC solve-can-DEC
- b. etten-tasus-salccali-ka ku mwuncey-lul phul-swu.iss-e.
 WHAT-five.old-NOM that problem-ACC solve-can-DEC
 ‘Some five-year-old can solve the problem.’

Kim and Kaufmann (2006) claim that *amwu-(N)-na* conveys a counterfactual implication while *wh-(N)-na* does not. But, to me, there seems to be exactly the same counterfactual component with both *amwu-(N)-na* and *wh-(N)-na*. To see this, let’s consider another example with the scenario in (31).

- (31) Sue’s father and mother want her to get married soon. So they are trying to arrange blind dates for their daughter. From various sources, Sue’s mother was introduced to four doctors, Andrew, Bill, Con, and Dave, and three lawyers, Ethan, Fred, and

George, and received a picture of each of them. Now she is asking her husband's opinion:

Mother (showing the pictures to Father): *These are the doctors and lawyers that I was introduced to. Who do you think is the best?*

Father: *Doctors are better than lawyers.*

Mother (showing the pictures of the doctors): *Which one?*

Under scenario (31), Sue's father is expressing that he prefers doctors for her marriage options. Now consider the father's responses to the mom's question, as in (32).

(32) Father:

- a. **motun-uysa-ka** coh-a.
EVERY-doctor-NOM good-DEC
'All the doctors are ok.'
- b. **Etten/enu-uysa-na** coh-a.
WHAT/WHICH doctor-OR good-DEC
'Any doctor is ok.'
- c. **Amwu-uysa-na** coh-a.
AMWU-doctor-OR good-DEC
'Just any doctor is ok.'

In (32), all the three sentences appear to convey that each of the four doctors, Andrew, Bill, Con, and Dave is a good candidate from the father's perspective. However, imagine this situation: what if Sue's mother mistakenly showed the father pictures one of which was not a doctor's, but a lawyer's, say, a picture of George? If the mother's mistake is discovered, then (32a) containing the universal quantifier *mot(w)u-* 'every' may not hold anymore. By uttering (32a), the father expresses that each of the four persons in the picture who he believes are doctors is ok to him. However, if one of them is actually not a doctor, then the father may want to go on checking the actual doctor, i.e., Dave's picture. If he doesn't like the picture of Dave, then his original opinion that "Every doctor is ok" will be changed. In contrast to this, the father's opinion in (32b) remains unchanged although the mistake is known to him, because (32b) containing *wh-(N)-na* conveys that from the father's perspective, no matter how the person in each picture looks and who he is, if he is a doctor, then he can be a marriage option for Sue. That is, a counterfactual implication is conveyed by *wh-(N)-na* in (32b).²⁶ *Amwu-(N)-na* in (32c) gets even wilder. It conveys that a doctor outside of the given domain can be considered as a marriage option for Sue as long as the person is a doctor. This "outside of the domain" reading comes from the domain-widening effects of *amwu-*, which seem to have led Kim and Kaufmann (2006) to claim that only *amwu-(N)-na* delivers a counterfactual

²⁶ From the fact that *wh-(N)-na* is interpreted as "any of those doctors in the pictures", one might think that there is actually no counterfactuality with *wh-(N)-na*, just as there is hardly counterfactuality in a sentence like *Take any of these cards*, which contains partitive *any*. What I would like to claim is that counterfactual implication is still present with *wh-(N)-na* (as well as with partitive *any*), such that there is an essential relation between "being a doctor who has been introduced to the mother and whose picture has been given to her" and "being a marriage option for Sue from the father's perspective".

implication.²⁷²⁸

I contend that the counterfactual component triggered by *-na* and the domain-widening effect induced by *amwu-* need to be distinguished. The contrast between (32a) on the one hand and (32b) and (32c) on the other hand shows us that both *wh-(N)-na* and *amwu-(N)-na* induce a counterfactual implication or an essential link between “being a doctor” and “being a marriage option for Sue”, while the universal quantifier *mot(w)u-* ‘every’ does not.

So far, I have shown that the semantic contribution of the particle *-na* cannot be reduced to the one of the scalar focus particles *-to/-lato* denoting a minimal value on the likelihood scale. In addition, the nature of the role of the particle *-na* is to introduce an essential or causal relation between the property expressed by the restrictor of the NP with *-na* and the main predicate of the sentence.

3.4 Formalization of the essential link

This section discusses how to formalize the essential link that particle *-na* introduces. We have seen in the previous sections that the particle *-na* triggers an essential link between

²⁷ Kim and Kaufmann (2006) are vague about what exactly the source is for the counterfactuality. Since they argue that *-na* simply provides a universal quantification à la Kratzer and Shimoyama (2002), it seems that they consider *amwu-* to be responsible for the counterfactual implication.

²⁸ The difference between (32b) and (32c) will be formally accounted for by formalizing domain-widening of *amwu-(N)* together with applying von Stechow-style analysis in Chapters 4 and 5.

the property expressed by the restrictor of the NP headed by the particle *-na* and the property of the main predicate of the sentence. If the particle *-na* is omitted, then the essential or causal link is not present anymore. This dissertation observes a parallelism between the contribution of the particle *-na* in *amwu-/wh-(N)-na* and the contribution of *-ever* in *-ever* free relatives in English. Adopting Dayal's (1997) insight that *-ever* FRs introduce a layer of quantification over possible worlds, von Stechow (2000) proposes that English *-ever* in *-ever* FRs triggers a presupposition of variation based on either counterfactual worlds or epistemic worlds. Following Dayal (1997) and von Stechow (2000), I propose that the essential or causal link induced by the particle *-na* can be captured by the same formal source as the one for *-ever*. The only difference between *-ever* FRs and *-na*-FCIs is that (i) the presupposition of variation induced by *-na* is always counterfactual (i.e., never epistemic) and (ii) *amwu-/wh-(N)-na* are basically indefinites whereas *-ever* FRs are definites.²⁹

3.4.1 The essential link of *-ever* FRs in English

3.4.1.1 External indifference

Von Stechow (2000) points out that a subtype of *-ever* FRs expresses “indifference” on somebody's part. Compare (33a) and (33b). Both of them assert the same statement containing a definite description, that is, the person who was at the top of the ballot won the election yesterday.

²⁹ Jacobson (1995), Dayal (1997), and Rullmann (1995) proposed that FRs are definite descriptions.

- (33) a. In yesterday's election, who was at the top of the ballot won.
 b. In yesterday's election, whoever was at the top of the ballot won.

Different from (33a), (33b) conveys an extra meaning triggered by *-ever*, such that the identity of who was at the top of the ballot did not matter to winning yesterday's election. In other words, even if the person who was at the top of the ballot had been a different person, say John, not Brian, the essential link between "a person's name being at the top of the ballot" and "the person's winning the election" would still hold. In the sense that the identity of the denotation of *-ever* FRs does not matter to the force or general nature on the election, Tredinnick (2005) dubbed this type of essential or causal link '**external indifference**', as in (34). In von Stechow (2000) and Tredinnick (2005), this essential link follows from the presupposition of variation given in (35), which is identified as the nature of *-ever*'s contribution. The presupposition of variation tells us that if the individual denoted by an *-ever* FR had been different, the truth value of the assertion in the actual world would still be valid in all the counterfactual worlds.

(34) External Indifference/ essential link: It doesn't matter who was at the top of the ballot in yesterday's election. There was an essential link between "being at the top of the ballot" and "winning the election".

(35) Presupposition of variation: In every counterfactual world w' that is minimally different from the actual situation w with respect to the denotation of the person at

the top of ballot, if the person who was at the top of the ballot had been different in w' , the person would have won.

3.4.1.2 Agent Indifference

Take another example. If you compare (36a) and (36b), both of them convey an assertion with a definite description: “Zack voted for the person who was at the top of the ballot”.

- (36) a. Zack voted for who was at the top of the ballot.
b. Zack voted for whoever was at the top of the ballot.

While the plain free relative in (36a) does not necessarily convey any counterfactual implication, *-ever* in (36b) adds another layer of meaning, that is, it triggers the presupposition of variation on the basis of the counterfactual modal, as given in (37).

- (37) Presupposition of variation: If the person who was at the top of the ballot had been different, Zack would have voted for that person.

The presupposition of variation in (37) means that if the person who was at the top of the ballot in the actual world had been different, the same thing, i.e. Zack's voting for that person would have happened. To satisfy this presupposition, the addressee most plausibly infers that the identity of the person who was at the top of the ballot did not matter to

Zack, or in other words, Zack was indifferent about who was at the top of the ballot, as in (38). In this case, since it is the agent Zack who is indifferent about the identity, this type of indifference reading is called “**agent indifference**” (Tredinnick 2005; Choi 2005). Here again, an essential link between “being at the top of the ballot” and “receiving Zack’s vote” is conveyed.

(38) Agent Indifference / essential link: Zack was indifferent as to the identity of the person who was at the top of the ballot.

3.4.1.3 Von Fintel’s (2000) formalization

Von Fintel (2000) formalizes sentences containing an *-ever* FR as in (39). In the formulae, F indicates the modal base for *-ever* FRs, which is a set of worlds on which the presupposition of variation operates. P refers to the denotation of the NP property contained in the *-ever* FR, and Q refers to the property expressed by the rest of the sentence.

(39) *Whatever* (w_0) (F) (P) (Q)

a. Asserts: $Q(w_0)(\iota x.P(w_0)(x))$

b. Presupposes: $\forall w' \in \min_{w_0} [F \cap (\lambda w'. \iota x.P(w')(x) \neq \iota x.P(w_0)(x))]:$

$$Q(w')(\iota x.P(w')(x)) = Q(w_0)(\iota x.P(w_0)(x))$$

Sentences containing an *–ever* FR assert that the thing that has P is Q in the actual world, as shown in (39a). The presupposition triggered by *–ever* says that in all worlds (of the corresponding modal base) that are different from the actual world only with respect to the referent of the *–ever* FR, the asserted proposition has in w' whatever truth value it has in the actual world w_0 .

Let's apply this to the example of external indifference. The sentence in (33b) repeated in (40) below is formally represented as in (41). The modal base F is counterfactual, and thus the presupposition of counterfactual variation is conveyed, as in (41b). (42) is a paraphrase of (41).

(40=33b) In yesterday's election, whoever was at the top of the ballot won.

(41) a. Assertion: $\lambda w_0. \text{win}(\text{ty.top-of-ballot}(y, w_0), w_0)$

b. Presupposition:

$\lambda w_0. \forall w' \in \text{min}_{w_0} [F \cap (\lambda w''. \text{ty.top-of-ballot}(y, w'') \neq \text{ty.top-of-ballot}(y, w_0))]:$

$\text{win}(\text{ty.top-of-ballot}(y, w'), w') = \text{win}(\text{ty.top-of-ballot}(y, w_0), w_0)$

(42) a. Assertion: In w_0 , the person who was at the top of the ballot in w_0 won.

b. Presupposition: In each world w' , a counterfactual world of w_0 , if someone else had been at the top of the ballot in w' , the person who was at the top of the ballot in w' won in w' iff the person who was at the top of the ballot in w_0 won

in w_0 .

That is, sentence (40) asserts that in the actual world (or situation), i.e. in yesterday's election, the person who was at the top of the ballot won. In addition, the presupposition triggered by *–ever* conveys that if the person at the top of the ballot had been different in all the counterfactual worlds, the truth of the proposition “the person at the top of the ballot won” would also hold in the counterfactual worlds. From this presupposition of variation, it is inferred that regardless of who was at the top of the ballot, “being at the top of the ballot” and “winning yesterday's election” are in an essential relation.

Likewise, sentence (36b), an example of agent indifference repeated in (43), below, can be formalized and interpreted as in (44) and (45). The assertion means that Zack voted for the person who was at the top of the ballot in the actual world. The presupposition conveys that if the identity of the person at the top of the ballot had been different, the same thing, i.e., Zack's voting for the person at the top of the ballot would have happened.

(43=36b) Zack voted for whoever was at the top of the ballot.

(44) a. Assertion: $\lambda w_0. \text{vote}(z, \text{ix.top-of-ballot}(x, w_0), w_0)$

b. Presupposition: $\lambda w_0. \forall w' \in \min_{w_0} [F \cap (\lambda w''. \text{ix.t-o-b}(x, w'') \neq \text{ix.t-o-b}(x, w_0))]:$

$\text{vote}(z, \text{ix.top-of-ballot}(x, w'), w') = \text{vote}(z, \text{ix.top-of-ballot}(x, w_0), w_0)$

- (45) a. Assertion: In w_0 , Zack voted for the person who was at the top of the ballot in w_0 .
- b. Presupposition: In all counterfactual worlds w' minimally different from w_0 in which someone different is at the top of the ballot, Zack votes for that person in w' iff he votes for the person at the top of the ballot in w_0 .

Note that the formalization in (44) is exactly parallel to the one for external indifference in (41). Whether an *-ever* FR has an external indifference or agent indifference interpretation depends on contextual factors, and is only an “epiphenomenal inference” that is drawn from the presupposition of variation (Tredinnick 2005: 108). That is, for the presupposition of variation introduced by *-ever* to be construed most plausibly, in (40), it is inferred that an essential link was made by some external force on the election, and so the identity of the referent of *-ever* FR has no effect on the result of the election. Hence, external indifference obtains in the case of (40). Similarly, in (43), the easiest way to capture an essential link between “being at the top” and “receiving Zack’s vote” is to assume Zack’s indifferent attitude. Hence, agent indifference obtains in the case of (43).

3.4.1.4 Ignorance

In addition to those indifference readings, von Stechow (2000) applied the same analysis to another use of *-ever* FRs, which Dayal (1997) identified as “identity reading”. Von Stechow (2000) called it “ignorance reading”. Consider (46).

- (46) a. What Arlo is cooking has a lot of garlic in it.
 b. Whatever Arlo is cooking has a lot of garlic in it.

Like (46a), (46b) conveys the assertion, containing a definite description, that the thing Arlo is cooking has a lot of garlic in it. Besides this, *-ever* introduces the presupposition that has the same shape with the one for indifference *-ever*, as shown in (47).

- (47) Presupposition of variation: If the thing that Arlo is cooking had been different, the thing would have had a lot of garlic in it.

It is distinct from indifference-*ever* in that while indifference *-ever* is based on the counterfactual modal, this *-ever* in (46b) has the epistemic modal as its base. Thus, (46b) presupposes that across the epistemic state of the speaker the amount of garlic in the dish is large regardless of the identity of the dish itself. The assertion and the presupposition are formalized as in (48).

- (48) a. Assertion: $\lambda w_0. \text{in}(\text{a-lot-of-garlic}, \iota x. \text{Arlo-is-cooking}(x, w_0), w_0)$

- b. Presupposition:

$$\lambda w_0. \forall w' \in \min_{w_0} [F \cap (\lambda w''. \iota x. \text{Arlo-is-cooking}(x, w'')) \neq$$

$$\iota x. \text{Arlo-is-cooking}(x, w_0)]: \text{in}(\text{a-lot-of-garlic}, \iota x. \text{Arlo-is-cooking}(x, w'), w') =$$

$$\text{in}(\text{a-lot-of-garlic}, \iota x. \text{Arlo-is-cooking}(x, w_0), w_0)$$

Assuming an existential presupposition on the conditional (there has to be some worlds that make the restrictor of $\forall w$ in (48) true), we obtain that the speaker's epistemic state shows variation as to what Arlo is cooking. That is, the speaker doesn't (fully) know what Arlo is cooking. From this presupposition based on the epistemic modal, an ignorance reading obtains that the speaker did not know the referent of *-ever* FR in the actual world, as given in (49).

(49) Ignorance: The speaker does not know the identity of what Arlo is cooking.

Note that the same template represents both indifference-*ever* and ignorance-*ever* in von Stechow's (2000) analysis. Since the ignorance reading is not our main interest in the dissertation, I will not mention it any further.³⁰

³⁰ Kratzer and Shimoyama (2002) report that German *irgendein* has an epistemic use, as in (i). In Korean, however, such epistemicity is expressed by *wh*-root with an interrogative marker *-nka* and case marking as in (iia) or by *wh*-root with case marking as in (iib), but not by *amwu-/wh-(N)-to/lato/-na*.

- (i) Irgendjemand hat angerufen.
 Anybody has called
 'Somebody called: for all the speaker knows, it might have been anybody.'
- (ii) a. Nwukwu-nka-ka cenhwaha-ass-ta
 who-Q-NOM call-PAST-DEC
 'Somebody called.'
- b. Nwukw-ka cenhwaha-ass-ta
 who-NOM call-PAST-DEC
 'Somebody called.'

3.4.2 Extension to Korean *-na*-based FCIs

3.4.2.1 The formalism

This section applies the analyses of von Fintel (2000) presented in 3.4.1 to Korean *-na*-based FCIs, and furthermore, extends some refinements proposed in Tredinnick (2005) to Korean as well. I argue that the modal flavor of the particle *-na* is parallel to the modal dimension of *-ever* in indifference *-ever* FRs. I show that the nature of the contribution of *-na* can be captured by the presupposition of counterfactual variation that has been proposed for indifference *-ever* FRs in von Fintel (2000). While *-ever* FRs are definites, FCIs *amwu*-(N)-*na* and *wh*-(N)-*na* are indefinites like *any* (Kadmon and Landman 1993; Lee and Horn 1994). More evidence that they are indefinites will be presented in Chapters 4 and 5.

The formalization (39) that is proposed for *-ever* free relatives by von Fintel (2000), repeated in (50), can be extended to Korean *-na*-based FCIs, as in (51).

(50) *Whatever* (w_0) (F) (P) (Q)

a. Asserts: $Q(w_0)(\lambda x.P(w_0)(x))$

b. Presupposes: $\forall w' \in \min_{w_0} [F \cap (\lambda w'. \lambda x.P(w')(x) \neq \lambda x.P(w_0)(x))]:$

$$Q(w')(\lambda x.P(w')(x)) = Q(w_0)(\lambda x.P(w_0)(x))$$

(51) *wh-/amwu-(N)-na* (w_0) (F) (P) (Q) (TEMPLATE 1)

a. Asserts: $\exists x [P(w_0)(x) \wedge Q(w_0)(x)]$

b. Presupposes: $\forall w' \in \min_{w_0} [F \cap \lambda w''. P(w'') \neq P(w_0)]:$

$$\exists x [P(w')(x) \wedge Q(w')(x)] = \exists x [P(w_0)(x) \wedge Q(w_0)(x)]$$

The template in (51) for *-na*-FCIs is parallel to the one for *-ever* FRs except for a few details. While the formula for *-ever* FRs contains an iota operator since *-ever* FRs are definites, the iota operator has been replaced by an existential quantifier for *-na*-FCIs because *amwu-(N)-na* and *wh-(N)-na* are indefinites whose basic quantification is existential. In the presupposition in (51b), too, the equation among the iota expressions from *-ever* FRs has been replaced by an equation among the extensions of the NP property P of *amwu-/wh-(N)-na*. Another point that differentiates *-na*-FCIs from *-ever* FRs is that while the presupposition of *-ever* has as its modal base either the counterfactual or epistemic modal, the presupposition of *-na* always takes the counterfactual modal. Now, the computation of the assertion and presupposition in (51) derives the paraphrases in (52).

(52) a. Assertion: Some P is Q in the actual world w_0 .

b. Presupposition: In all the counterfactual worlds w' that are minimally different from w in the following respect: the set of individuals that have property P in w' is different from the set of individuals that have property P in w_0 , the asserted

proposition $\lambda w. \exists x [P(w)(x) \wedge Q(w)(x)]$ has in w' whatever truth value it has in the actual world w_0 .

The templates in (50) and (51) are the basic formalizations of *-ever* FRs and *amwu-/wh-(N)-na* respectively. (51) will be applied to simple episodic sentences that have no extra operator in section 3.4.2.2. In 3.4.2.3 and 3.4.2.4, the template (51) is going to be revised to account for the cases where *amwu-/wh-(N)-na* occur with a logical operator, such as the generic operator, quantifiers, and negation. The revision follows Tredinnick (2005), where von Stechow's (2000) analysis is extended to explain the semantics of *-ever* FRs in complex sentences. Two revisions will be in order. First, for the cases where *amwu-/wh-(N)-na* occurs with an operator ϕ and the presupposition of variation projects on the matrix level, the template (51) will be revised as in (53). These cases will be illustrated in section 3.4.2.3.

(53) **TEMPLATE 2** (with an operator & global projection)³¹

$\phi [wh-/amwu-(N)-na (w_0) (F) (P) (Q)]$

a. Asserts: $[[\phi wh-/amwu-(N)-na (w_0) (F) (P) (Q)]]$

b. Presupposes: $\forall w' \in \min_{w_0} [F \cap \lambda w''. P(w'') \neq P(w_0)]:$

$[[\phi wh-/amwu-(N)-na (w') (F) (P) (Q)]] = [[\phi wh-/amwu-(N)-na (w_0) (F) (P) (Q)]]$

³¹ More accurately, the template should look like (53)' below. However, we will use (53) throughout the dissertation for simplicity.

(53)' $\phi (w_0) (\lambda w. wh-/amwu-(N)-na (pro_5) (F) (P) (Q))$

a. Asserts: $[[\phi]] (w_0) (\lambda w. [[wh-/amwu-(N)-na (pro_5) (F) (P) (Q)]])^{gw5}$

b. Presupposes: $\forall w' \in \min_{w_0} [F \cap \lambda w''. P(w'') \neq P(w_0)]:$

$[[\phi wh-/amwu-(N)-na (w') (F) (P) (Q)]] = [[\phi wh-/amwu-(N)-na (w_0) (F) (P) (Q)]]$

Second, we will consider the cases where *amwu-/wh-(N)-na* occurs with an operator ϕ and the presupposition of variation is accommodated locally. That is, the presupposition is accommodated in the nuclear scope of a quantifier or under the scope of an agent subject. For such cases, a revised formalization as in (54) will be introduced. This will be exemplified in section 3.4.2.4.

(54) **TEMPLATE 3** (with an operator & local presupposition accommodation)³²

ϕ [*wh-/amwu-(N)-na* (w_0) (F) (P) (Q)]

a. $[[\phi]]([[\textit{wh-/amwu-(N)-na}$ (w_0) (F) (P) (Q)]) = $1 \wedge \forall w' \in \min_{w_0} [F \cap$

$\lambda w'' . P(w'') \neq P(w_0)]$: $[[\textit{wh-/amwu-(N)-na}$ (w') (F) (P) (Q)]) = $[[\textit{wh-/amwu-(N)-$

na (w_0) (F) (P) (Q)]])

3.4.2.2 *Amwu/wh-(N)-na* in simple episodic sentences

Applying the formalism proposed in the previous section, I'll start with a simple episodic sentence. Consider (55) where *amwu-/wh-(N)-na* appears in an episodic sentence, and contrast it with (56) where an indefinite noun combines with a case marker.

³² As noted in Footnote 11, a more correct template is the following:

(54)' ϕ (w_0) ($\lambda 5. \textit{wh-/amwu-(N)-na}$ (\textit{pro}_5) (F) (P) (Q))

a. $[[\phi]](w_0) (\lambda w. [[[\textit{wh-/amwu-(N)-na}$ (\textit{pro}_5) (F) (P) (Q)]]^{gw5} = $1 \wedge \forall w' \in \min_w [F \cap \lambda w'' . P(w'') \neq P(w)]$: $[[[\textit{wh-/amwu-(N)-na}$ (w') (F) (P) (Q)]] = $[[[\textit{wh-/amwu-(N)-na}$ (w) (F) (P) (Q)]]])

- (55) a. John-un amwu-chayk - ina cip-ese cong-i-wi-ey noh-ass-ta.
 J.-TOP AMWU-book-OR pick-and paper-on-LOC put-PAST-DEC
 ‘(Lit.) John picked up (a) random book(s) and put it on the pile of paper.’
- b. ?John-un etten-chayk - ina cip-ese cong-i-wi-ey noh-ass-ta.³³
 J.-TOP WHAT-book-OR pick-and paper-on-LOC put-PAST-DEC
 ‘(Lit.) John picked up (a) random book(s) and put them on the pile of paper.’
- (56) John-un chayk-ul cip-ese cong-i-wi-ey noh-ass-ta.
 J.-TOP book-ACC pick-and paper-on-LOC put-PAST-DEC
 ‘John picked up a book and put it on the pile of paper.’

Both (55a) and (55b) share with (56) the assertion that John picked up a book and put it on the pile of paper. Compared with (56), however, sentences in (55) convey an indifference reading triggered by *-na* that the identity of the book(s) that John picked up did not matter.

The indifference reading here is naturally construed as being on the part of the agent John, as shown in (57). Because John did not care about the identity of the book(s), an essential link holds between “being a book” and “being picked up by John”. This essential relation is triggered by the presupposition of variation in (58), i.e. if there had been a different book, John would have picked it up. From agent indifference or the presupposition of

³³ Some naïve speakers of Korean find the sentence (55a) a little marginal.

counterfactual variation, freedom of choice is guaranteed so that all (kinds of) books were a picking up option for John.

(57) Agent Indifference/essential link: It didn't matter to John what/which (kind of a) book he picks up. There is an essential link between "being a book" and "being picked up by John".

(58) Presupposition of variation: If a set of books had been different, the same thing, i.e., John's picking up a book would have happened.

If we apply the formalism presented in (51) to *amwu-/wh-(N)-na* in episodic sentences as in (55), we will get (59). The formalization (59) is read as in (60).

(59) a. Assertion: $\lambda w_0. \exists x. \text{book}(x, w_0) \ \& \ \text{pick}(j, x, w_0) \ \& \ \text{put-on-pile}(j, x, w_0)$

b. Presupposition: $\lambda w_0. \forall w' \in \min_{w_0}. [F \cap \lambda w''. \{x: \text{book}(x, w'')\} \neq \{x: \text{book}(x, w_0)\}]:$

$\exists x. \text{book}(x, w') \ \& \ \text{pick}(j, x, w') \ \& \ \text{put.on.pile}(j, x, w') =$

$\exists x. \text{book}(x, w_0) \ \& \ \text{pick}(j, x, w_0) \ \& \ \text{put.on.pile}(j, x, w_0)$

(60) a. Assertion: In the actual world w_0 , there is some book in w_0 that John picked up and put on the pile in w_0 .

b. Presupposition: In all counterfactual worlds w' minimally different from w_0 with respect to the identity of the set of books, there is some book in w' that

John picked up and put on the pile in w' iff there is some book in w_0 that John picked up and put on the pile in w_0 .

3.4.2.3 *Amwu/wh-(N)-na* in complex sentences with global presupposition projection

Now let us think about the cases where *amwu-/wh-(N)-na* occurs with a logical operator ϕ , e.g., the generic operator. Consider the generic statements in (61), which introduce an external indifference reading.

- (61) a. Mal-un **amwu-phwul-ina** mek-nun-ta.
 horse-TOP AMWU-grass-OR eat-GEN-DEC
 ‘Horses eat (just) any grass.’
- b. Mal-un **etten-phwul-ina** mek-nun-ta.
 horse-TOP WHAT-grass-OR eat-GEN-DEC
 ‘Horses eat any grass.’

Both *amwu-phwul-ina* ‘just any grass’ and *etten-phwul-ina* ‘any grass’ produce the same assertion as a plain indefinite *pwul-ul* ‘grass-NOM’ as in (62). That is, both of the sentences in (61) and the sentence (62) convey the assertion: “Horses eat grass”.

- (62) Mal-un phwul-ul mek-nun-ta.
 horse-TOP grass-ACC eat-GEN-DEC
 ‘Horses eat grass.’

Different from (62), the particle *-na* in (61) introduces a presupposition of variation as in (63). An essential relation or external indifference reading is inferred from the presupposition, as given in (64). As the identity of grass does not matter, all types of grass can be chosen as an eating option for horses (freedom of choice, i.e., free choice).

- (63) Presupposition of counterfactual variation: If a different type of grass had been considered, horses would have eaten it.

- (64) External indifference / essential relation: The identity of grasses doesn't matter. There is an essential relation between “being grass” and “being an x such that horses eat x”.

Then, how can we implement the von Stechow-style analysis for sentences like (61)? First, I revise the assertion in (51) as in (65) where there is an operator ϕ . The operator simply applies to a basic sentence containing *wh-/amwu-(N)-na*, as indicated in (65).

- (65) ϕ [*wh-/amwu-(N)-na* (w_0) (F) (P) (Q)]
 Asserts: [[ϕ *wh-/amwu-(N)-na* (w_0) (F) (P) (Q)]]

For the cases like (61) where the operator ϕ is the generic operator, I adopt a situation semantics analysis as in Kratzer (1989) and von Stechow (1994) and more particularly borrow Dayal's (1998) and Tredinnick's (2005) treatments of generically quantified *-ever* FRs. When the generic operator is combined on top like "GEN [*wh-/amwu-(N)-na* (w) (F) (P) (Q)]", generic subsituations s contained in the actual world w_0 are introduced with a contextual variable C in the assertion, following the literature on QVE (or Quantificational Variability Effects). The restrictor of the NP headed by *-na* is placed in the restriction of the generic operator – along with other generically interpreted material – and the remainder of the sentence is placed in the nuclear scope of the tripartite structure of a generic sentence, as shown in (66).

(66) GEN [*wh-/amwu-(N)-na* (w_0) (F) (P) (Q)]
Asserts: GEN $s \leq w_0$ [C(s) \wedge $\exists x.P(s)(x)$] [Q(s)(x)]

The assertion of (66) is applied to our example as in (67), which reads: "Every s , a (minimal) subsituation of w_0 containing a horse and grass, is a situation in which the horse in s eats the grass in s ".

(67) Assertion: $\lambda w_0. \text{GEN}_{s \leq w_0} [C(s) \ \& \ \exists y.\text{horse}(y,s) \ \& \ \exists x.\text{grass}(x,s)] [\text{eat}(y,x,s)]$

Now, as for the presupposition, I follow Tredinnick (2005), who shows that the presupposition of variation is accommodated on the matrix level when an *-ever* FR

conveys an external indifference reading. To see this, consider Tredinnick's (2005) example as in (68).

(68) Presupposition projection with *usually but not always*:

(Look at Kay's voting pattern. I have all the names she voted for listed here.)

Usually but not always, whoever was at the top of the ballot got her vote.

There would be two possible ways to interpret (68), as given in (69). In (69a), the presupposition of counterfactual variation is construed outside the scope of *usually but not always*. In (69b), the presupposition is interpreted under the scope of the adverb.

(69) a. It didn't matter who was at the top of the ballot. Usually but not always, the person at the top of the ballot got her vote. (That is, her natural tendency, though it is not 100%, is to vote for the person at the top.)

b. Usually but not always, (i) it didn't matter who was at the top of the ballot and (ii) the person at the top of the ballot got her vote. (That is, her natural tendency, though it is not 100%, is to vote indiscriminately for the person at the top.)

To see which of the two readings in (69) the sentence (68) has, consider the scenario in (70), drawn from Tredinnick (2005).

(70) Kay votes in eight elections. Each time she votes for the person at the top of the ballot. She votes indifferently seven times. The eighth time, she considers the candidates carefully, weighs their relative merits, and then casts her vote for the person at the top (Tredinnick 2005: 133).

Under this scenario, Kay votes for the person at the top of the ballot in all election situations. (68) is false in this scenario because (68) requires that Kay did not vote for the person at the top of the ballot in at least one election situation. This scenario is consistent with (69b), but not with (69a). Thus, sentence (68) is only interpreted as (69a) where the presupposition of indifference scopes over the adverb of frequency *usually but not always*. It cannot be paraphrased as (69b) where the presupposition takes scope under the adverb.

So far, we have seen that the *-ever* FR with an external indifference reading has its presupposition of variation, roughly meaning “it doesn’t matter wh..”, projected over a quantifier or an operator. The presupposition can be formalized as in (71), where the portion of the counterfactual variation, “ $\forall w' \in \min_{w_0} [F \cap \lambda w'. P(w')] \neq P(w_0]$ ” takes scope over the generic operator.

(71) Presupposes: $\forall w' \in \min_{w_0} [F \cap \lambda w'. P(w')] \neq P(w_0]$:
 $GEN_{s^+ \leq w'} [C(s^+) \wedge \exists x. P(s^+)(x)] [Q(s^+)(x)] = GEN_{s \leq w_0} [C(s) \wedge \exists x. P(s)(x)]$
 $[Q(s)(x)]$

Together with the assertion in (67), the generic sentences (61) containing *amwu-/wh-(N)-na* are interpreted as in (72) and paraphrased as in (73).

- (72) a. Assertion: $\lambda w_0. \text{GEN}_{s \leq w_0} [\text{C}(s) \ \& \ \exists y. \text{horse}(y,s) \ \& \ \exists x. \text{grass}(x,s)] [\text{eat}(y,x,s)]$
- b. Presupposition: $\lambda w_0. \forall w' \in \min_{w_0} [F \cap \lambda w'. \{x: \text{grass}(x,w')\} \neq \{x: \text{grass}(x,w_0)\}]$:
 $\text{GEN}_{s^+ \leq w'} [\text{C}(s^+) \ \& \ \exists y. \text{horse}(y,s^+) \ \& \ \exists x. \text{grass}(x,s^+)] [\text{eat}(y,x,s^+)] =$
 $\text{GEN}_{s \leq w_0} [\text{C}(s) \ \& \ \exists y. \text{horse}(y,s) \ \& \ \exists x. \text{grass}(x,s)] [\text{eat}(y,x,s)]$
- (73) a. Assertion: Every s , a (minimal) subsituation of w_0 containing a horse and grass, is a situation in which the horse in s eats the grass in s .
- b. Presupposition: For each w' , a counterfactual world of w_0 , in which the set of grass is different from the set of grass in the actual world, every s^+ , a subsituation of w' where there is a horse and grass, is a situation where the horse eats the grass iff every s , a subsituation of w_0 where there is a horse and grass, is a situation in which the horse in s eats the grass in s .

From this example of generic statements, we generalize to other cases where *amwu-/wh-(N)-na* occur with another operator ϕ , taking on an external indifference reading, as in (74). This template will be utilized in Chapters 4 and 5 for more concrete examples.

(74=53) **TEMPLATE 2** (with an operator & global presupposition projection)

ϕ [*wh-/amwu-(N)-na* (w_0) (F) (P) (Q)]

a. Asserts: $[[\phi$ *wh-/amwu-(N)-na* (w_0) (F) (P) (Q)]]

b. Presupposes: $\forall w' \in \min_{w_0} [F \cap \lambda w''. P(w'') \neq P(w_0)]:$

$[[\phi$ *wh-/amwu-(N)-na* (w') (F) (P) (Q)]] = $[[\phi$ *wh-/amwu-(N)-na* (w_0) (F) (P) (Q)]]

3.4.2.4 *Amwu/wh-(N)-na* in complex sentences with local accommodation

Now let us consider the cases where *amwu/wh-(N)-na* occurs with an operator and takes on an agent indifference reading, as in (75).

(75) a. taypwupwun.uy-aytuł-i amwu-chayk-ina cip-ese

MOST-student-NOM AMWU-book-OR pick-and

tokseswuep-ulo ka-ass-ta.

reading.class-GOAL go-PAST-DEC

‘(Lit.) Most students picked up (a) random book(s) and went to the reading class with it.’

- b. taypwupwun.uy-aytuł-i etten-chayk-ina cip-ese
 MOST-student-NOM WHAT-book-OR pick-and
 tokseswuep-ulo ka-ass-ta.
 reading.class-GOAL go-PAST-DEC
 ‘(Lit.) Most students picked up (a) random book(s) and went to the reading class with it.’

Sentences in (75) assert “Most students picked up a book and went to the reading class with it”, just as sentence (76) does, where a plain indefinite is used instead.

- (76) taypwupwun.uy-aytuł-i chayk-ul cip-ese
 MOST-student-NOM book-NOM pick-and
 tokseswuep-ulo ka-ass-ta.
 reading.class-GOAL go-PAST-DEC
 ‘(Lit.)Most students picked up (a) book(s) and went to the reading class with it.’

The assertion of (75) can be formalized as in (77), where the operator is MOST.

- (77) MOST [*wh-/amwu*-(N)-*na* (w_0) (F) (P) (Q)]
 Asserts: MOST x . [P(w_0)(x)] [Q(w_0)(x)]

Furthermore, the particle *-na* in (75) adds to the assertion that to most of the students, the

identity of the books they picked up didn't matter. That is, an agent indifference reading like (78) is conveyed. The agent indifference reading can be expressed by the presupposition of counterfactual variation, given in (79).

(78) Agent indifference/ essential link: There is an essential link between “being a book” and “being picked up by most students”. It doesn't matter what kind of a book it is. Most of the students picked up a book indifferently.

(79) Presupposition of counterfactual variation: For most students, if there had been a different book, they would have picked that book up.

To account for the agent indifference reading of *amwu-/wh-(N)-na*, I follow Tredinnick's (2005) analysis here again. Her example (298) quoted in (80) is parallel to (75) in that both of them convey agent indifference.

(80) Agent indifference

Usually but not always, Kay voted for whoever was at the top of the ballot.

We have seen in 3.4 that the presupposition of variation is projected globally (i.e., over an operator) when an *-ever* FR takes on an external indifference reading. To see what happens with an agent indifference reading like (80), we can imagine the two interpretations as in (81). In (81a), the presupposition of indifference takes wide scope

over the adverb *usually but not always*. In (81b), the presupposition takes narrow scope under the adverb.

- (81) a. Kay voted indifferently. Usually but not always, Kay voted for who was at the top of the ballot.
- b. Usually but not always, Kay voted indifferently for who was at the top of the ballot.

Now reconsider the scenario (70), repeated below.

(82=70) Kay votes in eight elections. Each time she votes for the person at the top of the ballot. She votes indifferently seven times. The eighth time, she considers the candidates carefully, weighs their relative merits, and then casts her vote for the person at the top.

This scenario is only compatible with the reading in (81b), but not with (81a). Because sentence (80) is true under this scenario, (80) is only paraphrased as in (81b), where the presupposition takes narrow scope.

Tredinnick (2005) proposes for agent indifference as follows: “When an *-ever* free relative is construed as an agent indifference free relative, the presupposition of indifference is accommodated in the nuclear scope” (Tredinnick 2005: 154). Thus,

sentence (80) is represented as in (83), where the presupposition of variation is interpreted in the nuclear scope, and consequently takes scope not only under the quantifier MOST but also under a volitional operator associated with the agent subject.

- (83) $\lambda s_0. \text{MOST}_{\leq s_0} [\text{election-day}(s)] [\text{vote}(k, \iota y.t\text{-}o\text{-}b(y,s),s) \ \& \ \underline{\forall s' \in \min_s [F \cap (\lambda s''. \iota y.t\text{-}o\text{-}b(y,s'') \neq \iota y.t\text{-}o\text{-}b(y,s)]}] \rightarrow \text{vote}(k, \iota y.t\text{-}o\text{-}b(y,s'),s') = \text{vote}(k, \iota y.t\text{-}o\text{-}b(y,s),s)]$
 “In most election situations s , two things happen: (i) Kay votes in s for the person at the top of the ballot in s and (ii) for every s' , a counterfactual situation of s , if someone else had been at the top of the ballot in s' , the same thing would have happened”.

Following Tredinnick’s treatment of agent indifference *–ever* FRs, we give to the sentences in (75) the representation in (84), where the presupposition of variation (that is underlined) is accommodated in the nuclear scope of the assertion in (77). (84) is paraphrased as in (85).

- (84) $\lambda w_0. \text{MOST}_x [\text{student}(x, w_0)] [\exists y.\text{book}(y, w_0) \ \& \ \text{pick}(x, y, w_0) \ \& \ \underline{\forall w' \in \min_{w_0} [F \cap (\lambda w''. \{y:\text{book}(y, w'')\} \neq \{y:\text{book}(y, w_0)\})}] \rightarrow \text{pick}(x, y, w') = \text{pick}(x, y, w_0)]$

- (85) For most students x , two things happen: (i) there is some book that x picks and (ii) in all the counterfactual worlds w' that are minimally different from w_0 with

respect to the identity of the set of books, x would have picked up a book in w' .

Agent indifference is derived indirectly. The presupposition of variation combines with the VP denotation under the scope of the volitional agent. As a result, the contribution of the presupposition of indifference functions as a manner adverb. More intuitively then, (84) might read: “For most students x , x picks up a book y *in such a way that* for every w' , a counterfactual world of w_0 , if a different set of books had been there, x would have picked up a book in w' ” (cf. Tredinnick 2005:155).

Generalizing the analysis above to the cases where *amwu-/wh-(N)-na* occur with another operator ϕ and take on an agent indifference reading, we get another revised formalization as in (86). It will be applied to more examples of *-na*-FCIs in Chapter 4 and Chapter 5.

(86) TEMPLATE 3 (with an operator & local projection accommodation)

ϕ [*wh-/amwu-(N)-na* (w_0) (F) (P) (Q)]

$[[\phi]]([\textit{wh-/amwu-(N)-na}$ (w_0) (F) (P) (Q)]) = $1 \wedge \forall w' \in \min_{w_0} [F \cap$

$\lambda w''. P(w'') \neq P(w_0)]: [\textit{wh-/amwu-(N)-na}$ (w') (F) (P) (Q)] = $[[\textit{wh-/amwu-(N)-na}$ (w_0) (F) (P) (Q)]]

In this section I have shown how the modal dimension or free choice flavor that *amwu-(N)-na* and *wh-(N)-na* induce can be captured by the same formalism for indifference –

ever FRs. In the next section, I recapitulate the common properties that *amwu-/wh-(N)-na* share with indifference *-ever* FRs by presenting empirical data.

3.5 Common properties of *-na*-based FCIs and indifference *-ever* FRs

In this section, I recapitulate the common properties that *amwu-/wh-(N)-na* and indifference *-ever* FRs share, and then add some extra comments in 3.6.3.

3.5.1 The presence of an essential link

As we have seen before, all of the three items, *amwu-(N)-na*, *wh-(N)-na* and indifference *-ever* FRs convey an essential link, which is attributed to the contribution of the particles *-na* in Korean and *-ever* in English. Due to their essential character, *amwu-/wh-(N)-na* can occur in a non-accidental generalization as in (87a,b) repeated from (6), but not in an accidental generalization where no essential link or counterfactual implication is possibly derived, as repeated in (88a,b) from (7). In contrast, the regular universal quantifier *mot(w)u-* ‘every’ can appear in both non-accidental and accidental generalizations, as shown in (87c) and (88c), repeated from (8).

(87) Non-accidental generalization: *Öamwu-(N)-na, Öwh-(N)-na, Ömotun* ‘every’

a. uymilon-ultu-un **amwu-haksayng-ina**

sem.-ACC take-REL AMWU-student-OR

NPI-on paper-ACC write-GEN

NPI-ey.tayhan nonmwun-ul ssu-n-ta.

‘Anybody who has taken a semantics class writes a paper on NPIs.’

b. uymilon-ultu-un **etten-haksayng-ina**

sem.-ACC take-REL WHAT-student-OR

NPI-ey.tayhan nonmwun-ul ssu-n-ta.

NPI-on paper-ACC write-GEN

‘Anybody who has taken a semantics class writes a paper on NPIs.’

c. uymilon-ultu-un **motun-haksayng-i**

sem.-ACC take-REL ALL-student-NOM

NPI-ey.tayhan nonmwun-ul ssu-n-ta.

NPI-on paper-ACC write-GEN

‘Everybody who has taken a semantics class writes a paper on NPIs.’

(88) Accidental generalization: **amwu-(N)-na, *wh-(N)-na, Ömotun* ‘every’

a. #yeksa-ul tu-un **amwu-haksayng-ina**

hist.-ACC take-REL AMWU-student-OR

NPI-ey.tayhan nonmwun-ul ssu-n-ta.

NPI-on paper-ACC write-GEN

‘Anybody who has taken a history class writes a paper on NPIs.’

- b. #yeksa-ul tul-un etten-haksayng-ina
 hist.-ACC take-REL WHAT-student-OR
 NPI-ey.tayhan nonmwun-ul ssu-n-ta.
 NPI-on paper-ACC write-GEN
 ‘Anybody who has taken a history class writes a paper on NPIs.’
- c. yeksa-ul tul-un motun-haksayng-i
 hist.-ACC take-REL ALL-student-NOM
 NPI-ey.tayhan nonmwun-ul ssu-n-ta.
 NPI-on paper-ACC write-GEN
 ‘Everybody who has taken a history class writes a paper on NPIs.’

Similarly, *-ever* FRs conveys an essential link between the FR and the assertion where it occurs. For instance, *whoever* in (89a) carries the meaning that there is an essential link between “being in Mary’s semantics seminar” and “writing a paper on nanophysics”, which is an odd situation. In contrast, in (89b), where *whoever* is replaced by *everyone* does not necessarily convey such an essential link.

- (89) a. Whoever is in Mary’s semantics seminar is writing a paper on nanophysics.
 b. Everyone who is in Mary’s semantics seminar is writing a paper on nanophysics.

3.5.2 Orientations of the FC effects

As discussed in 3.4, an indifference reading that is introduced by *-na* and *-ever* can be attributed either to an external source or a local agent. The former has been labeled as “external indifference” and the latter “agent indifference”. English examples of each indifference reading are repeated in (90) and (91) respectively.

(90) External indifference

In yesterday’s election, whoever was at the top of the ballot won.

(91) Agent indifference

Zack voted for whoever was at the top of the ballot.

The FC reading of *amwu-(N)-na* and *wh-(N)-na* can also be oriented to either a higher locus as in (92) or an agent as in (93)³⁴.

(92) External indifference

a. 18-sey-isang amwu-sonnim-ina kukcang-ey ipcangha-l.swu.iss-ta.

18-year-over AMWU-guest-OR theater-to enter-can-DEC

‘Any guest over 18 can enter the theater; the identity of the guest does not matter to the speaker or the theater.’

³⁴ The agent-oriented reading of *wh-(N)-na* in (93b) usually obtains with an emphatic stress on *wh-(N)-na*.

- b. 18-sey-isang etten-sonnim-ina kukcang-ey ipcangha-l.swu.iss-ta.
 18-year-over WHAT-guest-OR theater-to enter-can-DEC
 ‘Any guest over 18 can enter the theater; the identity of the guest does not matter to the speaker or the theater.’

(93) Agent indifference

- a. John-un amwu-chayk-ina cip-ese congɪ wi-ey noh-ass-ta.
 J.-TOP AMWU-book-OR pick-and paper-on-LOC put-PAST-DEC
 ‘(Lit.) John picked up (a) random book(s) and put it on the pile of paper.’
- b. John-un etten-chayk-ina cip-ese congɪ wi-ey noh-ass-ta.
 J.-TOP WHAT-book-OR pick-and paper-on-LOC put-PAST-DEC
 ‘(Lit.) John picked up (a) random book(s) and put them on the pile of paper.’

3.5.3 Not cancelable

For some type of FCIs such as German *irgendein*, their free choice effects are reported to disappear in DE contexts (Kratzer and Shimoyama, 2002). Comparing (94) and (95), we can see that the free choice component “it doesn’t matter...” in (94) disappears in DE contexts as in (95). *Irgendjemand* in (95) is simply an existential quantifier, taking narrow scope under *bezweifle* ‘doubt’.

- (94) Mary musste **irgendeinen** Mann heiraten.
 Mary had-to irgend-one man marry
 ‘Mary must marry any one man: it doesn’t matter who he is.’

- (95) Ich bezweifle, dass sie je **irgendjemand** einladen durfte.
 I doubt that she ever irgend-one invite could
 ‘I doubt that she was ever allowed to invite anybody.’

In contrast to this, the FC effects of *amwu*-(N)-*na* and *wh*-(N)-*na* are hard-wired, never defeasible. For instance, (96) is ambiguous with respect to the location of the presupposition of indifference.

- (96) John-un **etten-yecaey-na** chotayha-lswu-eps-ta.
 J.-TOP WHAT-girl-OR invite-can-NEG-DEC
 (A) ‘John is not allowed to invite x: it doesn’t matter which girl.’
 (B) ‘It is not allowed for John to invite girls without caring about their identity.’

On the first reading, the FC effect or indifference reading does not disappear, but projects higher up (i.e., external indifference). So the interpretation is ‘No matter what (kind of) girl is considered (i.e., the identity of girls doesn’t matter), John cannot invite a girl’. On the second reading, the indifference reading does not go away either, but is interpreted

more locally (i.e., agent indifference). Then the interpretation is: “What is not permitted for John is to invite a girl without caring about her identity”.

Amwu-(N)-*na* in (97), however, only takes reading B. As discussed in Chapter 2, *wh*-(N) with a regular or specific domain tends to take wide scope more easily, whereas domain-widening indefinite *amwu*-(N) hardly ever does. Thus, in (97), the reading (A) where *amwu*-(N)-*na* takes wide scope over the possibility modal is not available (i.e., **amwu*- $\neg > \diamond$). On reading (B), *amwu*-(N)-*na* induces an agent-oriented FC reading. The point here is that the free choiceness of *amwu*-(N)-*na* as well as *wh*-(N)-*na* is not defeasible.

(97) John-un **amwu-yecaey-na** chotayha-l.swu-eps-ta.

J.-TOP AMWU-girl-OR invite-can-NEG-DEC

(A) ~~‘John is not allowed to invite x: it doesn’t matter which girl.’~~

(B) ‘It is not allowed for John to invite girls without caring about their identity.’

The indifference reading of *-ever* FRs is not cancelable, either. If it were cancelable, then the meaning of sentence (98) would be the same as (99). However, while the plain free relative in (98) is scopeless and has only one reading as a definite description, *whoever* in (99) exhibits ambiguity in that the counterfactual part can take either wide scope over negation (i.e., external indifference) or narrow scope under negation (i.e., agent indifference). Again, the indifference or free choice component may project in several ways, but it never disappears.

- (98) John cannot invite who he likes.
 ‘John cannot invite the person he likes.’
- (99) John cannot invite whoever he likes.
 (A) No matter who John likes, John cannot invite the person he likes.’
 (B) ‘It is not allowed for John to invite the person he likes without caring about the person’s identity.’

In this section, we have seen three commonalities among *amwu*-(N)-*na*, *wh*-(N)-*na* and indifference *-ever* FRs. All of the three items hold a counterfactual entailment, and their FC effects are computed either locally or globally, but never disappear. The only difference between *amwu/wh*-(N)-*na* and indifference *-ever* FRs is that indifference *-ever* FRs are basically definite and *-na*-based FCIs are indefinite.

3.6 Summary

To sum up, first, I have identified that the particle *-na* is responsible for the free choiceness of *amwu/wh*-(N)-*na*, and that it is not from any other factors such as domain-widening of *amwu-* or from any combination of the indefinites *amwu-/wh-* and the particle. Second, I have shown that the contribution of the particle *-na* is not involved with a likelihood scale (contra C. Lee et al., 2000; Y. Lee, 1999), but to bring in an essential link between the property of the restrictor of the NP with *-na* and the property

of the main predicate. Third, I have analyzed the essential link of *-na* as being equivalent to the contribution of English *-ever* in *-ever* free relatives. Following the analysis in von Fintel (2000) who reformulates Dayal's (1997) proposal for English *-ever* FRs, I argue that the essential link induced by the particle *-na* can be captured by the same formal source as the one for *-ever*. Fourth, I extended the formalism of von Fintel (2000) to account for complex sentences where *amwu-/wh-(N)-na* occur, on the basis of Tredinnick's (2005) treatment. Lastly, I recapitulated several common properties that *-na*-FCIs share with indifference *-ever* FRs.

Chapters 4 and 5 will apply the proposed analysis more concretely to *amwu-(N)-na* and *wh-(N)-na* respectively with respect to their licensing environments and quantificational variability. As a result, the dissertation contributes to showing a direct link between a subtype of FCIs like *amwu-/wh-(N)-na* and indifference *-ever* free relatives by applying the same formalism to both.

Chapter 4 The Semantics of *AMWU-(N)-NA*

4.1 Introduction

In the previous chapter, I proposed that the contribution of the particle *-na* is equivalent to that of English *-ever* in *-ever* free relatives. The role of *-na* is to trigger an essential link between the property of the NP with *-na* and the VP property. From the essential link, it can be inferred that the identity of the property of the NP with *-na* is indifferent to some locus. The indifference inference is understood as being oriented to an external locus like the speaker (i.e., external indifference) or to an agent (i.e., agent indifference). Their different orientations are derived as an epiphenomenon.

In this chapter, I aim to apply the analysis proposed in Chapter 3 to *amwu-(N)-na* more concretely, with its licensing environments, quantificational variability and domain-widening effects considered together. Section 4.2 presents a variety of contexts where *amwu-(N)-na* can or cannot occur. Section 4.3 discusses the quantificational force of *amwu-(N)-na*. There I will show that *amwu-(N)-na* is a well-behaved indefinite. It receives a universal reading when it occurs in a generic context (“Universal effects”). When it is interpreted on an agent indifference reading, *amwu-(N)-na* can get a quasi-universal or plural reading (“Plural effects”). In Section 4.4, I apply the analysis presented in Chapter 3 to examples of *amwu-(N)-na* occurring in various environments

discussed in 4.2. The domain-widening effect of *amwu*-(N) is also taken into account. In 4.5, I compare the current analysis with Menéndez-Benito's (2005) account based on the exclusivity operator. Section 4.6 discusses a rescuing strategy for *amwu*-(N)-*na*, which is identified as "agentivity". Agentivity is understood as contributing to making the essential link of *amwu*-(N)-*na* more plausible, so that the presupposition of variation is satisfied.

4.2 Licensing environments

In Chapter 3, I gave a rough distribution of *wh*-(N)-*na* and *amwu*-(N)-*na* and argued that both are free choice items (FCIs). Recall that both prefer generic and modal contexts and disfavor episodic sentences. In this section, I investigate the licensing environments of *amwu*-(N)-*na* in more detail. Consider Table (1) below.

(1) Licensing environments of *amwu-(N)-na*, in comparison with *wh-(N)-na*

	<i>Amwu-(N)-na</i>	<i>Wh-(N)-na</i>
Generic	√	√
<i>Can</i>	√	√
<i>Must</i>	√	√
Imperative	√	??/√
Episodic Affirmative	*/√	*/√
Episodic Negation	*/√	*/√
<i>If</i> -clauses	√	(√)
Restrictor of \forall	√	(√)

The table depicts the licensing environments for both *amwu-(N)-na* and *wh-(N)-na* for comparison, but I will only focus on *amwu-(N)-na* in this chapter. The (non)-licensing environments in Table (1) are divided into three sub-groups, separated by double horizontal lines. The first group consists of so-called FC contexts – contexts where FCIs typically appear across languages – including generic contexts, possibility and necessity modal statements³⁵³⁶ and imperatives. The second group is made up of the contexts that are known as not allowing FCIs in general. Those contexts include episodic sentences,

³⁵ Only deontic modals are taken into account in this dissertation.

³⁶ It is known that one type of FCI cannot occur in necessity modal contexts. Such FCIs include English *any* and Spanish *cualquiera* (see Dayal 1998 and Menéndez-Benito 2005). However, for another type of FCI like German *irgendein*, a necessity modal is a good licensor (Kratzer and Shimoyama, 2002). It seems that in Korean, necessity modal statements license FCIs such as *amwu/wh-(N)-na* as well as *amwu-/wh-(N)-lato*.

- (4) John-un **amwu-hako-na** kyelhonha -yaha -n-ta. *Necessity*
 J.-Top AMWU-with-OR marry-MUST-PRES-DEC
 ‘John must marry a person, every person is a possible marriage option for John.’

- (5) **amwu-koki-na** mek-ela. *Imperative*
 AMWU-meat-OR eat-IMP
 ‘Eat some meat, every (kind of) meat is allowed.’

Turning to the second group, */ \wedge marks indicate that *amwu-(N)-na* is not licensed in these contexts at first, but can be amended with the help of some rescuing strategy. As seen in (6), *amwu-(N)-na* is ungrammatical in episodic sentences regardless of whether they are affirmative or negative.

- (6) a. *John-un **amwu-na** macuchi-ess-ta. *Affirm. episodic*
 J.-TOP AMWU-OR run.into-PAST-DEC
 ‘(Lit.) John ran into anyone.’

- b. *John-un **amwu-na** macuchi-ci.anh-ess-ta. *Negative episodic*
 J.-TOP AMWU-OR run.into-NEG-PAST-DEC
 ‘(Lit.) John didn’t run into anyone.’

While *wh*-(N)-*na* that can be rescued by subtrigging like (7), as discussed in Chapter 3, subtrigging cannot rescue *amwu*-(N)-*na*, as in (8).³⁷

- (7) a. *John-un **nwukwu-hako-na** macuchi-ess-ta.
 J.-TOP WHO-with-OR run.into-PAST-DEC
 ‘(Lit.) John ran into anyone.’
- b. John-un [ke-ipkwu-lo tuleo-nun] **nwukwu-hako-na** macuchi-ess-ta.
 J.-TOP the-entrance-by enter-REL WHO-with-OR run.into-PAST-DEC
 ‘(Lit.) John ran into anyone who was coming in by the entrance.’
- (8) a. *John-un **amwu-hako-na** macuchi-ess-ta.
 J.-TOP AMWU-with-OR run.into-PAST-DEC
 ‘(Lit.) John ran into anyone.’
- b. *John-un [ke-ipkwu-lo tuleo-nun] **amwu-hako-na** macuchi-ess-ta.
 J.-TOP the-entrance-by enter-REL AMWU-with-OR run.into-PAST-DEC
 ‘(Lit.) John ran into anyone who was coming in by the entrance.’

In order for *amwu*-(N)-*na* to be able to occur in episodic contexts, a volitional agent is necessary. In contrast to (6), *amwu*-(N)-*na* is perfectly fine in (9).

³⁷ Why subtrigging does not work for *amwu*-(N)-*na* will be dealt with in Chapter 5.

- (9) a. John-un **amwu-hako-na** deyithuha-ass-ta. *Affirm. episodic*
 J.-TOP AMWU-with-OR date-PAST-DEC (*agentive*)
 ‘(Lit.) John dated anyone.’
- b. John-un **amwu-kako-na** deyithuha -ci.anh-ess-ta. *Negative episodic*
 J.-TOP AMWU-with-OR date-NEG-PAST-DEC (*agentive*)
 ‘John didn’t date just ANYone.’

What distinguishes (9) from (6) is that the subject in (6) is not an agent, but a theme argument, whereas in (9), the subject is a volitional agent of the predicates *deyithuha* ‘date’ and *mek-* ‘eat’. As long as *amwu-(N)-na* occurs in the scope of a volitional agent as in (9), *amwu-(N)-na* is happy in episodic sentences. Choi and Romero (2007) observe that similar phenomena are found with existential FCIs in Romance languages and identify this “agentivity” as a rescuing strategy for *amwu-(N)-na* and Romance existential FCIs. I will return to this issue in 4.4.4.

Now consider the third group from Table (1). As seen in (10) and (11), *amwu-(N)-na* can occur in the antecedent of a conditional and the restrictor of a universal quantifier. In (10), *amwu-(N)-na* delivers an agent indifference reading (10B). The other reading, i.e., an external indifference reading (10B), is possible but disfavored due to the continuation of “not being a kosher Jew”. So the sentence as a whole only means: “If the type of meat does not matter to you (= the agent) and consequently you eat meat indifferently, then you are not a kosher Jew”. In (11), the FC flavor of *amwu-(N)-na* can be oriented to the

agent or to a higher locus. On the external reading in (11A), an essential relation holds between “kids’ eating (some) meat” and “their having upset stomachs”, where the identity of the meat is irrelevant. On the agent indifference reading in (11 B), an essential relation holds between “kids’ eating indiscriminately without caring about the identity of the meat” and “their having upset stomachs”.

- (10) **amwu-koki-na** mek-umyen, ne-nun yutayin-i an-i-ta. *If-clause*
 AMWU-meat-OR eat-if you-TOP kosher-NOM not-be-DEC
 (A) #‘No matter what kind of meat it may be, if you eat it, you’ re not a kosher Jew.’
 (B) ‘If you eat just ANY meat without caring about what kind of meat it is, you are not a kosher Jew.’

- (11) **amwu-koki-na** mek-un aitul-tun motwu *Restrictor of "*
 AMWU-meat-OR eat-REL kids-TOP ALL
 paythal-i na-ass-ta.
 stomach.upset-NOM occur-PAST-DEC
 (A) ‘Every kid who ate some meat had an upset stomach: no matter what kind of meat it might have been.’
 (B) ‘Every kid who ate meat without caring about its identity had an upset stomach.’

Now let us reconsider the external indifference reading in (10A) and (11A). From the fact that *amwu*-(N)-*na* with external indifference is interpreted existentially (e.g, “Every kid who ate some meat...”) in those DE contexts which are typical licensing contexts for NPIs, one might think that *amwu*-(N)-*na* has a dual identity, one as an NPI and the other as an FCI like English *any*, and that the external indifference that *amwu*-(N)-*na* has in DE contexts (reading (A)) is simply an instance of its NPI use.

I argue that *amwu*-(N)-*na* is not equivalent to English NPI *any*, and thus cannot be characterized as an NPI. To show this, I’ll compare *amwu*-(N)-*na* with English *any* and then discuss Korean *amwu*-(N)-*na* in more detail.

Earlier researchers on *any* treated it as a wide-scope universal quantifier that appears in restricted environments, to provide a unified account for both NPI use and FCI use. Such proposals are based on the fact that *any* is interpreted universally in sentences with negation and the generic operator, as illustrated in (12) and (13) (Reichenbach 1947; Quine 1960; Kroch 1974; Horn 1972: Chapter 3; LeGrand 1975).³⁸ In addition, an instance of *any* in the antecedent of a conditional can be interpreted universally, as shown in (14).

(12) I didn’t see any bird. $\forall x [\text{bird}(x) \rightarrow \neg \text{see}(I, x)]$

(13) Any bird flies. $\forall x [\text{bird}(x) \rightarrow \text{fly}(x)]$

³⁸ For a brief history of researches on *any*, see Hon (2000) and references therein.

(14) If any student calls, let me know. $\forall x [(student(x) \ \& \ call(x)) \rightarrow informed(i)]$

However, the universalist proposal had to be discarded once it became clear that at least some instances of *any* cannot be universal. For example, *there* insertion is known to permit only existentials but not universals (Horn 1972). The sentences in (15) demonstrate that *any* in this context cannot be universal. In addition, *any* in (16a) cannot be interpreted universally, either. If it were a universal, then the sentence would be equivalent to (16b), which is not the case.

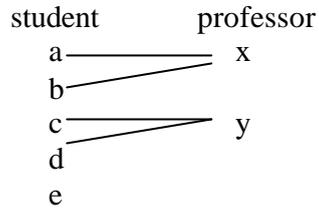
(15) a. There isn't any linguist in the conference room.

b. *There isn't every linguist in the conference room.

(16) a. Few students met any professor.

b. For every professor x, few students met x.

To see that (16a) and (16b) are not equivalent, suppose that there are two professors, x and y, and five students, a through e. Imagine a scenario where students a and b met professor x, and students c and d met professor y, depicted below. Assuming *few* means “less than a half”, (16a) is false, but (16b) is true under this scenario. Therefore, (16a) is not equivalent to (16b).



Examples like (15) and (16) show that (i) *any* cannot be reduced uniformly to a wide-scope universal, and (ii) at least one use of *any*, i.e., NPI *any*, must be existential. The more recent literature on *any* is divided into two groups: one proposes that *any* is ambiguous between existential NPI *any* and universal FC *any* (Carlson 1981; Dayal 1998), and the other claims that *any* is uniformly existential (Lee and Horn 1994; Kadmon and Landman 1993, among others).

Now let us consider the Korean counterparts to *any* in the examples above. Sentence (15a) is translated into Korean with the NPI *amwu-(N)-to*, as shown in (17a). *Amwu-(N)-na* in this context yields ungrammaticality, as shown in (17b).

- (17) a. pang-ey **amwu-haksayng-to** eps-ta.
 Room-LOC AMWU-student-EVEN not.exist-DEC
 ‘There isn’ t anybody in the room.’
- b. *pang-ey **amwu-haksayng-ina** eps-ta.
 Room-LOC AMWU-student-OR not.exist-DEC

Sentence (16a) is also translated into Korean with the NPI *amwu-(N)-to*, as shown in

(18a). If *any* in (16a) is translated as *amwu-(N)-na*, it produces a typical free choice reading (with agent indifference), as in (18b).

(18) a. manhun-haksayngtul-i **amwu-kyoswu-to** manna-ci.anh-ass-ta.³⁹

Many-student-NOM AMWU-student-EVEN meet-NEG-PAST-DEC

‘It is not the case that many students met any professor.’

b. manhun-haksayngtul-i **amwu-kyoswu-na** manna-ci.anh-ass-ta.

Many-student-NOM AMWU-student-OR meet-NEG-PAST-DEC

‘For many students x, it is not the case that x met professors indiscriminately without caring about their identity.’

To summarize, in the cases where English *any* is clearly an existential NPI, the Korean translation does not use *amwu-(N)-na*, but *amwu-(N)-to* (see Chapter 6). If *amwu-(N)-na* is used, then it yields either ungrammaticality or a different interpretation – specifically, a FC interpretation. Thus, occurrences of *amwu-(N)-na* in the antecedent of conditionals, as well as in the restrictor of universal quantifiers, should be characterized as an FCI, not as an NPI.

At this point, I’d like to bring up Horn’s examples like (19). Horn (2000) sees (19a) as an NPI use because it takes on an existential reading. Sentence (19b), which carries what he

³⁹ Korean has no corresponding item to *few*.

calls an ‘indiscriminative reading’, is seen as having a FC interpretation.⁴⁰ Note that both *any*’s get emphatic stress on them in (19). On the other hand, completely unstressed *any* does not have an FCI use in the same sentences, as seen in (20).

- (19) a. If you eat ANY meat, you’ re not a vegetarian.
 b. If you eat ANY meat, you’ re not a kosher Jew.

- (20) a. If you eat any meat, you’ re not a vegetarian.
 b. #If you eat any meat, you’ re not a kosher Jew.

Completely unstressed *any* in (20) seems to be an existential quantifier without any extra meaning, i.e., without the indifference reading “no matter wh...”. In Korean, unstressed *any* only translates into a common noun with a case marker, as given in (21), where there is no additional indifference flavor:

- (21) a. **koki-lul** mek-umyen, ne-nun chaysikka-ka an-i-ta.
 meat-ACC eat-if you-TOP kosher-NOM not-be-DEC
 ‘~~No matter what kind of meat it may be~~, if you eat meat, you’ re not a vegetarian.’

⁴⁰ Another diagnostic to distinguish NPI *any* and FCI *any* is binding. It is known that NPI *any* in conditionals can be bound by a pronoun, as in (i), while FCI *any* cannot, as in (ii).

- (i) If anyone came, he left no sign.
 (ii) If almost anyone can do this, then surely Bill can. Veneeta Dayal (p.c.)

- b. #**koki-lul** mek-umyen, ne-nun yutayin-i an-i-ta.
 meat-ACC eat-if you-TOP kosher-NOM not-be-DEC
 ‘If you eat ~~just ANY~~ meat ~~without caring what kind of meat it is~~, you are not a
 kosher Jew.’

I note that *amwu-(N)-na* is closer to stressed *any*. Both what Horn labeled NPI *any* and FCI *any* in (19) can be expressed by *amwu-(N)-na*, as shown in (22).

- (22) a. **amwu-koki-na** mek-umyen, ne-nun chaysikka-ka an-i-ta.
 AMWU-meat-OR eat-if you-TOP kosher-NOM not-COP-DEC
 ‘No matter what kind of meat it may be, if you eat it, you’re not a vegetarian.’
- b. **amwu-koki-na** mek-umyen, ne-nun yutayin-i an-i-ta.
 AMWU-meat-OR eat-if you-TOP kosher-NOM not-COP-DEC
 ‘If you eat just ANY meat without caring what kind of meat it is, you are not a
 kosher Jew.’

For what Horn labeled an NPI reading to occur, as in (22a), there is a pause between *amwu-(N)-na* and the predicate and a falling-rising tone at the end of the antecedent clause, i.e., on *-myen* ‘if’. The sentence then takes on what we have called an external indifference reading: “No matter what kind of meat it is, if you eat it, you’re not a vegetarian”. In order to get what Horn labeled an FC reading, as in (22b), there cannot be a pause after *amwu-(N)-na*, and an emphatic stress is usually placed on *amwu-*. Then the

sentence takes on what we have called an agent indifference reading: “If you eat meat indiscriminately without caring about its identity, you’ re not a kosher Jew”.

What Korean examples with *amwu-(N)-na* show us is that Korean employs a different lexical mapping to polarity sensitivity than what Horn argues. While Horn (2000) sees the use of *any* with or without external indifference in DE contexts as an NPI and the use of *any* with agent indifference in those contexts as an FCI, the uses with external/agent indifference are realized by the same lexical item *amwu-(N)-na* in Korean. The two readings in (22) are derived depending on where an indifference reading is interpreted – externally or for the agent.

While the indifference reading is conveyed by emphatic stress on *any* and can disappear if there is no stress on it, *amwu-(N)-na* is always accompanied by the indifference reading as it is introduced as a presupposition by the particle *-na*. This would belong to strong or emphatic PSIs in Krifka’s (1995) categorization of PSIs.

To sum up, *amwu-(N)-na* can occur in DE contexts like the antecedent of conditionals and restriction of universal quantifiers, as well as in FC contexts such as generic and modal contexts and imperatives. It is normally disallowed in affirmative and negative episodic sentences, but it can be rescued if it occurs under the scope of a volitional agent. In all the contexts in which *amwu-(N)-na* is licensed, it functions as an FCI, never as a plain NPI.

4.3 Quantificational variability

This section is concerned with the quantificational force of *amwu*-(N)-*na*. Table (23) reports an empirical observation regarding the quantificational interpretation of *amwu*-(N)-*na*; *wh*-(N)-*na* is included for comparison. The shaded area indicates contexts where the FCIs are ruled out at first. When they are rescued by some strategy or other, the FCIs have the quantificational force shown in each box. Again, I will only focus on *amwu*-(N)-*na* in this section.

(23) Quantificational force of *amwu*-(N)-*na*, in comparison with *wh*-(N)-*na*

	<i>Amwu</i> -(N)- <i>na</i>	<i>Wh</i> -(N)- <i>na</i>
Generic	\forall	\forall
<i>Can</i>	\exists	\exists/\forall
<i>Must</i>	\exists	\exists/\forall
Imperative	\exists	\exists/\forall
Episodic Affirmative	\exists	\exists/\forall
Episodic Negation	\exists	\exists/\forall
<i>If</i> -clauses	\exists ⁴¹	\exists/\forall
Restrictor of \forall	\exists	\exists/\forall

⁴¹ $\exists x\phi \rightarrow \phi \Leftrightarrow \forall x[\phi \rightarrow \phi]$. If no binding in ϕ , then $\forall x\phi \rightarrow \phi$.

As for the quantificational force of *amwu-(N)-na*, C. Lee (1998) categorized both *amwu-(N)-na* and *wh-(N)-na* as universal FCIs. I argue that this is a mischaracterization, influenced by contextual factors and the interpretation of the FCIs' indifference reading. The claims I will make are as follows. First, *amwu-(N)-na* is an indefinite, in principle existential, in line with Kadmon and Landman (1993) and Lee and Horn (1994), among others. Second, it shows "universal effects" in generic contexts, just as the indefinite "a CN" (Heim 1982, von Stechow 1991, among others) and definites like *-ever* free relatives (Tredinnick 2005) receive universal interpretation in generic contexts (Quantification variability effects or QVE: Kamp 1981; Heim 1982; von Stechow 1994). Thirdly, it shows "plural effects" when it takes on an agent indifference reading. This plural effects result in a quasi-universal reading.

4.3.1 *Amwu-(N)-na* is existential

Let us start with the cases where *amwu-(N)-na* is interpreted existentially. When it occurs in modal and imperative sentences, *amwu-(N)-na* is interpreted as an existential quantifier, not a universal. In terms of what is permitted for John in (24) and what is ordered for John in (25), *amwu-(N)-na* is existential, not universal. Additionally, a FC flavor "every kind of meat is an eating option for John" is present in both of the sentences.

(24) John-un amwu-koki-na mek-ul.swu.iss-ta.
 J.-TOP AMWU-meat-OR eat-can-DEC
 ‘John is allowed to eat some meat, every (kind of) meat is an eating option for John.’

(25) amwu-koki-na mek-ela.
 AWMU-meat-NA eat-IMP
 ‘Eat some meat, every (kind of) meat is allowed.’

In English too, *any* is not equivalent to a universal, but to an existential in these environments, as shown in (26) and (27). *Any* in the following examples amounts to an indefinite like *a* in the (b) sentences. It cannot be treated as a universal quantifier as in the (c) sentences, because (26a) does not have the reading that you are allowed to pick all cards, nor does (27a) have the reading that I order you to pick all cards.⁴²

- (26) a. You can pick any card.
 b. You can pick a card.
 c. You can pick every card.

⁴² As shown in 3.2.2.2, a wide-scope universal paraphrase like in (i) does not give the right free choice interpretation, either. In section 4.5, we will discuss how to derive the right kind of free choice effects.

(i) For every card x, you have a permission to pick x.

- (27) a. Pick any card.
 b. Pick a card.
 c. Pick every card.

Also, in the third group of contexts in Table (23), i.e., DE contexts, *amwu-(N)-na* is interpreted as an indefinite, as shown in (28) and (29).

- (28) amwu-haksaying-ina cenhwaha-myen, na-hanthey alliecwu-e.
 AMWU-student-OR call-if I-DAT inform-IMP
 ‘If any student calls, let me know, their identity doesn’ t matter.’

- (29) amwu-swukcey-na ceychwulha-n haksayngtul-un motwu
 AMWU-report-OR submit-REL students-TOP ALL
 sang-ul pat-ass-ta.
 prize-ACC receive-PAST-DEC
 ‘Every student who submitted any report received a prize, it didn’ t matter what
 (kind of a) report it was.’

Amwu-(N)-na in these contexts translates into *any*, as given in (30a) and (31a). *Any* in (30a) and (31a) is more akin to the indefinite *a student*, as in (30b) and (31b), than to the universal *every student*, as in (30c) and (31c)⁴³. Under the scenario where the speaker

⁴³ The agent indifference reading is not considered here.

wants the addressee to inform him if all the students call, (30a) and (30b) are false while (30c) is true. Also, under the scenario where only the students who submitted all of the reports received a prize, (31a) and (31b) are false whereas (31c) is true.

(30) a. If any student calls, let me know.

b. If a student calls, let me know.

c. If every student calls, let me know.

(31) a. Every student who handed in any report received a prize.

b. Every student who handed in a report received a prize.

c. Every student who handed in every report received a prize.

4.3.2 Universal effects

In addition, *amwu-(N)-na* is interpreted universally in generic contexts (“**universal effects**”). Sentence (32) reads: “No matter what kind of a bird is considered, generally a bird flies”. Just as an indefinite receives a universal interpretation within generic contexts, as in (33a), so do *amwu-(N)-na* in (32) and *any bird* in (33b) get universal force.

(32) **amwu-say-na** na-n-ta.

AMWU-bird-OR fly-GEN-DEC

‘ Any bird flies.’

- (33) a. Generally, a bird flies.
 b. Any bird flies.

Following a situation semantics analysis like that proposed in Kratzer (1989) and von Stechow (1994), the above sentences can be interpreted as in (34).

$$(34) \quad \lambda w_0. \text{GEN}_{s \leq w_0} [C(s) \ \& \ s \text{ is minimal situation where } \exists x(\text{bird}(x,s))] \\
 \rightarrow \exists s' \geq s [\text{fly}(\iota x. [\text{bird}(x,s)], s')]^{44}$$

(34) is paraphrased as: “Every situation s containing a bird, a minimal situation of w_0 , can be extended to a situation s' where the bird in s flies”. Here, the generic operator GEN provides universal quantification. Thus, an indefinite like *a bird* and FCIs like *any bird* and *amwu-say-na*, are interpreted universally, when they occur in the restriction of the generic operator.

4.3.3 Plural effects

So far, we have seen that *amwu-(N)-na* is a well-behaved indefinite in that its basic

⁴⁴ The contextual variable $C(s)$ comes from the generic operator. For simplicity, we will ignore it in the sections coming up. Instead, we will focus on the widened domain C' that comes with the indefinite *amwu-(N)*, as opposed to the regular domain C that comes with the indefinite *wh-(N)*, regardless of whether the context is generic or episodic. “ $\exists s' \geq s$ ” will be ignored in the upcoming sections as well for simplicity. Thus, the final simplified schema for generic sentences will be as follows: $\lambda w_0. \text{GEN}_{s \leq w_0} [C(s) \ \& \ s \text{ is minimal situation where } \exists x(\text{bird}(x,s))] [\text{fly}(\iota x. [\text{bird}(x,s)], s')]$.

interpretation is existential, and it can receive a universal reading in generic contexts.⁴⁵

Now let's consider cases where *amwu-(N)-na* conveys an agent indifference reading.

In sentence (35), with agent indifference, *amwu-(N)-na* is interpreted existentially: "John grabbed a book, and he didn't care about its identity".

- (35) John-un chayksang-ese **amwu-chayk-ina** cip-ess-ta.
J.-TOP table-from AMWU-book-OR grab-PAST-DEC
'John grabbed a random book on the table.'

By contrast, *amwu-(N)-na* in (36a) doesn't seem like a pure existential, because it seems to convey that John kissed at least two or more girls. But an important thing to note here is that the sentence does not amount to John's kissing every girl (out of a given domain), as shown by (36b), where (36a) continues with "but luckily not all of the girls". Rather, the sentence conveys that John kissed a plural number of girls by acting indiscriminately.

- (36) a. John-un **amwu-yeca-hako-na** khissuha-ass-ta.
John-TOP AMWU-girl-with-OR kiss-PAST-DEC
'John kissed a girl/girls randomly.'

⁴⁵ However, as Dayal (1998) points out, *any* does not QVE with adverbs of quantification like *usually*, unlike a plain indefinite. In contrast to (i) which is interpreted as "for most lions x, x is majestic", (ii) only has a frequency reading such as "a lion is majestic most of the time". Like English *any*, *amwu-(N)-na* does not show QVE with those adverbs.

- (i) A lion is usually majestic.
(ii) Any lion is usually majestic.

- b. John-un amwu-yeca-hako-na khissuha-ass-ciman, tahaynghito
 John-TOP AMWU-girl-with-OR kiss-PAST-but luckily
 ta-hako-nun ha-ci.anh-ass-ta.
 ALL-with-TOP do-NEG-PAST-DEC
 ‘John kissed girls randomly, but luckily not all of them.’

I’ll call this a “**plural effect**”. The agent indifference reading of *amwu-(N)-na* sometimes implicates plurality depending on the properties of predicates and contexts. In other words, in (36), John’s indifferent or indiscriminative action of kissing results in the interpretation that he kissed repetitively. The iterative interpretation can occur with a simple past tensed action verb regardless of the presence of *amwu-*, as illustrated in (37). Although it is not explicitly expressed whether John hit the nail once or repetitively, it is easily inferred that John did it more than one time.

- (37) John-un mos-ul (pyek-ey tuleka-l.ttaykkaci) chye-ss-ta.
 J.-TOP nail-ACCwall-LOC enter-until hit-PAST-DEC
 ‘John hit the nail until it got secured on the wall.’

Likewise, the repetitive interpretation available to (36) is taken to mean that John kissed several girls. However, the plural effects induced by agent indifference are not equivalent to the universal effects induced by genericity in terms of quantificational force.

Sentences (38) and (39) are examples where *amwu*-(N)-*na* is interpreted existentially on an agent indifference reading. World knowledge blocks plural effects in this case.

(38) John-un Mary-eykey chai-konase amwu-yeca-hako-na kyelhonha-ass-ta.
 John-TOP M.-by dumped-after AMWU-girl-with-OR marry-PAST-DEC
 ‘After being dumped by Mary, John married a random girl.’

(39) John-un il-pen-mwuncey tap-ul molla-se
 J.-TOP 1-no.-question answer-ACC not.know-and
amwu-ke-na cek-ess-ta.
 AMWU-thing-OR write-PAST-DEC
 ‘John, not knowing the answer for question #1, wrote a random answer.’

Sentences (40) and (41) are examples where plural readings are salient.

(40) John-un ecey phathi-ese amwu-swul-ina masi-ess-ta.
 J.-TOP yesterday party-LOC AMWU-alcohol-OR drink-PAST-DEC
 ‘John drank alcohol randomly without caring about its identity at the party yesterday.’

- (41) John-un amwu-hanthey-na yok-ul phepu-ess-ta.
 J.-TOP AMWU-GOAL-OR curse-ACC pour-PAST-DEC
 ‘John cursed at random people.’

So far, I have shown that *amwu-(N)-na* is an indefinite, and that it can be interpreted universally due to genericity and quasi-universally due to the plural effects inferred from agent indifference.

4.4 Applying von Fintel-style semantics to *amwu-(N)-na*

We have discussed the licensing environments for *amwu-(N)-na* and the quantificational force of *amwu-(N)-na* in each environment. In this section, I will apply the von Fintel-style analysis proposed in Chapter 3 to occurrences of *amwu-(N)-na* in the contexts discussed in 4.2, with its licensing environments, quantificational variability and domain-widening effects considered together.

4.4.1 Pieces of meaning

In applying a von Fintel-style semantics to Korean FCI *amwu-(N)-na*, we have the following pieces of meaning.

(42) Pieces of meaning

- i. The particle *-na* introduces the presupposition of variation, based on the counterfactual modal.
- ii. *amwu-(N)-na* is an indefinite, whose basic quantification is existential.
- iii. Unlike *wh-(N)*, *amwu-(N)* induces a maximal domain widening, so that it is able to include a contextually marginal entity in its domain.

First, (42i) indicates that the contribution of the particle *-na* is to trigger an essential relation between the property of the NP combined with *-na* and the property of the VP. As for (42ii), we showed in 4.3 that *amwu-(N)-na* is an indefinite that has existential force basically, and receives a universal interpretation via quantificational variability effects (QVE) and a plural or quasi-universal interpretation via agent indifference, i.e., an agent's indiscriminative attitudes.

The first piece and (most of) the second piece have already been reflected in the proposed analysis, as in (43), repeated from Chapter 3. The first piece in (42i) is expressed in the presupposition (43b). The second piece in (42ii) is represented as an existential quantifier in (43), where no relevant operator is present.

(43) **TEMPLATE 1**

amwu-(N)-*na* (w_0) (F) (P) (Q)

a. Asserts: $\exists x [P(w_0)(x) \wedge Q(w_0)(x)]$

b. Presupposes: $\forall w' \in \min_{w_0} [F \cap \lambda w''. P(w'') \neq P(w_0)]:$

$$\exists x [P(w')(x) \wedge Q(w')(x)] = \exists x [P(w_0)(x) \wedge Q(w_0)(x)]$$

In (43), P is the property of the NP headed by *-na*, and Q refers to the VP property. F indicates the modal basis that the presupposition operates on. For *amwu*-(N)-*na*, F is always counterfactual. As for the third piece in (42iii), I remind the reader of the domain-widening effects of *amwu*-(N) that were proposed in Chapter 2. I repeat the relevant examples in (44).

(44) a. Ku il-un **nwukwu-na** ha-l.swu.iss-ciman,

The job-TOP WHO-OR do-can-but

amwu-na ha-l.swu.iss-ci.ahn-ta.

AMWU-OR do-can-NEG-DEC

‘(Lit.) As for the job, anyone can do it, but not just ANYone can do it.’

b. *Ku il-un **amwu-na** ha-l.swu.iss-ciman,

The job-TOP AMWU-OR do-can-but

nwukwu-na ha-l.swu.iss-ci.ahn-ta.

WHO-OR do-can-NEG-DEC

‘(Lit.) As for the job, just ANYone can do it, but not everyone/anyone can do it.’

Sentence (44a) shows that the domain of *amwu*-(N)-*na* is wider than the domain of *wh*-(N)-*na*. If *wh*-(N)-*na* and *amwu*-(N)-*na* are switched, as in (44b), then the sentence doesn't make sense. While *wh*-(N)-*na* ranges over a regular domain, i.e., a domain that consists of normal people, *amwu*-(N)-*na* widens the domain maximally and can include contextually marginal entities. The marginal entities might be, for instance, someone who hasn't received any education, or someone with a severe handicap.

Now a question arises as to how the domain-widening effect of *amwu*-(N) is to be formalized in the proposed analysis. We noted in Chapter 2 that in Kadmon and Landman (1993), domain-widening induced by English *any* CN is analyzed as replacing the set denoted by "a CN" by a superset of the set. Choice of the superset is determined by contextual factors.

Let us assume that the domain for an owl is C, a set of owls with the normal properties. Also assume that HEALTHY-SICK dimension is considered in (45) below. Then C would be a set of owls that have the property of being healthy.

- (45) a. An owl hunts mice.
b. Any owl hunts mice.

The domain-widening action of *any owl* in (45b) then eliminates the property of being healthy from the domain C, resulting in a widened domain C' which is a superset of C. So,

we can formulate (45a) and (45b) as in (46a) and (46b) respectively.

- (46) a. $\forall x. [C(x) \ \& \ owl(x)]$ [hunts-mice(x)], where C is the “normal” relevant domain.
 b. $\forall x. [C'(x) \ \& \ owl(x)]$ [hunts-mice(x)], $C \subseteq C'$, where C is the “normal” relevant domain.

Let us apply this analysis into Korean FCIs *amwu-(N)-na* and *wh-(N)-na*. As mentioned before, *wh-(N)* ranges over a regular domain. It is seen as being equivalent to “a CN” in terms of the size of the domain. That is, both *wh-(N)* and “a CN” (i) do not induce domain-widening and (ii) range over a set of individuals that have contextually “normal” properties. Both of them take the contextual variable C, as in (46a). In contrast, *amwu-(N)* induces the domain-widening effect, as Kadmon and Landman (1993) proposed for *any*. That is, *amwu-(N)* is analyzed as ranging over a superset C' of C. The formula in (47) incorporates the domain-widening effect of *amwu-* as a presupposition (47c). (47) is paraphrased as in (48).

(47) REVISED TEMPLATE 1

amwu-(N)-na (w_0) (F) (P) (Q)

a. Asserts: $\exists x [C'(w_0)(x) \wedge P(w_0)(x) \wedge Q(w_0)(x)]$

b. Presupposes: $\forall w' \in \min_{w_0} [F \cap (\lambda w''. P(w'')(x) \wedge C'(w'')(x)) \neq P(w_0)(x) \wedge C'(w_0)(x)]:$

$\exists x [P(w')(x) \wedge C'(w')(x) \wedge Q(w')(x)] = \exists x [P(w_0)(x) \wedge C'(w_0)(x) \wedge Q(w_0)(x)]$

c. Presupposes: $C \subseteq C'$, where C is the “normal” relevant domain.

(48) Assertion: Some P in C' is Q in the actual world w_0 .

Presupposition: In all the counterfactual worlds w' that are minimally different from w_0 in the following respect: the set of individuals that have property P and C' in w' is different from the set of individuals that have property P and C' in w_0 , the asserted proposition has in w' whatever truth value it has in the actual world w_0 .

With these pieces, I'll present a compositional analysis of *amwu*-(N)-*na* in the upcoming sections. I will start out with generic contexts (4.4.2) and modal contexts (4.4.3) for the first group of licensing environments of *amwu*-(N)-*na*. I will then deal with both affirmative and negative episodic sentences, which belong to the second group of licensing contexts (4.4.4). Lastly, I will provide an analysis of *amwu*-(N)-*na* in DE contexts, the third group of environments, such as the restriction of a universal quantifier (4.4.5).

4.4.2 Generic contexts

A. External indifference and universal effects

In section 3.4.2, I extended von Stechow's (2000) analysis to those cases where *amwu*-(N)-*na* occurs with an operator ϕ and its presupposition of variation is projected on the matrix level. The corresponding formalism is repeated below.

(49) TEMPLATE 2 (with an operator & global presupposition projection)

ϕ [*amwu*-(N)-*na* (w_0) (F) (P) (Q)]

a. Asserts: $[[\phi$ *wh*-/*amwu*-(N)-*na* (w_0) (F) (P) (Q)]]

b. Presupposes: $\forall w' \in \min_{w_0} [F \cap \lambda w'. P(w')] \neq P(w_0)$:

$[[\phi$ *amwu*-(N)-*na* (w') (F) (P) (Q)]] = $[[\phi$ *amwu*-(N)-*na* (w_0) (F) (P) (Q)]]

With the domain-widening effect of *amwu*-(N) under consideration, the generic sentence (50) can be formalized as in (51), which is paraphrased as in (52).

(50) **amwu-say-na** na-n-ta.

AMWU-bird-OR fly-GEN-DEC

‘(Just) ANY bird flies.

(51) a. Assertion: $\lambda w_0. \text{GEN}_{s \leq w_0} [\exists x. \text{bird}(x,s) \wedge \underline{C'}(x,s)] [\text{fly}(x,s)]$

b. Presupposition:

$\lambda w_0. \forall w' \in \min_{w_0}. [F \cap (\lambda w'. \{x: \text{bird}(x,w') \wedge \underline{C'}(x,w')\}) \neq \{x: \text{bird}(x, w_0) \wedge \underline{C'}(x,$

$w_0)\}]$: $\text{GEN}_{s^+ \leq w'} [\exists x. \text{bird}(x,s^+) \wedge \underline{C'}(x,s^+)] [\text{fly}(x,s^+)] =$

$\text{GEN}_{s \leq w_0} [\exists x. \text{bird}(x,s) \wedge \underline{C'}(x,s)] [\text{fly}(x,s)]$

c. Presupposition: $C \subseteq C'$, where C is the “normal” relevant domain.

(52) Assertion: Every s containing a bird with property C' , a subsituation of w_0 , is a situation in which the bird in s flies.

Presupposition: In all the counterfactual worlds w' that are minimally different from w_0 in the following respect: the set of birds with property C' in w' is different from the set of birds with property C' in w_0 , the asserted proposition has in w' whatever truth value it has in the actual world w_0 .

From the interpretation in (51), there is an essential link between “being a bird out of a widened domain” and “flying”. There is no agent to which the essential link or indifference reading is attributed, and thus an external indifference reading is derived.

Also, in (50), *amwu-say-na* ‘amwu-bird-or’ behaves like a universal. As discussed in 4.3, *amwu-(N)-na* in generic contexts is interpreted universally. How can the proposed analysis in (51) then capture the universal effect of *amwu-(N)-na*?

Tredinnick (2005) borrows an insight from Kadmon and Landman (1993) to account for the contrast in (53). In contrast to the plain free relative in (53a), the *-ever* free relative behaves like a universal, accepting *almost/practically* modifiers as in (53b).

- (53) a. *I did practically what you asked me to do.
b. I did practically whatever you asked me to do.

Tredinnick treats the contrast in (53) as very similar to the contrast between an indefinite and *any*, as in (54).

- (54) a. *Almost an owl hunts mice.
b. Almost any owl hunts mice.

Kadmon and Landman (1993) propose that the universal quantification comes from the combination of the generic operator and the domain-widening of *any*. To them, the generic operator is a universal whose domain is vague. The contribution of *any* is to widen the interpretation of *owl* along some contextual dimension, so that the semantic widening makes the generic operator a “dimensionally precise” universal. That is, in order for *any* to be interpreted universally, the presence of the generic operator is crucial. In line with Kadmon and Landman (1993), Tredinnick (2005) makes the following observation:

Universal effects [of *-ever* free relatives] arise when the presupposition of indifference projects over the generic operator. When the presupposition of indifference projects above the generic operator, the creation of counterfactual alternatives induces widening in the domain of the generic operator, which leads to the universal effects. ... The presupposition guarantees that the domain of the generic operator in the assertion is widened to include not only the actual subsituations (of a certain kind) in w_0 but also the subsituations (of a certain kind) in counterfactual worlds w' (Tredinnick, 2005:149-150).

She considers the presupposition of indifference of *-ever*, when projected above the generic operator, as being equivalent to the domain-widening of *any*. That is, in a formula

like (55), repeated from (51), our analysis of generically quantified *amwu*-(N)-*na*, the presupposition of counterfactual variation in (55b) contributed by the particle *-na* is accommodated above the generic operator. The generic operator is therefore not only over the subsituations s of the actual world w_0 but also the subsituations s^+ of the counterfactual worlds w' . This amounts to what Tredinnick thinks leads to the universal effects.

(55) a. Assertion: $\lambda w_0. \text{GEN}_{s \leq w_0} [\exists x. \text{bird}(x, s) \wedge \underline{C'}(x, s)] [\text{fly}(x, s)]$

b. Presupposition:

$$\lambda w_0. \forall w' \in \min_{w_0}. [F \cap (\lambda w'. \{x: \text{bird}(x, w') \wedge \underline{C'}(x, w')\} \neq \{x: \text{bird}(x, w_0) \wedge \underline{C'}(x, w_0)\})]: \text{GEN}_{s^+ \leq w'} [\exists x. \text{bird}(x, s^+) \wedge \underline{C'}(x, s^+)] [\text{fly}(x, s^+)] =$$

$$\text{GEN}_{s \leq w_0} [\exists x. \text{bird}(x, s) \wedge \underline{C'}(x, s)] [\text{fly}(x, s)]$$

c. Presupposition: $C \subseteq C'$, where C is the “normal” relevant domain.

However, this modal dimension that is dubbed “widening” by Tredinnick actually has nothing to do with widening in Korean. Rather, (proper) widening is triggered by *amwu*- in Korean, as shown in (55c). The modal dimension that contributes to turning the generic operator into a dimensionally precise universal is only triggered by the particle *-na*. Without the domain-widening of *amwu*-, that is, if *amwu*- is replaced by *wh*-, the universal effects still obtain, as shown in (56).

- (56) **etten-say-na** na-n-ta.
 WHAT-bird-OR fly-GEN-DEC
 ‘Any bird flies.’

B. Agent indifference

Now let’s consider an example where *amwu-(N)-na* occurs with the generic operator and an agent indifference reading arises. Consider (57).

- (57) Mary-nun ca-ki.cen.ey **amwu-chayk-ina** ilk-nun-ta.
 M.-TOP sleep-before AMWU-book-OR read-GEN-DEC
 ‘Before sleeping, Mary reads a book without caring about its identity.’

(57) means that before sleeping, Mary chooses a book randomly and reads it. In other words, Mary does not care what kind of a book it is, i.e., agent indifference. We have shown in 3.4.2.4 that an agent indifference reading is derived when the presupposition is accommodated locally (i.e., in the nuclear scope of an operator as well as under the scope of a volitional agent). Let us apply TEMPLATE 3, repeated in (58), to sentence (56), and see whether the formula captures the agent indifference reading.

(58) TEMPLATE 3 (with an operator & local presupposition accommodation)

ϕ [*wh-/amwu-(N)-na* (w_0) (F) (P) (Q)]

a. $[[\phi]] ([[wh-/amwu-(N)-na (w_0) (F) (P) (Q) = 1 \wedge \forall w' \in \min_{w_0} [F \cap \lambda w'']. P(w'')] \neq P(w_0)]: [[wh-/amwu-(N)-na (w') (F) (P) (Q)] = [[wh-/amwu-(N)-na (w_0) (F) (P) (Q)]]$

The application produces (59). Here also, the domain-widening of *amwu-* is reflected in the formula. (59) is paraphrased as in (60).

(59) a. $\lambda w_0. \text{GEN}_{s \leq w_0} [\text{before-sleep}(s)] [\exists x. \text{book}(x,s) \ \& \ C'(x,s) \ \& \ \text{read}(m,x,s) \ \& \ \forall s' \in \min_s [F \cap (\lambda s'. \{x: \text{book}(x,s'') \ \& \ C'(x,s'')\} \neq \{x: \text{book}(x,s) \ \& \ C'(x,s)\})]: \exists x. \text{book}(x,s') \ \& \ C'(x,s') \ \& \ \text{read}(m,x,s') = \exists x. \text{book}(x,s) \ \& \ C'(x,s) \ \& \ \text{read}(m,x,s)]$

b. Presupposition: $C \subseteq C'$, where C is the “normal” relevant domain.

(60) Every s , a minimal subsituation (i.e., Mary’s sleeping situation) of w_0 , is a situation in which Mary reads a book in s and in all the counterfactual situations s' that are minimally different from s in the following respect: the set of books with property C' in s' is different from the set of books with property C' in s , Mary reads a book in s' iff Mary reads a book in s .

Compared to (50), which conveys an external indifference reading, no universal effects

obtain in this case. Sentence (57) does not mean that Mary reads every book before sleeping. As Tredinnick argues, universal effects arise when the presupposition of indifference projects over the generic operator.

In (59), however, the presupposition is accommodated under the scope of the generic operator as well as under the scope of the volitional agent. In contrast to (55), where the quantificational dimension of the generic operator includes the subsituations of the actual world w_0 as well as the counterfactual worlds w' , the generic operator in (59) is only over the subsituations of the actual world w_0 . Therefore, *amwu-(N)-na* here does not behave like a universal, and triggers that Mary has an indiscriminative attitude.

4.4.3 Modal contexts

4.4.3.1 Possibility modal

A. External indifference

This section deals with cases where *amwu-(N)-na* occurs with modals. The primary reading of sentence (61) is external indifference, paraphrased in (62). It conveys a FC interpretation under which every kind of meat is a possible eating option for John.

- b. Presupposition: In all counterfactual worlds w' that are minimally different from w_0 in that the set of meat with property C' in w' is different from the set of meat with property C' in w_0 , there is a deontically accessible world w^+ from w' such that there is some meat with property C' that John eats in w^+ iff there is a deontically accessible world w from the actual world w_0 such that there is some meat with property C' that John eats in w .

The assertion in (64a) conveys that John has permission to eat contextually marginal (types of) meat. To this, the presupposition adds that if a different set of meat had been considered, John would have had permission to eat meat out of that set.

B. Agent indifference

If there is an emphatic stress on *amwu-*, then an agent indifference reading arises for (61), as paraphrased in (65).

- (65) Agent indifference: It is admissible for John to choose meat indiscriminately and eat it.

The agent indifference reading can be formalized as in (66) by applying TEMPLATE 3. (66) is read as in (67).

(66) a. $\lambda w_0. \exists w \in \text{Deo}_{w_0} [\exists x. \text{meat}(x, w) \ \& \ C'(x, w) \ \& \ \text{eat}(j, x, w) \ \& \ \forall w^+ \in \min_w [F \cap (\lambda w''. \{x: \text{meat}(x, w'') \ \& \ C'(x, w'')\} \neq \{x: \text{meat}(x, w) \ \& \ C'(x, w)\})] \rightarrow \underline{\text{eat}(j, x, w^+) = \text{eat}(j, x, w)}]$

b. Presupposition: $C \subseteq C'$, where C is the “normal” relevant domain.

(67) In w_0 , there is a deontically accessible world w such that there is some meat with property C' that John eats in w and in all counterfactual worlds w^+ that are minimally different from w in that the set of meat with property C' in w^+ is different from the set of meat with property C' in w , there is some meat with property C' that John eats in w^+ iff there is some meat with property C' that John eats in w .

More intuitively, (66) can be paraphrased as follows. The following world w is a permitted world for John: in w John eats meat out of a widened set of meat items, and in w there is some predisposition of John's –e.g. indifferent attitude—that makes w such that, if the widened set of meat had been different from the set in w , John would have eaten some meat out of that set anyway.

As for the quantificational force of *amwu*-(N)-*na* in the possibility modal sentence (61), it is interpreted existentially on the external reading: what is permitted is John's eating some meat. It can induce plural effects when it takes on an agent indifference reading: “It is admissible for John to act indiscriminately in choosing meat and eat a plural piece of

meat”. The presupposition of counterfactual variation, globally projected or locally accommodated, adds to it a free choice flavor that every possible meat is an eating option for John.

4.4.3.2 Necessity modal

A. External indifference

When *amwu-(N)-na* occurs with the necessity modal operator as in (68), the primary reading is external indifference, given in (69).

- (68) John-un **amwu-hako-na** kyelhonha-yaha-n-ta.
 J.-TOP AMWU-with-OR marry-must-PRES-DEC
 ‘John must marry a person, every person is a possible marriage option for John.’

- (69) External indifference: John’s obligation is to marry a person, it does not matter who the person is.

By applying TEMPLATE 2, we get the interpretation in (70). Everything is parallel to the possibility modal cases. A paraphrase of (70) is given in (71).

- (70) a. Assertion: $\lambda w_0. \forall w \in \text{Deo}_{w_0} [\exists x. \text{person}(x, w) \ \& \ C'(x, w) \ \& \ \text{marry}(j, x, w)]$
- b. Presupposition: $\lambda w_0. \forall w' \in \min_{w_0} [F \cap (\lambda w''. \{x: \text{person}(x, w'') \ \& \ C'(x, w'')\}) \neq \{x: \text{person}(x, w_0) \ \& \ C'(x, w_0)\}]: \forall w^+ \in \text{Deo}_{w'} [\exists x. \text{person}(x, w^+) \ \& \ C'(x, w^+) \ \& \ \text{marry}(j, x, w^+)] = \forall w \in \text{Deo}_{w_0} [\exists x. \text{person}(x, w) \ \& \ C'(x, w) \ \& \ \text{marry}(j, x, w)]$
- b. Presupposition: $C \subseteq C'$, where C is the “normal” relevant domain.
- (71) a. Assertion: In w_0 , all the deontically accessible worlds w are such that there is some person who John marries in w .
- b. Presupposition: In all counterfactual worlds w' that are minimally different from w_0 in that the set of people in w' is different from the set of people in w_0 , all the deontically accessible worlds w^+ from w' are such that there is some person who John marries in w^+ iff all the deontically accessible worlds w from the actual world w_0 are such that there is some person who John marries in w .

B. Agent indifference

If the presupposition is accommodated under the scope of the agent, with the help of an emphatic stress on *amwu-(N)-na*, an agent indifference reading arises as in (72).

- (72) Agent indifference: John's obligation is to marry a person without caring about the person's identity.

The agent indifference can be represented by applying TEMPLATE 3, as in (73), where the presupposition is marked with an underline. (73) is paraphrased as in (74).

- (73) a. $\lambda w_0. \forall w \in \text{Deo}_{w_0} [\exists x. \text{person}(x,w) \ \& \ C'(x,w) \ \& \ \text{marry}(j,x,w) \ \& \ \underline{\forall w^+ \in \text{min}_w} [\text{F} \cap (\lambda w''. \{x:\text{person}(x,w'') \ \& \ C'(x,w'')\} \neq \{x:\text{person}(x,w) \ \& \ C'(x,w)\})] \rightarrow \underline{\text{marry}(j,x,w^+) = \text{marry}(j,x,w)}]$
- b. Presupposition: $C \subseteq C'$, where C is the “normal” relevant domain.

- (74) For all deontic worlds w accessible from w_0 , two things happen: (i) there is some person with property C' who John marries and (ii) in all counterfactual worlds w^+ that are minimally different from w in that the set of people with property C' in w^+ is different from the set of people with property C' in w , there is some person who John marries in w^+ iff there is some person who John marries in w .

Here again, the quantificational force of *amwu*-(N)-*na* in the necessity modal sentence (68) is existential, regardless of whether it delivers an external indifference or an agent indifference reading: what is obligated is John’s marrying someone. In addition, agent indifference can convey that the agent’s action is repetitive so that plural effects arise.

4.4.4 Episodic sentences

4.4.4.1 Affirmative episodic sentences

In 4.2, we showed that *amwu-(N)-na* is not licensed in episodic sentences in general.

Example (75), repeated from (6a), is ungrammatical.

- (75) *John-un amwu-yeca-hako-na macuchi-ess-ta.
J.-TOP AMWU-girl-with-OR run.into-PAST-DEC
'(Lit.) John ran into any girl.'

However, if *amwu-(N)-na* occurs with a volitional agent in an episodic sentence as in (76), it improves strikingly.

- (76) John-un amwu-yeca-hako-na khissuha-ess-e.
J.-TOP AMWU-girl-with-OR kiss-PAST-DEC
'(Lit.) John kissed just ANY girl.'

How does the proposed analysis rule out (75) and predict the grammaticality of (76) at the same time? In 3.4.2.2, we dealt with an example where *amwu-/wh-(N)-na* occurs in a simple episodic sentence. TEMPLATE 1, repeated in (77), was used since there was no operator in the sentence. There is no operator in (75) or (76), either. So let us apply TEMPLATE 1 to the ungrammatical sentence (75) and the grammatical sentence (76) to see

whether the current analysis accounts for the contrast.

(77) TEMPLATE 1

wh-/amwu-(N)-na (w_0) (F) (P) (Q)

a. Asserts: $\exists x [P(w_0)(x) \wedge Q(w_0)(x)]$

b. Presupposes: $\forall w' \in \min_{w_0} [F \cap \lambda w'.P(w') \neq P(w_0)]:$

$$\exists x [P(w')(x) \wedge Q(w')(x)] = \exists x [P(w_0)(x) \wedge Q(w_0)(x)]$$

An application of TEMPLATE 1 gives to the sentence (75) the formula in (78), and to the sentence (76) the formula in (79), respectively. Compare (78) and (79).

(78) a. Assertion: $\lambda w_0. \exists x. \text{girl}(x, w_0) \ \& \ C'(x, w_0) \ \& \ \text{run.into}(j, x, w_0)$

b. Presupposition: $\lambda w_0. \forall w' \in \min_{w_0} [F \cap (\lambda w'. \{x: \text{girl}(x, w') \ \& \ C'(x, w')\} \neq \{x: \text{girl}(x, w_0) \ \& \ C'(x, w_0)\})]: \exists x. \text{girl}(x, w') \ \& \ C'(x, w') \ \& \ \text{run.into}(j, x, w') = \exists x. \text{girl}(x, w_0) \ \& \ C'(x, w_0) \ \& \ \text{run.into}(j, x, w_0)$

c. Presupposition: $C \subseteq C'$, where C is the “normal” relevant domain.

Assertion: In the actual world w_0 , there is some girl that John ran into.

Presupposition: In all worlds w' minimally different from w_0 in which the set of girls is different from the set of girls in w_0 , John runs into a girl in w' iff he runs into a girl in w_0 .

- (79) a. Assertion: $\lambda w_0. \exists x. \text{girl}(x, w_0) \ \& \ C'(x, w_0) \ \& \ \text{kiss}(j, x, w_0)$
- b. Presupposition: $\lambda w_0. \forall w' \in \min_{w_0} [F \cap (\lambda w''. \{x: \text{girl}(x, w'') \ \& \ C'(x, w'')\}) \neq \{x: \text{girl}(x, w_0) \ \& \ C'(x, w_0)\}]]: \exists x. \text{girl}(x, w') \ \& \ C'(x, w') \ \& \ \text{kiss}(j, x, w') = \exists x. \text{girl}(x, w_0) \ \& \ C'(x, w_0) \ \& \ \text{kiss}(j, x, w_0)$
- c. Presupposition: $C \subseteq C'$, where C is the “normal” relevant domain.

Assertion: In the actual world w_0 , there is some girl that John kissed.

Presupposition: In all worlds w' minimally different from w_0 in which the set of girls is different from the set of girls in w_0 , John kisses a girl in w' iff he kisses a girl in w_0 .

(78) and (79) have exactly the same formal shape. For both representations, the presuppositions are paraphrased as: ‘Every possible girl x is such that John runs into x or John kisses x ’. As Dayal (1998) and Chierchia (2005) note, such a statement would be too broad/strong to ever be true. So what brings about the grammaticality contrast between (75) and (76)? The answer is agent indifference.

Agent indifference, which is available in (76), makes the counterfactual presupposition sound plausible. Because the agent doesn’t care about the identity of the girls he kisses, every possible girl would be a possible kissing option for John. The counterfactual possibility that he would kiss different girls comes to make sense in this way. With the help of the agent indifference, sentence (76) turns into a semi-generic statement that

expresses John's kissing attitude or habit. In contrast, the counterfactual presupposition in (78) for the ungrammatical sentence (75) does not make sense at all. It is highly implausible to make an essential link between "being a girl x" and "John's running into x". Hence, ungrammaticality is generated.

This account explains three things. First, it accounts for the ungrammaticality of (75): a presupposition failure occurs. Second, it accounts for why only an agent indifference reading seems to be available for *amwu-(N)-na* when it occurs in an episodic sentence. It is because *amwu-(N)-na* is marginal without a volitional agent and when agentivity rescues *amwu-(N)-na*, it is the only thing that makes sense of the presupposition of *-na*.⁴⁶ Third, it accounts for the plural effects that were discussed in 4.3.3. In (79), the presupposition of indifference is intuitively construed under the scope of the volitional agent, i.e., it is associated with the VP denotation first, and functions like a manner adverb. Thus, (79) reads: "John kissed a girl by acting indifferently or indiscriminately". The indifferent or indiscriminate behavior is easily interpreted as John's kissing more than one girl, i.e., plural effects.

4.4.4.2 Negative episodic sentences

Amwu-(N)-na in a negative episodic sentence can only take on an agent indifference reading, for the same reasoning as that we saw in 4.4.4.1. Sentence (80) below conveys

⁴⁶ More possibilities for rescuing *amwu-(N)-na* in episodic sentences will be discussed in 4.6.

the agent indifference reading in (81).

- (80) John-un **amwu-yecaay-hako-na** khissuha-ci.anh-ass-ta.
 J.-TOP AMWU-girl-with-OR kiss-NEG-DEC
 ‘John didn’t kiss just any girl.’

- (81) Agent indifference: It is not the case that John kissed a girl by acting indifferently.

To represent (80) formally, let the operator ϕ be negation. An application of **TEMPLATE 3** results in the formula in (82). The presupposition is accommodated under the scope of the agent.

- (82) $\lambda w_0. \neg [\exists x. \text{girl}(x, w_0) \ \& \ C'(x, w_0) \ \& \ \text{kiss}(j, x, w_0) \ \& \ \forall w' \in \min_{w_0} [F \cap \lambda w'.$
 $\underline{\{x: \text{girl}(x, w') \ \& \ C'(x, w')\} \neq \{x: \text{girl}(x, w_0) \ \& \ C'(x, w_0)\}}] \rightarrow \text{kiss}(j, x, w') =$
 $\underline{\text{kiss}(j, x, w_0)}]$

It is not the case that John kissed a girl and for every counterfactual world w' that is minimally different from w_0 with respect to the identity of the set of girls, John kisses a girl in w' iff John kisses a girl in w_0 .

The sentence reads: “It is not the case that (i) John kissed a girl and (ii) he did it indifferently”. That is, we obtain a negation of the conjunct of the assertion and the presupposition. However, intuitively, one feels that negation is just negating the

(a) ‘Every kid who ate some meat had an upset stomach, no matter what kind of meat it might have been’

(b) ‘Every kid who ate meat without caring about its identity had an upset stomach’

A. External indifference

External indifference is represented as in (84), which is paraphrased as in (85).

(84) a. Assertion: $\lambda w_0. \forall x [\text{kid}(x, w_0) \ \& \ \exists y. \text{meat}(y, w_0) \ \& \ C'(y, w_0) \ \& \ \text{eat}(x, y, w_0)]$
 $[\text{stomach-upset}(x, w_0)]$

b. Presupposition: $\lambda w_0. \forall w' \in \text{min}_{w_0} [F \cap (\lambda w'. \{y: \text{meat}(y, w') \ \& \ C'(y, w')\} \neq \{y: \text{meat}(y, w_0) \ \& \ C'(y, w_0)\})]: \forall x [\text{kid}(x, w') \ \& \ \exists y. \text{meat}(y, w') \ \& \ C'(y, w') \ \& \ \text{eat}(x, y, w')] [\text{stomach-upset}(x, w')] = \forall x [\text{kid}(x, w_0) \ \& \ \exists y. \text{meat}(y, w_0) \ \& \ C'(y, w_0) \ \& \ \text{eat}(x, y, w_0)] [\text{stomach-upset}(x, w_0)]$

(85) a. Assertion: In w_0 , every kid who ate some meat with property C' got an upset stomach in w_0 .

b. Presupposition: In all counterfactual worlds w' minimally different from w_0 in which the set of meat with property C' in w' is different from the set of meat with property C in w_0 , every kid who eats some meat with property C' gets an upset stomach in w' iff every kid who eats some meat with property C' gets an upset stomach in w_0 .

B. Agent indifference

When the presupposition of variation is interpreted inside the restriction of the universal quantifier, the following interpretation (86) obtains, i.e., agent indifference. (86) is paraphrased as in (87). It gives us a reading that every kid who ate meat indiscriminately got an upset stomach.

$$(86) \lambda w_0. \forall x[\text{kid}(x, w_0) \ \& \ \exists y.\text{meat}(y, w_0) \ \& \ C'(y, w_0) \ \& \ \text{ate}(x, y, w_0) \ \& \ \underline{\forall w' \in \min_{w_0} [F \cap (\lambda w'. \{x:\text{meat}(x, w') \ \& \ C'(x, w')\} \neq \{x:\text{meat}(x, w_0) \ \& \ C'(x, w_0)\})]}] \rightarrow \text{eat}(x, y, w') = \underline{\text{ate}(x, y, w_0)}] \text{ [stomach- upset}(x, w_0)]$$

(87) In w_0 , every kid x to whom the following two things happened got an upset stomach: (i) x eats some meat and (ii) in all counterfactual worlds w' minimally different from w_0 in which the set of meat with property C' in w' is different from the set of meat with property C' in w_0 , x eats some meat with property C' in w' iff x eats some meat with property C' in w_0 .

4.5 Comparison with Menéndez-Benito's (2005) account

In this section, I compare the current proposal with Menéndez-Benito's (2005) analysis in terms of how to derive the right kind of free choice effects. First, I will summarize Menéndez-Benito's account. Then, I will show how our system captures the intuition

argued for by Menéndez-Benito (2005).

4.5.1 Exclusivity account in Menéndez-Benito (2005)

Recall Menéndez-Benito's (2005) claim that we discussed in 3.2.2.2. She argues that the "wide-scope universal account" of FCIs does not capture the free choice component of FCIs like Spanish *cualquiera*. If an FCI were merely a wide-scope universal, then it must be judged grammatical in a world where no freedom of choice is granted. Recall the canasta scenario.

(88) The Canasta scenario

One of the rules of the card game Canasta is: when a player has two cards that match the top card of the discard pile, she has two options: (i) take all the cards in the discard pile or (ii) take no card from the discard pile (but take the top card of the regular pile instead). Those are her two only options.

In the canasta scenario, where Juan doesn't have the freedom to choose one or more of the cards he likes, the sentence (89) containing *cualquiera* is judged ungrammatical. However, the "wide-scope universal analysis" wrongly predicts that *cualquiera* should come out true under this scenario.

(89) Juan puede coger cualquiera des las cartas del mazo.

Juan can take any of the cards in the discard pile.

In order to obtain the free choice effect of *cualquiera* in examples like (89), Menéndez Benito (2005) introduces the ‘**exclusiveness operator**’ to the interpretation of the FCI, which is then supplied with universality by the universal operator that is assumed to be inherent to *cualquiera*. The exclusiveness operator together with the universal quantifier derive the free choice components of *cualquiera*.

Let us see how Menéndez-Benito’s (2005) account works in detail. On her analysis, *cualquiera* is treated as a universal indeterminate pronoun.⁴⁷ Following Kratzer and Shimoyama (2002), indeterminates introduce a Hamblin set, i.e., a set of alternatives, in which each alternative grows as proceeding up the syntactic tree until it meets an operator. Suppose there are only two cards in the discard pile, namely, the Queen of Hearts and the Ace of Spades. *Cualquiera de las cartas del mazo* ‘any of the cards in the pile’ introduces the following Hamblin set.

(90) $[[\text{cualquiera de las cartas del mazo}]]^{\text{w},\text{g}} = \{\text{the Queen, the Ace, the Queen+the Ace}\}$

The set expands until it meets an operator, and then the set results in a set of propositional alternatives as in (91). When the set is associated with the possibility modal operator, for example, then the set (92) obtains.

⁴⁷ Indeterminate pronouns refer to indefinites in languages like Japanese, whose quantificational force and polarity sensitivity are determined by the particle they combine with. See Kratzer and Shimoyama (2002).

(91) $[[\text{(Juan) coger cualquiera de las cartas del mazo}]]^{w,g} = \{\text{That Juan takes the Queen, That Juan takes the Ace, That Juan takes the Queen and the Ace}\}$

(92) $[[\text{puede (Juan) coger cualquiera de las cartas del mazo}]]^{w,g} = \{\text{There is a world accessible from } w \text{ where Juan takes the Queen, There is a world accessible from } w \text{ where Juan takes the Ace, There is a world accessible from } w \text{ where Juan takes the Queen and the Ace}\}$

As a universal indeterminate, *cualquiera* is supposed to agree with the $[\forall]$ propositional quantifier, as given in (93).

(93) For any set of propositions A,

$[\forall](A) = \{\text{the proposition that is true in all worlds in which every proposition in A is true}\}$ (Kratzer and Shimoyama, 2002)

An application of \forall to the set of propositions in (92) yields a singleton set containing the proposition that is true in a world w iff the following three conditions are met:

- (i) there is a world accessible from w where Juan takes the Queen of Hearts
- (ii) there is a world accessible from w where Juan takes the Ace of Spades
- (iii) there is a world accessible from w where Juan takes the Ace of Spades and the

Queen of Hearts

This will only give a wide-scope universal paraphrase for *cualquiera*, that is, for every card x , there is a possible world in which Juan takes x in the canasta scenario. This is true if, in fact, you have to pick all the cards. Thus, it wrongly predicts that the sentence (89) is true in the canasta scenario.

To derive the correct free choice effect of *cualquiera*, Menéndez-Benito (2005) proposes that the exclusiveness operator be applied to the propositional alternatives generated by *cualquiera* as soon as they come into existence. After this, other operators including the propositional universal quantifier apply. The exclusiveness operator is defined as follows:

(94) The exclusiveness operator

$$\text{Excl}(A) = \{\lambda w (p(w) \ \& \ \forall q ((q \in A \ \& \ q(w)) \rightarrow (p \Rightarrow q))): p \in A\}$$

$$p \Rightarrow q =_{\text{def}} \forall w (p(w) \rightarrow q(w))$$

Let us apply this operator to the three environments: possibility modal, episodic, and necessity modal sentences. We will see that *cualquiera* can occur in possibility modal contexts, but not in episodic and necessity modal contexts.

I will start with a possibility modal context as in (95), repeated from (89).

(95) Juan puede coger cualquiera des las cartas del mazo.

Juan can take any of the cards in the discard pile.

Menéndez-Benito presents the LF for (95) as in (96). The exclusivity operator is assumed to combine with a set of propositional alternatives and then the universal propositional quantifier applies later.

(96) LF: $[_{IP} \forall [_{IP} \text{ can } [_{\text{Excl}} [_{TP} \text{ Juan coger } [_{DP} \text{ cualquiera de las cartas del mazo}]]]]]$

When the exclusivity operator associates with the set of propositions (97), it yields the set of mutually exclusive propositions in (98).

(97) $[[[TP]]^{w,s}] = \{\text{that Juan takes the Queen, that Juan takes the Ace, that Juan takes the Queen and the Ace}\}$

(98) $\text{Excl}([[[TP]]^{w,s}) = \{\text{that Juan takes the Queen but not the Ace,$
 $\text{that Juan takes the Ace but not the Queen,$
 $\text{that Juan takes the Queen and the Ace}\}$

After that, the application of the possibility modal yields the following set of propositions.

(99) {there is a world accessible from w where Juan takes the Queen but not the Ace,
there is a world accessible from w where Juan takes the Ace but not the Queen,
there is a world accessible from w where Juan takes the Ace and the Queen }

The application of the universal quantifier to the set above produces a singleton set containing the proposition that is true in a world w iff the following three conditions are met:

- (i) there is a world accessible from w where Juan takes the Queen but not the Ace
- (ii) there is a world accessible from w where Juan takes the Ace but not the Queen
- (iii) there is a world accessible from w where Juan takes the Ace and the Queen

No contradiction arises here and sentence (96) is predicted to be grammatical. This interpretation guarantees the right kind of free choice effect that each of the cards – which are mutually exclusive – can be a picking option for Juan.

Now let us consider an example of an episodic sentence, as in (100).

(100) *Juan cogió cualquiera de las cartas del mazo.

Juan took-pfv. Any of the cards in the discard pile.

The LF for (100) is represented as in (101).

(101) LF: $[_{IP} \forall [_{Excl} [_{TP} \text{Juan cogió } [_{DP} \text{cualquiera de las cartas del mazo}]]]]]$

The exclusivity operator maps the set of propositional alternatives in (102) into the set in (103).

(102) $[[TP]]^{w,g} = \{\text{that Juan took the Queen, that Juan took the Ace, that Juan took the Queen and the Ace}\}$

(103) $Excl([[TP]]^{w,g}) = \{\text{that Juan took the Queen but not the Ace, that Juan took the Ace but not the Queen, that Juan took the Queen and the Ace}\}$

When the set of mutually exclusive propositions in (103) is associated with the propositional universal quantifier for agreement, it yields a singleton set containing the proposition that is true in a world w iff the following three conditions are met:

- (i) in w Juan took the Queen of Hearts but not the Ace
- (ii) in w Juan took the Ace of Spades but not the Queen
- (iii) in w Juan took the Ace of Spades and the Queen of Hearts

Since there is no world where all of the three conditions are satisfied, sentence (100) is a contradiction. This accounts for why *cualquiera* is ungrammatical in an episodic sentence.

The ungrammaticality of *cualquiera* in necessity modal sentences like (104) is accounted for in the same vein.

- (104) *Juan tiene que coger cualquiera des las cartas del mazo.
 Juan must take any of the cards in the discard pile.

The LF is given in (105), parallel to the possibility modal case.

- (105) LF: $[_{IP} \forall [_{IP} \text{ must } [_{Excl} [_{TP} \text{ Juan coger } [_{DP} \text{ cualquiera de las cartas del mazo}]]]]]$

When the mutually exclusive operator applies, we get a set of mutually exclusive propositional alternatives as in (106).

- (106) $\text{Excl}([[_{TP}]]^{\text{w,g}}) = \{\text{that Juan takes the Queen but not the Ace,}$
 $\text{that Juan takes the Ace but not the Queen,}$
 $\text{that Juan takes the Queen and the Ace}\}$

Now the application of the necessity modal operator to the set (106) produces the following set.

(107) {that in all accessible worlds Juan takes the Queen but not the Ace, that in all accessible worlds Juan takes the Ace but not the Queen, that in all accessible worlds Juan takes the Ace and the Queen}

When the universal quantifier is applied to (107), it yields a singleton set containing the proposition that is true in a world w iff the following three conditions are met:

- (i) in all worlds accessible from w , Juan takes the Queen but not the Ace
- (ii) in all worlds accessible from w , Juan takes the Ace but not the Queen
- (iii) in all worlds accessible from w , Juan takes the Ace and the Queen

Since there is no world where all of the three conditions are met, sentence (104) is a contradiction, and is predicted to be ungrammatical. This accounts for why *cualquiera* cannot occur in a necessity modal sentence.

In sum, the free choice effect (of *cualquiera*) is paraphrased as universal quantification over exclusive choices in Menéndez-Benito (2005). That is, it is expressed by the combination of the universal quantifier and the exclusiveness operator (henceforth, “+**Excl**”). This analysis not only derives the correct FC effects, but also accounts for the licensing environments of *cualquiera*. That is, it is grammatical in possibility modal sentences, but not in episodic and necessity modal sentences, where *cualquiera* would generate a contradiction between the exclusiveness operator and the universal quantifier.

4.5.2 Our account

Now the question is whether the current proposal for *amwu-(N)-na* captures the right kind of free choice effects in Korean, avoiding the wide-scope universal paraphrase. In other words, we need to make sure that the current proposal achieves a similar effect to “+**Excl**”, the combination of the universal quantification with the exclusiveness operator proposed in Menéndez-Benito (2005). In addition, we are concerned with whether the current proposal accounts for the licensing environments of *amwu-(N)-na* with respect to possibility modal, episodic, and necessity modal sentences. Unlike Spanish *cualquiera*, *amwu-(N)-na* can occur not only in possibility modal sentences but also in necessity modal sentences, with its indifference reading oriented either to a higher locus (external indifference) or to an agent (agent indifference). *Amwu-(N)-na* also can occur in an episodic sentence when there is a volitional agent, with its indifference reading oriented to the agent (agent indifference).

Let us compare the current proposal with the exclusiveness-based account in detail. First of all, because we are treating *amwu-(N)-na* as an indefinite whose quantificational force is basically existential across-the-board, the current proposal does not induce a wide-scope universal paraphrase. In our system, sentence (108a) is given the paraphrase in (108b), which contains an existential quantifier as a part of the whole interpretation.

- (108) a. John can take amwu-card-na.
 b. John can take a card.

How can we capture the correct free-choiceness of *amwu-(N)-na*, which would be something similar to “+Excl”? Here is exactly where the presupposition of variation kicks in.⁴⁸

I will start by showing how a possibility modal sentence works. The current proposal formally represents the possibility modal sentence (109) as in (110).

- (109) John-un amwu-khadu-na cip-eto.toy-e.
 J.-TOP AMWU-card-OR take-can-DEC
 ‘John can take just ANY card.’

- (110) a. Assertion: $\lambda w_0. \exists w \in \text{Deo}_{w_0} [\exists x. \text{card}(x, w) \ \& \ C'(x, w) \ \& \ \text{take}(j, x, w)]$
 b. Presupposition:
 $\lambda w_0. \forall w' \in \min_{w_0} [F \cap \lambda w'. \{x: \text{card}(x, w') \ \& \ C'(x, w')\} \neq \{x: \text{card}(x, w_0) \ \& \ C'(x, w_0)\}]: \exists w^+ \in \text{Deo}_{w'} [\exists x. \text{card}(x, w^+) \ \& \ C'(x, w^+) \ \& \ \text{take}(j, x, w^+)] =$
 $\exists w \in \text{Deo}_{w_0} [\exists x. \text{card}(x, w) \ \& \ C'(x, w) \ \& \ \text{take}(j, x, w)]$
 c. Presupposition: $C \subseteq C'$, where C is the “normal” relevant domain.

⁴⁸ Menéndez-Benito (2005) only provides an illustration of what we call external indifference. In the comparison in this chapter, I will stick to TEMPLATE 2 whenever both TEMPLATE 2 and TEMPLATE 3 are available, for the presupposition of variation leading to external indifference.

The assertion in (110a) conveys that John has permission to take a card out of a widened set. The presupposition adds to it that if a different set of cards had been considered, John would have had permission to take a card out of the set. That is, the presupposition is paraphrased as: “For each possible set of cards with property C’ , there is a card that John has permission to take”. This counterfactual variation provides universal quantification over counterfactual worlds where the set of cards is different from the set of cards in the actual world, which roughly amounts to “” +**Excl**”.

Now suppose that there are two cards in a relevant domain, i.e., the Queen of hearts and the Ace of spades. Then, the set of cards with the “normal” property C⁴⁹ in the actual world is as given in (111). The set of cards with property C’ will be a superset of (111).

$$(111) \quad \{x: \text{card}(x, w_0) \text{ and } C(x, w_0)\} = \{\text{Queen, Ace}\}$$

The extension of $\{x: \text{card}(x) \text{ and } C'(x)\}$ can be evaluated in every counterfactual world accessible from w_0 . Consider the following:

⁴⁹ The “normal” property here would be defined as the property of “being in the discard pile”, if we imagine the canasta scenario.

- (112) a. $\{x: \text{card}(x, w_4) \text{ and } C'(x, w_4)\} = \{\text{Queen, Ace, King}\}$
 b. $\{x: \text{card}(x, w_7) \text{ and } C'(x, w_7)\} = \{\text{Queen, Ace, King, 1}\}$
 c. $\{x: \text{card}(x, w_{11}) \text{ and } C'(x, w_{11})\} = \{\text{Queen, Ace, King, 2, 9}\}$
 ...
 d. $\{x: \text{card}(x, w_5) \text{ and } C'(x, w_5)\} = \{\text{Queen}\}$
 e. $\{x: \text{card}(x, w_2) \text{ and } C'(x, w_2)\} = \{\text{Ace}\}$
 f. $\{x: \text{card}(x, w_{10}) \text{ and } C'(x, w_{10})\} = \{\text{King}\}$

For all the counterfactual worlds given in (112)⁵⁰, the sets of cards with property C' are different from the set of cards in the actual world as in (111). The presupposition conveys that for each set, there is a deontically accessible world where John takes a card. In other words, for each set y in (112), John has permission to take a card out of y.

Now consider the singleton sets in (112d) through (112f). According to the presupposition of variation, we get the following inference:

- (113) a. John has permission to take a card out of the set {Queen}, which is evaluated in w_5 .
 b. John has permission to take a card out of the set {Ace}, which is evaluated in w_2 .
 c. John has permission to take a card out of the set {King}, which is evaluated in w_{10} .

⁵⁰ The null set seems to be not considered, since it would yield some kind of presupposition failure comparable to: *Pick a card out of this empty basket.*

In this way, permission is granted for each of the “mutually exclusive” choices. Thus, the presupposition of variation proposed in the current analysis derives the correct free choice effects.

In addition, note that there is no presupposition failure or clash between the assertion and the presupposition. Hence, *amwu*-(N)-*na* is grammatical in this context, i.e., a possibility modal context, with the right kind of free choiceness generated.

Turning to episodic sentences, *amwu*-(N)-*na* in (114) is represented as in (115) below.

- (114) John-un amwu-khadu-na cip-ess-e.
 J.-TOP AMWU-card-OR take-PAST-DEC
 ‘(Lit.) John took just ANY card.’

- (115) Assertion: $\lambda w_0. \exists x. \text{card}(x, w_0) \ \& \ C'(x, w_0) \ \& \ \text{take}(j, x, w_0)$
Presupposition: $\lambda w_0. \forall w' \in \text{min}_{w_0} [F \cap (\lambda w''. \{x: \text{card}(x, w'') \ \& \ C'(x, w'')\} \neq \{x: \text{card}(x, w_0) \ \& \ C'(x, w_0)\})]: \exists x. \text{card}(x, w') \ \& \ C'(x, w') \ \& \ \text{take}(j, x, w') = \exists x. \text{card}(x, w_0) \ \& \ C'(x, w_0) \ \& \ \text{take}(j, x, w_0)$

On the current account, (114) asserts that there is a card that John took in the actual world. The presupposition triggered by *-na* adds to it that if there had been a different set of cards, John would have taken a card out of the set. The presupposition here is interpreted

as being attributed to the agent John (agent indifference). Again, this counterfactual variation provides universal quantification over counterfactual worlds where the set of cards is different from the set of cards in the actual world.

As we saw in the possibility modal case, the sets of cards in counterfactual worlds can be exemplified as in (116).

- (116) a. $\{x: \text{card}(x, w_4) \text{ and } C'(x, w_4)\} = \{\text{Queen, Ace, King}\}$
 b. $\{x: \text{card}(x, w_7) \text{ and } C'(x, w_7)\} = \{\text{Queen, Ace, King, 1}\}$
 c. $\{x: \text{card}(x, w_{11}) \text{ and } C'(x, w_{11})\} = \{\text{Queen, Ace, King, 2, 9}\}$
 ...
 d. $\{x: \text{card}(x, w_5) \text{ and } C'(x, w_5)\} = \{\text{Queen}\}$
 e. $\{x: \text{card}(x, w_2) \text{ and } C'(x, w_2)\} = \{\text{Ace}\}$
 f. $\{x: \text{card}(x, w_{10}) \text{ and } C'(x, w_{10})\} = \{\text{King}\}$

For all the counterfactual worlds given in (116), the sets of cards with property C' are different from the set of cards in the actual world (111). The presupposition conveys that for each of these sets, there is a card that John takes iff John takes a card out of a widened set in the actual world. Due to the availability of singleton sets like (116d-f), a similar effect to that of “+**Excl**” arises. That is, “ $\forall w' \in \min_{w_0} [F \cap (\lambda w''. \{x: \text{card}(x, w'') \ \& \ C'(x, w'')\} \neq \{x: \text{card}(x, w_0) \ \& \ C'(x, w_0)\})]$ ” can be paraphrased as: “For each counterfactually accessible set of cards, including singleton sets”. The whole presupposition then reads:

- (117) For each counterfactual world w' and the set of cards with property C' in that w' , including singleton sets, there is a card that John takes in w' .

The presupposition is not merely a wide-scope universal paraphrase but has something equivalent to the exclusivity operator considered. That is, in (114), John's indifference applies to each of the "mutually exclusive" choices. Thus, our system generates the right kind of free choice effects.

How can we now account for the fact that *amwu*-(N)-*na* is licensed in episodic sentences like (114) while *cualquiera* is ungrammatical in the same contexts? Recall that in Menéndez-Benito (2005), the ungrammaticality of *cualquiera* in episodic sentences is attributed to a contradiction arising from applying the propositional universal quantifier to all the mutually exclusive propositions. Also, remember that Dayal (1998) argues that presuppositions like (117) are too strong to ever be true. To her, the ungrammaticality of English *any* in episodic sentences is a presupposition failure – specifically, the failure of a presupposition to quantify over this widest possible domain with a purely episodic predicate.⁵¹

⁵¹ Dayal (1998) then proposes that subtriggering allows the quantificational set to be narrowed down enough to avoid the presupposition clash, as in (ib).

- (i) a. *She read any book.
b. She read any book she found.

Subtriggering can rescue Korean *wh*-(N)-*na*, but not *amwu*-(N)-*na*. Why this might be the case will be discussed in Chapter 5.

Going back to Korean, recall that external indifference is usually not available to *amwu-(N)-na* in episodic sentences. Instead, the presupposition of indifference is attributed to an agent. The absence of external indifference is accounted for on the same ground as in Dayal (1998) and Menéndez Benito (2005).⁵² More specifically, the presupposition in (117) is too broad to find any external source to make an essential link between “being a card” and “being taken by John”.

However, on the agent indifference reading, the presupposition in (117) can make sense. The volitional agent in (114), repeated in (118), makes available an agent indifference reading that John didn’t care about the identity of the card. The presupposition is satisfied by the agent indifference reading in that because the agent didn’t care about which card to take, he would have taken a card out of each possible set of cards with property C’. That is, there is no presupposition failure and thus *amwu-(N)-na* is grammatical in (118).

- (118) John-un amwu-khadu-na cip-ess-e.
 J.-TOP AMWU-card-OR take-PAST-DEC
 ‘(Lit.) John took just ANY card.’

Lastly, let us think about necessity modal sentences. In contrast to Spanish *cualquiera*, Korean *amwu-(N)-na* can occur in necessity modal statements, as shown in (119).

⁵² Section 4.5 discusses some cases where external indifference becomes available for *amwu-(N)-na* with the help of hidden modality.

- (119) John-un amwu-khadu-na cip-eya.ha-e.
 J.-TOP AMWU-card-OR take-must-DEC
 ‘(Lit.) John must take ANY card.’

(120) is a formal representation of (119). The assertion in (120a) conveys that John has an obligation to take a card out of a widened set. The presupposition adds to it that if a different set of cards had been considered, John would have had an obligation to take a card out of the set. The presupposition is paraphrased as: ‘For each possible set of cards with property C’, there is a card that John must pick’.

(120) a. Assertion: $\lambda w_0. \forall w \in \text{Deo}_{w_0} [\exists x. \text{card}(x,w) \ \& \ C'(x,w) \ \& \ \text{take}(j,x,w)]$

b. Presupposition:

$\lambda w_0. \forall w' \in \min_{w_0} [F \cap \lambda w'. \{x: \text{card}(x,w') \ \& \ C'(x,w')\} \neq \{x: \text{card}(x,w_0) \ \& \ C'(x,w_0)\}]$:

$\forall w^+ \in \text{Deo}_{w'} [\exists x. \text{card}(x,w^+) \ \& \ C'(x,w^+) \ \& \ \text{take}(j,x,w^+)] =$

$\forall w \in \text{Deo}_{w_0} [\exists x. \text{card}(x,w) \ \& \ C'(x,w) \ \& \ \text{take}(j,x,w)]$

c. Presupposition: $C \subseteq C'$, where C is the “normal” relevant domain.

Now the presupposition in (120b) derives the right kind of free choice effects, just as it does in possibility modal cases. With singleton sets evaluated in the counterfactual worlds that are accessible from the actual world, as in (121), we get the inference in (122) according to the presupposition of variation.

(121) a. $\{x: \text{card}(x, w_5) \text{ and } C(x, w_5)\} = \{\text{Queen}\}$

b. $\{x: \text{card}(x, w_2) \text{ and } C(x, w_2)\} = \{\text{Ace}\}$

c. $\{x: \text{card}(x, w_{10}) \text{ and } C(x, w_{10})\} = \{\text{King}\}$

(122) a. John has an obligation to take a card out of the set $\{\text{Queen}\}$,
which is evaluated in w_5 .

b. John has an obligation to take a card out of the set $\{\text{Ace}\}$,
which is evaluated in w_2 .

c. John has an obligation to take a card out of the set $\{\text{King}\}$,
which is evaluated in w_{10} .

As a result, for each of the “mutually exclusive” choices, John has an obligation to take a card x . Thus, the correct free choice effects are derived in necessity modal cases, too.

This also accounts for the occurrences of *amwu-(N)-na* in necessity modal statements. The presupposition of variation is satisfied by the external indifference that is available. Specifically, it can be fulfilled in cases where some external source/locus (e.g., the speaker or the rule of the card game) does not care which card is taken. Hence, *amwu-(N)-na* is grammatical in necessity modal statements.

In sum, the current proposal not only derives the right kind of FC effects of Korean *-na*-FCIs but also correctly predicts the distribution of *amwu-(N)-na*.

4.6 More on licensing environments: how to rescue *amwu-(N)-na* in episodic sentences

As we have seen so far, the current analysis accounts for the licensing condition on the basis of the interpretability of the presupposition of *amwu-(N)-na*. If the presupposition of indifference is felicitous and contributes to the meaning of a sentence, then *amwu-(N)-na* is predicted to be grammatical.

In this section, I recapitulate how agentivity makes *amwu-(N)-na* licensed in episodic sentences. I also explore some more ways to rescue *amwu-(N)-na* in episodic sentences, such as by employing hidden modality.

4.6.1 Agentivity

As discussed in the previous section, *amwu-(N)-na* in an episodic sentence that lacks a volitional agent as in (123) is predicted to be marginal, in that the presupposition of *-na* (as in (124b), which reads “every possible meat becomes rotten”) does not make sense (cf. Dayal, 1998).

- (123) *amwu-koki-na ssek-ess-e.
AMWU-meat-OR rot-PAST-DEC
'(Lit.) Any meat became rotten.

- (124) a. Assertion: $\lambda w_0. \exists x. \text{meat}(x, w_0) \ \& \ \text{rotten}(x, w_0)$
 b. Presupposition: $\lambda w_0. \forall w' \in \min_{w_0} [F \cap (\lambda w''. \{x: \text{meat}(x, w'')\} \neq \{x: \text{meat}(x, w_0)\})] : \exists x. \text{meat}(x, w') \ \& \ \text{rotten}(x, w') = \exists x. \text{meat}(x, w_0) \ \& \ \text{rotten}(x, w_0)$

We observed that agentivity plays a role in rescuing *amwu*-(N)-*na* in episodic sentences (see 4.4.4 and 4.5). The agent indifference that is available in (125) makes the presupposition of *-na* in (126b) more plausible: because the agent doesn't care about the identity of meat he eats, all possible meats would be possible eating options for John.

- (125) John-un amwu-koki-na mek-ess-e.
 J.-TOP AMWU-meat-OR eat-PAST-DEC
 '(Lit.) John ate just ANY meat.'

- (126) a. Assertion: $\lambda w_0. \exists x. \text{meat}(x, w_0) \ \& \ \text{eat}(j, x, w_0)$
 b. Presupposition: $\lambda w_0. \forall w' \in \min_{w_0} [F \cap (\lambda w''. \{x: \text{meat}(x, w'')\} \neq \{x: \text{meat}(x, w_0)\})] : \exists x. \text{meat}(x, w') \ \& \ \text{eat}(j, x, w') = \exists x. \text{meat}(x, w_0) \ \& \ \text{eat}(j, x, w_0)$

As a result, sentence (125) turns into a semi-generic statement that expresses John's eating attitudes or habits, and licenses *amwu*-(N)-*na* in it.

Following the literature on argument structure (e.g., Pustejovsky, 1998), not all subjects

are agents, as shown in (123), and not all agents appear in the subject position, as shown in (127). Note that *amwu-(N)-na* can be licensed by the agent in a postpositional phrase in (127). Therefore, this sentence shows us that what plays a role is not syntactic subjecthood but semantic agentivity.

- (127) **amwu-na** **John-eykey** mac-ass-ta.
AMWU-OR John-by hit-PAST-DEC
'(Lit.) Anyone was hit by John.'

4.6.2 Hidden modality

The current analysis predicts that as long as the counterfactual presupposition makes sense and is able to come into play, *amwu-(N)-na* can be licensed. As I show next, there are further ways to ensure that the counterfactual presupposition is satisfied.

More specifically, hidden modality can rescue *amwu-(N)-na* in episodic sentences. This insight is borrowed from Menéndez Benito (2005). She reports that episodic (i.e. perfective tensed) sentences with Spanish FCI *cualquiera* improve when a modal or policy-evoking phrase is present. Departing from earlier proposals that (some type of) FCIs improve with subtriggering (Dayal 1998 for English; Chierchia 2005 for Italian, among others), she claims that the aspectual morphology in Spanish that distinguishes episodicty from genericity more straightforwardly blocks subtriggering from rescuing

cualquiera. Nevertheless, she observes that policy-evoking phrases tend to make *cualquiera* sound better, as shown by the contrast between (128) and (129).

(128) *El año pasado, Juan coqueteó con cualquier mujer que le sonriera.

‘Last year, Juan flirted-pfv. with any woman that smiled at him.’

(129) ?? Después del golpe de estado, la policía detuvo a cualquiera que hubiera apoyado al antiguo gobierno públicamente.

‘After the coup d’état, the police arrested-pfv. anyone who had publicly supported the previous government.’

These modal or policy-evoking phrases are seen to give rise to semi-genericity. For instance, (129) sounds like a statement that expresses the semi-generic or habitual property of the police after the coup d’état.

In Korean, modality works more implicitly. It is not the presence or absence of an actual modal phrase that helps license *amwu(N)-na*, but it depends on whether or not the main predicate can be interpreted as a modal expression. Consider (130).

(131) ecey amwu-na ku kongwon-ey tuleka-ass-ta.

yesterday AMWU-OR the park-LOC enter-PAST-DEC

‘(Lit.) Yesterday, anybody entered the park.’

The predicate *tuleka-* in (131) means “go into”, and (131) appears to be a past-tensed episodic sentence. However, the VP “enter the park” can contextually induce a hidden modality, namely, permission from the park manager. The hidden modality makes sense of the presupposition of indifference triggered by *-na*, and its FC reading becomes felicitous that every possible person would have been allowed to enter the park. Hence, *amwu-(N)-na* is licensed in (131).

4.7 Summary

In this chapter, I spelled out the analysis proposed in Chapter 3 for *amwu-(N)-na* with more concrete examples, considering its licensing environments, quantificational variability and domain-widening effects together. In section 4.2, I showed that *amwu-(N)-na* occurs in so-called FC contexts such as generic, modal and imperative sentences as well as in DE contexts such as in the antecedent of conditionals and the restrictor of universal quantifiers. It was also observed that a volitional agent is necessary in order for *amwu-(N)-na* to occur in episodic sentences. Section 4.3 showed that *amwu-(N)-na* is a well-behaved indefinite, whose basic quantification is existential and that receives universal force (Universal effects) in generic contexts due to quantificational variability effects (QVE). When it takes on an agent indifference reading, it receives a quasi-universal or plural interpretation due to the availability of an iterative action (Plural effects). Section 4.4 spelled out the proposed analysis for each example of *amwu-(N)-na* in the various environments discussed in 4.2. In the course of this discussion, the

proposed analysis was revised slightly to take into account the domain-widening effect of *amwu*-(N). Section 4.5 was devoted to demonstrating that the current analysis derives the correct free choice effects in Korean, similar to the account proposed in Menéndez Benito (2005). Section 4.6 discussed a few rescuing strategies for *amwu*-(N)-*na* in episodic sentences: agentivity and hidden modality.

Chapter 5 The Semantics of *WH-(N)-NA*

In the previous chapter, we applied the von Stechow-style analysis to various types of sentences that contain *amwu-(N)-na*. This chapter is concerned with applying the same analysis to examples of *wh-(N)-na*. Compared to *amwu-(N)-na*, *wh-(N)-na* exhibits the same licensing environments. That is, it occurs in FC contexts as well as DE contexts, but is disallowed in episodic sentences. However, as for quantificational force, *wh-(N)-na* shows a more variety than *amwu-(N)-na*. That is, it can take on either universal or existential quantification in modal and imperative sentences, where *amwu-(N)-na* is only interpreted existentially. Furthermore, I identify three types of rescuing strategies for *wh-(N)-na* to occur in an episodic sentence: topicalization, subtriggering and agentivity. In this chapter, these characteristics with respect to the licensing environments, quantificational force and rescuing strategies will be accounted for under the current account proposed in Chapter 3.

5.1 Licensing environments and quantificational force

Table (1) shows the licensing environments and quantificational force of *wh-(N)-na* in each of the environments, compared with *amwu-(N)-na*.

- (1) Licensing environments and quantificational force of *wh*-(N)-*na* in comparison with *amwu*-(N)-*na*

	<i>Amwu</i> -(N)- <i>na</i>	<i>Wh</i> -(N)- <i>na</i>
Generic	√ ∇	√ ∇
<i>Can</i>	√ ∃	√ ∃/∇
<i>Must</i>	√ ∃	√ ∃/∇
Imperative	√ ∃	??/√ ∃/∇
Episodic Affirmative	*/√ ∃	*/√ ∃/∇
Episodic Negation	*/√ ∃	*/√ ∃/∇
Antecedent of <i>If</i>	√ ∃	(√) ∃/∇
Restrictor of ∇	√ ∃	(√) ∃/∇

As discussed in Chapter 4, the (non)-licensing environments in Table (1) are divided into three sub-groups. The first group includes generic, possibility and necessity modal, and imperative sentences, which are categorized as so-called FC contexts. The second group is episodic sentences. The third group includes DE contexts, such as the antecedent of a conditional and the restrictor of a universal quantifier.

Let us investigate the (un)grammaticality and quantificational force of *wh*-(N)-*na* in each of the three groups of contexts.

5.1.1 Free choice contexts

Wh-(N)-*na* is almost identical to *amwu*-(N)-*na* in FC contexts with respect to grammaticality. It can occur in generic, possibility modal and necessity modal contexts, as shown in (2) through (4), just as *amwu*-(N)-*na* can. However, compared with *amwu*-(N)-*na*, *wh*-(N)-*na* is somewhat marginal in imperatives, as illustrated in (5).

- (2) **etten-say-na** na-n-ta. *Generic*
 WHAT-bird-OR fly-GEN-DEC
 ‘Any bird flies.’
- (3) John-un **etten-koki-na** mek-ul.swu.iss-ta. *Possibility*
 J.-TOP WHAT-meat-OR eat-can-DEC
 ‘John is allowed to eat meat, every kind of meat is John’s eating option’
- (4) John-un **etten-chayk-ina** ilk-eyaha-n-ta. *Necessity*
 J.-Top WHAT-book-OR read-must-PRES-DEC
 ‘John must read a book, every kind book is a possible reading option for John.’
- (5) ?**etten-chayk-ina** ilk-ela. *Imperative*
 WHAT-book-OR read-IMP
 ‘Read a book, every kind of book is a possible reading option for John.’

As for its quantificational force, *wh*-(N)-*na* receives a universal reading in generic contexts, just as *amwu*-(N)-*na* does, as shown in (2). In (3) to (5), *wh*-(N)-*na* seems to take on existential quantification, parallel to *amwu*-(N)-*na*. More specifically, in terms of what is permitted for John in (3), and what is ordered for John in (4) and (5), *wh*-(N)-*na* is existential, not universal. Unlike a plain indefinite, a FC flavor “every meat/book is a possible option for John” is captured in the interpretation of *wh*-(N)-*na*. The only difference between *wh*-(N)-*na* and *amwu*-(N)-*na* lies in the size of the domain: the domain for *amwu*-(N)-*na* is larger than the one for *wh*-(N)-*na* due to *amwu*-(N)’s domain-widening.

However, in contrast to *amwu*-(N)-*na*, *wh*-(N)-*na* can be interpreted as a universal quantifier in possibility modal, necessity modal and imperative sentences. Contrast *amwu*-(N)-*na* and *wh*-(N)-*na* in necessity modal contexts in (6) and imperative sentences in (7) below.

- (6) a. **amwu-na** pelkum-ul nay-ya.ha-n-ta.
 AMWU-OR fine-ACC pay- must-PRES-DEC
 ‘Any one person must pay the fine, regardless of who he or she is’
- b. **nwukwu-na** pelkum-ul nay-ya.ha-n-ta.
 WHO-OR fine-ACC pay- must-PRES-DEC
 ‘Everyone must pay the fine, regardless of who they are.’

- (7) a. amwu-hako-na akswuhay-la.
 AMWU-with-OR shake.hands-IMP
 ‘Shake hands with a person, regardless of who he or she is.’
- b. ?nwukwu-hako-na akswuhay-la.
 WHO-with-OR shake.hands-IMP
 ‘Shake hands with everyone, regardless of who they are.’

Sentence (6a), containing *amwu-(N)-na*, is appropriate in a situation where a group of people break a law, and at least one of them must pay the fine. Sentence (6b), which contains *wh-(N)-na*, however, is felicitous in a different situation where a group of people break a law, and every one of them must pay the fine. That is, *amwu-(N)-na* is interpreted existentially and *wh-(N)-na* is interpreted universally, while both of them convey an external indifference reading, whereby the identity of the person(s) who pay(s) the fine does not matter. The imperative sentence (7a), containing *amwu-(N)-na*, conveys that the speaker requires the hearer to shake hands with a person, whose identity is not important to the speaker. In contrast, (7b), containing *wh-(N)-na*, conveys that the speaker requires the hearer to shake hands with every one out of a certain domain, about whose identity the speaker is indifferent. That is, while both of the sentences convey an external indifference reading, *amwu-(N)-na* is interpreted existentially and *wh-(N)-na* universally.

In possibility modal contexts, too, *wh-(N)-na* can take on a universal reading, in contrast to *amwu-(N)-na*. Since it is hard to tease apart an existential FC reading and a universal

reading in a possibility modal sentence (see 3.2.2.2), let us think about a negative possibility modal sentence, as in (8).

- (8) a. **amwu-na** pelkum-ul nay-l.swu-eps-ta.
 AMWU-OR fine-ACC pay-can-NEG-DEC
 ‘It is not the case that just anybody can pay the fine.’
- b. **nwukwu-na** pelkum-ul nay-l.swu-eps-ta.
 WHO-OR fine-ACC pay-can-NEG-DEC
 (A) ‘It is not the case that anybody can pay the fine.’
 (B) ‘For anybody x, x cannot pay the fine.’

In (8a), negation has a metalinguistic flavor (see 4.4.4.2). It negates the presupposition of indifference, meaning only some special person(s) can pay the fine. In contrast, (8b) conveys two readings. The first reading is parallel to the reading in (8a). In addition, (8b) can also be interpreted as: “For everybody x out of a certain domain, regardless of who x is, x cannot pay the fine”. That is, *wh-(N)-na* on the second reading seems to be a universal FC taking wide scope over negation as well as the modal.

We have seen that *wh-(N)-na* can occur in FC contexts. Except for generic contexts in which *wh-(N)-na* only takes universal quantification, *wh-(N)-na* takes both existential and universal interpretation in FC contexts, while *amwu-(N)-na* is interpreted existentially in those contexts.

5.1.2 Episodic sentences

Recall that we have seen in Chapter 4 that *amwu*-(N)-*na* is ungrammatical in an episodic sentence without being under the scope of a volitional agent, as shown in (9). *Wh*-(N)-*na* is also taken to be ungrammatical in an episodic sentence, regardless of whether the sentence is affirmative as in (10a) or negative as in (10b).

- (9) a. ***amwu-namca-na** se-iss-ta.
AMWU-guy-OR stand-PROG-DEC
'(Lit.) Any guy is standing.'
- a. ***amwu-namca-na** an se-iss-ta.
AMWU-guy-OR NEG stand-PROG-DEC
'(Lit.) Any guy is not standing.'
- (10) a. ***etten-namca-na** se-iss-ta.
WHAT-guy-OR stand-PROG-DEC
'(Lit.) Any guy is standing.'
- b. ***etten-namca-na** an se-iss-ta.
WHAT-guy-OR NEG stand-PROG-DEC
'(Lit.) Any guy is not standing.'

However, it has been rarely noticed in the literature that *wh*-(N)-*na* does not occur in

episodic sentences. Y. Lee (1999) basically says that *wh*-(N)-*na* is licensed in episodic sentences, and Kim and Kaufmann (2006) remark that *wh*-(N)-*na* can occur everywhere. This rarity seems to originate from the following reasons.

First, Korean does not mark episodicity on the verb. Past-tensed sentences can be either episodic or non-episodic (i.e., generic-like). So, many occurrences of *wh*-(N)-*na* in a past-tensed sentence are actually licensed by the genericity of the sentence. For instance, sentence (11) only makes sense when it is uttered in a situation where John was a painter and he painted every type of person.

- (11) John-un **etten-salam-ina** kuli-ess-ta.
 J.-Top WHAT-person-OR paint-PAST-DEC
 ‘(Lit.) John painted anyone.’

Second, if *wh*-(N)-*na* is placed in subject position in a past-tensed sentence, the sentence sounds far better than sentences that contain *wh*-(N)-*na* in non-subject positions. This subject vs. non-subject asymmetry that is detected for *wh*-(N)-*na* has not been reported in the previous literature. Consider the contrast in (12).

- (12) a. *John-un **etten-yecaay-na** palapo-ass-ta.
 J.-TOP WHAT-girl-OR see-PAST-DEC
 ‘(Lit.) John saw any girl.’

- b. ?etten-yecaay-na John-ul palapo-ass-ta.
 WHAT-girl-OR J.-ACC see-PAST-DEC
 ‘(Lit.) Any girl saw John.’

(12a), where *wh-(N)-na* is placed in object position, is very marginal, while (12b) where *wh-(N)-na* is in subject position sounds much better. The surface subject position can easily be interpreted as a topic, as reported in Halliday (1967) and Diesing (1992). Thus, *wh-(N)-na* in subject position can be interpreted as a topic, and thus the whole sentence is not merely an episodic sentence but has generic force. As for the quantificational force of *wh-(N)-na* in this case, it is interpreted as a universal quantifier, parallel to the cases where *wh-(N)-na* occurs in generic sentences. That is, the sentence (12b) reads: “Every girl out of a specific domain saw him, regardless of who they are”.

Third, as shown in Chapter 3 (see 3.2.2.3), subtrigging, i.e., adding a relative clause, can improve *wh-(N)-na* in an episodic sentence, as repeated in (13). Compared with the ungrammatical sentence (10a), (13) is greatly improved with the help of a relative clause.

- (13) Pa-ese chwukkwu-lul po-ko.iss-nun etten-namca-na se-iss-ta.
 Bar-LOC soccer-ACC watch-PROG-REL WHAT-guy-OR stand-PROG-DEC
 ‘(Lit.) Any guy who is watching the soccer game at the bar is standing.’

In Korean, an article-less language, subtrigging as a way to restrict the domain of a

quantifier can take place implicitly. A small amount of information can serve to accommodate the relevant domain in the context. That is, domain restriction in Korean is much easier and more flexible than in languages like English.

It seems that domain restriction in English can also be made implicitly in a very limited context, as shown in (14a). *Any objections* in (14) is understood as denoting objections that were raised to something previously discussed. Its Korean translation that contains *wh-(N)-na* is grammatical too, as in (14b). However, in some other contexts where English *any* is not allowed, *wh-(N)-na* is still grammatical, as shown by the contrast in (15). In (15b), the domain for *wh-(N)-na* is implicitly understood so that *etten-chinkwu-na* ‘any friends’ refers to the friends who attended yesterday’s birthday party.

(14) a. Mary confidently answered any objections. (Dayal, 1998)

b. Mary-nun etten-pantay-ey-na casinkamisskey taytapha-ass-ta.
M.-TOP WHAT-objection-to-OR confidently answer-PAST-DEC
‘Mary confidently answered any objections.’

(15) a. *Any friends gave a present to John at his birthday party yesterday.

b. ecey-sayngilphathi-ttay etten-chinkwu-na John-eykey senmwul-ul cwu-ess-ta.
y.day-b.party-LOC WHAT-friend-OR J.-DAT present-ACC give-PAST
‘(Lit.) Any friend gave a present to John at his birthday party yesterday.’

Whether the domain is explicitly specified by subtriggering or implicitly understood, *wh-(N)-na* is interpreted universally, just as subtriggered *any* is (Dayal 1998). That is, (13) is interpreted as “Every guy who is watching the soccer game at the bar is standing, no matter who they are”, and (14) is interpreted as “Mary confidently answered every objection (that was raised to what she had said), no matter what kind of objections they might have been”.

Fourth, agentivity sometimes helps *wh-(N)-na* to occur in an episodic sentence, as exemplified by the contrast in (16).⁵³

- (16) a. *John-un ecey phathi-ese etten-yeca-hako-na macuchi-ess-ta.
 J.-TOP yesterday party-LOC WHAT-girl-with-OR run.into-PAST-DEC
 ‘(Lit.) John ran into random girls at the party yesterday.’
- b. John-un ecey phathi-ese etten-yeca-hako-na khissuha-ass-ta.
 J.-TOP yesterday party-LOC WHAT-girl-with-OR kiss-PAST-DEC
 ‘(Lit.) John kissed random girls at the party yesterday.’

Here I note an interesting contrast in terms of quantificational force between topicalized *wh-(N)-na* in (12b) and subtriggered *wh-(N)-na* in (13) on the one hand and *wh-(N)-na* rescued by agentivity in (16b) on the other hand. When *wh-(N)-na* is amended by topicalization or subtriggering, *wh-(N)-na* is interpreted universally. In contrast, when *wh-*

⁵³ C. Lee (1998) mentions similar phenomena.

(N)-*na* is improved with the help of agentivity, it is interpreted as a plural existential, but not a universal (see 4.3.3 for plural effects). Thus, (16b) is interpreted as: “John acted indifferently and kissed random girls indiscriminately”. It does not necessarily mean that John kissed every girl out of a certain domain.

Compared to *wh*-(N)-*na*, *amwu*-(N)-*na* conveys a derogatory reading in the corresponding sentence to (16b), due to the domain-widening effect of *amwu*-(N). That is, (17), which contains *amwu*-(N)-*na*, means that John kissed girls including, say, an ugly girl. *Wh*-(N)-*na*, however, does not necessarily convey such a derogatory reading.

- (17) John-un ecey phathi-ese amwu-yeca-hako-na khissuha-ass-ta.
 J.-TOP yesterday party-LOC AMWU-girl-with-OR kiss-PAST-DEC
 ‘(Lit.) John kissed random girls, including contextually marginal girls, at the party yesterday.’

To summarize, although *wh*-(N)-*na* is not licensed in purely episodic sentences, the lack of episodicity marking in the Korean verbal system, together with the three kinds of rescuing strategies, i.e., topicalization, subtriggering, and agentivity, have made it difficult for previous researchers as well as Korean native speakers to realize the restricted licensing environments of *wh*-(N)-*na*.

The three ways to improve *wh*-(N)-*na* in episodic sentences can be depicted as in (18).

Under the strategies in A, *wh*-(N)-*na* is interpreted as a universal. Under the strategy B, *wh*-(N)-*na* can be interpreted as a plural indefinite.

(18) Rescuing strategies for *wh*-(N)-*na*

A. Making a generic-like sentence

a. Making *wh*-(N)-*na* topicalized (**topicalization**)

b. Making the domain more specified by adding a relative clause
(**subtriggering**)

B. Putting it under the scope of a volitional agent (**agentivity**)

5.1.3 DE contexts

Y. Lee (1999) reports that *wh*-(N)-*na* is not licensed in DE contexts such as the antecedent of conditionals, while *amwu*-(N)-*na* is.

(19) a. ***nwukwu-na** o-myen, na-hanthey alliecwu-e.

WHO-OR come-if me-DAT inform-IMP

‘(Lit.) If everyone comes, let me know.’

b. **amwu-na** o-myen, na-hanthey alliecwu-e.

AMWU-OR come-if me-DAT inform-IMP

‘If anyone comes, let me know.’

(Y. Lee, 1999)

However, I note that the acceptability of *wh*-(N)-*na* and *amwu*-(N)-*na* in DE contexts depends on contextual factors. In (19) where the domain of people who may come is very wide, *amwu*-(N)-*na* is favored over *wh*-(N)-*na*. In contrast, when the context implicitly assumes a particular set of entities as in (20), *wh*-(N)-*na* is favored over *amwu*-(N)-*na*. (20a) conveys: “For every player of the game, if any of them crosses a line, then the game is over”. *Amwu*-(N)-*na* in this context is not felicitous, as in (20b).

- (20) a. **etten-senswu-na** sen-ul palp-emyen, kyengki-nun kkuthna-n-ta.
 WHAT-player-OR line-ACCcross-if game-TOP finish-GEN-DEC
 ‘No matter which player x is, if x crossed a line, the game is over.’
- b. ??amwu-senswu-na sen-ul palp-emyen, kyengki-nun kkuthna-n-ta.
 AMWU-player-OR line-ACCcross-if game-TOP finish-GEN-DEC
 ‘(Lit.) If any player crossed a line, the game is over.’

Note that (20a) induces an external indifference reading: “The identity of player x does not matter to the rules of the game”. In addition, an agent indifference reading can also be derived by *wh*-(N)-*na* in DE contexts, as shown in (21). (21) means that your hiring random applicants without caring who they are will result in selection of unqualified applicants.

- (21) ney-ka etten-ciwonca-na chayyongha-myen,
 you-NOM WHAT-applicant-OR hire-if
 cakyek-eps-nun salam-to ppophihi-1.kes.i-ta.
 qualification-not.have-REL person-ALSO picked-FUT-DEC
- ‘If you hire just any applicant indiscriminately without caring who they are,
 unqualified ones will be chosen too.’

Summing up this section, the grammaticality of *wh-(N)-na* is exactly parallel to that of *amwu-(N)-na*. It can occur in FC contexts, such as generic, possibility modal, necessity modal and imperative sentences, as well as DE contexts, such as the antecedent of conditionals. *Wh-(N)-na* is not allowed in an episodic sentence, but topicalization, subtrigging and agentivity can rescue it in such sentences. Whenever topicalization or subtrigging takes place, *wh-(N)-na* is interpreted universally. When agentivity improves *wh-(N)-na*, a plural effect can arise.

5.2 Applying von Stechow-style semantics to *wh-(N)-na*

5.2.1 Pieces of meaning

This section discusses the semantic ingredients one can tinker with to account for the grammaticality and quantificational force of *wh-(N)-na*. Parallel to the three pieces for *amwu-(N)-na* proposed in Chapter 4, we basically have the three pieces given in (22) to account for *wh-(N)-na*.

(22) Pieces of meaning

- i. The particle *-na* introduces the presupposition of variation, based on the counterfactual modal.
- ii. ***Wh(N)-na*** is an indefinite, whose basic quantification is existential.
- iii. *Wh(N)* ranges over a regular domain. That is, *wh(N)* ranges over a set of entities that have “contextually normal” properties.

The first piece (22i) and the second piece (22ii) are the same as *amwu-(N)-na*. As for the third piece (22iii), *wh(N)* ranges over a regular or specific domain, while *amwu-(N)* induces a maximal widening of the domain, as shown in Chapter 2. Thus, in contrast to *amwu-(N)-na*, which introduced *C'* in Chapter 4, *wh(N)-na* introduces a contextual variable *C*, a subset of *C'*, referring to a set of *x* with “contextually normal” properties.

In sum, the three pieces in (22) are reflected in the REVISED TEMPLATE 1 in (23).

Compared with *amwu-(N)-na*, *C'* is replaced by *C* in (23). (24) is a paraphrase of (23).

(23) REVISED TEMPLATE 1

wh(N)-na (w_0) (F) (P) (Q)

a. Asserts: $\exists x [P(w_0)(x) \wedge \underline{C(w_0)}(x) \wedge Q(w_0)(x)]$

b. Presupposes: $\forall w' \in \min_{w_0} [F \cap \lambda w''. P(w'')(x) \wedge \underline{C(w'')}(x) \neq P(w_0)(x) \wedge \underline{C(w_0)}(x)]: \exists x [P(w')(x) \wedge C(w')(x) \wedge Q(w')(x)] = \exists x [P(w_0)(x) \wedge C(w_0)(x) \wedge Q(w_0)(x)]$

c. Presupposes: $C \subseteq C'$, where C is the “normal” relevant domain.

(24) Assertion: Some P in C is Q in the actual world w_0 .

Presupposition: In all the counterfactual worlds w' that are minimally different from w in the following respect: the set of individuals that have properties P and C in w' is different from the set of individuals that have property P and C in w_0 , the asserted proposition has in w' whatever truth value it has in the actual world w_0 .

Furthermore, *wh*-(N)'s ranging over a regular or specific domain contributes to another important difference from *amwu*-(N)-*na*. We have seen in Chapter 2 that *wh*-(N) with a specific domain tends to take wide scope over an operator, whereas *amwu*-(N) with a widened or vague domain remains in situ.

This contrast plays a crucial role in accounting for the quantificational interpretation of *wh*-(N)-*na*, compared to *amwu*-(N)-*na*. Recall that *wh*-(N)-*na* can be interpreted universally in some FC contexts like necessity modal contexts, while *amwu*-(N)-*na* is always interpreted existentially, as repeated in (25).

(25=6) a. **amwu-na** pelkum-ul nay-ya.han-ta.

AMWU-OR fine-ACC pay- must-DEC

‘Any one person must pay the fine, regardless of who he or she is’

b. **nwukwu-na** pelkum-ul nay-ya.han-ta.

WHO-OR fine-ACC pay- must-DEC

‘Everyone must pay the fine, regardless of who they are.’

I propose that the contrast in (25) comes from the two different LFs as in (26).

(26) a. [IP must [TP *amwu-na* pay the fine]]

b. [IP *nwukwu-na* [IP must [TP t pay the fine]]]

In sentence (25a), *amwu-(N)-na* remains inside the scope of the necessity modal, as represented in (26a). By contrast, *wh-(N)-na* is analyzed as moving over the modal and placed in the sentence initial position, as in (26b). *Wh-(N)-na* in this position is interpreted as a topic, which serves as the restriction of the generic operator that is introduced for free due to the lack of episodicity marking in the Korean verbal system. The final LF for (25b) is represented as in (27).

(27) [IP GEN [IP *nwukwu-na* [IP must [TP t pay the fine]]]]

Under this structure, *wh-(N)-na* which is basically an indefinite receives universal quantification via the generic operator. This type of LF will be introduced throughout this section to account for the universal quantificational force of *wh-(N)-na*.⁵⁴

⁵⁴ Veneeta Dayal (p.c.) suggested to me that *wh-(N)-na* might be similar to the supplemental use (*a N, any N*) or numeral use (*any 1/2/3/n-1 N*) of *any*. In Dayal (2004), she claims that the core meaning of FC *any* is universal and “the universality can be expressed indirectly such that the universality contributed by *any* is conjoined with an existential statement” as in (i), which is analyzed as (ii). The universality of *any* in (i) is

Now let us start applying the von Fintel-style analysis proposed in Chapter 3 to examples of *wh*-(N)-*na*. Section 5.2.2 deals with generic sentences, where *wh*-(N)-*na* is interpreted universally when it is located in the restriction of the generic operator, inducing an external indifference reading. When *wh*-(N)-*na* is interpreted in the nuclear scope, it induces an agent indifference reading, in which case *wh*-(N)-*na* is interpreted as a plural indefinite. Section 5.2.3 deals with modal sentences. *Wh*-(N)-*na* can be interpreted either universally or existentially. We account for the universal force of *wh*-(N)-*na* in modal contexts by assuming movement of *wh*-(N)-*na*. In 5.2.4, the three types of rescuing methods for *wh*-(N)-*na* in an episodic sentence will be accounted for. Occurrences of *wh*-(N)-*na* in DE contexts will be discussed in 5.2.5.

provided indirectly by the supplementary clause in (iib). This indirect universality, however, “comes into the picture only when other elements contribute an existential quantificational bound” (Dayal, 2004:26).

- (i) You may take an apple, it could be any apple/ any apple could be the one you choose.
(ii) a. $\exists x[\text{apple}(x) \ \& \ \text{choose}(\text{you},x)] \ \&$ *antecedent clause*
b. $\forall y[\text{apple}(y) \ \rightarrow \ \rightarrow \exists i \ \text{choose}(\text{you},y)]$ *supplementary clause*

With this “indirect universality”, she maintains Dayal’s (1998) claim that FC *any* is universal, whose universal quantification comes from within, not from an external source like genericity. Note that Dayal (2004) takes an opposite direction to our analysis, because we argued that *wh*-(N)-*na* is truth-conditionally existential. To this, the presupposition of variation adds intensional universality over counterfactual worlds. That is, *wh*-(N)-*na* always carries a universal flavor that comes from the presupposition. It would be interesting to compare the supplementary/numeral *any* with *wh*-(N)-*na* in Dayal’s (2004) account vs. our account. However, one thing to note is that while both the supplementary/numeral *any* and *wh*-(N)-*na* are allowed in necessity and possibility modal sentences, their distributional patterns do not exactly match, as seen in the following table. That is, while supplementary/numeral *any* is not compatible with subtriggering, *wh*-(N)-*na* can appear with subtriggering in an episodic sentence. In addition, *wh*-(N)-*na* cannot break down into two phrases like the supplementary *any* (*a N, any N*), so it is difficult to apply Dayal’s indirect universality account directly to *wh*-(N)-*na*.

	Suppl/numeral <i>any</i>	Regular <i>any</i>	<i>Wh</i> -(N)- <i>na</i>
Episodic	*	*	*
Possibility/necessity modal	v	v	v
Subtriggering	*	v	v

5.2.2 Generic contexts

In generic contexts, *wh*-(N)-*na* behaves parallel to *amwu*-(N)-*na*, except for the domain restriction. Similar to *amwu*-(N)-*na*, *wh*-(N)-*na* can induce an external indifference reading (5.2.2.1) or an agent indifference reading (5.2.2.2), depending on the context and intonation. In contrast to *amwu*-(N)-*na*, *wh*-(N)-*na* does not induce domain-widening, but ranges over a set of entities with “contextually normal” properties, C.

5.2.2.1 External indifference

Example (28), repeated from (56) in Chapter 4, is analyzed as being parallel to *amwu*-(N)-*na* except for the domain size. Given that the operator ϕ is the generic operator, TEMPLATE 2 in (29) is applied so that an external indifference reading comes about.

(28) **etten-say-na** na-n-ta.

WHAT-bird-OR fly-GEN-DEC

‘Any bird flies, no matter what kind of a bird it is.’

(29) TEMPLATE 2 (with an operator & global presupposition projection)

ϕ [*wh*-/*amwu*-(N)-*na* (w_0) (F) (P) (Q)]

a. Asserts: [[ϕ *wh*-/*amwu*-(N)-*na* (w_0) (F) (P) (Q)]]

b. Presupposes: $\forall w' \in \min_{w_0} [F \cap \lambda w''. P(w'') \neq P(w_0)]:$

[[ϕ *wh*-/*amwu*-(N)-*na* (w') (F) (P) (Q)]] = [[ϕ *wh*-/*amwu*-(N)-*na* (w_0) (F) (P) (Q)]]

(30) is the application of TEMPLATE 2 to sentence (28). *Wh*-(N)’s regular domain is considered too. (30) is paraphrased as in (31).

(30) a. Assertion: $\lambda_{w_0}. \text{GEN}_{s \leq w_0} [\exists x. \text{bird}(x,s) \wedge C(x,s)] [\text{fly}(x,s)]$

b. Presupposition:

$$\lambda_{w_0}. \forall w' \in \min_{w_0} [F \cap \lambda_{w'}. \{x: \text{bird}(x,w') \wedge C(x,w')\} \neq \{x: \text{bird}(x,w_0) \wedge C(x,w_0)\}]: \text{GEN}_{s^+ \leq w'} [\exists x. \text{bird}(x,s^+) \wedge C(x,s^+)] [\text{fly}(x,s^+)] =$$

$$\text{GEN}_{s \leq w_0} [\exists x. \text{bird}(x,s) \wedge C(x,s)] [\text{fly}(x,s)]$$

c. Presupposition: $C \subseteq C'$, where C is the “normal” relevant domain.

(31) Assertion: Every s containing a bird with property C, a subsituation of w_0 , is a situation in which the bird in s flies.

Presupposition: In all the counterfactual worlds w' that are minimally different from w_0 in the following respect: the set of birds with property C in w' is different from the set of birds with property C in w_0 , the asserted proposition has in w' whatever truth value it has in the actual world w_0 .

5.2.2.2 Agent indifference

On the agent indifference reading in (32), *wh*-(N)-*na* is also analyzed as being equivalent to *amwu*-(N)-*na*, except for the size of the domain it ranges over. In (33), repeated from (57) in Chapter 4, *amwu*-(N)-*na* induces a maximal domain-widening and conveys a

derogatory reading that Mary reads a contextually marginal book, say, a children’s book because she does not care about its identity. Compared to (33), sentence (32), which contains *wh-(N)-na*, does not convey such a derogatory reading, but only reads: “Mary reads a book out of a regular domain, not caring about its identity”.

- (32) Mary-nun ca-ki.cen.ey **etten-chayk-ina** ilk-kon.ha-n-ta.
M.-TOP sleep-before WHAT-book-OR read-HAB-GEN-DEC
‘Before sleeping, Mary reads a random book without caring about its identity.’
- (33) Mary-nun ca-ki.cen.ey **amwu-chayk-ina** ilk-kon.ha-n-ta.
M.-TOP sleep-before AMWU-book-OR read-HAB-GEN-DEC
‘Before sleeping, Mary reads a random book without caring about its identity.’

By applying TEMPLATE 3 in (34) to represent the agent indifference reading, sentence (32) is interpreted as in (35), which is paraphrased as in (36). Here again, the regular domain of *wh-(N)-na*, C, is taken into account.

- (34) TEMPLATE 3 (with an operator & local presupposition accommodation)
- ϕ [*wh-/amwu-(N)-na* (w_0) (F) (P) (Q)]
- a. $[[\phi]]$ ($[[wh-/amwu-(N)-na$ (w_0) (F) (P) (Q) = 1 \wedge $\forall w' \in \min_{w_0} [F \cap \lambda w'. P(w') \neq P(w_0)]: [[wh-/amwu-(N)-na$ (w') (F) (P) (Q)]] = [[*wh-/amwu-(N)-na* (w_0) (F) (P) (Q)]])

(35) a. $\lambda w_0. \text{GEN}_{s \leq w_0} [\text{before-sleep}(s)] [\exists x. \text{book}(x,s) \ \& \ C(x,s) \ \& \ \text{read}(m,x,s) \ \& \ \forall s' \in \text{min}_s [F \cap \lambda s''. \{x:\text{book}(x,s'') \ \& \ C(x,s'')\} \neq \{x:\text{book}(x,s) \ \& \ C(x,s)\}] \rightarrow \text{read}(m,x,s') = \text{read}(m,x,s)]$

b. Presupposition: $C \subseteq C'$, where C is the “normal” relevant domain.

(36) Every s , a minimal subsituation (i.e., Mary’s sleeping situation) of w_0 , is a situation in which Mary reads a book in s and in all the counterfactual situations s' that are minimally different from s with the following respect: the set of books with property C in s' is different from the set of books with property C in s , Mary reads a book in s' iff Mary reads a book in s .

5.2.3 Modal contexts

In modal contexts as well as in imperatives, *wh*-(N)-*na* can take on universal quantification, in contrast to *amwu*-(N)-*na*. We account for the contrast with the LFs in (37) and (38). Whereas *amwu*-(N)-*na* always takes narrow scope under the modal as in (37), *wh*-(N)-*na* can either be interpreted inside the scope of the modal as in (38a), or move out of the scope of the modal as in (38b). The movement of *wh*-(N)-*na* is motivated by its “partitive indefinite”-like property, as we discussed in Chapter 2.

(37) a. [IP modal [TP *amwu*-(N)-*na* pay the fine]]

- (38) a. [IP modal [TP *wh*-(N)-*na* pay the fine]]
 b. [IP *wh*-(N)-*na* [IP modal [TP t pay the fine]]]

When *wh*-(N)-*na* is interpreted inside the scope of the modal, it takes on existential quantification, the basic quantification of an indefinite, just as *amwu*-(N)-*na* does. When *wh*-(N)-*na* is interpreted outside the scope of a modal, it receives universal quantification via the generic operator that is introduced on top (cf. (27)).

This section is mainly concerned with representing cases where *wh*-(N)-*na* behaves differently from *amwu*-(N)-*na*, i.e., when it takes wide scope over a modal and induces universal quantification (see examples (6), (7) and (8)). Since cases where *wh*-(N)-*na* takes narrow scope under a modal are just parallel to cases involving *amwu*-(N)-*na* (see 4.4.3), I will only illustrate corresponding formalizations of *wh*-(N)-*na* after discussing the former cases.

5.2.3.1 The universal force of *wh*-(N)-*na*

A. Necessity modal

The sentences in (39), repeated from (6), show that *wh*-(N)-*na* carries universal force in a sentence where *amwu*-(N)-*na* is only interpreted existentially.

- (39=6)a. **amwu-na** pelkum-ul nay-ya.ha-n-ta.
 AMWU-OR fine-ACC pay- must-PRES-DEC
 ‘**Any one person** must pay the fine, regardless of who he/she is.’
- b. **nwukwu-na** pelkum-ul nay-ya.ha-n-ta.
 WHO-OR fine-ACC pay- must-PRES-DEC
 ‘**Everyone** must pay the fine, regardless of who they are.’

By applying TEMPLATE 2, (39a) containing *amwu-(N)-na* is represented as in (40), given that the operator ϕ is the necessity modal.

- (40) a. Assertion: $\lambda w_0. \forall w \in \text{Deo}_{w_0} [\exists x. \text{person}(x,w) \ \& \ C'(x,w) \ \& \ \text{pay-fine}(x,w)]$
- b. Presupposition: $\lambda w_0. \forall w' \in \min_{w_0} [F \cap \lambda w''. \{x: \text{person}(x,w'') \ \& \ C'(x,w'')\} \neq \{x: \text{person}(x,w_0) \ \& \ C'(x,w_0)\}]: \forall w^+ \in \text{Deo}_w [\exists x. \text{person}(x,w^+) \ \& \ C'(x,w^+) \ \& \ \text{pay-fine}(x,w^+)] = \forall w \in \text{Deo}_{w_0} [\exists x. \text{person}(x,w) \ \& \ C'(x,w) \ \& \ \text{pay-fine}(x,w)]$
- c. Presupposition: $C \subseteq C'$, where C is the “normal” relevant domain.

(40) is paraphrased as in (41), which captures the existentiality of *amwu-(N)-na*. That is, in every deontic world w , accessible from the actual world w_0 , there is at least one person who pays the fine, not everyone.

- (41) a. Assertion: In w_0 , all the deontically accessible worlds w are such that there is some person with property C' who pays the fine in w .

- b. Presupposition: In all counterfactual worlds w' that are minimally different from w_0 in that the set of people with property C' in w' is different from the set of people with property C' in w_0 , all the deontically accessible worlds w^+ from w' are such that there is some person with property C' who pays the fine in w^+ iff all the deontically accessible worlds w from the actual world w_0 are such that there is some person with property C' who pays the fine in w .

Note that this formalization is not appropriate to account for the universality of *wh*-(N)-*na* in (39b). We assume here that *wh*-(N)-*na* can move out of the scope of *must* thanks to its partitive-indefinite-like character. When *wh*-(N)-*na* moves out of the scope of the modal, it is interpreted as a topic, which is located in the restriction of the generic operator that is introduced for free, as shown in (42).⁵⁵

(42) [IP GEN [IP *wh*-(N)-*na* [IP must [TP t pay the fine]]]]

Now, the sentence (39b) with the LF in (42) is analyzed as a generic statement, as in (43).

(43) is paraphrased as in (44).

⁵⁵ Recall that our analysis allows *wh*-(N)-*na* to have an existential reading. For instance, *wh*-(N)-*na* is interpreted as an existential quantifier in examples like (3) to (5). However, in some contexts, *wh*-(N)-*na* seems to be forced to take on universal force, as exemplified in (i). It seems to be the case that contextual factors push *wh*-(N)-*na* to be interpreted universally, just as English *any* is interpreted universally in (ii).

- (i) **etten-mayak-ina** apswuha-la.
 What-drag-or confiscate.
 'Confiscate any drug.'
- (ii) Confiscate any drug.

- (43) a. Assertion: $\lambda w_0. \text{GEN}_{s \leq w_0} [\exists x. \text{person}(x, s) \ \& \ C(x, s)] [\forall s_1 \in \text{Deo}_s [\text{pay-fine}(x, s_1)]]$
- b. Presupposition:
 $\lambda w_0. \forall w' \in \min_{w_0} [F \cap \lambda w'. \{x: \text{person}(x, w') \ \& \ C(x, w')\} \neq \{x: \text{person}(x, w_0) \ \& \ C(x, w_0)\}]$:
 $\text{GEN}_{s^+ \leq w'} [\exists x. \text{person}(x, s^+) \wedge C(x, s^+)] [\forall s_2 \in \text{Deo}_{s^+} [\text{pay-fine}(x, s_2)]] =$
 $\text{GEN}_{s \leq w_0} [\exists x. \text{person}(x, s) \wedge C(x, s)] [\forall s_1 \in \text{Deo}_s [\text{pay-fine}(x, s_1)]]$
- c. Presupposition: $C \subseteq C'$, where C is the “normal” relevant domain.
- (44) a. Assertion: Every s containing a person with property C, a subsituation of w_0 , is a situation such that in every deontic situation s_1 of the situation, the person with property C in s pays the fine in s_1 .
- b. Presupposition: In all the counterfactual worlds w' that are minimally different from w_0 in the following respect: the set of people with property C is different from the set of people with property C in w_0 , the asserted proposition has in w' whatever truth value it has in the actual world w_0 .

Wh-(N)-*na* is interpreted universally in this case as it is in a normal generic context.

B. Possibility modal

In possibility modal sentences like (45), *wh*-(N)-*na* can clearly be interpreted universally, while *amwu*-(N)-*na* only amounts to an existential.

- (45=8)a. **amwu-na** pelkum-ul nay-l.swu-eps-ta.
 AMWU-OR fine-ACC pay-can-NEG-DEC
 ‘It is not the case that just anybody can pay the fine.’
- b. **nwukwu-na** pelkum-ul nay-l.swu-eps-ta.
 WHO-OR fine-ACC pay-can-NEG-DEC
 (A) ‘It is not the case that anybody can pay the fine.’
 (B) ‘For anybody x, x cannot pay the fine.’

Let us first think about the interpretation of *amwu-(N)-na* in (45a). As stated before, *amwu-(N)-na* is placed under the scope of a modal, as shown in (46). Since the possibility modal takes narrow scope under negation, *amwu-(N)-na* is also inside the scope of negation.

(46) [IP Neg [can [TP *amwu-(N)-na* pay the fine]]]

Because (46) has more than one operator, we can apply TEMPLATE 2 or TEMPLATE 3. However, since there is no volitional agent under which *amwu-(N)-na* is interpreted, TEMPLATE 3 is eliminated from consideration. Thus, only TEMPLATE 2 is supposed to apply.

First, given that the operator ϕ is the possibility modal, the application of TEMPLATE 2 yields the interpretation in (47).

- (47) a. Assertion: $\lambda w_0. \exists w \in \text{Deo}_{w_0} [\exists x. \text{person}(x, w) \ \& \ C'(x, w) \ \& \ \text{pay-fine}(x, w)]$
- b. Presupposition:
- $\lambda w_0. \forall w' \in \min_{w_0}. [F \cap \lambda w'. \{x. \text{person}(x, w') \ \& \ C'(x, w')\} \neq \{x. \text{person}(x, w_0) \ \& \ C'(x, w_0)\}]: \exists w^+ \in \text{Deo}_{w'} [\exists x. \text{person}(x, w^+) \ \& \ C'(x, w^+) \ \& \ \text{pay-fine}(x, w^+)] =$
- $\exists w \in \text{Deo}_{w_0} [\exists x. \text{person}(x, w) \ \& \ C'(x, w) \ \& \ \text{pay-fine}(x, w)]$
- c. Presupposition: $C \subseteq C'$, where C is the “normal” relevant domain.

Note importantly that negation does not plug in at the top of the assertion (47a), because if this were the case, *amwu-(N)-na* would be a plain indefinite under the scope of negation, yielding the reading that no one is allowed to pay the fine. Rather, in sentence (45), negation scopes over the combination of the assertion and the presupposition. That is, the whole sentence is interpreted as in (48). In the end, negation negates the FC flavor, i.e., the counterfactual variation (47b), which roughly means: “It is not the case that the identity of the person who pays the fine does not matter”. That is, sentence (45a) conveys that only some special person can pay the fine, not just anyone.

- (48) In w_0 , it is not the case that (i) there is a deontically accessible world w such that there is some person with property C' who pays the fine in w AND (ii) in all counterfactual worlds w' that are minimally different from w_0 in that the set of people with property C' in w' is different from the set of people with property C' in w_0 , the asserted proposition has in w' whatever truth value it has in the actual world w_0 .

Now let us think about *wh*-(N)-*na* in (45b). It can have two different LFs, as represented in (49).

- (49) a. [IP Neg [can [TP *wh*-(N)-*na* pay the fine]]]
 b. [IP GEN *wh*-(N)-*na* [IP Neg [can [TP t pay the fine]]]]

Under the representation in (49a), the sentence conveys a very similar reading to (45a), except for the size of the domain: (45b) carries *C* rather than *C'*. In addition, (45b) has another reading, represented by the LF in (49b), where *wh*-(N)-*na* receives universal quantification due to the generic operator. The second reading can be represented by the formalism in (50), which is paraphrased as in (51).

- (50) a. Assertion: $\lambda_{w_0}. \text{GEN}_{s \leq w_0} [\exists x. \text{person}(x, s) \ \& \ C(x, s)] [\neg \exists s_1 \in \text{Deo}_s [\text{pay-fine}(x, s_1)]]$
 b. Presupposition:
 $\lambda_{w_0}. \forall w' \in \min_{w_0} [F \cap \lambda w''. \{x: \text{person}(x, w'') \ \& \ C(x, w'')\} \neq \{x: \text{person}(x, w_0) \ \& \ C(x, w_0)\}] : \text{GEN}_{s^+ \leq w'} [\exists x. \text{person}(x, s^+) \ \wedge \ C(x, s^+)] [\neg \exists s_2 \in \text{Deo}_{s^+} [\text{pay-fine}(x, s_2)]] = \text{GEN}_{s \leq w_0} [\exists x. \text{person}(x, s) \ \wedge \ C(x, s)] [\neg \exists s_1 \in \text{Deo}_s [\text{pay-fine}(x, s_1)]]$
 c. Presupposition: $C \subseteq C'$, where *C* is the “normal” relevant domain.

- (51) a. Assertion: Every *s* containing a person with property *C*, a subsituation of w_0 , is a situation such that there is no deontic situation s_1 of the situation *s* where the person with property *C* in *s* pays the fine in s_1 .

- b. Presupposition: In all the counterfactual worlds w' that are minimally different from w_0 in the following respect: the set of people with property C is different from the set of people with property C in w_0 , the asserted proposition has in w' whatever truth value it has in the actual world w_0 .

In this section, we accounted for the universal force of *wh-(N)-na* in a modal sentence. Unlike *amwu-(N)-na*, *wh-(N)-na* can move outside the scope of a modal thanks to its partitive indefinite-like characteristic. When *wh-(N)-na* is interpreted outside the scope of the modal, it receives universal force from the generic operator that is introduced.

5.2.3.2 The existential force of *wh-(N)-na*

As for the existential reading of *wh-(N)-na* in modal sentences, the analysis is exactly parallel to the analysis of *amwu-(N)-na* provided in 4.4.3., except for the fact that C' with *amwu-(N)-na* is replaced by C in the case of *wh-(N)-na*.

A. Necessity modal

Sentence (52), repeated from (4), can be interpreted on an external reading as in (52A) or on an agent indifference reading as in (52B).

(52=4) John-un etten-chayk-ina ilk-eyaha-n-ta. *Necessity*

J.-Top WHAT-book-OR read-MUST-PRES-DEC

(A) ‘John must read a book, every book is a possible reading option for John.’

(B) ‘John has an obligation to read random books not caring about their identity.’

A-1. External indifference

The external indifference reading of (52), paraphrased in (53), can be represented by the formalization in (54). (54) is exactly parallel to *amwu-(N)-na*, except for having C instead of C’ . (55) is a paraphrase of (54).

(53) External indifference: John’s obligation is to read a book with normal properties, it does not matter which book.

(54) a. Assertion: $\lambda w_0. \forall w \in \text{Deo}_{w_0} [\exists x. \text{book}(x, w) \ \& \ C(x, w) \ \& \ \text{read}(j, x, w)]$

b. Presupposition: $\lambda w_0. \forall w' \in \min_{w_0} [F \cap \lambda w''. \{x: \text{book}(x, w'') \ \& \ C(x, w'')\} \neq \{x: \text{book}(x, w_0) \ \& \ C(x, w_0)\}]: \forall w^+ \in \text{Deo}_{w'} [\exists x. \text{book}(x, w^+) \ \& \ C(x, w^+) \ \& \ \text{read}(j, x, w^+)] = \forall w' \in \text{Deo}_{w_0} [\exists x. \text{book}(x, w') \ \& \ C(x, w') \ \& \ \text{read}(j, x, w')]$

c. Presupposition: $C \subseteq C'$, where C is the “normal” relevant domain.

- (55) a. Assertion: In w_0 , all the deontically accessible worlds w are such that there is some book that John reads in w .
- b. Presupposition: In all counterfactual worlds w' that are minimally different from w_0 in that the set of books in w' is different from the set of books in w_0 , all the deontically accessible worlds w^+ from w' are such that there is some book that John reads in w^+ iff all the deontically accessible worlds w from the actual world w_0 are such that there is some book that John reads in w .

A-2. Agent indifference

The agent indifference reading of (52), paraphrased in (56), can be represented as in (57) by applying TEMPLATE 3. (58) is a paraphrase of (57).

- (56) Agent indifference: John's obligation is to read random books with normal properties without caring about the books' identity.
- (57) a. Assertion: $\lambda w_0. \forall w \in \text{Deo}_{w_0} [\exists x.\text{book}(x,w) \ \& \ C(x,w) \ \& \ \text{read}(j,x,w) \ \& \ \forall w^+ \in \min_w [F \cap \lambda w''. \{x:\text{book}(x,w'') \ \& \ C(x,w'')\} \neq \{x:\text{book}(x,w) \ \& \ C(x,w)\}] \rightarrow \text{read}(j,x,w^+) = \text{read}(j,x,w)]$
- b. Presupposition: $C \subseteq C'$, where C is the "normal" relevant domain.

(60) External indifference: John is allowed to eat some meat with normal properties, any meat is a possible eating option for John.

- (61) a. Assertion: $\lambda w_0. \exists w \in \text{Deo}_{w_0} [\exists x. \text{meat}(x, w) \ \& \ C(x, w) \ \& \ \text{eat}(j, x, w)]$
- b. Presupposition: $\lambda w_0. \forall w' \in \min_{w_0} [F \cap \lambda w'. \{x: \text{meat}(x, w') \ \& \ C(x, w')\} \neq \{x: \text{meat}(x, w_0) \ \& \ C(x, w_0)\}]: \exists w^+ \in \text{Deo}_{w'} [\exists x. \text{meat}(x, w^+) \ \& \ C(x, w^+) \ \& \ \text{eat}(j, x, w^+)] = \exists w \in \text{Deo}_{w_0} [\exists x. \text{meat}(x, w) \ \& \ C(x, w) \ \& \ \text{eat}(j, x, w)]$
- c. Presupposition: $C \subseteq C'$, where C is the “normal” relevant domain.

- (62) a. Assertion: In w_0 , there is a deontically accessible world w such that there is some meat with property C that John eats in w .
- b. Presupposition: In all counterfactual worlds w' that are minimally different from w_0 in that the set of meat with property C in w' is different from the set of meat with property C in w_0 , there is a deontically accessible world w^+ from w' such that there is some meat with property C that John eats in w^+ iff there is a deontically accessible world w from the actual world w_0 such that there is some meat with property C that John eats in w .

B-2. Agent indifference

Agent indifference as in (63) is conveyed with an emphatic stress on *wh-(N)-na*. The application of TEMPLATE 3 produces the representation in (64), which is paraphrased as in (65).

(63) Agent indifference: It is allowed that John chooses meat indiscriminately and eats it.

(64) a. $\lambda w_0. \exists w \in \text{Deo}_{w_0} [\exists x. \text{meat}(x, w) \ \& \ C(x, w) \ \& \ \text{eat}(j, x, w) \ \& \ \forall w^+ \in \min_w [F \cap \lambda w'. \{x: \text{meat}(x, w') \ \& \ C(x, w')\} \neq \{x: \text{meat}(x, w) \ \& \ C(x, w)\}] \rightarrow \text{eat}(j, x, w^+) = \text{eat}(j, x, w)]$

b. Presupposition: $C \subseteq C'$, where C is the “normal” relevant domain.

(65) In w_0 , there is a deontically accessible world w such that there is some meat with property C that John eats in w AND in all counterfactual worlds w^+ that are minimally different from w in that the set of meat with property C in w^+ is different from the set of meat with property C in w , there is some meat with property C that John eats in w^+ iff there is some meat with property C that John eats in w .

5.2.4 Episodic sentences

This section explains how the current proposal predicts the ungrammaticality of *wh*-(N)-*na* in episodic sentences. In addition, it discusses how the three rescuing strategies, i.e., topicalization, subtriggering, and agentivity, fix the ungrammaticality of *wh*-(N)-*na* under the current proposal.

5.2.4.1 Ungrammaticality of *wh*-(N)-*na*

Wh-(N)-*na* is judged very marginal in an episodic sentence like (66), repeated from (10), if uttered out-of-the-blue. Assuming that *wh*-(N)-*na* does not undergo topicalization when it is uttered out-of-the-blue, the LF of (66) is represented as in (67).

- (66=10) ***etten-namca-na** se-iss-ta.
 WHAT-guy-OR stand-PROG-DEC
 ‘(Lit.) Any guy is standing.’

- (67) LF: [_{IP} Assert [_{TP} *etten-namca-na* is standing]]

Now the sentence (66) is analyzed as in (68) below, whose presupposition of counterfactual variation roughly reads: “In every counterfactual world, a guy is standing, whose identity does not matter. This proposition is what Dayal (1998) argues to be too strong a statement to ever be true”. In other words, the presupposition of indifference that there is a guy who is standing in every possible world cannot be fulfilled. Thus, the sentence is judged ungrammatical (See 4.5 for relevant discussion).

- (68) a. Assertion: $\lambda w_0. \exists x. \text{guy}(x, w_0) \ \& \ C(x, w_0) \ \& \ \text{stand}(x, w_0)$
 b. Presupposition: $\lambda w_0. \forall w' \in \min_{w_0} [F \cap (\lambda w''. \{x: \text{guy}(x, w'') \ \& \ C(x, w'')\} \neq \{x: \text{guy}(x, w_0) \ \& \ C(x, w_0)\})] : \exists x. \text{guy}(x, w') \ \& \ C(x, w') \ \& \ \text{stand}(x, w') = \exists x. \text{guy}(x, w_0) \ \& \ C(x, w_0) \ \& \ \text{stand}(x, w_0)$

- a'. Assertion: There is a guy that is standing in the actual world.
- b'. Presupposition: For every counterfactual world w' accessible from w_0 , which is different only with respect to the set of guys, a guy is standing in w' iff there is a guy that is standing in w_0 .

Its negative counterpart as in (69) is also judged ungrammatical in the same vein.

- (69) ***etten-namca-na** an se-iss-ta.
 WHAT-guy-OR NEG stand-PROG-DEC
 ‘(Lit.) Any guy is not standing.’

5.2.4.2 Rescuing strategy 1: topicalization

Sentence (70), repeated from (12b), is grammatical, in contrast to the previous episodic sentences. Furthermore, *etten-yecaay-na* ‘what-girl-or’ is interpreted as having universal force.

- (70=12b) ?**etten-yecaay-na** John-ul palapo-ass-ta.
 WHAT-girl-OR J.-ACC see-PAST-DEC
 ‘(Lit.) Any girl saw John.’

In this case, *wh-(N)-na* is analyzed as moving outside the scope of the assertoric operator and being placed in a topic position, as given in (71). In this topic position, *wh-(N)-na*

serves as the restrictor of the generic operator that comes in for free due to the lack of episodicty marking in the Korean verbal system.

(71) [IP GEN *wh-(N)-na* [IP Assert [TP t saw John]]]

Given that the operator is the generic operator, the application of TEMPLATE 2 produces the interpretation in (72). (72) is paraphrased as in (73).

(72) a. Assertion: $\lambda w_0. \text{GEN}_{s \leq w_0} [\exists x. \text{girl}(x, s) \ \& \ C(x, s)] [\text{see}(x, j, s)]$
 b. Presupposition: $\lambda w_0. \forall w' \in \min_{w_0} [F \cap \lambda w''. \{x: \text{girl}(x, w'') \ \& \ C(x, w'')\}] \neq$
 $\{x: \text{girl}(x, w_0) \ \& \ C(x, w_0)\} : \text{GEN}_{s^+ \leq w'} [\exists x. \text{girl}(x, s^+) \ \& \ C(x, s^+)] [\text{see}(x, j, s^+)] =$
 $\text{GEN}_{s \leq w_0} [\exists x. \text{girl}(x, s) \ \& \ C(x, s)] [\text{see}(x, j, s)]$

(73) a. Assertion: Generally, a girl with property C saw John.
 b. Presupposition: In every counterfactual world w' that is minimally different from w_0 in the following respect: the set of girls with property C in w' is different from the set of girls with property C in w_0 , the asserted proposition has in w' whatever truth value it has in the actual world w_0 .

Just as *wh-(N)-na* receives universal quantification in a generic sentence, *wh-(N)-na* in (70) is also interpreted universally. Now let us consider the negative counterpart to (70),

as in (74). (74) is ambiguous between the (A) reading and the (B) reading.

(74) **etten-yecaay-na** John-ul palapo-ci.anh-ass-ta.
 WHAT-girl-OR J.-ACC see-NEG-PAST-DEC

(A) ‘(Lit.) For every girl x, x didn’t see John: regardless of who x is.’

(B) ‘(Lit) It is not the case that: for every girl x, x saw John, regardless of who x is.’

The ambiguity of (74) can be treated as a scope ambiguity between the generic operator and negation. The (A) reading obtains when the generic operator takes wide scope over negation, as shown in (75).

(75) GEN > Neg

[_{IP} GEN **wh-(N)-na** [_{IP} Neg [_{TP} t saw John]]]

Under this LF, sentence (74) is interpreted as in (76) below, whose paraphrase is given in (77).

(76) a. Assertion: $\lambda w_0. \text{GEN}_{s \leq w_0} [\exists x. \text{girl}(x, s) \ \& \ C(x, s)] \neg [\text{see}(x, j, s)]$

b. Presupposition: $\lambda w_0. \forall w' \in \min_{w_0} [F \cap (\lambda w''. \{x: \text{girl}(x, w'') \ \& \ C(x, w'')\} \neq \{x: \text{girl}(x, w_0) \ \& \ C(x, w_0)\})]: \text{GEN}_{s^+ \leq w'} [\exists x. \text{girl}(x, s^+) \ \& \ C(x, s^+)] \neg [\text{see}(x, j, s^+)] = \text{GEN}_{s \leq w_0} [\exists x. \text{girl}(x, s) \ \& \ C(x, s)] \neg [\text{see}(x, j, s)]$

- (77) a. Assertion: Generally, a girl with property C didn't see John.
 b. Presupposition: For every counterfactual world w' , accessible from w_0 , which is different with respect to the set of girls with property C, generally a girl didn't see John in w' iff generally a girl didn't see John in the actual world.

Thus, the sentence roughly means that no matter which girl x is, x did not see John. The interpretation can also be seen roughly as a wide-scope universal over negation. The (B) reading obtains when the generic operator takes narrow scope under negation, as represented in (78).

(78) Neg > GEN

[_{IP} Neg [_{IP} GEN *wh-(N)-na* [_{IP} Assert [_{TP} t saw John]]]]

With the LF in (78), sentence (74) is interpreted as in (79), whose paraphrase is given in (80).

- (79) a. Assertion: $\lambda w_0. \neg \text{GEN}_{s \leq w_0} [\exists x. \text{girl}(x,s) \ \& \ C(x,s)] [\text{see}(x,j,s)]$
 b. Presupposition: $\lambda w_0. \forall w' \in \min_{w_0} [F \cap (\lambda w''. \{x: \text{girl}(x,w'') \ \& \ C(x,w'')\} \neq \{x: \text{girl}(x,w_0) \ \& \ C(x,w_0)\})] : \neg \text{GEN}_{s^+ \leq w'} [\exists x. \text{girl}(x, s^+) \ \& \ C(x, s^+)] [\text{see}(x,j, s^+)]$
 $= \neg \text{GEN}_{s \leq w_0} [\exists x. \text{girl}(x,s) \ \& \ C(x,s)] [\text{see}(x,j,s)]$

- (80) a. Assertion: It is not the case that generally a girl with property C saw John.

- b. Presupposition: For every counterfactual world w' , accessible from w_0 , which is different with respect to the set of girls, it is not the case that generally a girl saw John in w' iff it is not the case that generally a girl saw John in w_0 .

5.2.4.3 Rescuing strategy 2: subtriggering

Adding a relative clause improves *wh*-(N)-*na* in an episodic sentence, as shown in (81), repeated from (13).

- (81=13) Pa-ese chwukkwu-lul po-ko.iss-nun etten-namca-na se-iss-ta.
 Bar-LOC soccer-ACC watch-PROG-REL WHAT-guy-OR stand-PROG-DEC
 ‘(Lit.) Any guy who is watching the soccer game at the bar is standing.’

Under the current account, the crucial role of subtriggering is to make sense of the presupposition of variation induced by the particle *-na*. We have seen that a presupposition of the form ‘in every counterfactual world, a guy is standing, whose identity does not matter’ can hardly be fulfilled (cf. Dayal 1998). To make sense of the presupposition, subtriggering makes a plausible essential relation between the restrictor of the NP with *-na* and the main predicate of the sentence. Then, the original episodic sentence turns into a law-like statement with the help of subtriggering.

Thus, I propose that subtriggered *wh*-(N)-*na* moves out of the assertoric operator and sits in the

restriction of the generic operator introduced on top to make a law-like statement, as in (82).⁵⁶

(82) [IP GEN [IP subtriggered *wh-(N)-na* [IP Assert [TP t saw John]]]]

With this LF in (82), sentence (81) is interpreted as in (83). (84) is a paraphrase of (83).

Here, the relative clause determines the normal properties of the guys, the contextual variable C replaced by “watching the soccer game at the bar”.

(83) a. Assertion: $\lambda w_0. \text{GEN}_{s \leq w_0} [\exists x. \text{guy}(x, s) \ \& \ \text{soccer-at-bar}(x, s)] \ [\text{stand}(x, s)]$
 b. Presupposition: $\lambda w_0. \forall w' \in \min_{w_0} [F \cap (\lambda w'. \{x: \text{guy}(x, w') \ \& \ \text{soccer-at-bar}(x, w')\} \neq \{x: \text{guy}(x, w_0) \ \& \ \text{soccer-at-bar}(x, w_0)\})]: \text{GEN}_{s^+ \leq w'} [\exists x. \text{guy}(x, s^+) \ \& \ \text{soccer-at-bar}(x, s^+)] \ [\text{stand}(x, s^+)] = \text{GEN}_{s \leq w_0} [\exists x. \text{guy}(x, s) \ \& \ \text{soccer-at-bar}(x, s)] \ [\text{stand}(x, s)]$

(84) a. Assertion: Generally, a guy who is watching the soccer game at the bar is standing.

b. Presupposition: For every counterfactual world w' accessible from w_0 , which is different only with respect to the set of guys who are watching the soccer game at the bar, the asserted proposition has in w' whatever truth value it

⁵⁶ I acknowledge that this analysis does not directly apply to English cases. Given that an English indefinite NP like “a man” forms a good generic sentence, one might wonder why subtriggering does not make sentences like (i) generic as well. This issue is left open for further research. Thanks to Veneeta Dayal for pointing this out to me.

(i) John talked to a man who was at the bar.

has in the actual world.

It is inferred from the presupposition of counterfactual variation in (83b) that there is an essential link between “being a guy who is watching the soccer game at the bar” and “standing”. This essential link easily makes sense in a situation where the soccer game was so popular and the bar was very crowded. Since the presupposition is fulfilled, *wh-(N)-na* is judged grammatical in this sentence. Furthermore, *wh-(N)-na* is interpreted universally due to the generic operator.

The negative counterpart to sentence (81) is given in (85). As we saw in 5.2.4.2, the generic operator can take wide or narrow scope with respect to negation. Depending on the scope relation, the two readings in (85) are derived, whose exact representations will not be presented here.

(85=4) Pa-ese chwukkwu-lul po-ko.iss-nun **etten-namca-na** se-iss-ci.anh-ta.
Bar-LOC soccer-ACC watch-PROG-REL WHAT-guy-OR stand-PROG-NEG
'(Lit.) Any guy who is watching the soccer game at the bar is not standing.'

5.2.4.4 Rescuing strategy 3: agentivity

Just as *amwu-(N)-na* is rescued in an episodic sentence when it is under the scope of a volitional agent, agentivity plays a role in the case of *wh-(N)-na*, as shown in (86).

- (86) John-un etten-yeca-hako-na khissuha-ess-e.
 J.-TOP WHAT-girl-with-OR kiss-PAST-DEC
 ‘(Lit.) John kissed random girls.’

The LF of (86) is given in (87), where *wh-(N)-na* remains in situ.

- (87) LF: [_{IP} Assert [_{TP} John [_{VP} kissed etten-yeca-hako-na]]]

By applying TEMPLATE 3, the sentence is represented as in (88), whose paraphrase is given in (89). As we can see here, it asserts that there is a girl that John kissed in the actual world. Moreover, the presupposition of variation that roughly reads “Every possible girl is kissed by John is too difficult to make sense”.

- (88) a. Assertion: $\lambda w_0. \exists x. \text{girl}(x, w_0) \ \& \ C(x, w_0) \ \& \ \text{kiss}(j, x, w_0)$
 b. Presupposition: $\lambda w_0. \forall w' \in \min_{w_0} [F \cap (\lambda w''. \{x: \text{girl}(x, w'') \ \& \ C(x, w'')\} \neq \{x: \text{girl}(x, w_0) \ \& \ C(x, w_0)\})]: \exists x. \text{girl}(x, w') \ \& \ C(x, w') \ \& \ \text{kiss}(j, x, w') = \exists x. \text{girl}(x, w_0) \ \& \ C(x, w_0) \ \& \ \text{kiss}(j, x, w_0)$
- (89) a. Assertion: In the actual world w_0 , there is some girl that John kissed.
 b. Presupposition: In all worlds w' minimally different from w_0 in which the set of girls is different from the set of girls in w_0 , John kisses a girl in w' iff he kisses a girl in w_0 .

At this point, agentivity plays a role. The presupposition of indifference is attributed to the agent John, yielding agent indifference, that is, John acted indifferently in kissing girls. Thanks to the agent indifference, an essential link comes to hold between “being a girl” and “being kissed by John.” Hence, *wh-(N)-na* is grammatical in this context. In this case, *wh-(N)-na* is interpreted as a plural indefinite under the repetitive action by the agent.

The negative counterpart (90) is also judged grammatical on the same grounds. (90) conveys an agent indifference reading as in (91), and can be represented as in (92) by applying TEMPLATE 3.

(90) John-un **etten-yecaay-hako-na** khissuha-ci.anh-ass-ta.

J.-TOP WHAT-girl-with-OR kiss-NEG-PAST-DEC

‘It is not the case that John kissed just any girl.’

(91) Agent indifference: It is not the case that John kissed a girl by acting indifferently.

(92) Assertion: $\lambda w_0. \neg [\exists x.\text{girl}(x,w_0) \ \& \ C(x,w_0) \ \& \ \text{kiss}(j,x,w_0) \ \& \ \forall w' \in \min_{w_0} [F \cap (\lambda w''. \{x:\text{girl}(x,w'') \ \& \ C(x,w'')\} \neq \{x:\text{girl}(x,w_0) \ \& \ C(x,w_0)\})] \rightarrow \text{kiss}(j,x,w') = \text{kiss}(j,x,w_0)]$

Assertion: In the actual world w_0 , it is not the case that (i) there is some girl that John kissed and (ii) in all worlds w' minimally different from w_0 in which the set of

girls is different from the set of girls in w_0 , John kisses a girl in w' iff he kisses a girl in w_0 .

Here negation has a metalinguistic flavor. That is, negation does not apply to the assertion only, but negates the combination of the assertion and the presupposition of (90). In the end, negation only targets the FC flavor or the presupposition of counterfactual variation, yielding the reading that it is not the case that John acted indiscriminately.

5.2.5 DE contexts

The *if*-conditional in (93) is given an LF as in (94), where *wh*-(N)-*na* moves outside the *if*-clause.

- (93) **etten-senswu-na** sen-ul palp-emyen kyungki-nun kkuthna-n-ta.
 WHAT-player-OR line-ACCcross-if game-TOP finish-GEN-DEC
 ‘No matter who the player is, if he crosses the line, the game is over.’

- (94) LF : [GEN *wh*-player-*na*] [[x crosses the line] [the game is over]]⁵⁷

Thus, sentence (93) is interpreted as in (95), which is paraphrased as in (96).

⁵⁷ $[p \rightarrow [q \rightarrow r]] \equiv [p \wedge q] \rightarrow r$

- (95) a. Assertion: $\lambda w_0. \text{GEN}_{\leq w_0} [\text{player}(x,s) \ \& \ C(x,s) \ \& \ \text{cross-line}(x,s)] [\text{game-over}(x,s)]$
- b. Presupposition: $\lambda w_0. \forall w' \in \min_{w_0} [F \cap \lambda w'. \{x:\text{player}(x,w') \ \& \ C(x,w')\} \neq \{x:\text{player}(x,w_0) \ \& \ C(x,w_0)\}]: \text{GEN}_{s^+ \leq w'} [\text{player}(x,s^+) \ \& \ C(x,s^+) \ \& \ \text{cross-line}(x,s^+)] [\text{game-over}(x,s^+)] = \text{GEN}_{\leq w_0} [\text{player}(x,s) \ \& \ C(x,s) \ \& \ \text{cross-line}(x,s)] [\text{game-over}(x,s)]$
- (96) a. Assertion: Every s containing a player with property C who crosses the line, is a situation where the game is over.
- b. Presupposition: In all the counterfactual worlds w' that are minimally different from w_0 in the following respect: the set of players with property C in w' is different from the set of players with property C in w_0 , the asserted proposition has in w' whatever truth value it has in the actual world w_0 .

5.3 Rescuing strategies revisited

This section addresses the following question: why can *amwu*-(N)-*na* only be rescued by agentivity, but not by subtriggering whereas *wh*-(N)-*na* can be rescued by both agentivity and subtriggering?

We (tentatively) answer the question using the scope properties of *amwu*-(N) and *wh*-(N). While *wh*-(N) can move outside of the assertoric operator in an episodic sentence, *amwu*-(N) remains in-situ. Although a relative clause is added to *amwu*-(N)-*na* as in (97),

and standing in w' iff there is a guy who is watching the soccer game at the bar and standing in the actual world.

Now the presupposition of variation says that in every possible world, there is a guy who is standing and watching the soccer game. This statement is still too strong to ever be true, in the spirit of Dayal (1998). That is, subtriggering does not help the presupposition to be fulfilled at all. Therefore, *amwu*-(N)-*na* is judged ungrammatical in this sentence. Furthermore, subtriggering, in general, does not work for *amwu*-(N)-*na*.

5.4 Summary

In this chapter, I applied the von Stechow-style analysis proposed in Chapter 3 to *wh*-(N)-*na*. Compared to *amwu*-(N)-*na*, the contextual variable C' that the domain-widening indefinite root *amwu*- introduces is replaced by its subset C for the case of *wh*-(N)-*na* due to the lack of widening of the *wh*- root. Besides domain-widening, *wh*-(N)-*na* behaves differently from *amwu*-(N)-*na* with respect to quantificational force (in modal sentences) and rescuing strategies (in episodic sentences). Unlike *amwu*-(N)-*na*, *wh*-(N)-*na* can be interpreted universally in modal and imperative sentences. Also, when *wh*-(N)-*na* is rescued by topicalization or subtriggering in an episodic sentence, it is interpreted universally. We accounted for the universal force of *wh*-(N)-*na* by assuming that it can move outside the scope of the modal in a modal statement or the assertoric operator in an episodic sentence. When *wh*-(N)-*na* undergoes such movement, the generic operator is

introduced and *wh*-(N)-*na* is interpreted in the restriction of the generic operator, functioning as a topic. I also noted that *wh*-(N)-*na* can be rescued by agentivity in an episodic sentence, similar to *amwu*-(N)-*na*. When *wh*-(N)-*na* is rescued by agentivity, it does not have universal force, but is interpreted as rather plural indefinite.

Chapter 6 *EVEN*-based Polarity Sensitive Items: *amwu-/wh-(N)-to* and *amwu-/wh-(N)-lato*

In this chapter, I explore a semantics of *even*-based PSIs in Korean, i.e., *amwu-/wh-(N)-to* and *amwu-/wh-(N)-lato*. Section 6.1 presents each item's licensing environments and quantificational force. In section 6.2, I show that the free choice effects of *amwu-/wh-(N)-lato* and some uses of *wh-(N)-to* are always oriented to an external locus (i.e., external indifference), but not an agent (i.e., agent indifference), in contrast to the FC effects coming from the particle *-na*, which are either external indifference or agent indifference (Choi 2005). I also show that the FC effects coming from *-to* and *-lato* are never cancelable, and thus on par with *-na*-PSIs, but different from German *irgendein* whose FC effects disappear in DE contexts (Kratzer and Shimoyama 2002). In 6.3, I introduce two theories of the scalar focus particle *even* in English (i.e., Lexical theory and Scope theory) and show that the particle *-to* is similar to the normal/PPI-*even* in that it evokes a least-likely presupposition, while the particle *-lato* behaves like the NPI-*even* in that it evokes a most-likely presupposition in Rooth's (1985) terms. In 6.4, I propose that the particle *-to* is a PPI-*even* and apply a Lahiri-style (1998) focus semantics to *-to*-PSIs in order to derive their licensing environments and quantificational interpretations. Section 6.5 presents a compositional and crosslinguistically applicable approach to the NPI-*even* (Guerzoni 2003, 2005). In 6.6, I develop a Guerzoni-style analysis for *-lato*-PSIs, in order to account for their licensing environments and FC effects.

6.1 The data: licensing environments

This section presents the licensing environments of each of *-to*-PSIs and *-lato*-PSIs.

Table (1) shows a general picture of their distribution.

(1) Licensing environments of *amwu-/wh-(N)-to* and *amwu-/wh-(N)-lato*

	<i>amwu-(N)-to</i>	<i>wh-(N)-to</i>	<i>amwu-(N)-lato</i>	<i>wh-(N)-lato</i>
Negative Episodic	√	√	*	*
Restrictor of \forall	*	*	√	√
<i>If</i> -clauses	*	*	√	√
Generic	*	√	√	√
<i>Can</i>	*	√	√	√
<i>Must</i>	*	√	√	√
Imperative	*	*	√	√
Affirmative Episodic	*	*	*	*

The environments in table (1) are divided into four sub-groups. The first group contains negative episodic sentences. The second group consists of other DE contexts than episodic negation, e.g., the antecedent of conditionals and the restrictor of universal quantifiers. The third group includes FC contexts, such as generic contexts, possibility modal and necessity modal contexts, and imperatives. The last group includes affirmative episodic sentences.

6.1.1 –TO-PSIs: *amwu*-(N)-*to* vs. *wh*-(N)-*to*

Let us first consider the licensing environments of *amwu*-(N)-*to* and *wh*-(N)-*to*. First, both *amwu*-(N)-*to* and *wh*-(N)-*to* are licensed in a negative episodic sentence, as shown in (2).⁵⁸ Both of the sentences are interpreted as universal negation, i.e., ‘nobody came’.

- (2) a. **amwu-to** an o-ass-ta. *Negation*
 AMWU-EVEN NEG come-PAST-DEC
 ‘Nobody came.’
- b. **nwukwu-to** an o-ass-ta.
 WHO-EVEN NEG come-PAST-DEC
 ‘Nobody came.’

Second, neither *amwu*-(N)-*to* nor *wh*-(N)-*to* can occur in DE contexts other than negation, as illustrated in (3) and (4).

- (3) a. ***amwu-to** o-myen, na-hantey ally-ela. *If-conditional*
 AMWU-EVEN come-if, I-DAT inform-IMP
 ‘(Intended) If anyone comes, let me know.’

⁵⁸ Not all negative sentences license *wh*-(N)-*to*. As shown in Chapter 2, existential sentences with negation do not allow *wh*-(N)-*to*.

- a. kyosil-ey **amwu-to** eps-e.
 classroom-LOC AMWU-EVEN not.exist-DEC
 ‘There isn’t anyone in the classroom.’
- b. *kyosil-ey **nwukwu-to** eps-e.
 classroom-LOC WHO-EVEN not.exist-DEC

b. ***nwukwu-to** o-myen, na-hantey ally-ela.

WHO-EVEN come-if, I-DAT inform-IMP

‘(Intended) If anyone comes, let me know.’

(4) a. ***amwu-to** chayyongha - n hoysa - nun motwu mangha - ass - ta. *Restrictor*

AMWU-EVEN hire-REL company-TOP ALL collapse-PAST-DEC of "

‘(Intended) Every company that hired anyone collapsed.’

b. ***nwukwu-to** chayyongha - n hoysa - nun motwu mangha - ass - ta.

WHO-EVEN hire-REL company-TOP ALL collapse-PAST-DEC

‘(Intended) Every company that hired anyone collapsed.’

Third, example (5) illustrates that neither *amwu-(N)-to* nor *wh-(N)-to* is licensed in affirmative sentences, the fourth group of environments in Table (1).

(5) a. ***amwu-to** o - ass - ta. *Affirmative*

AMWU-EVEN come-PAST-DEC

Episodic

‘*Anybody came.’

b. ***nwukwu-to** o - ass - ta.

WHO-EVEN come-PAST-DEC

‘*Anybody came.’

So far, we have seen that *amwu-(N)-to* and *wh-(N)-to* behave in the same way, only

occurring in strongly negative contexts but not in other DE contexts and affirmative sentences. However, they behave differently in the third group of contexts in Table (1), i.e., the so-called FC contexts.⁵⁹ While *amwu-(N)-to* cannot occur in FC contexts such as generic, possibility modal, and necessity modal sentences, *wh-(N)-to* can appear in those contexts, as exemplified by the contrasts in (6) through (8).

- (6) a. ***amwu-say-to** na-n-ta. *Generic*
 AMWU-bird-EVEN fly-GEN-DEC
 ‘(Intended) Any bird flies.’
- b. **etten-say-to** na-n-ta.
 WHAT-bird-EVEN fly-GEN-DEC
 ‘No matter what kind of bird x is, x flies.’
- (7) a. *John-un **amwu-koki-to** mek-ul.swu.iss-ta. *Possibility*
 J.-TOP AMWU-meat-EVEN eat-can-DEC
 ‘(Intended) John can eat any meat.’
- b. John-un **etten-koki-to** mek-ul swu.iss-ta.
 John-TOP WHAT-meat-EVEN eat-can-DEC
 ‘No matter what kind of meat x is, John is allowed to eat x.’

⁵⁹ M. Hong (1995) argues that *amwu-(N)-to* and *wh-(N)-to* show exactly the same distribution and interpretation. However, his observation regarding the distribution is not entirely correct. Gil et al. (2004) judge that *wh-(N)-to* can occur in FC contexts, mentioned above. I agree with Gil et al.’s (2004) judgments.

- (8) a. *John-un amwu-mwuncey-to phwul-eya.ha-n-ta. *Necessity*
 John-TOP AMWU-problem- EVEN solve- must-PRES-DEC
 ‘(Intended) John must solve any problem.’
- b. John-un etten-mwuncey-to phwul-eya.ha-n-ta.
 John-TOP WHAT-problem-EVEN solve- must-PRES-DEC
 ‘No matter what kind of problem x is, John is obliged to solve x.’

First, consider the (b) examples of (6) through (8). As seen from the glosses, *wh-(N)-to* seems to induce a quality scale, which Lee and Horn (1994) call a “kind scale”. *Wh-(N)* denotes the least-likely item on such a quality scale. For instance, sentence (8b) literally means something like ‘John must solve even the hardest problem’, which is the least likely problem for John to solve. This interpretation is understood as being equivalent to “John must solve every problem”. That is, *wh-(N)-to* conveys universal quantification in an indirect manner. In contrast to this, *amwu-(N)-to* is not allowed in FC contexts, as shown by the (a) examples of (6) – (8). As we will see in 6.4.5 in more detail, a quality or kind scale is not available for *amwu-(N)-to*, and only a quantity scale is triggered by *amwu-(N)-to*. This difference in types of a scale will play a crucial role in accounting for *-to*-PSIs licensing environments.

Imperatives in (9) are exceptional among the FC contexts, because both *amwu-(N)-to* and *wh-(N)-to* are not licensed in imperatives.⁶⁰

⁶⁰ This dissertation does not provide an analysis for imperatives. This issue will be left for future study.

- (9) a. ***amwu-mwuncey-to** phwul-ela. *Imperative*
 AMWU-problem-EVEN solve-IMP
 ‘(Intended) Solve any problem.’
- b. ***etten-mwuncey-to** phwul-ela.
 WHAT-problem-EVEN solve-IMP
 ‘(Intended) Solve any problem.’

In sum, we can conclude that *amwu-(N)-to* roughly fits as a strongest type of NPI in Zwart’s categorization (Nam, 1994)⁶¹ and that *wh-(N)-to* behaves both as an NPI – in that it is licensed in negative episodic but not in affirmative episodic sentences, – and as an FCI – in that it happily occurs in FC contexts while being marginal in affirmative episodic sentences. In addition, while *amwu-(N)* only triggers a quantity scale, *wh-(N)* can trigger either a quantity or quality scale.

6.1.2 –LATO-PSIs: *amwu-(N)-lato* vs. *wh-(N)-lato*

Now let us consider the licensing environments and quantificational interpretation of *amwu-(N)-lato* and *wh-(N)-lato*. Table (10) indicates that *amwu-(N)-lato* and *wh-(N)-lato* behave identically in terms of licensing environments.

⁶¹ C. Lee (1999) argues that *amwu-(N)-to* falls short of being a strongest type because it is licensed by *before*-clauses which are anti-additive, not anti-morphic. Since categorization of NPIs is not a main interest of this dissertation, I will not go into further details.

(10) Licensing environments of *amwu-(N)-lato* and *wh-(N)-lato*

	<i>amwu-(N)-lato</i>	<i>wh-(N)-lato</i>
Negative Episodic	*	*
Restrictor of \forall	√	√
<i>If</i> -clauses	√	√
Generic	√	√
<i>Can</i>	√	√
<i>Must</i>	√	√
Imperative	√	√
Affirmative Episodic	*	*

First, *amwu-(N)-lato* and *wh-(N)-lato* cannot occur in negative episodic contexts, as shown in (11).

- (11) a. ***amwu-lato** an o-ass-ta.
 AMWU-EVEN NEG come-PAST-DEC
 ‘(Lit.) Anyone didn’t come.’
- b. ***nwukwu-lato** an o-ass-ta.
 WHO-EVEN NEG come-PAST-DEC
 ‘(Lit.) Anyone didn’t come.’

Second, they cannot occur in affirmative episodic sentences either, as shown in (12).

- (12) a. ***amwu-lato** o-ass-ta.
 AMWU-EVEN come-PAST-DEC
 ‘(Lit.) Anyone came.’
- b. ***nwukwu-lato** o-ass-ta.
 WHO-EVEN come-PAST-DEC
 ‘(Lit.) Anyone came.’

Third, *amwu-(N)-lato* and *wh-(N)-lato* can occur in FC contexts, as illustrated in (13) to (16).

- (13) a. **amwu-say-lato** na-n-ta. *Generic*
 AMWU-bird-EVEN fly- GEN-DEC
 ‘A bird flies, no matter what kind of a bird it is.’
- b. **etten-say-lato** na-n-ta.
 WHAT-bird-EVEN fly- GEN-DEC
 ‘A bird flies, no matter what kind of a bird it is.’
- (14) a. John-un **amwu-koki-lato** mek-ul swu.iss-ta. *Possibility*
 J.-TOP AMWU-meat-EVEN eat-can-DEC
 ‘John is allowed to eat meat, every meat is a possible eating option for John.’
- b. John-un **etten-koki-lato** mek-ul swu.iss-ta.
 J.-TOP WHAT-meat-EVEN eat-can-DEC
 ‘John is allowed to eat meat, no matter what kind of meat it is.’

- (15) a. John-un **amwu-mwuncey-lato** phwul-eya.ha-n-ta. *Necessity*
 J.-TOP AMWU-problem-EVEN solve-must-PRES-DEC
 ‘John must solve a problem, the identity doesn’t matter.’
- b. John-un **etten-mwuncey-lato** phwul-eya.ha-n-ta.
 J.-TOP WHAT-problem-EVEN solve-must-PRES-DEC
 ‘John must solve a problem, no matter what kind of a problem it is.’

- (16) a. **amwu-mwuncey-lato** phwul-ela. *Imperative*
 AMWU-problem-EVEN solve-IMP
 ‘Solve a problem, the identity doesn’t matter.’
- b. **etten-mwuncey-lato** phwul-ela.
 WHAT-problem-EVEN solve-IMP
 ‘Solve any problem, no matter what kind of problem it is.’

As briefly mentioned in the previous section, when *wh*-(N) is used, a kind/quality scale is more salient than a quantity scale, whereas a quantity scale is more salient with *amwu*-(N). For instance, while in (16a), the speaker commands the addressee to solve at least one problem, whose identity might not matter to the speaker, the speaker states in (16b) more specifically that the kind of the problem you solve does not matter.⁶²

⁶² Note however that (16a) also conveys that the identity of the problem you solve does not matter to the speaker. This indifference reading seems to be inferred from the fact that the speaker is satisfied if the addressee solves at least one problem. Because the speaker is only concerned whether the addressee solves at least one problem or not, ultimately the speaker does not care about the identity of the problem.

Finally, both *amwu-(N)-lato* and *wh-(N)-lato* occur in DE contexts such as the antecedent of conditionals and the restrictor of universal quantifiers, as illustrated in (17) and (18).

(17) a. **amwu-koki-lato** mek-umyen, ne-nun chaysikka-ka an-i-ta.
 AMWU-meat-EVEN eat-if you-TOP vegetarian-NOM not-be-DEC
 ‘If you eat meat x, regardless of what, you are not a vegetarian.’

b. **etten-koki-lato** mek-umyen, ne-nun chaysikka-ka an-i-ta.
 WHAT-meat-EVEN eat-if you-TOP vegetarian-NOM not-be-DEC
 ‘No matter what kind of meat x is, if you eat x, you are not a vegetarian.’

(18) a. **amwu-koki-lato** mek-un aitul-un motwu *Restrictor of "*
 AMWU-meat-EVEN eat-REL kids-TOP ALL
 paythal-i na-ass-ta.
 upset-stomach-NOM occur-PAST-DEC
 ‘Every kid who ate some meat had an upset stomach, the identity of meat didn’t matter.’

b. **etten-koki-lato** mek-un aitul-un motwu
 WHAT-meat-EVEN eat-REL kids-TOP ALL
 paythal-i na-ass-ta.
 upset-stomach-NOM occur-PAST-DEC
 ‘Every kid who ate some meat had an upset stomach, no matter what kind of meat it may be.’

As seen in (17) and (18), *amwu-/wh-(N)-lato* always convey a “no matter wh...” reading, which comes from the particle *-lato*. The portion in the end amounts to an external indifference reading such that the identity of the meat you/the kids eat does not matter.

Here I address an important issue. Compared with *amwu-/wh-(N)-na*, the “no matter wh...” reading triggered by *-lato* is never interpreted as agent indifference. Consider (19) below.

- (19) **amwu-koki-na** mek-umyen, ne-nun yutayin-i an-i-ta.
 AMWU-meat-OR eat-if you-TOP kosher.Jew-NOM not-be-DEC
 ‘If you eat just ANY meat without caring about its identity, you are not a kosher Jew.’

In (19), *amwu-(N)-na* induces an agent indifference reading. That is, given that a kosher Jew is supposed to be picky about the identity of meat he or she eats, if you, the agent, do not care about the identity of the meat and indiscriminately eat it, then you are not considered a kosher Jew. This type of indifference reading is not available to *amwu-(N)-lato* or *wh-(N)-lato*. Thus, sentence (20) is judged infelicitous. The indifference reading with the *-lato* items is not interpreted under the scope of the agent, but projected globally, yielding an external indifference reading. In the end, sentence (20) means ‘If you eat (even a piece of) meat, you are not a kosher Jew’, which is not consistent with the definition of a kosher Jew.

- (20) #amwu/etten-koki-lato mek-umyen, ne-nun yutayin-i an-i-ta.
 AMWU/WHAT-meat-EVEN eat-if you-TOP kosher.Jew-NOM not-be-DEC
 ‘(Lit.) If you eat any meat, you are not a kosher Jew, regardless of what meat.’

Let us go back to (17). Regarding the quantificational force, since a piece of meat or one eating action is enough for the speaker to conclude that the addressee is not a vegetarian, *amwu-wh-(N)-lato* in (17) is interpreted as an existential-like quantifier within the antecedent of conditionals. So are the *-lato* items in the restrictor of universal quantifiers in (18). By contrast, *amwu-(N)-na* in (19) induces plural effects, coming from its agent indifference reading since an agent’s indifferent action usually implies that the agent does the action (e.g., eating meat) repetitively. Thus, *amwu-(N)-na* in (19) is interpreted as a plural indefinite, having semi-universal force.

Now we turn to another important question: given that *amwu-(N)-lato* and *wh-(N)-lato* are interpreted existentially in DE contexts, are they negative polarity items like NPI *any*? Recall that we showed in Chapter 4 that *amwu-(N)-na* in the same DE contexts does not function as an NPI, because in the cases where English *any* is clearly an existential NPI, the Korean translation does not use *amwu-(N)-na*, but NPI *amwu-(N)-to* (cf. examples (17) and (18) in Chapter 4). If *amwu-(N)-na* is used, then it yields either ungrammaticality or a different interpretation – specifically, a FC interpretation. Then what about *amwu-(N)-lato* and *wh-(N)-lato*?

(21) shows that English NPI *any* is an existential quantifier, not a universal because it can appear in *there*-insertion contexts. (22) shows that the correspondent of NPI *any* is *amwu*-(N)-*to*, but not the *-lato* items in Korean.

- (21) a. There isn't any linguist in the conference room.
 b. *There isn't every linguist in the conference room.

- (22) a. pang-ey **amwu-haksayng-to** eps-ta.
 Room-LOC AMWU-student-EVEN not.exist-DEC
 'There isn't any student in the room.'
- b. *pang-ey **amwu-/etten-haksayng-lato** eps-ta.
 room-LOC AMWU-/WHAT-student-EVEN not.exist-DEC
 '(Intended) There isn't any student in the room.'

In addition, NPI *any* gives rise to a different interpretation than the universal quantifier *every*, as in (23). Note that NPI *any* is translated into *amwu*-(N)-*to* as in (24a). Replacing *amwu*-(N)-*to* by *amwu*-/*wh*-(N)-*lato* yields ungrammaticality, as shown in (24b).

- (23) a. Few students met any professor.
 b. For every professor x, few students met x.

- (24) a. manhun-haksayngtul-i amwu-kyoswu-to manna-ci.anh-ass-ta.
 Many-student-NOM AMWU-professor-EVEN meet-NEG-PAST-DEC
 ‘It is not the case that many students met any professor.’
- b. *manhun-haksayngtul-i amwu-/etten-kyoswu-lato manna-ci.anh-ass-ta.
 Many-student-NOM AMWU-/WHAT-professor-EVEN meet-NEG-PAST-DEC
 ‘It is not the case that many students met any professor.’

From the data in (22) and (24), we see that in the cases where English *any* is clearly an existential NPI, the Korean translation does not use *amwu-(N)-lato* nor *wh-(N)-lato*, but rather employs *amwu-(N)-to*. If *amwu-(N)-lato* or *wh-(N)-lato* is used, it yields ungrammaticality. Thus, we conclude that *amwu-/wh-(N)-lato* cannot be equivalent to NPI *any*.

Furthermore, given that *amwu-(N)-na* is closer to stressed *any*, as we saw in Chapter 4, *amwu-(N)-lato* and *wh-(N)-lato* are also closer to stressed *any* because the *-lato* items always convey an indifference reading, i.e., “no matter wh...” (Strong PSIs in Krifka 1995).

As noted in Chapter 5, English unstressed *any* translates into a common noun with a case marker in Korean, which does not convey any indifference reading, as shown in (25) below. In contrast to this, *amwu-(N)-lato* and *wh-(N)-lato* always imply a “no matter wh...” reading triggered by the scalar focus particle *-lato* (see also (17)).

- (25) koki-lul mek-umyen, ne-nun chaysikka-ka an-i-ta.
 meat-ACC eat-if you-TOP vegetarian-NOM not-be-DEC
 ‘~~No matter what kind of meat it may be~~, if you eat meat, you’re not a
 vegetarian.’

In sum, what we have discussed so far leads us to conclude that *amwu*-(N)-*lato* and *wh*-(N)-*lato* are not merely plain NPIs, but rather FCIs, regardless of whether they appear in DE contexts or FC contexts. They always convey an indifference (i.e., free choice) reading that is oriented to an external locus (external indifference). In contrast to *amwu*-(N)-*lato*, which introduces a quantity scale saliently, *wh*-(N)-*lato* can trigger a quantity and quality scale.

6.2 The properties of the indifference reading of *-to* / *-lato*

Kratzer and Shimoyama (2002) suggest that free choiceness relates to the intuition that the speaker (or some higher locus) does not care about what is to be selected. For instance in (26), German FCI *irgendein*, which always reads existentially, conveys the speaker’s indifference as to the identity of the invitee, so that anyone in the domain of discourse can be an option for invitation. In this regard, the plain indefinite *jemand* is infelicitous.

(26) Hans: Wen sol lich einladen?

Who shall I invite?

Maria: **Irgendjemand** / #Jemand.

Somebody or other. Somebody.

Krazter and Shimoyama (2002) further observe that the FC effect of *irgendein* is canceled in DE contexts, as shown in (27). In (27), *irgendein* is interpreted as a plain indefinite taking narrow scope under the DE operator “doubt”.

(27) Ich bezweifle, dass sie je irgendjemand einladen durfte.

I doubt that she ever irgend-one invite could

‘I doubt that she was ever allowed to invite anybody.’

To retain a FC flavor, a special focus particle or emphatic stress is needed, as illustrated in (28). Note, however, that the FC effect conveyed by *irgendein* in (28) is agent indifference, not external indifference.

(28) Sie darf nie einfach nur IRGENDjemand einladen.

She may never just only irgend-one invite

‘She is never allowed to invite just ANYbody (by choosing indiscriminately).’⁶³

⁶³ My parentheses .

In this regard, I observed two important properties of the *-lato* FCIs in Choi (2005). First, the FC effects coming from *-lato* are not cancelable in DE contexts. For instance, in (29), repeated from (17), the indifference reading, i.e., “no matter wh...” is retained in DE contexts, such as in the antecedent of a conditional. Choi (2005) suggested that the FC effects coming from *-lato* ‘even’ is not canceled in DE contexts, but projected higher up as a presupposition.

(29=17) **amwu-koki-lato** mek-umyen, ne-nun chaysikka-ka an-i-ta.
 AMWU-meat-EVEN eat-if you-TOP vegetarian-NOM not-be-DEC
 ‘No matter what meat it may be, if you eat it, you are not a vegetarian.’

Second, the FC effects coming from the *-lato* FCIs are never interpreted as agent indifference. Only the *-na* FCIs can introduce an agent-oriented FC effect, as noted in the previous section. Relevant examples are repeated in (30) from (19) and (20).

(30) a. **amwu-koki-na** mek-umyen, ne-nun yutayin-i an-i-ta.
 AMWU-meat-OR eat-if you-TOP kosher.Jew-NOM not-be-DEC
 ‘If you eat ANY meat without caring about its identity, you are not a kosher Jew.’

b. **#amwu/etten-koki-lato** mek-umyen, ne-nun yutayin-i an-i-ta.
 AMWU/WHAT-meat-EVEN eat-if you-TOP kosher.Jew-NOM not-be-DEC
 ‘If you eat any meat, you are not a kosher Jew, regardless of what meat.’

Now let us think about the indifference reading induced by *wh*-(N)-*to*. The examples in (31) are drawn from (7b) and (2b) respectively. Literally, (31a) means that John is allowed to eat even the least likely kind of meat in a given context. Since the least likely type of meat for John to eat, e.g., snake, is a possible eating option for John, one can easily infer that every other meat is also a possible eating option for John. Hence, a FC flavor obtains that no matter what kind of meat *x* is, John is allowed to eat *x*, or equivalently, every meat is an eating option for John. This FC flavor is never oriented to the agent John and sentence (31a) is never interpreted as: “John is allowed to act indiscriminately in choosing meat and eating it.”

(31) a. John-un **etten-koki-to** mek-ul swu.iss-ta.

John-TOP WHAT-meat-EVEN eat-can-DEC

‘No matter what kind of meat *x* is, John is allowed to eat *x*.’

b. **nwukwu-to** an o-ass-ta.

WHO-EVEN NEG come-PAST-DEC

‘Nobody came, no matter who.’

In (31b) as well, one can get the “no matter wh...” reading from the scalar presupposition of *-to* ‘even’ and the kind scale introduced by *wh*-. Sentence (31b) literally means that even the least likely kind of person not to come, say, the chair of the organizing committee for the conference, didn’t come, given that a conference is supposed to take place. Since the least likely person not to come didn’t come, one can easily infer that

every other relevant person didn't come either. In other words, (31b) can be interpreted as "No matter who x is, x didn't come". However, one might want to say that this indifference reading does not sound like a FC flavor per se, probably because of the episodicity of the sentence, and *wh-(N)-to* in (31b) is not an FCI but an NPI. The issue of distinguishing NPIs and FCIs will be discussed in Chapter 7.

6.3 Semantics of the particle *-to*, in comparison with *-lato*

I examine the general semantic contributions of the particles *-to* and *-lato* in this section. From the data where each particle combines with a common noun, I show that *-to* is similar to the normal/PPI-*even* and *-lato* roughly to the NPI-*even* in Rooth's (1985) terms.

6.3.1 Two theories of English *even*

As we briefly discussed in Chapter 1, it is well known that the scalar focus particle *even* introduces two kinds of presuppositions: a scalar presupposition (ScalarP) and an existential presupposition (ExistP), as illustrated in (32), where *Syntactic Structures* is focused.

(32) John even understands [*Syntactic Structures*]_F.

- a. ScalarP: *Syntactic Structures* is the least likely book for John to understand.
- b. ExistP: There is some book other than *Syntactic Structures* that John understands.

Following Rooth (1985), focus particles like *even* are supposed to take a propositional scope, as in (33a), and trigger a set of alternatives which is obtained by replacing the denotation of the focused item with elements of the same semantic type. Then, focus particles quantify over a contextually salient subset C of the set of alternatives obtained, so that only contextually relevant propositions are included, as shown in (33b). (33c) is the truth conditions of the particle *even*, where the ExistP and the ScalarP that *even* triggers must be fulfilled.

- (33) a. LF: [even C [John understands [Syntactic Structures]_F]]
 b. $C = \{ \text{that John understands Syntactic Structures, that John understands Mother Goose, that John understands Intro to Syntax, ... } \}$
 c. $[[\textit{even}]]^w(C)(p)$ is defined iff $\exists q \in C [q \neq p \in C \wedge q(w)=1] \wedge \forall q \in C [q \neq p \in C, p <_{\text{likely in } w} q]$. If defined, $[[\textit{even}]]^w(p)=1$ iff $p(w)=1$

The sentence (32) is then reanalyzed as follows:

- (34) $[[\textit{even}]]^w(C)(\lambda w.\text{understand}(j,SS,w))$, where $C \subseteq \{ q: \exists x[q=\lambda w.\text{understand}(j,x,w)] \}$
 a. ScalarP: $\forall q \in C [q \neq \lambda w.\text{understand}(j,SS,w) \rightarrow \lambda w.\text{understand}(j,SS,w) <_{\text{likely in } w} q]$
 b. ExistP: $\exists q \in C [q \neq \lambda w.\text{understand}(j,SS,w) \wedge q(w)=1]$

As is well-known, the English focus particle *even* is ambiguous in DE contexts (Karttunen and Peters 1979; Rooth 1985). That is, sentence (35) can be interpreted as in

(36a) on the one hand, and as in (36b) on the other hand.

(35) It's hard to believe that John even understands [*Syntactic Structures*]_F.

(36) a. ScalarP: *Syntactic Structures* is the **least likely** book for John to understand.

b. ScalarP: *Syntactic Structures* is the **most likely** book for John to understand.

Rooth (1985) suggests that the ambiguity is lexical. Namely, he proposes that apart from the normal-*even*, there is an NPI-*even* that occurs in the same contexts where NPIs occur. On this proposal, the presuppositions for each of the two types of *even* look like (37) and (38) respectively. The normal/PPI-*even* triggers a least-likely presupposition as in (37a), while the NPI-*even* triggers a most-likely presupposition as in (38a). The truth conditions of each *even* can be represented as in (39) and (40).

(37) a. ScalarP: *Syntactic Structures* is the **least likely** book for John to understand.

b. ExistP: There is some book other than *Syntactic Structures* that John understands.

(38) a. ScalarP: *Syntactic Structures* is the **most likely** book for John to understand.

b. ExistP: There is some book other than *Syntactic Structures* that John doesn't understand.

(39) Normal/PPI-*even*

$[[\textit{even}_{\text{PPI}}]]^w(C)(p)$ is defined iff $\exists q \in C [q \neq p \wedge q(w)=1] \wedge \forall q \in C [q \neq p \rightarrow p <_{\text{likely in } w} q]$. If defined, $[[\textit{even}_{\text{PPI}}]]^w(p)=1$ iff $p(w)=1$

(40) NPI-*even*

$[[\textit{even}_{\text{NPI}}]]^w(C)(p)$ is defined iff $\exists q \in C [q \neq p \wedge q(w) \neq 1] \wedge \forall q \in C [q \neq p \rightarrow p >_{\text{likely in } w} q]$. If defined, $[[\textit{even}_{\text{NPI}}]]^w(p)=1$ iff $p(w)=1$

Under this lexical theory, PPI-*even* is assumed to be banned in the immediate scope of negation, because negative episodic sentences containing *even* do not induce an ambiguity, as illustrated in (41).

(41) John does not even understand Syntactic Structures.

Karttunen and Peters (1979), however, argue that *even* unambiguously introduces a least-likely presupposition, as in (42), and that the ambiguity of *even* in DE contexts is attributed to the scope ambiguity of *even*.

(42) $[[\textit{even}]]^w(C)(p)$ is defined iff $\exists q \in C [q \neq p \wedge q(w)=1] \wedge \forall q \in C [q \neq p \rightarrow p <_{\text{likely in } w} q]$
If defined, $[[\textit{even}]]^w(p)=1$ iff $p(w)=1$

That is, when *even* takes narrow scope under a DE operator, it yields a least-likely

reading. When *even* takes wide scope over a DE operator, the least-likely presupposition that *even* triggers turns into a most-likely presupposition due to the scale-reversing property of DE operators (Fauconnier, 1979). For instance, the LF in (43a) below indicates that *even* takes wide scope over the DE operator *it's hard to believe that*. Then the ScalarP obtains as in (43d), which is equivalent to the interpretation that *Syntactic Structures* is the most likely book for John to understand.

- (43) a. LF: [even C [It's hard to believe [John understands [Syntactic Structures]_F]]]
- b. C = { that it's hard to believe that John understands *Syntactic Structures*, that it's hard to believe that John understands the *Minimalist Program*, that it's hard to believe that John understands *Binding Theory*, ... }
- c. Assertion: It's hard to believe that John understands *Syntactic Structures*.
- d. ScalarP: "That it's hard to believe that John understands *Syntactic Structures*" is the least likely alternative. \Leftrightarrow "That John understands *Syntactic Structures*" is the most likely alternative.
- e. ExistP: There is some book other than *Syntactic Structures* that it's hard to believe that John understands.

Note that the scope theory assumes that *even* must scope over clause-mate negation because a negative sentence containing *even* lacks the ambiguity (cf. Nakanishi 2006).

6.3.2 Korean *-to* vs. *-lato*: PPI-*even* vs. NPI-*even*

Now let us consider Korean *-to* and *-lato*, both of which can translate to English *even*. Besides the scalar reading *even*, *-to* is also interpreted as an additive particle, meaning “also”, as illustrated in (44).

- (44) John-un [Syntactic Structure]_F-to ilk-ess-ta.
 J.-Top SS-ALSO/EVEN read-PAST-DEC
 (i) ‘John read Syntactic Structures, too.’
 (ii) ‘John even read Syntactic Structures.’

By contrast, *-lato* is never used as an additive particle. It always triggers a scalar presupposition. As seen in (45), while *-to* is ambiguous between the additive reading and the scalar reading, *-lato* only triggers a scalar reading. In addition, the ScalarP of *-to* associates with the least-likely item, whereas the ScalarP of *-lato* is the most-likely item on a scale. That is, *Syntactic Structures* that associates with *-to* in (45a) means the hardest book, while it means the easiest book in (45b).

- (45) a. John-un [Syntactic Structure]_F-**to** ilk-eyaha-n-ta.
 J.-Top SS-EVEN read-must-PRES-DEC
 (i) ‘John must read Syntactic Structures, too.’
 (ii) ‘John must read even Syntactic Structures.’

- b. John-un [Syntactic Structure]_F-**lato** ilk-eyaha-n-ta.
 J.-Top SS-EVEN read-must-PRES-DEC
 ‘John must read at least Syntactic Structures.’

This contrast is further illustrated in (46) and (47), which are drawn from Choi (2005). That is, the particle *-to* associates with the hardest or least-likely problem, while the particle *-lato* associates with the easiest or most-likely problem.

(46) *-to* as evoking the least-likely presupposition

- John-i [i-mwuncey]_F-**to** phwul-myen, swuhak.swuep-ul tut-ci.anh-ato.tway.
 J.-NOM this-problem-EVEN solve-if math.class-ACC take-NEG-can
 ‘If John solves even this problem, he can skip the whole math course.’
 a. ScalarP: This problem is the **hardest** problem for John to solve.
 b. ExistP: There is some problem other than this problem that John solved.

(47) *-lato* as evoking the most-likely presupposition

- John-i [i-mwuncey]_F-**lato** phwul-myen, ku-lul honnay-ci.ahn-ulkkey.
 J.-NOM this-problem-EVEN solve-if he-ACC admonish-NEG-will
 ‘If John solves at least this problem, I will not admonish him.’
 a. ScalarP: This problem is the **easiest** problem for John to solve.
 b. ExistP: There is some problem other than this problem that John didn’t solve.

From the contrast between (46) and (47), one might want to argue that the two *even*'s in DE contexts are lexicalized by the two different *even*-items in Korean: the normal/PPI-*even* is realized by the particle *-to* and the NPI-*even* by the particle *-lato*.

The semantics of *-lato* will be discussed in more detail in 6.5. For now, let us focus on the treatment of the particle *-to*. Since the normal/PPI-*even* is treated in the same way in both of the theories, we can choose one theory or the other to account for Korean *-to*, which I consider a PPI-*even*. In the next section, I will show that the particle *-to* is a PPI-*even* and account for *-to*-PSIs' licensing environments and quantificational interpretations.

6.4 A compositional analysis of *amwu*-(N)-*to* and *wh*-(N)-*to*

6.4.1 Pieces of meaning

I propose that the particle *-to* corresponds to the normal/PPI-*even*, which evokes a least-likely scalar presupposition. As for the indefinite roots, I showed in Chapter 2 that *amwu*- induces maximal domain-widening, whereas *wh*- ranges over a regular or contextually salient domain. In addition, we saw that the scope pattern of *wh*- is such that when *wh*- ranges over a specific domain, *wh*- tends to take wide scope like a partitive indefinite. By contrast, *amwu*- stays in situ (Chapters 2, 5). Furthermore, *amwu*- induces a quantity scale while *wh*- can trigger either a quantity or a kind/quality scale (cf. Lee and Horn, 1994), as we saw in 6.1.

Given these pieces of meaning, this chapter is concerned with accounting for the licensing environments of *amwu-(N)-to* and *wh-(N)-to* in a compositional manner. Table (48) repeats the licensing environments of *amwu-(N)-to* and *wh-(N)-to* respectively.

(48) Licensing environments of *amwu-(N)-to* and *wh-(N)-to*

	<i>Amwu-(N)-to</i>	<i>Wh-(N)-to</i>
Negation	√	√
Other Downward Entailing contexts	*	*
Modal, generics etc.	*	√
Affirmative sentences	*	*

I'll start by comparing negative episodic sentences and affirmative episodic sentences in terms of licensing *-to*-PSIs.

6.4.2 Negative episodic sentences

As repeated in (49), both *amwu-(N)-to* and *wh-(N)-to* are licensed in a negative episodic sentence.

- (49=2) a. **amwu-to** an o-ass-ta. *Negation*
 AMWU-EVEN NEG come-PAST-DEC
 'Nobody came.'

- b. **nwukwu-to** an o-ass-ta.
 WHO-EVEN NEG come-PAST-DEC
 ‘Nobody came.’

I assume that negation is generated in a fairly low position in Korean, following Nakanishi’s (2006) proposal for Japanese.⁶⁴ That is, I assume that *to*-PSIs obligatorily take wide scope over negation, as represented in the LF in (50a). In addition, following Lahiri (1998), *amwu*-(N) and *wh*-(N) are interpreted as denoting “some N”, as opposed to “a few N” or “many N”. Therefore, the contextual alternatives are constructed on a quantity scale, as shown in (50b).

- (50) a. LF: [-*to* C [Neg [[*amwu/wh*-(person)]_F came]]]
 b. C = {¬[*amwu/wh*-person(x) came], ¬[a few people came], ¬[many people came],... ¬[all people came] }
 c. Assertion: ¬∃x[come(x)]
 d. ScalarP: “That ¬[*amwu/wh*-person(x) came]” is the least-likely alternative.
 e. ExistP: There is some (numbers of) y other than x that didn’t come.

The particle *-to* evokes the ScalarP in (50d), which means ‘Even the most likely number of people didn’t come’. Together with the ExistP in (50e), it results in the inference that

⁶⁴ Nakanishi (2006) argues that Japanese focus particles like *-mo* ‘even’ and *-demo* ‘even’ always take scope over local negation.

nobody came. In addition, we assumed that unlike *amwu*-(N), *wh*-(N) can trigger a kind/quality scale. That is, ‘*wh*-person’ can also be interpreted as denoting something like “the least likely kind of person not to come in a given context”, as shown in (51d).

- (51) a. LF: [-*to* C [Neg [[*wh*-(person) x]_F came]]]
- b. C = {¬[a most insignificant⁶⁵ person x came], ¬[a more significant person y came], ¬[a very significant person z came],... }
- c. Assertion: ¬ ∃ x [most-insignificant(x) & come(x)]
- d. ScalarP: “That ¬[a most insignificant person x came]” is the least-likely element among the alternatives in C.
- e. ExistP: There is some person y other than x such that y didn’t come.

The ScalarP in (51d) is equivalent to “x is the most likely person to come”. The ScalarP together with the ExistP in (51e) and the assertion in (51c) produces the interpretation that even the most likely person x didn’t come, while other people didn’t come either. In other words, it gives us an inference that no matter which person x is, x didn’t come. An external indifference reading obtains in this way. However, this might not sound like a FC flavor, probably because the sentence is about an episodic event and uses an indicative mood. In the end, the interpretation amounts to “No one came”, i.e., universal quantification.

⁶⁵ “A most insignificant person” is supposed to denote the bottom of a quality scale.

6.4.3 Affirmative episodic sentences

In contrast to negative episodic sentences, affirmative episodic sentences do not allow *amwu*-(N)-*to* or *wh*-(N)-*to*, as repeated in (52).

- (52=5) a. ***amwu-to** o-ass-ta. *Affirmative*
 amwu-EVEN come-PAST-DEC *Episodic*
 ‘(Lit.) Anybody came.’
- b. ***nwukwu-to** o-ass-ta.
 WHO-EVEN come-PAST-DEC
 ‘(Lit.) Anybody came.’

The corresponding LF is given in (53a). ‘*Amwu/wh*-person” here is interpreted as an existential quantifier, i.e., “some person”. As opposed to “a few people” and “many people”, “*amwu/wh*-person” is the most likely person to come, but the ScalarP says that it is the least likely one. Thus, a presupposition clash arises between the property of the existential quantifier and the ScalarP in (53d). Hence, ungrammaticality obtains.

- (53) a. LF: [-**to** C [[*amwu/wh*-(person)]_F came]]
- b. C = {*amwu/wh*-person(x) came, a few people came, many people came, ..., all people came}
- c. Assertion: $\exists x[\text{come}(x)]$

- d. ScalarP: “That *amwu/wh*-person(x) came” is the least likely element among the alternatives in C.
- e. ExistP: There is some (numbers of) y other than x that came.

When a quality scale rather than a quantity scale is considered for *wh*-(N), the same sort of clash arises, as shown in (54) below. That is, because “an insignificant person’s coming” is the most likely thing to happen, the ScalarP in (54d) is inconsistent with it.

- (54) a. LF: [-*to* C [[*wh*-(person) x]_Fcame]]
- b. C = { a most insignificant person x came, a more significant person y came, a very significant person z came,... }
 - c. Assertion: $\exists x$ [most-insignificant(x) & come(x)]
 - d. ScalarP: “That a most insignificant person x came” is the least likely element among the alternatives in C.
 - e. ExistP: There is some person y other than x such that y came.

6.4.4 DE contexts

Let us turn to DE contexts like the antecedent of a conditional, as repeated in (55).

- (55=3) a. ***amwu-to** o-myen, na-hantey al-lyela. *If-conditional*
 AMWU-EVEN come-if, I-DAT inform-IMP
 ‘(Intended) If anyone comes, let me know.’

b. *nwukwu-to o-myen, na-hantey al-lyela.

WHO-EVEN come-if, I-DAT inform-IMP

‘(Intended) If anyone comes, let me know.’

I assume that the particle *-to* cannot move outside of the antecedent of a conditional or the restrictor of a universal quantifier (Choi, 2005), as represented in (56a).⁶⁶ Under the LF in (56a), the ScalarP of *-to* gives rise to a presupposition clash with the property of *amwu-/wh-(N)* ‘some N’, as shown in (56d), just as it does in an affirmative episodic sentence. Thus, the sentence is predicted to be ungrammatical.

(56) a. LF: [If [*-to* C [[*amwu-/wh*-person (x)]_F comes]] let me know]

b. C = { *amwu-/wh*-person (x) comes, a few people come, most people come, ..., everyone comes }

c. Assertion: [$\exists x(\text{come}(x))$] \rightarrow [informed(I)]

d. ScalarP: “That *amwu-/wh*-person (x) comes” is the least likely thing in C.

e. ExistP: There is some (number) y other than some person(x) such that y comes.

A quality scale also results in the same kind of presupposition clash: a clash between the property of *wh-(N)* ‘an insignificant N’ and the least-likely ScalarP, just as we saw in (54).

⁶⁶ Nakanishi (2006) assumes a similar scope property of Japanese *even*-items, *-mo* ‘even’ and *-demo* ‘even’. She says that movement of these items is clause-bound. That is, they always take scope over negation and under an *if*-clause.

6.4.5 FC contexts

6.4.5.1 Generic contexts

In generic contexts, *wh*-(N)-*to* is allowed, but not *amwu*-(N)-*to*, as shown in (57), repeated from (6).

- (57=6) a. *amwu-say-to na-n-ta. *Generic*
AMWU-bird-EVEN fly-GEN-DEC
'(Intended) Any bird flies.'
- b. etten-say-to na-n-ta.
WHAT-bird-EVEN fly-GEN-DEC
'No matter which bird x is, x flies.'

I account for this contrast between *wh*-(N)-*to* and *amwu*-(N)-*to* with the differences in the types of scales that each indefinite root introduces. As suggested before, while *amwu*- triggers a quantity scale, *wh*- can trigger either a quantity or a kind/quality scale. Suppose a quantity scale is introduced by *amwu*-. Then (57a) is analyzed as follows:

- (58) a. LF: [-*to* C [GEN [[*amwu*-bird (x)]_F flies]]]
- b. C = {Every situation s containing *amwu*-bird (x) is the situation in which x flies,
Every situation s containing a few birds is the situation in which they fly,
Every situation s containing a lot of birds is the situation in which they fly,... }

which x flies, Every situation s containing a more significant bird (y) is the situation in which y flies, Every situation s containing a very significant bird (z) is the situation in which z flies,... }

- c. Assertion: $\text{Gen}_{s=w0}. [\text{bird}(x,s)] [\text{fly}(x,s)]$
- d. ScalarP: “Every situation s containing a most insignificant bird (x) is the situation in which x flies” is the least likely alternative in C.
- e. ExistP: There is some bird y other than x such that every situation s containing y is the situation in which y flies

Here, “*wh*-bird(x)” denotes the kind of bird least likely to fly. It contributes to the property of “being a bird” in the generic sentence. No inconsistency or presupposition clash obtains. Thus, the sentence is judged grammatical. In addition, the presuppositions in (59d,e) together with the assertion convey that no matter what kind of bird x is, generally x flies. That is, it induces a “no matter wh...” interpretation, which is seen as external indifference or FC effects.

6.4.5.2 Modal contexts

In modal contexts as well, *wh*-(N)-*to* is licensed, but not *amwu*-(N)-*to*, as in (60).

- (60=7) a. *John-un amwu-koki-to mek-ul.swu iss-ta. *Possibility*
 J.-TOP AMWU-meat-EVEN eat-can-DEC
 ‘(Intended) John can eat any meat.’

- b. John-un etten-koki-to mek-ul.swu.iss-ta.
 John-TOP WHAT-meat-EVEN eat-can-DEC
 ‘John can eat any meat.’

I account for the contrast in (60) on the basis of the different scope behavior of *amwu-* vs. *wh-*. As proposed in Chapters 2 and 5, the whole *wh-* phrase can move outside the scope of the modal. Then, the generic operator is introduced on top, yielding the LF (61).

(61) LF: [GEN [***wh-meat(x)*** -*to* [can [John eats t]]]]

Now, *wh-(N)-to* is interpreted as if it appears in a generic context. That is, *-to* takes a sentential scope including the generic operator, as in (62a). Assuming that a quality scale is introduced by *wh-*, we obtain the alternatives as in (62b).

(62) a. LF: [-*to* C [GEN [[***wh-meat(x)***]_F [can [John eats t]]]]]

- b. C = {Every situation *s* containing a most insignificant meat *x* is the situation in which John can eat *x*, Every situation *s* containing a more significant meat *y* is the situation in which John can eat *y*, Every situation *s* containing a very significant meat *z* is the situation in which John can eat *z*,... }

c. Assertion: $\text{Gen}_{k=w0}$. [meat(*x*,*s*)] [\diamond eat(*j*,*x*,*s*)]

- d. ScalarP: “That every situation *s* containing a most insignificant meat *x* is the situation in which John can eat *x*” is the least likely alternative in C.

- e. ExistP: There is some y other than wh -meat (x) (i.e., a most insignificant meat x) such that every situation s containing meat y is the situation in which John can eat y .

The ScalarP and ExistP that $-to$ evokes are given in (62d) and (62e) respectively. Given that wh -meat(x) denotes the least likely kind of meat for John to eat, it does not clash with the ScalarP (62d). Thus, the sentence is predicted to be grammatical. Furthermore, a FC flavor is inferred from the combination of the ScalarP and the ExistP such that John is allowed to eat even the meat at the bottom of the scale, while there are other types of meat that John is allowed to eat. This reads that no matter what type of meat x is, John is allowed to eat x . Hence, FC effects arise.

In contrast, $amwu$ -(N)- to cannot move, but stays in situ, as represented in (63).

(63) LF: [GEN [can [John eats [***amwu***-meat(x)-*to*]]]]

In the base-generated position, there is a presupposition clash between the least-likely ScalarP that $-to$ triggers and the most-likely property of “some meat” denoted by $amwu$ -(N), just as in an episodic sentence. Therefore, $amwu$ -(N)- to is not allowed in a possibility modal sentence. $Amwu$ -(N)- to and wh -(N)- to in a necessity modal sentence behave in the same way as in the possibility modal context. Accordingly, I will not present the details here.

6.4.6 Interim Summary

In section 6.4, I proposed that the particle *-to* is the normal/PPI-*even*, which evokes a least-likely scalar presupposition (Rooth 1985). *-To* obligatorily takes wide scope over a clause-mate negation, but cannot move outside other DE operators like the antecedent of conditionals. Following Lahiri (1998), we assumed that *amwu/wh-(N)* denotes the bottom of a scale. In addition, I suggested that *amwu-* introduces only a quantity scale, while *wh-* can introduce a quantity and a kind/quality scale. With these pieces, I accounted for the grammaticality of *amwu/wh-(N)-to* in a negative sentence and the ungrammaticality of *amwu-/wh-(N)-to* in affirmative and other DE contexts than negation.

In FC contexts like generic contexts and modal sentences, we noted a contrast between *amwu-(N)-to* and *wh-(N)-to* in terms of grammaticality. That is, *wh-(N)-to* but not *amwu-(N)-to* is allowed in FC contexts. As proposed in Chapter 5 to account for the universal flavor of *wh-(N)-na*, *wh-(N)* can move outside a modal or generic operator, while *amwu-(N)* stays in situ. Therefore, unlike *amwu-(N)-to*, *wh-(N)-to* as a whole can move over a modal operator, and is interpreted inside the restriction of the generic operator that is introduced on top. In the end, a modal context containing *wh-(N)-to* is analyzed as a generic context. In generic contexts, *amwu-(N)-to*, which only triggers a quantity scale, produces a presupposition clash with the property of generic sentences, and is predicted to be ungrammatical. In contrast, *wh-(N)-to* can trigger a kind scale and no presupposition clash obtains.

Once *amwu*-(N)-*to* or *wh*-(N)-*to* is licenced, it conveys universal quantification from the combination of the two presuppositions. That is, from the interpretation that even the least likely item has the VP property, it is inferred that every alternative in C has the VP property. This universal quantification is understood clearly as FC effects in FC contexts.

6.5 The semantics of the particle *-lato*

This section is concerned with developing a focus semantics of the particle *-lato*.

6.5.1 *-lato* as the wide-scope *-even* under the simple scope theory

In section 6.3, it was shown that *-lato* evokes a most-likely scalar presupposition. Under the scope theory (e.g., Wilkinson, 1996), a most-likely ScalarP obtains when *even* takes wide scope over a DE operator. If we apply such an analysis to the occurrence of *-lato* in the antecedent of a conditional as in (64), repeated from (46), we will have a representation as in (65).

(64=46)

John-i i-mwuncey-lato phwul-myen, ku-lul honnay-ci.ahn-ulkkey.

J.-NOM this-problem-EVEN solve-if he-ACC admonish-NEG-DEC

‘If John solves even this problem(=easiest problem), I will not admonish him.’

(65) Wide scope interpretation of *-lato* à la Wilkinson (1996)

- a. ScalarP: This problem is the least likely problem *x* such that: if John solves *x* then I will not admonish him.
- b. ExistP: There is some problem *y* different from this problem such that: I will not admonish John if he solves *y*.

Now, let us reconsider the ScalarP. Take (66), which can translate to Guerzoni's (2003) German example (see 6.5.2 below). If the ScalarP of *-lato* is computed globally as in (66b) for a wide scope *even*, then we would expect both (66a) and (66b) to have the scalar presupposition as in (67).

- (66) a. *ai-yel-myeng-ilato iss-umyen, ne-nun cengpwupoco-lul pat-cimosha-nta.
kid-ten-CL-EVEN have-if you-TOP child.support-ACC receive-NEG-DEC
'(Lit.) If you even have 10 children, you cannot get child-support.'
- b. If you even have 10 children, you are refused child-support.

(67) Scalar presupposition à la Wilkinson (1996)

ScalarP: "10 children" is the least likely number of children for you to be refused child-support.

Since (67) does not yield any contradiction or presupposition clash, we should expect both (66a) and (66b) to be grammatical. However, while the scalar presupposition in (67)

works for English *even*, it does not apply to Korean *-lato*, as seen in (66a). This shows us that Korean *-lato* cannot be treated as a wide-scope *even* under the simple scope theory.

6.5.2 *-lato* as the NPI-*even* à la Guerzoni (2003, 2005)

Now let us consider Guerzoni's (2003) German example in (68). The ungrammaticality of (68) indicates that the German *even*-item, *auch nur* behaves in the same way as Korean *-lato*.

(68) *Wenn du auch nur 10 Kinder hast, wird dir die Kinderbeihilfe verweigert.

Guerzoni (2003, 2005) argues that languages like German have so-called NPI-*even*'s, which introduce a most-likely scalar presupposition that targets an embedded proposition and trigger an existential or additive presupposition that targets the unembedded one. That is, NPI-*even*'s such as *auch nur* and possibly Korean *-lato* are analyzed as triggering the presupposition (69) inside the antecedent of a conditional. The contradiction of the most-likely presupposition in (69) allows us to account for the ungrammaticality of (66a) for *-lato* and (68) for *auch nur*.

(69) Scalar presupposition à la Guerzoni (2003)

ScalarP: The likelihood of having 10 children exceeds the likelihood of having
n children. (\perp)

that *nur* in *auch nur* is the one in (72), which presupposes exclusivity and scalarity.

- (73) Niemand hat auch nur die Maria getroffen.
Nobody has also only the Mary met.
'Nobody didn't even meet Mary.'

Importantly, Guerzoni (2003) suggests the LF in (74) for sentence (73) in order to avoid a presupposition clash between the ExistP of *auch* and the exclusivity presupposition (ExclP, henceforce) of *nur*. As seen in (74), the ExistP of *auch* is formulated globally by (covertly) moving *auch* to the top at LF, so that the ExistP in (74a) does not clash with the ExclP in (74b). The most-likely-presupposition arising from *nur* is formulated locally with no movement. No presupposition clash arises, and the sentence is predicted to be grammatical.

- (74) LF: [**auch** [niemand₁ [[**nur** [t₁ hat [[die Maria]_F getroffen]]]]]]
a. ExistP: There is someone different from Mary that nobody met.
b. ExclP: There is nobody except Mary that g(1) met.
c. ScalarP: Mary is the most likely person to meet.

Her analysis correctly predicts that *auch nur* is not licensed in affirmative episodic sentences because a presupposition clash arises between the ExistP of *auch* and the ExclP of *nur*, as in (75).

(75) LF: [**auch** [**nur** [Hans hat [[die Maria]_F]_F getroffen]]]

- a. ExistP: There is someone different from Mary that Hans met.
- b. ExclP: There is nobody except Mary that Hans met.
- c. ScalarP: Mary is the most likely person to meet.

In this dissertation, I contend that Korean *-lato* is an NPI-*even* à la Guerzoni (2003, 2005). In my previous work (Choi, 2005), I proposed that the particle *-lato* triggers two presuppositions: a most-likely scalar presupposition that targets an embedded proposition, and an existential presupposition that targets a larger proposition. In the next section, I will show that Choi's (2005) proposal needs to be revised to account for the occurrences of *-lato*-PSIs in modal and generic contexts.

6.6 A compositional analysis of *amwu-(N)-lato* and *wh-(N)-lato*

This section aims to provide a compositional analysis for *amwu-/wh-(N)-lato* in terms of their licensing environments and FC effects.⁶⁸ As seen in Table (76), *amwu-/wh-(N)-lato* is not allowed in negative or affirmative episodic sentences and occurs in DE contexts and FC contexts.

⁶⁸ Since the type of scale (i.e. quantity or quality scale) does not make any difference, I will present the cases of quantity scales only.

(76) Distribution of *amwu-(N)-lato* and *wh-(N)-lato*

	<i>Amwu-(N)-lato</i>	<i>Wh-(N)-lato</i>
Negation	*	*
Other Downward Entailing contexts	√ FCI	√ FCI
Modal, imperative, generics etc.	√ FCI	√ FCI
Affirmative sentences	*	*

6.6.1 DE contexts

Choi (2005) proposes a Guerzoni-style account for Korean *amwu-/wh-(N)-lato*. Following Guerzoni (2003, 2005), Choi (2005) proposes that *-lato* triggers a narrow-scope most-likely presupposition and a wide-scope existential presupposition. However, the particle *-lato* is not decomposed in Choi (2005), unlike Guerzoni (2003). *Amwu-/wh-(N)-lato*, which appears in the antecedent of a conditional like (77) is analyzed as triggering the two presuppositions in (78).

- (77) **amwu-koki-lato** mek-umyen, ne-nun chaysikcwuuyca-ka an-i-ta.
 AMWU-meat-EVEN eat-if you-TOP vegetarian-NOM not-be-DEC
 ‘No matter what meat it may be, if you eat it, you are not a vegetarian.’

(78) The presuppositions of *-lato* in Choi (2005)

- a. ScalarP: *Amwu koki* (x), i.e., some meat (x) is the most likely/insignificant (amount of) meat for you to eat.
- b. ExistP: There is some other (amount of) meat (y) such that if you eat y, you are not a vegetarian.

There is no presupposition clash, and the sentence is correctly predicted to be grammatical. As shown in section 6.4, *amwu koki* ‘amwu meat’ and *etten koki* ‘what meat’ are interpreted as denoting “some meat”, as opposed to “a lot of meat” or “all meat”, following Lahiri (1998). Thus, sentence (77) can be paraphrased as follows: “If you eat even the smallest amount of meat or even the most likely/insignificant (amount of) meat, then you’re not a vegetarian”.

FC effects, namely, an external indifference reading, are easily predicted by the combination of the two presuppositions. That is, even the most likely/insignificant/trivial meat (x) (e.g., crabmeat) may be taken into account as an option for you although there are other more significant alternatives (y) (e.g., beef), so that the identity of meat does not matter with respect to proving that you are not a vegetarian. Hence, FC effects obtain.⁶⁹ Choi’s (2005) analysis successfully derives the grammaticality of *amwu-wh-(N)-lato* in DE contexts, like the antecedent of a conditional, as well as the *-lato* items’ FC effects.

⁶⁹ It is not entirely clear why it is possible to have a FC flavor on the basis of a quantity scale. It seems that it is indirectly inferred that if even a very small quantity can satisfy the situation, then it means that the quantity does not matter, and consequently, the identity (kind) does not matter either.

6.6.2 FC contexts

Choi's (2005) proposal, based on Guerzoni (2003), is not able, however, to deal with occurrences of *amwu-/wh-(N)-lato* in modal contexts. Consider the following.

(79=22) a. John-un **amwu-koki-lato** mek-ul.swu.iss-ta. *Possibility*

J.-TOP AMWU-meat-EVEN eat-can-DEC

'John is allowed to eat meat: every meat is a possible eating option for John.'

b. John-un **etten-koki-lato** mek-ul.swu.iss-ta.

John-TOP WHAT-meat-EVEN eat-can-DEC

'John is allowed to eat meat: every meat is a possible eating option for John.'

The application of the proposal in Choi (2005) yields the two presuppositions in (80). The ScalarP targets the embedded proposition "John eats *amwu/etten* meat" and the ExistP targets the larger proposition that contains the possibility modal.

(80) a. ScalarP: *Amwu/etten koki* (x), i.e., some meat (x) is the most likely/insignificant (amount/kind of) meat for John to eat.

b. ExistP: There is some other (amount/kind of) meat (y) such that John is allowed to eat y

The combination of the ScalarP and ExistP gives us the interpretation that while other

amounts of meat are already a possible eating option for John, the speaker permits John to eat a small/insignificant amount of meat. From these presuppositions, the assertion (81) obtains, such that there is a deontic world w' in which John eats at least the bottom-of-scale meat.

(81) $\lambda w_0. \exists w' \in \text{Deo}(w_0)$ [John eats at least *amwu/wh*-meat(x)]

Due to the “at least” part of (81), (80) does not produce the right interpretation of the sentence (79). That is, this interpretation is not what sentence (79) means. Intuitively, what seems to be conveyed by sentence (79) is the reading in (82), where *amwu/wh*-meat(x) seems to be a least likely item, not most likely. However, the reading in (82) does not arise from the two presuppositions in (80).

(82) *Amwu/etten koki* (x) is the least likely type of meat for John to be allowed to eat.

How then can we get the least likely reading in (82)?⁷⁰ To see what kind of

⁷⁰ To capture the least-likely reading, Lim (2007) proposes that the particle *-lato* is decomposed into the hidden exclusive focus particle *-man* ‘only’ and the scalar focus particle *-to* ‘even’. The semantics of *-man* ‘only’ is identical to *nur* in Guerzoni (2003), i.e., it presupposes scalarity (most-likely) and exclusivity. But the semantics of *-to* in Lim (2007) is different from *auch*, in that *-to* presupposes a least-likely ScalarP and weak additivity. Under Lim’s (2007) account, sentence (79) is interpreted as in (i), which does not capture the FC flavor of *amwu/wh*-(N)-*lato*.

- (i)
- a. LF: [*-to* [\diamond [*-man* [John eats *amwu/wh*-meat]]]]
 - b. ExclP of *-man*: John eats nothing different from *amwu/wh*-meat
 - c. ScalarP of *-man*: *Amwu/wh*-meat is the most likely meat for John to eat.
 - d. ScalarP of *-to*: *Amwu/wh*-meat is the least likely meat for John to be allowed to eat.
 - e. Weak Additivity of *-to*: There was an x different from *amwu/wh*-meat such that if John eats nothing different from *amwu/wh*-meat, and if x was the most

presuppositions are triggered by *-lato* in modal sentences, consider example (83).

(83) a. John-un swiwun-mwuncey-lato pwul-eto.tway.

J.-TOP easy-problem-EVEN solve-can

‘John is allowed to solve even the easiest problem.’

b. #John-un elyewun-mwuncey-lato pwul-eto.tway.

J.-TOP hard-problem-EVEN solve-can

‘John is allowed to solve even the hardest problem.’

Clearly, in (83), *-lato* associates with the easiest problem, but not with the hardest problem. The easiest problem is the **most likely** problem for John to solve. But still, sentence (83a) conveys that John’s solving the easiest problem is the **least likely** thing for the speaker to allow to happen.

I suggest that this “least-likely” ScalarP from the speaker’s perspective can be inferred if we assume that the exclusive presupposition triggered by *-lato* –which in Guerzoni’s analysis targets the embedded proposition– is not projected globally, but projected or accommodated locally under the modal.⁷¹ In the end, *-lato* is analyzed as evoking three

likely meat for John to eat, then John is allowed to eat x.

⁷¹ This local projection of ExclP was suggested to me by Maribel Romero. Exactly how to motivate the local projection is left open for future research, but it seems to have a broader impact on NPI-*even*’s cross-linguistically. Note that Spanish NPI-*even*, *siquiera*, can occur in an imperative sentence like the following:

Comete siquiera este trocito.

Eat-IMPER-CL NPI-even this little-piece

"Eat at least / if nothing else this little piece."

(Maribel Romero, p.c.)

presuppositions: ScalarP, ExistP and ExclP.

Note that in Guerzoni (2003), German *auch nur* also triggers three presuppositions, namely, ScalarP, ExistP and ExclP. However, in her analysis, all of the presuppositions are supposed to project globally, a point in which our analysis of *-lato* differs. That is, the ExclP of *-lato* is locally projected. Thus, the three types of presupposition triggered by *-lato* in (83a) can be shown as in (84).

- (84) a. ScalarP: “That John solves the easiest problem” is the most-likely alternative.
b. ExclP: John solves nothing but “the easiest problem”.
c. ExistP: There is some *y* different from the easiest problem such that the speaker allows John to solve *y*.
d. Assertion (together with any locally computed presupposition): It is allowed that John solves the easiest problem and nothing else.

Given that there is permission from the speaker to solve other problems, if the speaker allows John to solve the easiest problem and nothing better than that, it is inferred that John’s solving the easiest problem is the last one that the speaker wants. Hence, a FC flavor obtains that for every alternative problem *y*, John is allowed to solve *y*. What is crucial here is that the ExclP is locally projected under the modal.

Likewise, I propose that the three types of presupposition play a role in the modal

sentence (79) containing *amwu-/wh-(N)-lato*, repeated below.

(85=79) a. John-un **amwu-koki-la to** mek-ul.swu.iss-ta. *Possibility*

J.-TOP AMWU-meat-EVEN eat-can-DEC

‘John is allowed to eat meat: every meat is a possible eating option for John.’

b. John-un **etten-koki-lato** mek-ul.swu.iss-ta.

John-TOP WHAT-meat-EVEN eat-can-DEC

‘John is allowed to eat meat: every meat is a possible eating option for John.’

The three presuppositions that *-lato* evokes in (85) are given in (86).

(86) a. ScalarP: *Amwu/etten koki* (x), i.e., some meat (x) is the most likely/insignificant (amount/kind of) meat for John to eat.

b. ExclP: There is nothing different from *amwu/etten-koki* (x) that John eats.

c. ExistP: There is some other (amount/kind of) meat (y) such that John is allowed to eat y

d. Assertion (together with locally projected presupposition): It is allowed that there is no different *amwu/etten-koki* (x) that John eats.

The combination of the three presuppositions says: ‘Given that there is permission from the speaker to eat some other (amount/kind of) meat, the speaker allows John to eat the most insignificant (amount/kind of) meat and nothing better than that’. It yields the

revised assertion in (87).

(87) $\lambda w_0. \exists w' \in \text{Deo}(w_0)$ [John eats *amwu/wh*-meat(x) and no other meat in w']

Imagine a situation where John's mother says the sentences in (85). The speaker normally wants John to eat more or better meat. Thus, it is inferred from (87) that "John's eating the most insignificant (amount/kind of) meat and nothing better than that" is the least likely alternative for the speaker to permit. Hence, a FC flavor obtains that for every alternative meat y , John is allowed to eat y .

Note here that the German *even*-item *auch nur* is not allowed in modal contexts, as Guerzoni (2006) reports. What we observe here, however, is that Korean *-lato*, which, I argue, triggers a locally projected ExclP, is licensed in modal contexts. There is no clash between the ExistP and the ExclP due to the modal operators in between.

6.6.3 Affirmative episodic sentences

Amwu-/wh-(N)-lato are ungrammatical in affirmative episodic sentences like (88).

(88=12) a. ***amwu-lato** o-ass-ta
 AMWU-EVEN come-PAST-DEC
 '(Lit.) Anyone came.'

- b. ***nwukwu-lato** o-ass-ta
 WHO-EVEN come-PAST-DEC
 ‘(Lit.) Anyone came.’

The ungrammaticality is attributed to a clash between the ExistP and the ExclP, as shown in (89). Since there is no operator to ameliorate the clash, the sentences in (88) are correctly predicted to be ungrammatical.

- (89) a. ScalarP: *Amwu/nwukwu* (x), i.e., some person (x) is the most likely amount of people to come.
 b. ExclP: There is no one different from *Amwu/nwukwu* (x) who came.
 c. ExistP: There is some (amount of) people (y) other than *amwu/nwukwu* (x) such that y came.

6.6.4 Negative episodic sentences

Amwu-(N)-lato and *wh-(N)-lato* are not allowed in negative episodic sentences either, as shown in (90).

- (90=11) a. ***amwu-lato** an o-ass-ta.
 AMWU-EVEN NEG come-PAST-DEC
 ‘(Lit.) Anyone didn’t come.’

- b. *nwukwu-lato an o-ass-ta.
 WHO-EVEN NEG come-PAST-DEC
 ‘(Lit.) Anyone didn’t come.’

I assume that *-lato* takes wide scope over negation, just as *-to* does, because local negation in Korean is placed in a structurally low position (see 6.4). Then we have the three presuppositions shown in (91).

- (91) a. ScalarP: *Amwu/nwukwu* (x), i.e., some person (x) is the most likely amount of people not to come.
 b. ExclP: There is no one different from *Amwu/nwukwu* (x) who didn’t come.
 c. ExistP: There is some (amount of) people (y) other than *amwu/nwukwu* (x) such that y didn’t come.

Just as in an affirmative sentence, there is a presupposition clash between the ExclP and the ExistP. Therefore, *-lato*-PSIs are predicted to be ungrammatical in a negative episodic sentence, and this is born out.

6.6.5 Summary of section 6.6

In this section, I analyzed *-lato* as the NPI-*even* à la Guerzoni (2003, 2005). It triggers a ScalarP and an ExclP that target an embedded proposition, and an ExistP that targets a

larger proposition. Crucially, I propose that the ExclP is locally projected in order to get the FC effects of the *-lato* items in modal contexts as well as to account for the licensing environments of the *-lato* items. The *-lato* items are predicted to be ungrammatical in negative episodic and affirmative episodic sentences due to the clash between the ExistP and the ExclP. The clash can be ameliorated by an intervening operator (regardless of whether it is a DE operator or a modal operator), under which the ExclP is interpreted and over which the ExistP is interpreted. We obtained the FC effects of the *-lato* items in DE contexts and modal contexts from the interaction of the three presuppositions that *-lato* triggers.

Chapter 7 Concluding Remarks

This dissertation attempted to answer the three questions in (1) by examining Korean polarity sensitive items.

- (1) a. What is the nature of the relationship between NPIs and FCIs? What forms the common core of Polarity Sensitive Items?
- b. If there is a common core, is it derived from only one source or could there be more than one source? How many sources can be detected in natural language?
- c. What makes the distinction between NPIs and FCIs?

In Korean, it is transparent from the morphology which part is common to FCIs and NPIs and which components are responsible for differentiating them. Korean PSIs are composed of one of the two indefinite roots, *amwu-* and *wh-*, and one of the three particles, *-na* ‘or’, *-to* ‘also/even’ and *-lato* ‘even’. A common noun can be inserted between the indefinite root and the particle. Thus, each combination results in the following six items, all of which can be translated as English *any*.

(2) Formation of Korean polarity sensitive items

Particles			
Ind roots	- <i>to</i> ‘also/even’	- <i>lato</i> ‘even’	- <i>na</i> ‘or’
<i>Amwu</i> -(N)	<i>Amwu</i>-(N)-<i>to</i>	<i>Amwu</i>-(N)-<i>lato</i>	<i>Amwu</i>-(N)-<i>na</i>
<i>Wh</i> -(N)	<i>Wh</i>-(N)-<i>to</i>	<i>Wh</i>-(N)-<i>lato</i>	<i>Wh</i>-(N)-<i>na</i>

7.1 First question: the common core of polarity sensitivity

First, I argued that the Korean indefinite root *amwu*- induces “proper domain-widening” à la Kadmon and Landman (1993), and that the other indefinite root *wh*- does not induce domain-widening, but rather ranges over a regular domain or a contextually salient domain. While *wh*-(N) denotes a set of individuals that have contextually normal properties, *amwu*-(N) can denote a set that includes contextually marginal individuals as well as normal ones.

I showed that all of the *wh*-PSIs, namely, *wh*-(N)-*to*, *wh*-(N)-*lato* and *wh*-(N)-*na*, which lack the property of domain-widening, still function as PSIs, which indicates that polarity sensitivity ? NPI-hood and FC-ness ? obtains regardless of whether the domain-widening indefinite root *amwu*- or the non-widening root *wh*- is involved.

In answering the first question, I eliminated the “proper domain-widening” of *amwu*- à la Kadmon and Landman (1993) from the common core of polarity sensitivity in Korean. Consequently, I argued that it is the particles *-to* ‘PPI-even’, *-lato* ‘NPI-even’, and *-na*

‘or’ that are responsible for deriving polarity sensitivity. I showed that each of the three particles derives an “indifference” flavor, i.e., a “no matter wh...” reading (as an inference). This indifference flavor, which is equivalent to the “no singling out” effects or the “distribution requirement” described in the literature (Jayez and Tovena 2005, Kratzer and Shimoyama 2002, Chierchia 2005), can be seen as forming a common core of polarity sensitivity.

We noted that the indifference flavor that is induced by PSIs like *irgendein* in German and *any* in English is canceled in DE contexts, and thus it is derived as an implicature (Kratzer and Shimoyama 2002, Chierchia 2005). In contrast to this, the indifference flavor triggered by the “even”-particles *-to/-lato* or the disjunctive particle *-na* is not cancelable and derived as a presupposition. Moreover, the indifference reading triggered by the disjunctive particle *-na* can be attributed to either an external locus (external indifference) or an agent (agent indifference). By contrast, the indifference flavor coming from *-to/-lato* is always attributed to an external locus only (external indifference) because the least-likely or most-likely presupposition from which the indifference reading is derived is always determined by the speaker or the context, not by the agent of an action verb.

Another common core of polarity sensitivity that we noted is the well-known restrictions on licensing environments. PSIs do not occur everywhere, but rather are licensed in limited environments. I illustrated examples of each PSI in various contexts and

summarized their licensing environments in Tables (3) and (4). By providing a compositional analysis, I showed that these distributional restrictions follow from the semantics of each particle and its interactions with the indefinite roots. This will be discussed in more detail in 7.2.

(3) Licensing environments of *amwu*-PSIs

<i>Amwu</i> -PSIs Contexts	<i>AMWU(N)-TO</i>	<i>AMWU(N)-LATO</i>	<i>AMWU(N)-NA</i>
Negative episodic	√	*	*√
DE contexts other than negation	*	√	√
FC contexts	*	√	√
Affirmative episodic	*	*	*√

(4) Licensing environments of *wh*-PSIs

<i>Wh</i> -PSIs Contexts	<i>WH(N)-TO</i>	<i>WH(N)-LATO</i>	<i>WH(N)-NA</i>
Negative episodic	√	*	*√
DE contexts other than negation	*	√	√
FC contexts	√	√	√
Affirmative episodic	*	*	*√

7.2 Second question: how many sources?

Turning to the second question, I proposed that there are two types of sources for polarity

sensitivity in Korean. The first source is the disjunctive particle *-na* ‘or’, and the other one is the scalar focus particles *-to* ‘PPI-even’ and *-lato* ‘NPI-even’.

7.2.1 The *-na* ‘or’ source

I showed that the contribution of the particle *-na* is not scalar (contra C. Lee et al., 2000; Y. Lee, 1999). Instead its contribution is to bring in an essential link between the property P of the restrictor of the NP with *-na* and the property Q of the main predicate. I analyzed the essential link of *-na* as being equivalent to the contribution of English *-ever* in *-ever* free relatives, both of which can be formulated with the presupposition of counterfactual variation (Dayal 1997, von Stechow 2000, Tredinnick 2005). The presupposition of variation triggered by *-na* means that “if a different set of individuals that have the property P had been considered, the same thing would have happened”. From this presupposition, it is inferred that for every (mutually exclusive) individual that has the property P, the same thing would have happened (cf. Menéndez Benito 2005). Hence, no individual/alternative is singled out, and a “no matter wh...” or indifference reading is derived.

The licensing environments of the *-na* PSIs follow from the semantics of the particle *-na*. I argued that as long as the presupposition of counterfactual variation triggered by *-na* is fulfilled, the *-na* PSIs are licensed. In so-called FC contexts, such as generic and modal contexts, the presupposition of counterfactual variation is satisfied by an essential link

which is held thanks to an external locus (e.g., the general character of an owl, the rules of a card game, or the speaker's indifference). In an episodic sentence where such an external source of indifference is usually not involved, the presupposition of variation which roughly means "every possible individual has the VP property" forms too strong a statement to ever be true (Dayal, 1998; Chierchia 2005). We identified three ways to rescue *amwu*-(N)-*na* and/or *wh*-(N)-*na* in an episodic sentence by preventing such a strong statement to be formed: agentivity, topicalization, and subtriggering. First, the presupposition of variation can be satisfied thanks to an agent's indifferent/indiscriminative attitude: since the agent does not care about the identity of what *amwu/wh*-(N)-*na* denotes, an essential link can hold between the property of the restrictor of the NP with *-na* and the property of the main predicate. Second, topicalization is a way to turn an episodic sentence into a generic sentence by placing a PSI in the restriction of the generic operator, which can be introduced for free due to the lack of episodicity marking in Korean. Third, subtriggering narrows down more easily the denotation of the *-na* PSIs, so that an essential link is easily made between the NP property and the VP property. I assumed that when a *-na* PSI is subtriggered, it must move to be placed in the restriction of the generic operator introduced for free. Thus, only *wh*-(N)-*na*, but not *amwu*-(N)-*na* can be rescued by topicalization or subtriggering, because while *wh*-(N) can undergo movement thanks to its "partitive indefinite"-like property, *amwu*-(N), which ranges over a widened or open domain, stays in situ (Chapter 2).

7.2.2 The *EVEN* source

As for the second source, I analyzed the scalar focus particles *-to* and *-lato* as the PPI-*even* (Rooth 1985) and the NPI-*even* (Guerzoni 2003, 2005), respectively. Each of the particles gives rise to a “no matter wh..” or indifference reading in an indirect manner.

7.2.2.1 *-To* ‘PPI-*even*’

The particle *-to* evokes a least-likely scalar presupposition and an existential presupposition. The combination of the two presuppositions conveys that while other alternatives are taken into account, even the least likely entity has the property Q of the main predicate. Thus it is inferred that for every alternative, the property Q holds. Hence, an indifference reading or “no singling out” effect is derived.

The licensing environments of the *-to* PSIs follow from the interaction of the semantics of the roots and the particle *-to*. Following Lahiri (1998), we assumed that the indefinite roots *amwu-* and *wh-* denote the bottom of a scale: *amwu-* usually triggers a quantity scale, while *wh-* can trigger a quantity or a quality scale. Additionally, we assumed that the structural position of Korean negation is low, so that *-to* always takes wide scope over negation, and that the movement of *-to* is clause-bound, i.e., it can't scope out of an *if*-clause (Choi 2005; Nakanishi 2006). Furthermore, as we proposed for *wh-(N)-na*, *wh-(N)-to* as a whole can take wide scope over a modal operator thanks to *wh-(N)*'s

“partitive indefinite”-like property.

Given these pieces, *amwu*-(N)-*to* and *wh*-(N)-*to* are predicted to be ungrammatical in affirmative episodic and DE contexts (e.g., in the antecedent of a conditional). This derives from a clash between the least-likely scalar presupposition triggered by *-to* and the meaning of the indefinite roots, because “some N” (as opposed to, say, “most N”; or “an insignificant N” as opposed to “a significant N”), denoted by the indefinite roots, is interpreted as being most-likely to have a positive VP property. *Amwu*-(N)-*to* and *wh*-(N)-*to* are predicted to be grammatical in negative episodic sentences because no presupposition clash obtains there. The same clash arises with *amwu*-(N)-*to* in generic contexts, but not with *wh*-(N)-*to*. This is because only a quantity scale is available for *amwu*-(N)-*to*, which does not make sense in a generic context. *Wh*-(N)-*to* can trigger a quality scale and hence does not produce a presupposition clash in generic contexts. In modal contexts, while the same clash obtains for *amwu*-(N)-*to*, *wh*-(N)-*to* as a whole can move outside the scope of a modal and be located in the restriction of the generic operator introduced for free. Thus, *wh*-(N)-*to* is licensed in a modal context in the same way it is licensed in a generic context.

7.2.2.2 *-lato* ‘NPI-even’

The particle *-lato* is analyzed as the NPI-even à la Guerzoni (2003, 2005). It evokes a most-likely scalar presupposition, an exclusive presupposition and an existential

presupposition. The first two presuppositions target an embedded proposition, while the existential presupposition targets a larger proposition. What is crucial in our analysis is that the exclusive presupposition is locally projected under a modal. The exclusive presupposition, together with the assertion and the scalar presupposition, meaning “the most insignificant entity and nothing better than that has the property P of the embedded predicate”, produces an implication that the most insignificant entity is the least likely to have the property Q of the matrix predicate. In addition, the existential presupposition that targets the matrix proposition conveys that there are other alternatives that have the property Q. Ultimately, all of the three presuppositions and the assertion give rise to an interpretation that while other considerable alternatives are taken into account, even the least likely entity has the property Q of the main predicate. Therefore, no alternatives are singled out of consideration. Hence, “no singling out” effects or “no matter wh...” readings obtain.

The *-lato* PSIs are predicted to be licensed in a context where the existential presupposition (“There is some y other than x that has the property of the predicate”) and the exclusive presupposition (“There is no y other than x that has the property of the predicate”) that *-lato* evokes do not clash with each other (Guerzoni 2003, 2005). Thus, an intervening operator is crucial for the *-lato* PSIs to be licensed. Here again, I assumed that the structural position of Korean negation is very low. Thus, *-lato* is supposed to take wide scope over negation, just as *-to* is. Accordingly, a presupposition clash obtains for the *-lato* PSIs in both negative episodic and affirmative episodic sentences, as seen in

(5a) and (5b) respectively.

- (5) a. LF1: ExistP / ExclP [.....*amwu/wh*-(N) ...]
b. LF 2: ExistP / ExclP [**Neg** [.... *amwu/wh*-(N)]

When an operator intervenes as in (6), no presupposition clash arises. Thus, our analysis correctly predicts that the *-lato* PSIs occur in DE contexts and FC contexts, where a DE operator or a modal operator can intervene.

- (6) LF: ExistP [**OP** [ExclP [..... *amwu/wh*-(N) ...]]]

7.3 Third question: distinction between NPIs and FCIs

We have argued that “proper domain-widening” à la Kadmon and Landman (1993), which is induced by *amwu-* in Korean, cannot be a common core of polarity sensitivity. Furthermore, we suggested that the “indifference” or “no singling out” effects and the distributional restrictions of PSIs can form the common core of polarity sensitivity. The question is then what makes the distinction between NPI-hood and FC-ness.

According to Krazter and Shimoyama (2002), the “no singling out” effects (i.e., what they call the “distribution requirement”) are derived as an implicature with German PSI *irgendein* and possibly English *any*. While FCI uses of *irgendein* and *any* induce “no

singling out” or “indifference” readings, the readings are canceled in DE contexts, and *irgendein* and *any* are simply interpreted as a plain indefinite taking narrow scope under a DE operator. This is why Kratzer and Shimoyama (2002) call the “no singling out” effects (in their term, the distribution requirement) FC effects.

However, in Korean, the “no singling out” or “indifference” effects are derived from the presuppositions that the three particles trigger, and they are not canceled, but rather always present. In other words, none of the Korean PSIs is interpreted as a plain indefinite taking narrow scope under a DE operator, and they always convey an extra meaning, i.e., “no matter wh...”.

In the case of the *-na* source, the “no singling out” effects are forced to be inferred by the inherent meaning (i.e., the presupposition of variation) of the particle *-na* ‘or’. In the case of the *-to/-lato* source, the presuppositions of *-to/-lato* invite an indifference reading to be inferred, and the “no singling out” effect is obtained as a by-product of the combination of the presuppositions of the particles *-to* and *-lato*. Sometimes, when a quantity scale is involved and the sentence is episodic, the “indifference” inference can be weakened. Nevertheless, the “no singling out” or “indifference” effects are not completely wiped out.

Therefore, the “indifference” or “no singling out” effects cannot be treated as being equivalent to FC effects in Korean, and we cannot distinguish between NPIs and FCIs in

Korean PSIs in terms of the presence or absence of the “indifference” / “no singling out” effects. Accordingly, we categorize Korean PSIs in terms of their distributional restrictions, as in (7).

(7) Characterization of Korean polarity sensitive items

Ind roots \ Particles	<i>-to</i> ‘also/even’	<i>-lato</i> ‘even’	<i>-na</i> ‘or’
<i>Amwu</i> -(N)	NPI	FCI	FCI
<i>Wh</i> -(N)	NPI/FCI	FCI	FCI

-lato PSIs and *-na* PSIs are categorized as FCIs because they do not occur in an episodic sentence, but can occur in the so-called FC contexts. *Amwu*-(N)-*to*, which only appears in a negative episodic context, is categorized as an NPI. *Wh*-(N)-*to* is seen as fulfilling a dual function because it can occur in both negative episodic sentences and modal/generic sentences. However, I do not completely exclude the possibility that this labeling may be somewhat arbitrary.

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