Connective Polysemy and Clause Linkage Typology in Korean

by

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Abstract

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Clause connectives are linguistic forms that convey relations between clauses in a sentence. They are typically compared, whether within a language or across languages, on the basis of a shared syntactic category, such as coordination and subordination, or a semantic one, such as sequence, cause, or addition. While the inadequacy of the coordination/subordination distinction for the purposes of clause linkage typology has received much attention, the nature of the semantic distinctions has received comparatively little. In this dissertation, I investigate polysemous connectives—connectives that express a range of related semantic and pragmatic uses. I argue that adequate comparisons require categories such as cause and sequence to be defined relative to a finely articulated semantic-pragmatic framework able to capture both event-structural as well as discourse-structural distinctions. The argument is based on a detailed analysis of four polysemous connectives in Korean, *-ese*, *-unikka*, *-taka*, and *-myense*, which cover a wide range of meanings, from temporal relations such as sequence and simultaneity, to causal, conditional, and concessive relations.

The proposed semantic-pragmatic framework is developed through the analysis and comparison of Korean *-ese* and *-unikka*, which have been considered similar in both having sequential and causal meanings, but are nonetheless used very differently. For instance, causal *-unikka* is generally more flexible than causal *-ese* in the kinds of causal relations it can express, which include epistemic or speech act causal relations. However, *-ese* rather than *-unikka* is preferred for expressing causal links between successive real-world events. Independent analyses of each connective's entire polysemy network show that while *-ese*'s different meanings arise from multiple ways of conceptualizing two events as a single complex event, *-unikka*'s meanings stem from different aspects of the relationship between a subjective viewpoint and the content that is observed. Facilities for modeling both of these areas of meaning are combined into an integrated framework. The resulting analyses, in addition to expanding empirical coverage, explain why these connectives, with apparently similar meanings, are used in very different ways.

This framework is then applied to the comparative analysis of Korean *-taka* and *-myense*, which are typically used to express interruptive and simultaneous relations between events,

respectively. The connective *-taka* also has successive, cotemporal, and causal uses, as well as a predictive conditional use, while *-myense* also has cotemporal, additive, and concessive uses. Differences in volitionality are observed to be crucial to the semantic characterization of the two connectives. The full range of facilities integrated into the framework is shown to be needed to account for the factors that condition both connectives' various senses and behaviors. For example, both connectives allow past tense to be marked in their dependent clauses. However, *-taka* with past tense marking expresses succession rather than interruption, while *-myense* with past tense marking expresses concession rather than simultaneity. Other issues include the greater flexibility of interpretation afforded by both connectives' nonvolitional uses, conditional *-taka*'s ability to make only undesirable predictions, and the connectives' violable subject identity constraints.

The final chapter examines the syntax of these Korean connective constructions from the perspective of a multivariate approach to clause linkage typology. The connectives *-ese*, *-unikka*, *-taka*, and *-myense*, differentiated by their various meanings, are assessed according to 13 independent variables. A number of variables examine the ways in which the constructions limit the scope of markers in the main clause that indicate illocutionary force, tense and status, or negation. There are also variables that capture properties of the dependent clause, such as whether it allows for the marking of illocutionary force, or whether the dependent clause allows question words or for a constituent to be extracted. The investigation reveals a number of trends with respect to the syntactic correlates of sense distinctions. Certain sense distinctions, such as differences in aspectual alignment and volitionality, do not yield differences in syntax. However, there are other distinctions, such as the difference between content relations and grounding relations, that seem to correlate with significant differences. The dissertation concludes with discussion on the methodological implications of the study for a cross-linguistic typology.

To my mom and my wife

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Chapter 1

Introduction

The idiomatic expression *comparing apples to oranges* is a common way to question the basis of a comparison and to suggest that the comparison may not be valid. The idiom indirectly points to the nontrivial relationship between categorial knowledge and the applicability of comparison and contrast as tools of investigation. On the one hand, categorial knowledge allows us to make valid comparisons and observe meaningful contrasts, and yet, on the other, it is often through comparing and contrasting that we also build up categorial knowledge. Consequently, any discipline that employs these as investigative tools must maintain principled ways to manage this tension.

This issue is an important one for linguistics, as cross-linguistic comparison and contrast are crucial for the collection of generalizations upon which linguistic theories are based (Croft 1995, 2003). At a broad level, this dissertation is concerned with the comparison and contrast, both within a language as well as across languages, of clause connectives—linguistic forms that convey relations between clauses in a sentence. Clause connectives (henceforth, connectives) are typically compared along the lines of syntactic categories, such as coordination and subordination (Haspelmath 2004), or semantic categories, such as temporal succession, cause, or addition (Dixon 2009). For example, the use of *and* in (1a), which conveys addition, is a typical example of coordination, while the use of *because* in (1b), which conveys a causal relation, exemplifies subordination. The use of *and* in (1c) expresses temporal succession, and despite the formal similarity to (1a), patterns syntactically with the subordinating *because* construction in (1b) (Lakoff 1986).

(1) a. John went to the store and Sally's mother came to visit.
b. John went to the store because Sally's mother came to visit.
c. John went to the store and bought a pie.

The particular concern of this dissertation is connective polysemy, cases where the same connective form expresses a range of meanings, and the implications of polysemy on the typology of connectives. The investigation is conducted through a detailed analysis of four polysemous connectives in Korean, *-ese*, *-unikka*, *-taka*, and *-myense*, which cover a wide

range of meanings, from temporal relations such as sequence and simultaneity, to causal, conditional, and concessive relations. Although these connectives all exhibit multiway polysemy, two senses for each are provided below in (2)–(5) for illustration.

(2) a. John-i kakey-ey ka-se phai-lul sa-ss-ta
John-NOM store-LOC go-ESE pie-ACC buy-PST-DEC
'John went to the store and bought a pie.'
b. Sally-ney emma-ka o-ase John-i kaykey-ey ka-ss-ta
Sally-GEN mom-NOM come-ESE John-NOM store-LOC go-PST-DEC
'John went to the store because Sally's mother came to visit.'

(3) a. naylyeka po-nikka amwuto eps-te-la
go.down see-UNIKKA anyone not.exist-EVID-DEC
'(I) went down to see and no one was there.'
b. amwuto eps-unikka eti-ey ka-ss-napota
anyone not.exist-UNIKKA somewhere-LOC go-PST-EVID
'(They) probably went somewhere, because no one is here.'

(4) a. John-i kakey-ey ka-taka tolao-ass-ta
John-NOM store-LOC go-TAKA return-PST-DEC
'John was on his way to the store when he came back.'
b. kongpwu-man ha-taka kenkang-ul kaychi-n-ta
study-only do-TAKA health-ACC ruin-PRES-DEC
'If you only study, you will ruin your health.'

(5) a. John-i kakey-ey ka-myense nolay-lul pwule-ss-ta
John-NOM store-LOC go-MYENSE song-ACC sing-PST-DEC
'John sang as he went to the store.'
b. John-un ttokttokha-myense sihem-ey tteleci-ess-ta
John-TOP be.smart-MYENSE exam-LOC fall-PST-DEC
'Although John is smart, he failed the exam.'

The full range of the semantics of these connectives is accounted for using a single integrated framework that combines a Cognitive Grammar approach to event structure (Langacker [1991] 2002) with a Mental Spaces approach to discourse (Fauconnier 1985, Sweetser & Fauconnier 1996). The resulting analyses, which are articulated on finer-grained conceptual categories, are found to facilitate the comparison and contrast of these Korean connectives in addition to providing overall better empirical coverage.

1.1 Overview

In the remainder of this chapter, I present background on connective typology and polysemy to describe in greater detail the context that motivates the present study. This includes the coordination/subordination distinction and the approaches that have been developed

in response to its perceived shortcomings, as well as background on what additional challenges are introduced by the consideration of connective polysemy, and in particular the pragmatically-motivated polysemy patterns described by Sweetser (1990).

Chapters 2 and 3 are concerned with the analysis and comparison of the Korean connectives *-ese* and *-unikka*. These two connectives are of particular interest because they are both polysemous and both appear to exhibit the same two senses—temporal sequence and causality. As the analyses will show, however, the connectives differ significantly in their conceptual make-up, and their apparent similarity is an artifact of a comparison based on insufficiently detailed semantic categories.

Thus, Chapter 2 presents an in-depth semantic analysis of the Korean connective *-ese*, which has sequential, manner, means and relative time uses. Of these, the sequential and causal uses have received the most attention from Korean linguists due to the apparent complementary distribution between those senses. The proposed analysis, based on an event structure model that combines Cognitive Grammar's verbal processes (Langacker [1991] 2002) with Narayanan (1997)'s model of aspect, is able to predict the various factors that condition *-ese*'s polysemy as arising from the interaction between an event integration and properties of the conjoined events. In addition to providing an explanation for an otherwise seemingly disjunctive set of conditioning factors, the analysis is able to extend empirical coverage to a number of formerly exceptional cases.

Although Korean *-unikka* has often been compared to *-ese* and considered to have similar semantics, in Chapter 3, I present a semantic/pragmatic analysis of *-unikka* which is radically different from that of *-ese* in Chapter 2. The sequential and causal senses of *-unikka* are argued as being based in different parts of the cognitive semantic system. Whereas, *-ese*'s semantics derive from event structure conceptualization, *-unikka*'s semantics requires reference to the conceptual system for managing the communicative activity itself. I present the analysis of *-unikka* in Mental Spaces Theory (Fauconnier 1985, 1997), combining Dancygier & Sweetser (2005)'s approach to connective constructions with Sanders et al. (2009)'s Basic Communicative Spaces Network (BCSN). These analyses of *-ese* and *-unikka* are then shown to explain why despite supposedly similar semantics the connectives diverge greatly in terms of usage contexts.

In Chapter 4, the integrated framework used to model the semantics of *-ese* and *-unikka* are applied to the analysis *-taka* and *-myense*, two connectives that also exhibit a range of similarities and differences. The connective *-taka* is mainly thought to express interruption—that one event is interrupted by another. However, it also has uses in which it connects events that seem merely to overlap, as well as a predictive conditional use, which has the peculiar property of only being usable to predict undesirable outcomes. The connective *-myense* is used to express that two actions are being performed simultaneously, but it also has uses in which it expresses merely temporal overlap, as well as additive, contrastive, and concessive uses. While these connectives make use of the event-structural parts of the framework, their analyses also require drawing in the volitional vs. nonvolitional content space distinction of the BCSN. In addition to providing for more accurate descriptive characterizations of the connectives' event relational senses, the integrated framework is able to explain how these

senses can be extended to the connectives' conditional and concessive uses.

Finally, in Chapter 5, I conclude with an investigation of the syntax of the Korean connectives *-ese*, *-unikka*, *-taka*, and *-myense*, differentiating their various senses, and assessing each according to the variables from Bickel (2010)'s multivariate approach to clause linkage typology. The resulting syntactic analysis is found to be consistent with the semantic analyses from the preceding chapters. Before the final conclusion, I discuss a number of interesting trends in the data as well as methodological implications for a cross-linguistic typology. I suggest that the multivariate approach applied to the finely differentiated semantic categories provided by the integrated semantic framework points toward a multi-multivariate approach through which it may be possible to uncover the semantic-functional interactions that motivate syntactic implicational trends.

1.2 Background

In this section, I present a summary of various approaches to the typology of connective constructions, starting from the coordination/subordination distinction and various approaches to address its shortcomings, to approaches that advocate abandoning it altogether. Some of the factors that add to the challenge include the polysemy and polyfunctionality of connectives. One approach to the former has been to consider each sense as being a separate construction to which to apply typological criteria. While in some cases, this approach has resulted in clean separations between coordinating and subordinating versions, this has not always been the case. Polysemy and polyfunctionality have also led to attempts at capturing the coordination/subordination distinction outside of syntax, for example, in semantics or at a discourse representational level. I also discuss challenges arising from the pragmatically-motivated polysemy patterns described by Sweetser (1990), which have been attested in a number of languages (Dancygier & Sweetser 2005, Sanders et al. 2009).

1.2.1 Coordination and subordination

The distinction between coordinating and subordinating connectives provides a salient example of the difficulty of defining cross-linguistically applicable categories. Crysmann (2006) defines coordination as "the combination of like or similar syntactic units into some larger group of the same category or status" (p. 183). Unlike subordination, coordination is able to accommodate many categories of constituents as long as they are the same—except that sometimes it also does so when they are different, as in the case of non-constituent coordination or the coordination of unlikes. Huddleston & Pullum (2006) provide a similar but less ambitious definition by not laying claim to the category of the resulting constituent: "a relation holding between two or more elements of equal syntactic status" (p. 199). They elaborate further that neither element is a head nor are there any dependency relations between them—which is to say that coordination is not subordination. Haspelmath (2004), in his overview of coordination constructions for the purposes of a cross-linguistic, typological

study, includes this explicitly in his definition: "A construction [A B] is considered coordinate if the two parts A and B have the same status (in some sense that needs to be specified further), whereas it is not coordinate if it is asymmetrical and one of the parts is clearly more salient or important, while the other is in some sense subordinate" (p. 3). For clause-level coordination cross-linguistically, however, it becomes even more difficult to resolve aforementioned issues like nonconstituent coordination, coordination of unlikes, or other possibly elliptical phenomena that allow for inequalities between the conjuncts. Consequently, later in the same article, Haspelmath suggests a redefinition on more semantic grounds: "syntactic constructions in which two or more units of the same type are combined into a larger unit and still have the same semantic relations with other surrounding elements" (2004:34).

Coordinating constructions are typically identified by a number of syntactic properties. The following are given by Huddleston & Pullum (2006):

(6) a. No grammatical limit to the number of coordinates.
b. Functional likeness between the coordinates.
c. No fronting of coordinator + coordinate
d. Across the board (ATB) application of syntactic processes.

Crysmann (2006) describes (6d) above as the only exception to Ross (1967)'s Coordinate Structure Constraint (CSC), which forbids movement of conjuncts as well as movement out of a conjunct of some element contained within. Haspelmath (2004)'s approach to identifying coordinating constructions differs from that above, along the lines of his definition, in that many of his criteria have to do with failing tests for subordination, such as focusability and variable word order. With regard to the CSC, which is perhaps the most widely used diagnostic for clause-level coordination, he argues that it should not be used as a test for coordination unless a corresponding subordinating construction has demonstrated extractability.

Though coordination is perhaps most readily applicable to English, even here the criteria above are not able to distinguish cleanly between certain constructions. Consider the following examples with *for*, which is generally considered to be coordinating, and *because*, which is generally considered to be subordinating:

(7) a. John got a ticket because he parked illegally because he careless because he was in a rush.
b. John got a ticket, for he parked illegally, for he was careless, for he was in a rush.
c. Because/*For he had parked illegally, John got a ticket.
d. *Carrots, John hates because/for his brother loves.
e. Here's the ticket that John got because/*for he had parked illegally.

Though (7a) as a test for a grammatical limit to the number of conjuncts, (6a), is somewhat contrived and non-conclusive, it would be difficult to argue that (7b) with *for* fares any better. Example (7c) shows *for* and *because* as distinguishable by the fronting criterion (6c), but (7d) shows *for*'s failure to permit ATB topicalization. Example (7e) shows the

Coordinate Structure Constraint possibly applying for *for* but not *because*. In conclusion, some but not all of the criteria help in distinguishing between *for* and *because*.

Criteria for identifying subordinate clause constructions also suffer from similar issues. Although the term "subordination" is sometimes used in a general sense to capture a hierarchical relation between elements in sentence, it is more typically applied in a restricted sense covering clause relations (Lehmann 1988, Aarts 2006). Huddleston & Pullum (2006) define a subordinate clause as "a grammatically distinct subcategory of clause whose most prototypical members characteristically function as dependent within the structure of a larger clause" (p. 208). A definition relative to a prototype entails that clauses may be more or less subordinate than others. Along similar lines, Haspelmath (1995) gives the following syntactic criteria for identifying a subordinate clause cross-linguistically:

(8) a. clause-internal word order
b. variable position
c. possibility of backwards pronominal anaphora
d. semantic restrictiveness; focusability
e. possibility of extraction

Criterion (8a) refers to the ability of a subordinate clause to be embedded in a main clause in a way that disrupts the main clause's normal word order, and (8b) refers to the subordinate clause's ability to appear before or after the main clause. Criterion (8c) refers to the possibility of a preceding subordinate clause including a pronoun whose nonpronominal antecedent is supplied in the following main clause. Semantic restrictiveness in (8d) refers to the possibility of focus constructions, such as cleft constructions or adverbial modifiers such as *only*, targeting the subordinate clause. Finally, criterion (8e) refers to the possibility of applying syntactic processes such as relativization or topicalization asymmetrically so as to target a constituent in either, but not both, of the clauses. It is not expected that every subordinate clause will meet all the criteria.

Interestingly, although English causal *for* was only equivocally coordinating according to earlier criteria, it fails all the tests for subordination, with the exception of (8c), which in this case cannot be tested independently of (8b):

(9) a. John, because/*for he was bored, went to the park.
b. Because/*for he was bored, John went to the park.
c. It was because/*for he was bored that John went to the park.
d. There's the park that John went to because/*for he was bored.

Naturally, this raises the question as to whether failure to qualify for subordination makes a connective somehow more coordinating, and more generally, as to how, precisely, coordination and subordination are related.

Some linguists conceptualize the typology of clause linkage explicitly as a continuum with prototypical coordination on one end and prototypical subordination on the other (Quirk et al. 1985, Cosme 2008). The following criteria from Quirk et al. (1985) characterize the

prototypical coordinating conjunction (Aarts 2006):

(10) a. The item can only occur at the beginning of a clause.
b. In a sequence of coordinated clauses A and B, when B contains the item, B cannot precede A.
c. A sequence of coordinating conjunctions is impossible, whereas subordinating conjunctions and conjuncts can combine with other linkers.
d. The item can link clauses but also predicates and other types of constituents.
e. The item can link subordinate clauses.
f. The item can link more than two clauses.

Thus, *and* and *or*, which satisfy all six, are the most coordinating, whereas *if* and *because*, which satisfy none, are the most subordinating.

The criteria in (10), however, are clearly specific to English and are not straightforwardly applicable to languages that are substantially different. For example, with regard to criterion (10c), Haspelmath (2004) observes that some languages have separate forms to code coordinators for different types of constituents. The treatment of coordination and subordination as a continuum rather than as dichotomous categories was advocated even earlier by Kuno (1973:Sec.17) in his classification of a number Japanese connectives such as the multi-way polysemous *-te*, *-toki* 'when', *-node* 'because', and others. Based on a number of tests such as whether the connective can be scoped by various interrogative, negative, or modal sentence-final particles, whether material from the second (main) clause could be preposed in front of the first clause, and whether subject coreferentiality is necessary when there is a 'zero' pronoun, he claimed that all the connectives land on different points along the continuum between coordination and subordination. However, as was the case for Quirk et al. (1985)'s criteria, Kuno's are also very language particular—in this case, to the specifics of Japanese syntax.

1.2.2 Beyond coordination and subordination

Lehmann (1988) moves toward a cross-linguistically applicable typology of clause linkage, based on six gradient parameters aligned according to opposing functional goals: elaboration and compression. Although he considers coordination and subordination as prototypical concepts, they do not define poles for his typology. Lehmann presents the following semantosyntactic parameters (p. 217):

(11) a. the hierarchical downgrading of the subordinate clause: parataxis to embedding
b. the main clause syntactic level of the subordinate clause: high to low
c. the desententialization of the subordinate clause: clause to noun
d. the grammaticalization of the main verb: lexical verb to grammatical affix
e. the interlacing of the two clauses: clauses disjunct to clauses overlapping
f. the explicitness of the linking: syndesis to asyndesis

One interesting feature of these parameters, relevant to the current discussion, is that some of them make reference to a "subordinate clause." For example, parameter (11a) refers to the variability of the 'subordinate' clause from being paratactic at one end to embedded at the other. Lehmann gives the following broad definition for subordination: "If syntagms (clauses) X and Y are in a relation of clause linkage, then X is subordinate to Y iff X and Y form an endocentric construction Z with Y as the head" (pg. 182). Furthermore, parameter (11a) has the additional inconvenience that for constructions at the paratactic end of the scale, neither of the clauses is subordinate. Thus, although this approach offers hope toward a more informed and helpful articulation of subordination and coordination as notions relevant to the typology of clause linkage, some basic notion of one or the other is needed to articulate the typology.

Based on their experience with a wide range of languages, Haiman & Thompson (1984) reject the notion of subordination as being a unitary grammatical category as well as the treatment of subordination and coordination as a unidirectional continuum. They argue that clause linkage patterns can be characterized along a number of formal parameters that are largely independent of each other and do not align with traditional notions of subordination and coordination. The following are seven properties, which are not considered exhaustive (p. 511):

(12)
a. Identity between the two clauses of subject, tense, or mood.
b. Reduction of one of the clauses.
c. Grammatically signaled incorporation of one of the clauses.
d. Intonational linking between the two clauses.
e. One clause is within the scope of another.
f. Absence of tense iconicity between the two clauses.
g. Identity between the two clauses of speech act perspective.[1]

Although it is tempting to see these as a new or different set of criteria that establish a prototype for subordination, Haiman & Thompson (1984) specifically argue for each factor that there is no clear correlation with subordination.

An alternative approach to that of abandoning coordination and subordination as relevant categories might be to propose additional ones. For example, clause-chaining constructions in Papuan languages exhibit dependency, which is characteristic of subordination, but non-embeddedness, which is characteristic of coordination. Consequently, Van Valin (1984) develops a third category, cosubordination, for such constructions.

Bickel (2006) observes, however, that cosubordination then inherits similar definitional complexities. Any definition of a cross-linguistic structure by reference to a cluster of properties suffers the problem as to where to draw the boundary with regard to constructions that only partially match the criteria. There is a methodological tension in that the boundaries are needed to determine what are comparable phenomena, and yet, they are also part of

[1] "Speech act perspective" refers to the difference between direct and indirect speech (Haiman & Thompson 1984:519).

what linguists hope to discover empirically. Thus, Bickel (2006, 2010) advocates a multivariate typology of clause linkage in which cross-linguistic comparisons are made on the basis of sets of variables independently of the categories that linguists would hope that they pattern with. The comparisons are made via multidimensional similarity calculations and clustering algorithms applied to a relatively large number of variables, such as illocutionary scope (blocked, conjunct, disjunct, or constraint free), permissibility of illocutionary marking, focus marking, extraction, etc. Categories, like subordination and cosubordination, could then be defined or abandoned based on their utility in capturing cross-linguistic trends.

With the aim of establishing a non-gradient cross-linguistically applicable definition for subordination, Cristofaro (2003, 1998) argues for a different approach. Rather than searching for a universally applicable bundle of morphosyntactic criteria, she proposes one which is essentially pragmatic. Adopting Langacker (1991)'s cognitive-functional definition of a subordinate clause as one whose profile is overridden by a that of the main clause, she argues that lack of assertiveness is the definitive feature of subordination. Language specific tests for assertiveness or lack thereof can then be developed for each language in question based on the constructions available in that language. Given a way of identifying subordination cross-linguistically, she compares subordinating constructions from a wide range of languages, including adverbials, complements, and relative clauses, and assesses them with respect to extent to which verb forms in the subordinating clause differ, usually via the omission of features, from those of independent declarative clauses, i.e. the distinction between balancing and deranking (Stassen 1985). From this she proposes the Subordination Deranking Hierarchy, shown in (13), for which if a language encodes a relation at any point on the hierarchy using a deranked construction, it is predicted to do likewise for all relations to the left of that point (Cristofaro 2003:4).

(13) Phrasals, Modals > Desideratives, Manipulatives, Purpose > Perceptions > Before, After, When, A relativization, S relativization > Reality condition, Reason, O relativization > Knowledge, Propositional attitude, Utterance, Indirect object relativization, Oblique relativization

Croft (2001) takes a similar approach but retains the characterization of coordination and subordination as a continuum, in which connective constructions represent mappings between a two-dimensional conceptual space and a one-dimensional syntactic space. The distinction between coordination and adverbial subordination is conceptually represented in terms of the gestalt distinction between complex figure and figure-ground relations. Complement clauses and relative clauses involve a second dimension—e-site elaboration—in which conceptual structures may contain substructures that can be elaborated by an argument (Langacker 1987). This universal conceptual space is argued as mapping to Cristofaro's Subordination Deranking Hierarchy, shown in (13), which is viewed as a one-dimensional syntactic space. Coordinating constructions, then, represent complex figure conceptualizations realized in syntactically balanced constructions, and the various forms of subordination constitute deviations conceptually in terms of figure-ground and e-site elaboration and syntactically in

terms of deranking.

While these approaches appear to succeed at establishing categories, such as subordination and coordination, or even cosubordination, as cross-linguistically applicable notions, they do so at the cost of equating them to other existing, non-syntactic notions, such as assertiveness or figure-ground conceptualization, which could potentially diminish their utility in capturing the distinctions that they were originally proposed for. For example, Bickel (2010) points out that if subordination is equated with assertiveness, we may run into constructions that strongly resemble subordinating constructions in many respects, but are asserted. He thus advocates the multivariate approach as an empirical alternative that allows for the description of clause linkage constructions without a priori prioritization of the descriptive dimensions. While Bickel's (2010) pilot study proposes 11 variables along which to assess connective constructions, they are not intended to be exhaustive. This approach has the advantage that it allows for a detailed descriptive characterization of clause linkage constructions in a wide range of languages while remaining agnostic as to which typological categories, or even which variables, are significant.

1.2.3 Polysemy and polyfunctionality

Another source of challenge in the typology of connective constructions arises from their polysemy and polyfunctionality. For example, Comrie (2008) presents the following as an example of an apparently coordinate construction that is ostensibly subordinate:

(14) a. I went to the store and bought a book.
b. the book that I went to the store and bought

Example (14b) shows the *go and V* construction permitting asymmetric extraction in violation of the Coordinate Structure Constraint. The difference in behavior is accompanied by a difference in sense, in that there is tighter integration between the two events than for those joined with the more typical form of coordination. Kwon & Polinsky (2008) present a similar phenomenon from Korean, distinguishing between two senses of Korean *-ko* 'and'—one in which the conjuncts have a parallel construal—and another in which the conjuncts are construed as occurring in sequence, where the latter construal, unlike for English *and*, is not pragmatically cancelable. The following examples illustrate these uses, respectively:

(15) a. John-i Jane-ul cohaha-ko Mary-lul salangha-ess-ta
John-NOM Jane-ACC like-and Mary-ACC love-PAST-DECL
'John likes Jane and loves Mary.'
b. Tom-i cip-ey o-ko Mary-ka tochakha-ess-ta
Tom-NOM home-to come-and Mary-NOM arrive-PAST-DECL
'After Tom came home, Mary arrived.'

Based on a number of syntactic tests, they argue that the former type are coordinate, but that the latter type are subordinate. Part of what is interesting about this study is that

once the tests are applied along the sense distinction, the result is categorically unequivocal. Thus, for Korean *-ko*, Kwon & Polinsky (2008) reject cosubordination and find no need to appeal to a scalar typology, arguing instead for a lexical distinction. However, such clean results based on sense distinctions do not always obtain. For example, Culicover & Jackendoff (1997) analyze coordinated constructions with *and* which receive a conditional reading as containing a different *and* which they call "left-subordinating" *and*. These constructions differ from typical *and* constructions in not permitting across-the-board extraction, but they do not behave like typical examples of subordination either because they do not allow variable word order. Culicover & Jackendoff argue that this variant of *and* is syntactically coordinate, but subordinate at a conceptual structure level.

Not only do connective constructions based on the same form vary semantically, but they vary as well in function. For example, Mulder & Thompson (2008) model the behavior of *but* in Australian English as an in-process grammaticization continuum from a prosodic unit-initial, turn-continuing conjunction to a prosodic unit-final, turn-yielding discourse particle. The following is an example of the latter usage (p. 191):

(16) *Diana has just made some funny noises.*
Kylie: You sounded funny ...
Diana: I know. Sounded like an alright person **but**.
Pause (3.3s)
Kylie (singing): On Saturday...

In (16) above, *but* appears sentence-finally, and it would be difficult based on syntactic considerations alone to consider it a connective, let alone determining whether it is coordinating or subordinating. However, it may be possible to view *but* above as functionally connecting pieces of discourse, and to ask whether some non-syntactic characterization of coordination and subordination should be proposed so as to capture commonalities between this sentence-final *but* and the more typical clause connecting *but*.

The idea that connective expressions may be better understood in terms that are not strictly syntactic or sentence-internal is not uncommon. Discourse-analytic linguists have observed that functional relationships between sentences, utterances, or other discourse units are often quite similar to those between clauses in complex sentences. Matthiessen & Thompson (1988) argue that the notion of subordination cannot be captured syntactically and instead requires a discourse structural account. They propose two categories to replace subordination, 'embedding' and 'hypotaxis,' where the former includes relativization and complementation and the latter what is generally referred to as adverbial subordination. Of these two types, only the latter is considered to constitute real instances of clause combining, i.e. a relation between two clauses. They then propose that hypotaxis is the result of the grammaticalization of a discourse structural relation—specifically, the Nucleus-Satellite relationship in Rhetorical Structure Theory (Mann & Thompson 1988). Consequently, they expect hypotaxis to vary radically from language to language in syntactic realization.

Asher & Vieu (2005) also incorporate coordination and subordination as notions applying to discourse relations in a theory of discourse structure, Segmented Discourse Representation Theory. They attempt to formulate a principled way, based on a number of formal criteria, of classifying discourse relations, defined in terms of rhetorical functions, into subordinating, or hierarchical, and coordinating, or non-hierarchical, types. However, they find that many discourse relations have at best a default classification that can be overridden in actual discourse by a number of contextual factors in syntax, semantics, and discourse. Consequently, they suggest that the coordination/subordination distinction may be one which is a matter of information packaging rather that at some conventional level.

Thus, the polysemous and polyfunctional nature of connective expressions raises the issue as to where and at what level semantic or functional distinctions should be captured. Consider the following example with English *and*:

(17) a. The bridge is closed and John is stuck at work.
b. The bridge is closed. John is stuck at work.

Both examples above can easily be understood to mean that the closing of the bridge caused John's being stuck at work. In addition, because this reading can be explicitly canceled, we take the causal reading as arising via conversational implicature (Grice 1975), rather than due to properties of the conjunction *and*.

Similarly, Hasegawa (1996) shows that Japanese *-te* is able to express a number of circumstantial relations, such as temporal sequence, cause, means, concessive, and conditional. As with English *and*, the causal reading of *-te* is often available when the same clauses are held in parataxis, and it can be explicitly canceled. Hasegawa argues, however, that conversational implicature alone cannot account for the semantics of *-te*, because not all pairs of sentences that can receive the causal reading in parataxis can receive it in the *-te* construction. Thus, she proposes an analysis in which the relations accessible to pragmatics are specified in the *-te* construction itself.

Korean *-ese* bears a striking resemblance to Japanese *-te* in its ability to convey a variety of circumstantial relations, such as temporal sequence, simultaneity, cause, and means. Unlike *and* and *-te*, however, these readings cannot be canceled pragmatically. For both connectives, a difference in the reading or the expressability of a relation is related to other properties of the sentence. For example, Japanese causal *-te* has a semantic condition not permitting modality expressions in its final clause (Hasegawa 1996:26). Korean *-ese* permits negation in its preceding clause for the causal sense, but not for the temporal sequence sense.

Where in the grammatical framework to capture conditions and generalizations pertaining to connectives is a non-trivial affair. For example, a number of linguists have pointed out the circularity that plagues the definitions of terms like coordination and subordination. A subordinate clause might be viewed as one which is introduced by a subordinating conjunction, while a subordinating conjunction is viewed as a conjunction that introduces subordinate clauses. Haspelmath (1995)'s criteria listed in (8) seem to apply to constructions, while Quirk et al. (1985)'s criteria in (10) are clearly focused on the conjunction.

Hasegawa (1996), for example, decides to code conditions on *-te* as part of the construction; however, she points out that another way to approach Japanese *-te*'s pragmatic constraints could be as filters on conversational implicatures.

1.2.4 Usage levels

Huddleston & Pullum (2006) argue that many words that are traditionally classified as subordinating conjunctions, such as *after*, *although*, *because*, *before*, conditional *if*, *unless*, *until*, etc. should instead be considered prepositions that take clauses as their complements. Part of the motivation for this analysis comes from the fact that some of these words, such as *after*, *before*, *despite*, etc., take NP complements as well. Under this analysis, although the complement clause would be considered subordinate, the category of the whole constituent would be PP. Furthermore, this analysis predicts that all such temporal, causal, and conditional clauses would behave uniformly as subordinating clauses, with some properties varying as a consequence of what constituent is being modified by the PP. For example, Johnston (1994) accounts for scope of negation ambiguities in examples like the following by allowing for the *because* clause to be adjoined above or below negation:

(18) John didn't go to the store because his car broke down.

When the *because* clause is adjoined above negation, (18) has the reading where John didn't go to the store and the reason is that his car broke down. When the *because* clause is adjoined below negation, (18) has the reading where John went to the store, but his reason for going was not that his car broke down.

Although the semantic distinction above has an elegant structural solution, there are other similar phenomena that seem to require a post-syntactic explanation. The following are examples of *because* used in content, epistemic, and speech act levels of interpretation (Sweetser 1990, Dancygier & Sweetser 2000, 2005):

(19) a. John went to the store because he needs to buy milk.
b. John went to the store, because his car's not here.
c. Let's take John to the mall, because he needs to get new clothes.

In (19a), the content of the main clause—John's going to the store—is the event caused by his need to buy milk. In (19b), however, it is not John's going to the store but the speaker's belief or conclusion that John went to the store, which is caused by the observation or knowledge that his car's not there. This is what is referred to as an epistemic level use of *because*. Similarly, in (19c), John's need for new clothes is the impetus behind the speaker's suggestion to take him to the mall. What makes these examples analogous to that in (18) is the question as to what, whether a syntactic constituent or something else, the *because* clause delivers its effect to.

Though it is unclear whether Johnston (1994)'s syntactic approach is relevant or applicable to this phenomena, there are interesting differences in their syntactic behavior. Applying

Haspelmath's criteria from (8) for subordination, we find that whereas (19a) above meets criteria (8a–d), (19b–c) do not meet any of them.

(20) a. John, because he needs to buy milk, went to the store.
b. *John, because his car's not here, went to the store.
c. *Let's take John, because he needs to get new clothes, to the mall.

(21) a. Because he needs to buy milk, John went to the store.
b. *Because his/John's car's not here, John/he went to the store.
c. *Because he/John needs to get new clothes, let's take John/him to the mall.

(22) a. John went to the store only because he needs to buy milk.
b. *John went to the store, only because his car's not here.
c. *Let's take John to the mall, only because he needs to get new clothes.

Examples (20)–(22) respectively show that only the content level use of *because* allows clause-internal word order, variable position, and semantic restrictiveness. The sentences in (21) also show that only the content level use allows for backwards pronominalization. Since variable position is not allowed for the epistemic and speech act levels, backwards pronominalization cannot be independently tested for those levels. None of the sentences in (19) appear to allow extraction from the *because* clause. The example below shows that extraction from the main clause is only possible for content level *because*:

(23) a. That's the store that John went to because he needs to buy milk.
b. That's the store that John went to, because his car's not here.
c. *That's the mall that let's take John to, because he needs to get new clothes.

Although (23b) is a grammatical sentence, the only interpretation available is one in which the *because* clause modifies the entire main clause. In other words, relativization has applied entirely within the left conjunct. Thus, according to Haspelmath (1995)'s criteria for identifying subordination cross-linguistically, content level uses of *because* are fully subordinating, while the epistemic and speech act level uses of *because*, are fully non-subordinating.

The same classification of the sentences in (19) is reached if we consider them according to Cristofaro (2003)'s cognitive functional approach, in which the definitive test for subordination was lack of assertiveness. According to Sweetser (1990), the reason why epistemic and speech act level uses of *because* require comma (unbound) intonation is that they require their main clauses to make independent assertions. In contrast, *because* clauses with commaless (bound) intonation assert only the causal relation, and do not allow their main clauses to be independently asserted. It follows then that only content-level *because* constructions with commaless intonation are subordinate clauses in the sense of Cristofaro (2003). Furthermore, since the assertion requirement for epistemic and speech act level main clauses is a pragmatic requirement, we would expect it to hold cross-linguistically. Thus we have reason to expect that only content level uses will qualify as instances of subordination.

The sentences in (19) further highlight the difficulty that arises when applying the notion of subordination to conjunctions. If *because* is a subordinating conjunction, why do the epistemic and speech act level uses not behave accordingly? In this case, the properties of subordination appear to pattern not with the conjunction but as a function of comma intonation.

Polysemy based on the usage levels described by Sweetser (1990) has been recognized in a number of languages (Dancygier & Sweetser 2005, Sanders et al. 2009). Examples from Korean, Japanese, French, Dutch, and German, are discussed below with respect to a coordination/subordination distinction. In some cases, certain connectives are limited to particular usage levels. While the coordination/subordination distinctions are not determined across the languages below in a consistent fashion, as in some cases the criteria are language specific or not available, a general trend appears to be that content, epistemic, and speech act levels align with a scale from subordinating to coordinating.

1.2.4.1 Korean

Korean *-unikka* in its causal sense can also be used in all three of Sweetser (1990)'s usage levels:

(24) a. yenghi-ka chelswu-lul manhi nolli-nikka chelswu-ka
Yenghi-NOM Chelswu-ACC a.lot tease-UNIKKA Chelswu-NOM
yenghi-lul miwueha-n-ta
Yenghi-ACC hate-PRES-DEC
'Chelswu hates Yenghi because Yenghi teases Chelswu a lot.'

b. chelswu-ka yenghi-lul miwueha-nikka yenghi-ka chelswu-lul
Chelswu-NOM Yenghi-ACC hate-UNIKKA Yenghi-NOM Chelswu-ACC
manhi nolli-ess-napota
a.lot tease-PST-CJTR
'Yenghi probably teased Chelswu a lot, because Chelswu hates Yenghi.'

c. yenghi-ka chelswu-lul manhi nolli-nikka chelswu-lul
Yenghi-NOM Chelswu-ACC a.lot tease-UNIKKA Chelswu-ACC
nolli-ci ma
tease-COMP NEG.IMP
'Don't tease Chelswu, because Yenghi teases Chelswu a lot.'

In the content use of *-unikka* in (24a), Yenghi's teasing him a lot causes Chelswu to hate her. In contrast, for the epistemic level use in (24b), Chelswu's hating Yenghi doesn't cause her to tease him. Instead, the *-unikka* clause gives the reason for the speaker's concluding that Yenghi probably teased Chelswu a lot. Finally, (24c) is a speech act level use of *-unikka*, where Yenghi's teasing of Chelswu is given as the reason for the speaker's telling the addressee not to do the same.

Applying Haspelmath's criteria to the examples above, we find a similar pattern, but one which is not as distinct. First, clause-internal word order seems to be acceptable with

the content level use, but degraded for epistemic and speech act levels, as shown in (25). (26) shows that postposing the *-unikka* clause seems to be acceptable for the the speech-act level, but degraded for some speakers at the content and epistemic levels. The examples in (27)–(28) show that while backwards pronominalization is possible for all three levels, semantic narrowing is not possible for *-unikka* at any of the levels.

(25) a. chelswu$_i$-ka yenghi$_j$-lul [kyay$_j$-ka caki$_i$-lul manhi nolli-nikka]
Chelswu-NOM Yenghi-ACC 3SG-NOM 3SG-ACC a.lot tease-UNIKKA
miwueha-n-ta
hate-PRES-DEC
'Chelswu, because she teases him a lot, hates Yenghi.'

b. *yenghi-ka$_i$ chelswu$_j$-lul [kyay$_j$-ka caki$_i$-lul miwueha-nikka] manhi
Yenghi-NOM Chelswu-ACC 3SG-NOM 3SG-ACC hate-UNIKKA a.lot
nolli-ess-napota
tease-PST-CJTR
'Yenghi, because he hates her, probably teased Chelswu a lot.'

c. *chelswu$_i$-lul [yenghi-ka kyay$_i$-lul manhi nolli-nikka] nolli-ci
Chelswu-ACC Yenghi-NOM 3SG-ACC a.lot tease-UNIKKA tease-COMP
ma
NEG-IMP
'Don't, because Yenghi teases him a lot, tease Chelswu.'

(26) a. ?chelswu-ka yenghi-lul miwueha-n-ta, yenghi-ka chelswu-lul
Chelswu-NOM Yenghu-ACC hate-PRES-DEC Yenghi-NOM Chelswu-ACC
manhi nolli-nikka
a.lot tease-UNIKKA
'Because Yenghi teases Chelswu a lot, Chelswu hates Yenghi.'

b. ?yenghi-ka chelswu-lul manhi nolli-ess-napota, chelswu-ka
Yenghi-NOM Chelswu-ACC a.lot tease-PST-CJTR Chelswu-NOM
yenghi-lul miwueha-nikka
Yenghi-ACC hate-UNIKKA
'Because Chelswu hates Yenghi, Yenghi probably teased Chelswu a lot.'

c. chelswu-lul nolli-ci ma, yenghi-ka chelswu-lul manhi
Chelswu-ACC tease-COMP NEG.IMP Yenghi-NOM Chelswu-ACC a.lot
nolli-nikka
tease-UNIKKA
'Because Yenghi teases Chelswu a lot, don't tease Chelswu.'

(27) a. yenghi-ka kyay$_i$-lul manhi nolli-nikka chelswu$_i$-ka yenghi-lul
Yenghi-NOM 3SG-ACC a.lot tease-UNIKKA Chelswu-NOM Yenghi-ACC
miwueha-n-ta
hate-PRES-DEC
'Because Yenghu teases him$_i$ a lot, Chelswu$_i$ hates Yenghi.'

b. chelswu-ka kyay$_i$-lul miwueha-nikka yenghi$_i$-ka chelswu-lul manhi
Chelswu-NOM 3SG-ACC hate-UNIKKA Yenghi-NOM Chelswu-ACC a.lot
nolli-ess-napota
tease-PST-CJTR
'Because Chelswu hates her$_i$, Yenghi$_i$ probably teased Chelswu a lot.'

c. yenghi-ka kyay$_i$-lul manhi nolli-nikka chelswu$_i$-lul nolli-ci
Yenghi-NOM 3SG-ACC a.lot tease-UNIKKA Chelswi-ACC tease-COMP
ma
NEG.IMP
'Because Yenghi teases him$_i$ a lot, don't tease Chelswu$_i$.'

(28) a. *yenghi-ka chelswu-lul manhi nolli-nikka-man chelswu-ka
Yenghi-NOM Chelswu-ACC a.lot tease-UNIKKA-only Chelswu-NOM
yenghi-lul miwueha-n-ta
Yenghi-ACC hate-PRES-DEC
'Chelswu hates Yenghi only because Yenghi teases Chelswu a lot.'

b. *chelswu-ka yenghi-lul miwueha-nikka-man yenghi-ka chelswu-lul
helswu-NOM Yenghi-ACC hate-UNIKKA-only Yenghi-NOM Chelswu-ACC
manhi nolli-ess-napota
a.lot tease-PST-CJTR
'Yenghi probably teased Chelswu a lot, only because Chelswu hates Yenghi.'

c. *yenghi-ka chelswu-lul manhi nolli-nikka-man ne-nun
Yenghi-NOM Chelswu-ACC a.lot tease-UNIKKA-only Chelswu-ACC
chelswu-lul nolli-ci ma
tease-COMP NEG.IMP
'Don't tease Chelswu, only because Yenghi teases Chelswu a lot.'

For these examples, because there is no English connective with precisely the same properties as *-unikka*, the translations do not exhibit the same patterns of acceptability as the Korean. With regard to extractability, topicalization and relativization are two processes used by Kwon & Polinsky (2008) in their classification of *-ko* coordination. Examples (29)–(30), respectively, show that topicalization and relativization, out of the main clause, appear to be possible with *-unikka* at any of the three levels. For the relativization examples, however, it should be noted that (30c) constitutes a content level use, because the imperative statement is marked as a quote. It does not appear to be possible to preserve the illocutionary function of the clause while forming a relative clause. Nevertheless, since topicalization, in (29), does not have the same issue, extraction appears to be possible.

(29) a. Yenghi$_i$-nun, kyay$_i$-ka Chelswu-lul manhi nolli-nikka
Chelswu-TOP 3SG-NOM Chelswu-ACC a.lot tease-UNIKKA
chelswu-ka $\_\_i$ miwueha-n-ta
Chelswu-NOM - hate-PRES-DEC
'As for Yenghi$_i$, Chelswu hates $\_\_i$, because she$_i$ teases Chelswu a lot.'

b. chelswu$_i$-nun, kyay$_i$-ka yenghi-lul miwueha-nikka, yenghi-ka $\_\_i$
Chelswu-TOP 3SG-NOM Yenghi-ACC hate-UNIKKA Yenghi-NOM -
manhi nolli-ess-napota
a.lot tease-PST-CJTR
'As for Chelswu$_i$, Yenghi probably teased $\_\_i$ a lot, because he$_i$ hates Yenghi.'

c. chelswu$_i$-nun, yenghi-ka kyay$_i$-lul manhi nolli-nikka, $\_\_i$
Chelswu-TOP Yenghi-NOM 3SG-ACC a.lot tease-UNIKKA -
nolli-ci ma
tease-COMP NEG.IMP
'As for Chelswu$_i$, don't tease $\_\_i$, because Yenghi teases him$_i$ a lot.'

(30) a. kyay$_i$-ka chelswu-lul manhi nolli-nikka chelswu-ka $\_\_i$
3SG-NOM Chelswu-ACC a.lot tease-UNIKKA Chelswu-NOM -
miwueha-n-ta-nun ai$_i$
hate-PRES-DEC-REL child
'the child$_i$ who Chelswu hates $\_\_i$ because she teases Chelswu a lot'

b. chelswu-ka kyay$_i$-lul miwueha-nikka $\_\_i$ chelswu-lul manhi
Chelswu-NOM 3SG-ACC hate-UNIKKA - Chelswu-ACC a.lot
nolli-ess-napota-nun ai$_i$
tease-PST-CJTR-REL child
'the child$_i$ who probably teased Chelswu a lot, because Chelswu hates her'

c. yenghi-ka kyay$_i$-lul manhi nolli-nikka $\_\_i$ nolli-ci
Yenghi-NOM 3SG-ACC a.lot tease-UNIKKA - tease-COMP
mal-la-nun ai$_i$
NEG.IMP-QUOT-REL child
'the child$_i$ I'm saying do not tease $\_\_i$, because Yenghi teases him$_i$ a lot'

Of Haspelmath (1995)'s criteria for subordination, the epistemic level use of causal *-unikka* meets two of the five, while the content and speech act level uses meet three. Thus, by these criteria, it appears that the epistemic level use of *unikka* is slightly less subordinating than the content and speech act level uses.

The connective *-unikka* has another sense in which it conveys sequence or a process of discovery, which is related to the content level causal use at least in that the two are the most easily confused. This use is illustrated by the following example:

(31) neyngcangko-lul yel-e po-nikka wuywu-ka eps-te-la
refrigerator-ACC open-SER see-NIKKA milk-NOM not.exist-EVID-DEC
'I (opened and) looked in the refrigerator and there was no milk.'

Here there is clearly no forward causal relationship between opening and looking in the refrigerator and the non-existence of milk inside, rather *-unikka* appears to be involved

in narrating a process of discovery.[2] With regard to coordination and subordination, the following examples show that sequence *-unikka* does not allow clause internal word order, criterion (8a):

(32) a. [nay-ka aleyching-ey naylyeka-nikka] chelswu-ka mun-ul
1SG-NOM downstairs-LOC go.down-UNIKKA Chelswu-NOM door-ACC
yelu na-ss-te-la
open leave-PERF-EVID-DEC
'I went downstairs and Chelswu had left the door open.'

b. *chelswu-ka mun-ul [nay-ka aleching-ey naylyeka-nikka]
Chelswu-NOM door-ACC 1SG-NOM downstairs-LOC go.down-UNIKKA
yelu na-ss-te-la
open leave-PERF-EVID-DEC
'*I went downstairs and Chelswu had left the door open'

For this sense of *-unikka*, the *-unikka* clause may be postposable, according to criterion (8b), but the result is only marginally acceptable. In addition, the *-unikka* clause under such conditions may not be distinguishable from postposed speech act causal *-unikka*, because they constitute a reason or explanation as to why an immediately preceding statement was made. Sequential *-unikka* constructions do not allow backwards pronominal anaphora or semantic narrowing, as shown in (33)–(34), but do allow extraction, as shown in (35) with relativization.

(33) *nay-ka kyay$_i$-lul tayli-ko aleyching-ey naylyeka-nikka,
1SG-NOM 3SG-ACC bring.along-and downstairs-LOC go.down-UNIKKA
motunsalam-i Yenghi$_i$-lul chatapo-te-la
everyone-NOM Yenghi-ACC look.at-EVID-DEC
I went downstairs bringing her$_i$ along with me and everyone looked at Yenghi$_i$.

(34) *nay-ka aleyching-ey naylyeka-nikka-man chelswu-ka mun-ul
1SG-NOM downstairs-LOC go.down-UNIKKA-only Chelswu-NOM door-ACC
yelu na-ss-te-la
open leave-PERF-EVID-DEC
'I went downstairs only and Chelswu had left the door open.'

(35) aleyching-ey naylyeka-nikka chelswu-ka _$_i$ yelu
downstairs-LOC go.down-UNIKKA Chelswu-NOM - open
na-ss-te-n mwun$_i$
leave-PERF-EVID-REL door
'the door$_i$ that (I) went downstairs and Chelswu had left _$_i$ open.'

[2]The forward causal relationship is, in fact, between looking in the fridge and the discovery of milk's absence (Sweetser, p.c.).

In summary, this use of sequence *-unikka* is among the least subordinating of the various senses, at the same level as epistemic causal *-unikka*.

The connective *-ese* is often compared to *-unikka* in Korean, because it has two uses which at a surface level appear similar or analogous to those of *-unikka* and are described as sequence and cause (Ree 1977, Lukoff & Nam 1982). Unlike *-unikka*, however, the causal *-ese* construction is limited to use at the content level (Sohn 1993). In addition to illustrating the two senses, the following examples show that both satisfy Haspelmath (1995)'s clause-internal word order criterion:

(36) a. chelswu-ka chayk-ul [tosekwan-ey ka-se] ilk-ess-ta
Chelswu-NOM book-ACC library-LOC go-ESE read-PST-DEC
'Chelswu went to the library and (then) read the book (there).'
b. chelswu-ka chayk-ul [simsimhay-se] ilk-ess-ta
Chelswu-NOM book-ACC be.lonely-ESE read-PST-DEC
'Chelswu read the book because he was lonely.'

Both senses allow for semantic narrowing and extraction, an neither allows variable positioning. For backwards pronominal anaphora, however, the two senses behave differently, as shown in (37a–b). The causal sense allows for backwards pronominal anaphora, but the sequential sense does not.

(37) a. *chelswu-ka kyay$_i$-ney cip-ey ka-se Yenghi$_i$-lang nola-ss-ta
Chelswu-NOM 3SG-GEN house-LOC go-ESE Yenghi-with play-PST-DEC
'Chelswu went over to her$_i$ house and played with Yenghi$_i$.'
b. chelswu-ka kyay$_i$-lul silehay-se Yenghi$_i$-ka phathi-ey an
Chelswu-NOM 3SG-ACC not.like-ESE Yenghi$_i$-NOM party-LOC NEG
o-ass-ta
come-PST-DEC
'Chelswi doesn't like her and so Yenghi didn't come to the party.'

Thus, the causal sense of *-ese* is slightly more subordinating than the sequential sense, as is also more subordinating than any the senses of *-unikka*. Table 1.1 summarizes the results of applying Haspelmath (1995)'s criteria to the various senses of *-unikka* and *-ese*.

1.2.4.2 Japanese

As briefly mentioned earlier, although the Japanese connective *-te* bears some resemblance to Korean *-ese*, they differ in the range of their polysemy and in their semantic and pragmatic properties. Korean *-ese*, for instance, does not have contrastive, concessive, or conditional uses. Hasegawa (1996) points out that according to Kuno (1973), *-te* is at the subordination pole of his proposed subordination-coordination continuum. This is a surprising result, however, as *-te* expresses the additive relation, which translates to prototypically coordinating uses of English *and*. This counter-intuitive result is addressed by Yuasa & Saddock (2002)'s

	-unikka				*-ese*	
	sequence	content causal	epistemic causal	speech act causal	sequence	causal
clause-internal order		✓			✓	✓
variable position				✓		
backwards anaphora		✓	✓	✓		✓
semantic restrictiveness					✓	✓
extractability	✓	✓	✓	✓	✓	✓

Table 1.1: Haspelmath (1995)'s subordination criteria applied to *-unikka* and *-ese*

proposal that *-te* exhibits 'pseudo-subordination', which represents the inverse of Culicover & Jackendoff (1997)'s analysis of 'left-subordinating' *and* as syntactically coordinating but semantically subordinating. Dissatisfied with Kuno's classification, Hasegawa briefly examines *-te* constructions in light of Haiman & Thompson (1984)'s parameters (listed above in (12)). She finds that *-te* constructions scale differently along most of the parameters depending on which sense of *-te* is being tested. For example, one of the parameters has to do with whether in the linkage one clause is within the scope of another, (12e). If *-te* is interpreted as expressing cause, one conjunct can be questioned independently. The same is not true of *-te* constructions of the additive type (pg. 14–15):

(38) a. #dare ga oosake e itte hiro da kyooto e itta -n
who NOM Osaka ALL go-TE Hiro NOM Kyoto ALL went NMLZ
desu ka
COP-NPST Q
'Who went to Osaka, and Hiro went to Kyoto?'

b. dare ga kite, paatii ga dainasi.ni.natta -n desu ka
who NOM come-TE party NOM became.ruined NMLZ COP-NPST Q
Lit. 'Who came, and the party became ruined?'
NOT 'Who came, and did the party get ruined?'

Because *-te* has many senses that pattern differently along the various parameters, Hasegawa concludes that although these results constitute facts that need to be considered by a comprehensive account, they are not helpful for classifying *-te*.

With regard to the usage levels, Higashiizumi (2006), based on the findings of Uno (1997), assumes the existence of a similar pattern in Japanese for causal *-kara* clauses (pg. 123) as was described earlier for *because* and to some extent Korean *-unikka*:

(39) Correlation between interpretation of *kara*-clauses and their syntactic properties in [Present Day Japanese]:

a. In the case of content conjunction interpretation, a *kara*-clause is a subordinate clause.

b. In the case of epistemic and speech-act conjunction interpretation, a *kara*-clause is a coordinate clause.

Because she does not elaborate as to what criteria were used to establish subordination as being the case, it is not clear whether this finding is truly analogous.

1.2.4.3 French, Dutch, and German

Pit (2003:15–21) presents a classification of a number of causal connectives in Dutch, German, and French. Although her analysis does not specifically test for coordination or subordination along the usage levels, it is valuable because these languages have lexicalized some of those distinctions. For example, in French, *parce que* is used at the content level, while *puisque* is reserved for the epistemic level (Sweetser 1990). This tendency is confirmed in a newspaper corpus study by Degand & Pander Maat (2003), in which an overwhelming majority of *puisque*, 94%, were used epistemically. The same study found *parce que* to favor the content level, but nonetheless found 32% of the uses to be epistemic. *Car* was found to favor the epistemic level, but allows use at the content level (22%), and even at the speech act level (6%). In Dutch, while *doordat* can only be used at the content level, *want*, *omdat*, and *angezien* can be used more flexibly in both content and epistemic levels, although *omdat* slightly favors the content level, and *aangezien* and *want* seem to favor the epistemic level (Pit 2003, Degand & Pander Maat 2003, Sanders 2005). Similarly, German *weil* is limited in use at the content level, while *denn* and *da* either strongly favor or are restricted to use epistemically or at the speech act level (Pit 2003, Sanders 2005, Scheffler 2005). Pit (2003:Table 1) applies a combination of tests for coordination and subordination and concludes that *car*, *want*, and *denn* are coordinating, that *parce que*, *doordat*, *omdat*, and *weil* are subordinating, and that *puisque*, *aangezien*, and *da* pattern in between—that is, they fail a number of tests for subordinativity. She describes the latter group as syntactically subordinate but distinct in not having as tight an integration between the main and subordinate clauses, calling them subordinate but paratactic. Table 1.2 integrates the syntactic classification of these connectives with their usage level preferences.

Although both the syntactic classification into subordinating and coordinating types of conjunction and the relationship between the connectives and the usage levels appear to be gradient rather than categorical, the data from French, Dutch, and German point to a similar trend as the English, Korean, and Japanese causals: subordination is correlated with content level use while non-subordination is correlated with use generally disfavoring the content level. In addition to illustrating syntactic trends association with the usage levels, these data show that languages can differ in terms of whether and how they lexicalize pragmatically motivated polysemy. For example, not only can connectives differ in terms of the levels at which they can express their relations, but it is also possible for them to do so in a gradient fashion with certain levels being more preferred than others.

	French	Dutch	German
subordinate	*parce que* (favors content)	*doordat* (content only) *omdat* (slightly favors content)	*weil* (content only)
subordinate paratactic	*puisque* (strongly favors epistemic)	*aangezien* (all, favors epistemic)	*da* (favors epistemic & speech act)
coordinate	*car* (all, favors epistemic)	*want* (all, favors epistemic)	*denn* (epistemic & speech act only)

Table 1.2: Coordination/subordination by levels: French, Dutch, and German causals

1.2.5 Summary

The development of a robust understanding of connective constructions usable for cross-linguistic comparison and classification faces a number of challenges. Traditional categories such as subordination and coordination turn out to be difficult to define, with some linguists doubting altogether whether they merit existence. The general trend has been to propose gradient criteria upon which to locate various constructions. In some cases, the poles of the criteria align in an attempt at a prototypical characterization of familiar categories, but in others, independence and non-alignment are an important facet of the proposal. Such definitional challenges are compounded with behavioral complexities presented by the data—polysemy, polyfunctionality, and their interaction with syntactic, semantic, and pragmatic factors, including, for example, the various usage levels.

1.3 A note on theory

The present study advocates an approach to the comparative investigation of connectives that puts polysemy (or lack thereof) at stage center as a means for arriving at more highly articulated semantic models for the compared connectives. In response to the linguistic diversity in this area, the present approach seeks to investigate connective phenomena with respect the full range of meaning and function and integrates a number of compatible frameworks developed under the rubric of cognitive linguistics. In this approach, linguistic expressions are not primarily referential, but rather, as described in Fauconnier (1997), they represent instructions for meaning construction, where *meaning* is broadly construed to include pragmatics. Thus, for the purposes of this study, polyfunctionality and pragmatic ambiguity

are assumed to be included under polysemy. Furthermore, the primary units of linguistic organization are *constructions* (Goldberg 1995, Kay & Fillmore 1999, Langacker [1991] 2002, Tomasello 2003)—form-meaning mappings for which conventionality and compositionality are not assumed to be dichotomous. Thus, the approach does not separate grammar into autonomous modules, each with operating principles that must to some extent be universal. From the perspective of trying to embrace the full range of linguistic diversity (Evans & Levinson 2009), a positive outcome is that constructions are language specific.

In this approach, a comparative investigation of constructions across languages, then, is much more dependent on semantic correspondences. Consequently, the present study also advocates a substantive characterization of connective constructions within an integrated semantic framework able to capture the full range of possible distinctions. This could be contrasted with characterizing connective constructions relative to disparate frameworks designed to capture distinctions relevant to some narrow area of interest. The overarching communicative framework for this study is Sanders et al. (2009)'s Basic Communicative Spaces Network (BCSN) which is based in Mental Spaces Theory (Fauconnier 1985, Sweetser & Fauconnier 1996). This model receives further articulation from Dancygier & Sweetser (2005), which proposes a number of space-configurational parameters for the modeling of a wide range of connective constructions, including conditional, causal, and concessive constructions. To extend the empirical range of the framework, Cognitive Grammar's verbal semantics (Langacker 1987, [1991] 2002), combined with Narayanan (1997)'s aspectual model, is used to model the space-internal semantics of content domain spaces. This integrated framework is empirically motivated, based on semantic, including functional, distinctions needed to adequately capture the characteristics of the Korean connectives in this study.

Chapter 2

Event integration and Korean *-ese*

2.1 Overview

In this chapter I develop a conceptual model of event structure integration as I examine in detail the complex semantic behavior of the Korean connective *-ese*. Korean *-ese* has attracted much interest in Korean linguistics due to its similarity to another connective, *-unikka* (Ree 1977, Lukoff & Nam 1982, Sohn 1993, Nam 1994, Oh 2005). Both connectives are generally understood as establishing a sequential or causal relation between their participant clauses. They are, however, rarely interchangeable. For example, it has been observed that although causal *-unikka* can be used in all three of Sweetser (1990)'s content, epistemic, and speech act usage levels, *-ese* is limited to content level use (Sohn 1993).

The purpose of this chapter is two-fold. The first is to embark on a more comprehensive analysis of *-ese*, which turns out by itself to present a number of analytic challenges. Consequently, this chapter investigates the factors that condition *-ese*'s network of meanings and develops a model able to predict and explain behavior in non-prototypical cases. The second purpose is to construct a typological model using general cognitive linguistic mechanisms that can serve as the basis for a comparative investigation of other connectives.

The structure of this chapter is as follows. First, I present *-ese*'s descriptive background, including prior analyses and where they fall short. Then, drawing together Cognitive Grammar's verb processes (Langacker [1991] 2002), Narayanan (1997)'s discrete aspectual phases, and Frame Semantics (Fillmore 1982, 1985), I develop an event integration framework as a basis for modeling *-ese*'s complex semantics. In addition to improved descriptive coverage, the model is able to explain the connective's particular convergence of behaviors. The model is then tested against interactions with progressivization and negation. Finally, these findings are applied to the analysis of one especially opaque use of *-ese*—the relative time sense. I conclude by summarizing the parameters of the model developed and applied in the course of this chapter.

2.1.1 Temporal Sequence and Causality

Two senses of *-ese* have received the most attention from linguists: Temporal Sequence and Causality. The following examples illustrate these uses, respectively:

(1) a. John-i cip-ey ka-se kongpwu hay-ss-ta
John-NOM home-LOC go-ESE study do-PST-DEC
'John went home and (then) studied (there).'

b. John-i cip-ey ka-se chelswu-to cip-ey ka-ss-ta
John-NOM home-LOC go-ESE Chelswu-also home-LOC go-PST-DEC
'John went home and so Chelswu went home too.'

Interest in this connective, and these senses in particular, stems from analytical difficulties that have posed challenges for linguistic description as well as language pedagogy. One issue is that the distribution of these senses appears largely to be complementary with the conditioning factor residing within the sentence. Thus, (1a) can only be interpreted as conveying a sequence of events, and (1b) can only be interpreted causally. Though the conditioning factors have been characterized with a level of success sufficient for most practical purposes, descriptive inadequacies remain that are of deep interest to constructional semanticists. As mentioned previously, the connective *-ese* has also drawn much attention because of its similarity to another Korean connective, *-unikka*, which appears as well to have these two senses. The connectives are similar enough that second language learners find it quite difficult to learn when to use one or the other, yet the two are almost never interchangeable and never confused by native speakers. The connective *-unikka* and its semantic and pragmatic complexities is the subject of Chapter 3.

The following are typical characterizations given by learning grammars of Korean as to when *-ese* receives the sequential versus the causal reading:

- For the sequential meaning, "the verb in the first sentence must be an action verb" (Ihm et al. 1988).
- When the subjects are coreferential, the meaning is sequential, otherwise, causal. (Lee 1989, Rogers et al. 1992).

A more comprehensive and successful characterization of *-ese* is presented in Lukoff & Nam (1982). The following is a restatement of their generalizations in terms of a *P-ese Q* construction:

(2) a. If P is negative, the sentence asserts that P caused Q.
b. If P has a stative sense, the sentence asserts that P caused Q.
c. If P and Q share the same subject, Q is understood as temporally following P, otherwise the sentence asserts that P caused Q.

The statement in (2) make the correct predictions for the sentences in (1). Sentence (1a)'s P clause is neither negative nor stative, and the P and Q clauses share the same subject.

Statement (2c) thus correctly predicts it to receive the Sequence reading. The same statement correctly predicts (1a) to be causal, due to the P and Q clause subjects being different. Lukoff & Nam (1982) emphasize the rigidity of these conditions on the meaning of *-ese* constructions with the following examples (p. 563):

(3) a. irena-se cel-ul hay-ss-ta
rise-ESE bow-ACC do-PST-DEC
'He got up and bowed.'
b. *irena-ci anh-ase cel-ul hay-ss-ta
rise-COMP NEG-ESE bow-ACC do-PST-DEC
'*Without getting up (first), he bowed'
'*He did not get up and so he bowed.' (Implausible)

According to condition (2a), sentence (3b) should receive the causal reading. The scenario implicated by such a reading, however, is highly implausible in Korean culture. Nonetheless, a sequential reading is unavailable, even though that reading would not be implausible. The availability of a sequential reading is demonstrated by the following sentence, which uses the *-ko* construction (Lukoff & Nam 1982:564):

(4) irena-ci anh-ko cel-ul hay-ss-ta
rise-COMP NEG-KO bow-ACC do-PST-DEC
'He bowed without getting up (first).'

Nam (1994) goes beyond this analysis in a follow-up, corpus-based study, in which four sense categories of *-ese* are recognized: Sequence, Cause, Manner, and Relative Time. In addition, she observes that in some cases a sentence may be ambiguous with *-ese* interpretable to mean either Cause or Sequence. The Sequence sense requires the subjects to be the same. If the Q clause is imperative or suggestive, the sentence is exclusively sequential, but otherwise, *-ese* could also receive a causal interpretation. In many cases, these sentences have a preferred reading, although both are possible. Nam is unable to offer an explanation for why in some cases one sense is preferable to the other, but suggests that the conditioning factors are probably semantic or pragmatic. Under any the following conditions, however, she states that *-ese* exclusively receives the causal interpretation (conditions restated in terms of a *P-ese Q* construction):

(5) a. P and Q have different subjects.
b. The P clause predicate is adjectival, copular, existential, or expresses a psychological or emotional state.
c. The Q clause predicate is adjectival.
d. Negation in the P clause.

An exception to the pattern above is when the P clause is adjectival and the Q clause is imperative or suggestive, in which case, *-ese* receives the relative time interpretation.

Although Nam (1994) represents significant advancement in the characterization of *-ese* compared to Lukoff & Nam (1982), the analysis of the division between the causal and sequential senses, i.e. (2) and (5), is largely the same. For practical purposes, these characterizations of *-ese* appear to be largely successful. They fall short, however, for a number of reasons. First, as the authors themselves point out, there are a number of cases where the conditions make the wrong prediction. In the examples below, the P clause is neither negative nor stative, P and Q have coreferential subjects, and none of the conditions in (5) apply, but the readings are nonetheless causal (Lukoff & Nam 1982:569–570):

(6) cha-eyse nayli-taka nemeci-ese pyengwen-ey ka-ss-ta
car-FROM descend-as fall-ESE hospital-LOC go-PST-DEC
'He fell as he was getting out of the car and so he went to the hospital.'

(7) ku-nal ku-ka ilccik cip-ey ka-se hwa-lul myen hay-ss-ta
that-day he-NOM early home-LOC go-ESE catastrophe-ACC escape do-PST-DEC
'He escaped the catastrophe because he went home early that day.'

There are also cases, as observed by Nam (1996), where sentences can have either sequential or causal readings. The conditions in (2), however, do not predict ambiguity to be possible. For instance, the following example, from Lukoff & Nam (1982:569), has a P clause that is neither negative nor stative, and the P and Q clauses have the same subject. It should thus behave no differently from (1a) and have only a sequential reading.

(8) hakkyo aph-eyse chelswu-lul manna-se ku-yayki-lul hay-ss-ta
school front-LOC Chelswu-ACC meet-ESE that-story-ACC do-PST-DEC
'I met Chelswu in front of the school and then told him about it.'
'I told Chelswu about it because I met him in front of the school.'

In terms of usage, Nam (1994) suggests that, in fact, such cases where both readings are possible are not exceptional and occur quite commonly. According to Nam, these cases require the subjects to be the same, as in the cases where only the sequential reading is possible. This suggests that the same-subject condition may be more decisive a factor in distinguishing the Sequence reading from the Cause reading.

However, there are also cases where the P and Q clauses do not share the same subject, but the reading is sequential (Lukoff & Nam 1982:569):

(9) awu-ka namwu-lul ccalla-se hyeng-i cang-ey ka-ss-ta
young-NOM wood-ACC cut-ESE older-NOM market-LOC go-PST-CONJ
phala-ss-ta.
sell-PST-DEC
'The younger brother cut the wood and then the older brother went and sold it at the market.'

In addition to being unable to account for such exceptional cases, the conditions in (2) are incomplete in that the *-ese* construction is subject to additional constraints. For example, suppose a high school student goes to his room, opens the window, and then does his homework. This perfectly plausible sequence of events cannot be expressed in Korean with the *-ese* construction, though it can be expressed with *-ko*:

(10) a. *?John-i changmwun-ul yel-ese swukcey-lul hay-ss-ta
John-NOM window-ACC open-ESE homework-ACC do-PST-DEC
'*?John opened the window and (then) did his homework'
b. John-i changmwun-ul yel-ko swukcey-lul hay-ss-ta
John-NOM window-ACC open-KO homework-ACC do-PST-DEC
'John opened the window and (then) did his homework'

According to the conditions in (2), (10a), which has a P clause that is neither negative nor stative and shares its subject with the Q clause, should be unambiguously sequential. A sequential reading, however, is not available. A causal reading, where John's opening the window causes him to do his homework, is possible, but considered implausible.

The examples above have shown a number of ways in which the conditions in (2) were descriptively inadequate. An issue, perhaps of greater concern, however, is that because the conditions lack a principled basis, there is no way even to begin to explain why the exceptional cases behave the way that they do. In fact, there is no explanation for why the conditions in (2) pattern together at all, whether motivated by underlying factors or arbitrarily by convention. Similarly, although Nam (1994) significantly expands our understanding of *-ese*'s semantic distributional possibilities, it leaves the same questions open for investigation.

Before addressing these issues in the remainder of the chapter, however, I give a brief descriptive sketch of the other senses of *-ese* in the following section.

2.1.2 Other senses of *-ese*

Besides Temporal Sequence and Causality, *-ese* is used to express a number of other relations between clauses, which have not received much attention in Korean linguistics. The following are examples of three additional senses:

Manner

(11) a. kele-se hakkyo-ey ka-ss-ta
walk-ESE school-LOC go-PST-DEC
'(He) went to school by walking'
b. chayk-ul nwuwe-se ilk-ess-ta
book-ACC lie-ESE read-PST-DEC
'I read the book lying down.'

Means

(12) a. khemphwuthe-lul sse-se swukcey-lul hay-ss-ta
computer-ACC use-ESE homework-ACC do-PST-DEC
'He did his homework using a computer'
b. tol-ul tenci-ese changmwun-ul kkaythu-li-ess-ta
stone-ACC throw-ESE window-ACC break-CAUS-PST-DEC
'He threw a stone and broke a window (with it)'

Relative Time

(13) a. yeltwusi-ka cina-se cip-ey tolao-ass-ta
12.oclock-NOM pass-ESE home-LOC return-PST-DEC
'(He) returned home past midnight'
b. elye-se mikwuk-ey o-ass-ta
young-ESE US-LOC come-PST-DEC
'(He) came to the U.S. when (he) was young.'

In contrast to the temporal sequence and causal uses of *-ese*, the Manner and Means senses above seem to involve their component events occurring simultaneously rather than one after the other. This distinction, however, is not always clear-cut. The following Manner example is ambiguous in with regard to temporal structure:

(14) kiph-i saygkakhay-se mwuncey-lul phwul-ela
deep-AD think-ESE problem-ACC solve-IMP
'Think deeply and solve the problem.'

In (14), the instruction could be to think deeply first and then solve the problem or to engage in deep thinking while solving the problem. In the Time sentences in (13) there is a similar division with regard to temporal structure. Example (13a) is to a certain extent sequential in that the returning in the main clause occurs after the passing of midnight. However, in (13b), the coming to the U.S. occurs sometime while the person was young.

As mentioned earlier, Nam (1994) also recognizes Manner and Relative Time as two senses of *-ese* besides Sequence and Cause. The additional uses presented here differ in making a finer division of Nam's Manner sense into Manner and Means. The existence of these other uses expands the analytic problem that has largely been focused on what conditions the Sequence and Cause senses of *-ese*. What relation is there, if any, between the different senses of *-ese*? What factors determine whether *-ese* receives one reading or another? What mechanism is responsible for this pattern of behavior?

In the next section, I propose an analysis of *-ese* that addresses the issues discussed thus far. The analysis is based in a Cognitive Linguistic approach to event structure semantics which combines aspectual models developed by Langacker (1991, [1991] 2002) and Narayanan (1997).

2.2 Event integration

Conceptualization of real-world events and the communication of such concepts necessarily involves a kind of schematization, as temporally continuous complex events are discretized in the process of representation. In this section, I develop a parameterized model of event integration, in which conceptual structures that can be predicated independently are integrated into a single composite event predication.

2.2.1 Internally-structured process model

In Cognitive Grammar (Langacker 1991, [1991] 2002), verbal predicates are modeled in terms of cognitive processes. A Process is defined as a sequentially scanned complex temporal relation, which conceptually models how relations between participant entities change (or not) over time. Figure 2.1 diagrams the relevant facets of the model that allow for the conceptualization of perfective and imperfective processes (Langacker [1991] 2002:88).

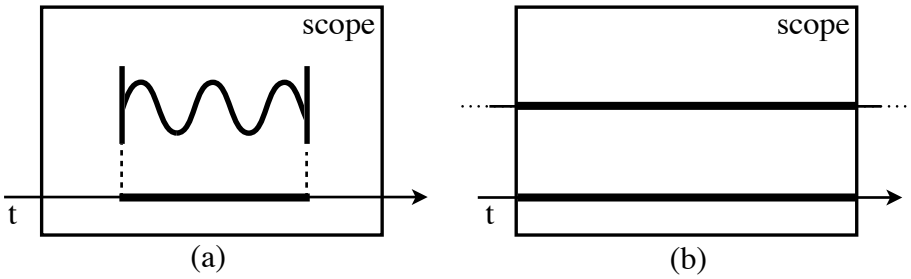

Figure 2.1: Perfective(a) and imperfective(b) processes

The diagrammatic juxtaposition in Figure 2.1 illustrates several relevant parameters captured by this model. First, each process—and in fact, any process—requires a scope of predication that distinguishes ontological structures, e.g. time and entities, that are relevant for its conceptualization from those that are not. This is represented by the box labeled "scope." The sequentially scanned, unidirectional time dimension (t) is represented by the horizontal arrow, while displacement in the vertical dimension represents change of relational state between participant entities. The thicker portion of the time line represents the profiled portion that is sequentially scanned. According to this model, there are then two features that differentiate perfective and imperfective processes: whether the relation is dynamic or static, and temporal boundedness relative to the scope of predication. Perfective processes are dynamic and temporally bounded inside the scope of predication, while imperfective processes are static and temporally unbounded.

In addition to the process model sketched above, I adopt an aspectual model in which certain processes may consist internally of discrete phases. Narayanan (1997) found that processing structures needed for operating physical motor control systems could be used

successfully to compute linguistic aspect. The general schema, as summarized in Lakoff & Johnson (1999:42) is as follows:

(15) Getting into a state of readiness
The initial state
The starting process
The main process (either instantaneous or prolonged)
An option to stop
An option to resume
An option to iterate or continue the main process
A check to see if a goal has been met
The finishing process
The final state

Although the precise structure of specific processes will vary, the schema above allows for processes that occur as a series of phases, in which the main phase may be preceded by a preparatory phase or followed by a finishing phase. For the purposes of the present investigation, it is sufficient to allow for a process to have a preparatory, i.e. starting, phase process followed by a main phase process.

The combination of these two models yields some immediate constraints regarding possible process integration types. A preparatory phase, if it exists, must be temporally discrete, i.e. bounded, and telic, i.e. involving a change of state. This logic follows from the motor control origins of the process-internal structure. A preparatory process without a clear start and end would preclude the main process from ever being executed. Such a process should also have an end state that is different from the starting state, as otherwise, based on economy considerations, it would be unnecessary for it to be included in the execution model of the larger process. If a process is imperfective, its start and end are outside the scope of predication. Consequently, such processes cannot have preparatory phases. In addition, since start phase processes are temporally discrete and require a change of state, they cannot be imperfective. In the following section, these constraints on integration are discussed in greater detail and shown to be crucial to the analysis of *-ese*'s pattern of polysemy.

2.2.2 Sequence vs. Cause

Based on the framework described above, the semantics of *-ese* constructions can be modeled as a configuration of conceptual structures. In a Temporal Sequence construal of a construction *P-ese Q*, the verbal process of the *-ese* clause (P) is construed as the process-internal start phase of the main clause process (Q), such that external to the scope of Q, the resulting structure constitutes a single conceptual event. Figure 2.2 shows that process P's temporal profile is matched with the start phase of process Q. This is symbolized by the arched arrow pointing to the dashed box, which is inside the box representing Q's scope of predication. An emergent constraint is that process P's scope of predication must fit into

Q's scope of predication. Thus, according to the model, *-ese*'s sequential semantics derives

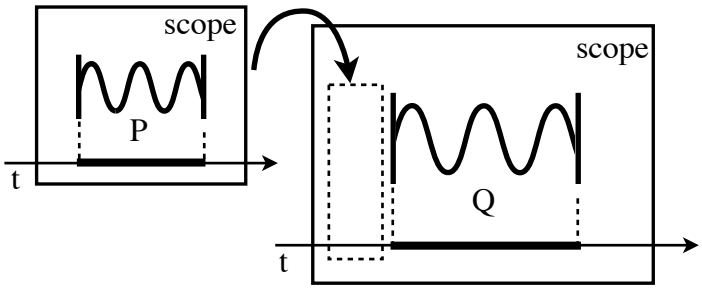

Figure 2.2: Temporal Sequence

from the properties of event-internal phases: phases are discrete and sequentially ordered, but they are not causally related. This model generates a number of predictions for the behavior of sequential *P-ese Q* constructions, shown in (16). Following sections will explain how these predictions are derived from the event integration model.

(16) a. Both P and Q must be temporally bounded in their scopes of predication.
b. P must be telic.
c. P must be predicated over Q's participant structure.

Unless these constraints are obeyed, the conceptual integration represented by Figure 2.2 and thus the Temporal Sequence sense are precluded, and instead the Causality sense emerges.

The semantics of causal *P-ese Q* is modeled in this framework as a separately predicated event P that causes the event Q, with the added condition that P immediately precedes Q temporally. This is represented by Figure 2.3. According to this model, for the causal

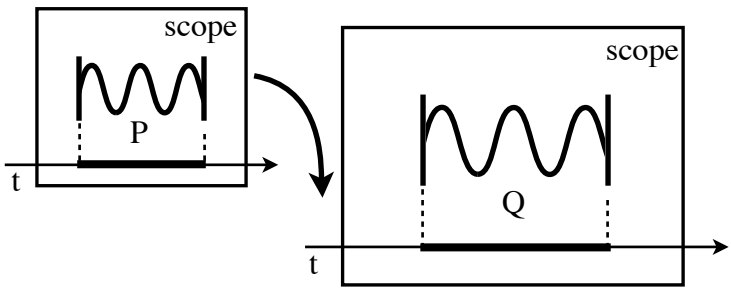

Figure 2.3: Causality

construal of *-ese*, P and Q are conceptually distinct events with independent scopes of predication. Though not depicted in the diagram, the P event is nevertheless dependent on the Q event because only the Q event is grounded by tense or modality to the speech context.

This distinction between the configurations of conceptual structures—that the event integration yielding the sequential reading constitutes a single conceptual event, whereas the causal reading constitutes two distinct events—is a significant feature of this model. Furthermore, while events may be sequentially or causally related, event-internal phases differ from events in that they can only precede or follow other phases—they cannot be causally related. Thus, for example, while forward causality is a common pragmatic implicature on sequential clause relations, it is never implicated for sequential uses of *-ese*. Based on this model, this behavior can be accounted for by a general principle on causal relations as pertaining to events rather than by including a conventionalized ban on causal implicature in the *-ese* construction.

Cognitive Grammar recognizes the the finite clause as an important unit of organization, which provides the domain relevant for the characterization of such factors as transitivity, case, and grammatical relations, and which typically profiles a process representing a single event (Langacker [1991] 2002:212). Based on this understanding of the finite clause, the current model suggests that for causal *-ese*, P and Q may each be considered finite, whereas for sequential *-ese*, P and Q constitute only a single finite clause. At least at a first glance, the emergent constraint (16c) for sequential *-ese* readings is consistent with this prediction. On the other hand, for causal *-ese*, none of the constraints in (16) are relevant, because P and Q retain separate scopes of predication.

In the following subsections, I discuss each of these constraints, explaining in detail how they are predicted by the model as well as some of their more specific implications. I also discuss how they relate to the descriptive generalizations presented earlier.

2.2.2.1 Both P and Q must be temporally bounded

This prediction follows from the properties of the phased process model developed in Section 2.2.1. The configuration of conceptual structures depicted in Figure 2.2, where P is integrated into the start phase of Q, is not possible unless Q has a discrete start phase. Since a process that is temporally unbounded in its scope of predication has neither a start nor end in that scope, such a Q process excludes the possibility of this integration. Similarly, a process which is not temporally bounded within its scope cannot be integrated into a temporally bounded start phase. Consequently P must also be temporally bounded within its scope.

The notion of a predicational scope plays an important part in the derivation of emergent behaviors in Cognitive Grammar. Langacker ([1991] 2002) defines the scope of a predication as "that portion of relevant domains which it specifically invokes and requires for its characterization" (p. 62). Thus, to the extent that a relation established between two predications is sensitive to properties of those predications, it will be sensitive to what is contained in the predicational scopes. For example, Langacker's account of inherent aspect and the distinction between perfectivity and imperfectivity was based on ontological differences within the scope of predication: dynamicity of entity relations and temporal boundedness.

To the extent that lack of temporal boundedness in the predicational scope yields an imperfective process without a discrete start phase, a corollary prediction is that where P or

Q are imperfective, the conceptual event integration which results in the sequential reading will be excluded.

2.2.2.2 P must be telic

The requirement that P be telic follows from the motor control basis of Narayanan (1997)'s aspectual model, which was presented in Section 2.2.1. The start phase of of a motor control program is goal-directed in serving to bring about the executional context for the main phase. Thus, for instance, for the physical act of grasping, it may be necessary to move to within reaching distance of an object. Consequently, we predict semantic processing to break down in cases where the P clause profiles either no change of state or change where there no endpoint.

At this point, an interesting observation can be made that two of Lukoff & Nam (1982)'s conditions, (2a–b), can be derived as corollaries. The exclusion of negation in P, given the process model, follows from negation profiling the absence or non-occurrence of a process, and yielding a conceptual structure which is atelic. Stative predications are inherently atelic, and are thus also precluded on the basis of (16b). Insofar as they are also temporally unbounded in their scope of predication, they are also excluded on the basis of (16a).

This yields an explanation for Lukoff & Nam (1982)'s exceptions where in some cases a sequential reading was required despite there being negation in the P clause, as well as Nam (1994)'s observation that the ban on negation was relaxed in some cases where the sentence could be paraphrased without negation:

(17) cha-ka elma an ka-se kocang na-ss-ta
car-NOM not.much NEG go-ESE break appear-PST-DEC
'The car didn't get far before breaking down.'

In the example above, although P is negative in form, the effect is pragmatic and expresses the speaker's upset expectations. At the event-structural level, the P clause process still profiles a state of change with a defined endpoint. Consequently, the construction receives a sequential reading. Negation of this type does not entail atelicity and can easily be paraphrased without the negation construction by embedding the positive version of the sentence in a frame that makes the pragmatic effect explicit, e.g. "I was surprised and disappointed that the car broke down after we drove only a little bit." Example (17) can be contrasted with (18), which cannot be interpreted sequentially:

(18) ?cha-ka an ka-se kocang na-ss-ta
car-NOM NEG go-ESE break appear-PST-DEC
'*The car didn't move before breaking down.'
'?The car broke down because it didn't move.'

Unlike (17), the P clause in (18) conveys that no moving occurred and is atelic. A causal reading is possible, but in this case implausible. Figure 2.4 depicts the event-structural

difference between (17) and (18) with respect to the integration signaled by *-ese*. Although the P clause in (17) contains formal negation, the resulting process is telic, as shown in Figure 2.4(a), and able to be integrated into the start phase of the Q clause process. In (18), however, where negation profiles the non-occurrence of a process, the resulting process is atelic, and cannot be integrated into a start phase which requires telicity. This is depicted in Figure 2.4(b) where the '*' indicates that start-phase integration is unavailable, and a second arrow signals that the construction is instead construed causally.

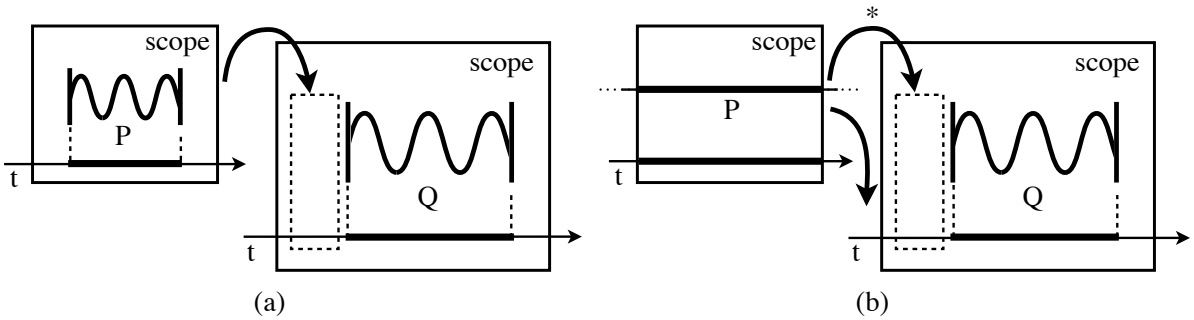

Figure 2.4: Integration with telic (a) vs. atelic (b) P clauses

Thus, while most existing characterizations of *-ese*'s sequential and causal senses give negation in the P clause as a conditioning factor, it is shown here to be a consequence of the telicity requirement and the fact that negation is often used to convey the non-occurrence of an eventuality. Since syntactic negation does not entail atelity, the present analysis predicts the observed class of exceptions. Furthermore, rather than being an arbitrary stipulation, the telicity requirement derives from the properties of event-internal phases.

Additional support for the role of telicity in enabling the sequential reading is provided by the following pair of sentences, neither of which involve negation:

(19) a. cha-ka Chicago-kkaci ka-se kocang na-ss-ta
car-NOM Chicago-as.far go-ESE break appear-PST-DEC
'The car got as far as Chicago and broke down.'

b. cha-ka ppalli ka-se kocang na-ss-ta
car-NOM fast go-ESE break appear-PST-DEC
'*The car was going fast and then broke down.'
'The car broke down because it was going fast.'

In the sentences above, although (19a–b) have the same verb in the P clause, their event structures differ with respect to telicity. The goal-specified (19a) is telic and behaves like (17) and receives the sequential reading, while the manner-specified (19b) is atelic and behaves like (18) allowing only for a causal reading.

2.2.2.3 P is predicated over Q's participant structure

Cognitive Grammar models the dynamic relations between participants of a process as a unidirectional chain of energy transfers from entity to entity called an action chain (Langacker [1991] 2002). An Agent is the volitional source of the energy that is transferred down the chain until it is absorbed by the Patient. Thus, the head of the action chain is the canonical Agent and the tail is the canonical Patient. The realization of semantic roles in sentences as subjects or objects is dependent on the immediate scope of predication and what is profiled within that scope—typically the head of the profiled portion is the subject and the tail of the profiled portion is the object.

The participants within a single processs scope of predication are structured according to one and only one action chain configuration. Thus, prediction (16c) arises because the conceptual integration depicted in Figure 2.2 requires that process Ps scope be contained within process Qs scope. For process P to be integrated with the start phase of process Q, it must cohere with the ontological structure evoked by process Q, with the result that processes P and Q must be predicated over a single action chain. So, for example, if Qs action chain defines a participant X as the Agent, i.e. energy source, P cannot be construed with an action chain such that some other participant Y is the Agent, if *P-ese Q* is to receive the sequential reading.

This provides a more informative constraint than the same-subject condition recognized by most descriptive grammars on the sequential use of *-ese*. For example, it precludes the realization of two Patient or Theme entities as well:

(20) *Chelswu-ka sakwa-lul kkakka-se Sungswu-lul ttayli-ess-ta
Chelswu-NOM apple-ACC peel-ESE Sungswu-ACC hit-PST-DEC
'*Chelswu peeled an apple and then hit Sungswu.'

If the two clauses were individually predicated as finite clauses, the apple and Sungswu would take on Theme and Patient roles, respectively, as terminal energy sinks in their respective action chains. An attempt at integrating P into Q's start phase fails if the integration would produce a discontinuity in Q's action chain. This provides an explanation for the unavailability of a sequential reading for (6), reproduced below, despite it meeting all of Lukoff and Nam's conditions in (2).

(21) cha-eyse nayli-taka nemeci-ese pyengwen-ey ka-ss-ta
car-FROM descend-WHILE fall-ESE hospital-LOC go-PST-DEC
'He fell as he was getting out of the car and so he went to the hospital.'

The subject of the unaccusative predicate in the P clause above is a Theme, and is consequently an an energy sink in the action chain. The same participant cannot then be a Mover in the Q clause. Note, however, that if we reverse the order of the predicates, a sequential reading is possible:

(22) pyengwen-ey ka-se cha-eyse nayli-taka nemeci-ss-ta
hospital-LOC go-ESE car-FROM descend-WHILE fall-PST-DEC
'He went to the hospital and then fell as he was getting out of the car.'

In this case, the subject is a Mover in the P clause and a Theme in the Q clause. However, no action chain discontinuity results from the integration. The same cognitive processing is able to account for the puzzling ambiguity of example (8)—reproduced below—where both interpretations were possible. The verb *manna-ta* 'to meet' has two possible construals: in one, the meeting event is deliberately orchestrated by the subject; in the other, the meeting is accidental. In the former case, the subject (the speaker) is an Agent in both clauses. In the latter case, the subject of the P clause is a Theme, whereas in the Q clause it is an Agent. Thus, in that case, the start phase integration of P into Q is excluded, and *-ese* receives a causal reading:

(23) hakkyo aph-eyse chelswu-lul manna-se ku-yayki-lul hay-ss-ta
school front-LOC Chelswu-ACC meet-ESE that-story-ACC do-PST-DEC
'I met Chelswu in front of the school and then told him about it'
'I told Chelswu about it because I met him in front of the school'

Action chains are a way of modeling the energetic interactions between participants in a scene that is sufficiently abstract to provide an elegant account for grammatical phenomena such as case, transitivity, and grammatical relations. For the analysis of *-ese* constructions, however, a more lexically specific approach of participant structure is also needed, for which we appeal to frame semantics (Fillmore 1982, 1985). Along this approach the Q clause verb can be understood as evoking a frame—a schematic conceptual structure that captures how scenarios or situations play out with respect to the participants or objects involved. The structure of that frame then determines what P clause predicates (and the frame structures they evoke) can or cannot participate in the *-ese* integration.

As mentioned previously, examples such as (10) show that not just any plausible sequence of events can be connected with *-ese*, even when the other constraints discussed above are satisfied. In the following examples, (a–c) show a plausible chain of events that can be connected with sequential *-ese*. Sentence (d), which skips a step is unacceptable. However, the acceptability of (e) shows that it is not immediate adjacency in the chain of events that is at issue:

(24) a. John-i pang-ey tuleka-se selap-ul yele-ss-ta
John-NOM room-LOC go.in-ESE drawer-ACC open-PST-DEC
'John went into the room and then opened the drawer.'
b. John-i selap-ul yele-se yenphil-ul kkenay-ss-ta
John-NOM drawer-ACC open-ESE pencil-ACC take.out-PST-DEC
'John opened the drawer and (then) took out a pencil.'
c. John-i yenphil-ul kkenay-se swukcey-lul hay-ss-ta
John-NOM pencil-ACC take.out-ESE homework-ACC do-PST-DEC

'John took out a pencil and then did his homework.'

d. *John-i selap-ul yel-ese swukcey-lul hay-ss-ta
John-NOM drawer-ACC open-ESE homework-ACC do-PST-DEC
'*John opened the drawer and (then) did his homework.'

e. John-i pang-ey tuleka-se swukcey-lul hay-ss-ta
John-NOM room-LOC go.in-ESE homework-ACC do-PST-DEC
'John went into his room and (then) did his homework (there).'

The examples above suggest that the unacceptability of (d) arises from the particular combination of P and Q clauses, since in addition to the acceptability of (e), it is evident from examples (b) and (c), that the P and Q clauses of (d) can be connected with sequential *-ese* independently of each other. Although this restriction may be interesting and perhaps surprising for a connective thought to denote sequentiality, it is unsurprising and predicted by the present model. Because *-ese* is modeled as a conceptual integration where the process P is subsumed into the process Q as its start phase, and where the overall scope of predication, i.e. the evoked background, is determined by the Q clause, the properties of that background determine whether a P clause can be identified as a part of it—in this case, the phase immediately preceding the profiled central part of the process.

Fillmore et al. (2003) recognize certain frame elements, i.e. participants, as being "core," and others as"peripheral," where the former type are elements required for the characterization of the frame they are in. Peripheral frame elements, on the other hand, are shared across many types of frames and do not serve to distinguish one frame from another. Consequently, core frame elements are much more frame-specific, whereas peripheral frame elements tend to encode notions such as PLACE, TIME, MEANS, and MANNER, which are relevant to any event predication. Thus, certain types of P clauses are more flexible than others in terms of being able to participate in this type of conceptual integration. For the examples in (24) above, we would expect the locative P clause in (a), encoding movement to a PLACE, to be more accommodating than the P clause in (b) with respect to an arbitrary Q clause. The P clause in (a) can integrate with a Q clause encoding just about anything that can be done in the specified location and manner: taking a nap, eating a hamburger, reading a book, etc. The P clause in (b), however, is much more restricted. The Q clause predicate must evoke a frame in which the internal argument is a participant, as in (b) where the drawer serves as the SOURCE in the Removal frame evoked by *kkenay-ta* "take out."

Approaching participant structure from both the higher level action chain perspective and the more lexically specific frame semantic perspective allows us make sense of non-prototypical cases that fly in the face of atheoritic descriptive stipulations. The following are examples that clearly violate the same-subject condition on sequential *-ese*:

(25) a. Chelswu-ka namwu-lul ccala-se Sungswu-ka cang-ey ka-ss-ta
Chelswu-NOM wood-ACC cut-ESE Sungswu-NOM store-LOC go-PST-CONJ
phala-ss-ta
sell-PST-DEC

'Chelswu cut the wood and then Sungswu went and sold it.'

b. Chelswu-ka namwu-lul mowa-se Sungswu-ka ccala-ss-ta
Chelswu-NOM wood-ACC gather-ESE Sungwu-NOM cut-PST-DEC.
'Chelswu gathered the wood and Sungswu cut it.'

Example (a) above is identical to (9) presented earlier, except for the absence of kinship terms, and behaves the same way as (9) in receiving a sequential reading despite having different subjects. The availability of the sequential reading thus cannot be attributed to the kinship relation between the subjects. These different-subject sequential *-ese* constructions are licensed by conventional semantic frames that capture complex collaborative activities. For both sentences in (25), the frame is that of producing and selling lumber, which is a complex process involving a group of people in which each person does a particular part of the work. This particular participant structure provided by the commercial lumber frame supports an action chain in which multiple energy sources are profiled, such that each sentence above is still predicated on a single unidirectional action chain. Thus, our model predicts that where frames in which the participants involved operate as interdependent parts of a collective effort, we can expect to be able to find multisubject sequential uses of *-ese*. In line with this prediction, the following is an example from team sports:

(26) Chelswu-ka kong-ul phayssu hay-se Sungswu-ka gol-ul
Chelswu-NOM ball-ACC pass do-ESE Sungswu-NOM goal-ACC
mantule-ss-ta
make-PST-DEC
'Chelswu passed the ball and then Sungswu made a goal.'

Examples like (25) and (26) show that the same-subject condition, as in (2c), is not a syntactic constraint projected by sequential *-ese*. The condition, which has been shown to be more like a useful "rule of thumb," along with its apparent exceptions, derives from constraints on event integration.

2.2.3 Temporal Simultaneity

Thus far, I have developed event integration as a conceptual model, parameterized by aspectual and participant structural properties of the interconnected predicates, to account for the fine semantic boundary between sequential and causal uses of Korean *-ese*. This model was able to explain why existing descriptive generalizations were largely successful as well as to extend empirical coverage over exceptional cases. However, as introduced in Section 2.1.2, there are ways that *-ese* constructions are used in which they are neither causal nor sequential in meaning, where instead the two predicates seem to happen simultaneously. In some cases, there is also the sense that the beginning of process P precedes the beginning of process Q. The following is an example:

(27) kiphi sayngkak hay-se mwuncey-lul phwul-ess-ta
deeply think do-ESE problem-ACC solve-PST-DEC
'Thinking deeply, he solved the problem'

In the example above, the thinking and the solving of the problem occur over the same time duration, and the P clause describes how the Q clause action was accomplished. That the function of the connective is not simply to denote simultaneity can be demonstrated by the fact that the clauses cannot be reversed, e.g. (a) below, whereas both orders are possible for the connective *-myense* (b–c):

(28) a. *mwuncey-lul phwul-ese kiphi sayngkak hay-ss-ta
problem-ACC solve-ESE deeply think do-PST-DEC
'Solving the problem, he thought deeply.'
b. kiphi sayngkak ha-myense mwuncey-lul phwul-ess-ta
deeply think do-while problem-ACC solve-PST-DEC
'While thinking deeply, he solved the problem'
c. mwuncey-lul phwul-umyense kiphi sayngkak hay-ss-ta
problem-ACC solve-while deeply think do-PST-DEC
'While solving the problem, he thought deeply.'

In this section, I examine uses of *-ese* in which the temporal relation between the P and Q clauses is that of nearly co-extensive overlap. In these uses of *-ese*, the P clause specifies the manner in which the Q clause event occurs, as in (27) above, or the means by which the Q clause event is accomplished, which will be examined below. However, I will begin by addressing the question as to how temporal simultaneity can be accommodated by the conceptual integration model.

In the present approach, temporally simultaneous uses of *-ese* are event structure integrations where the P clause process is integrated with the main phase of process Q rather than just the start phase. This model yields the following predictions:

(29) a. Both P and Q must be temporally bounded in their scopes of predication.
b. P must be predicated over Q's participant structure.
c. P must be atelic.

As was the case for sequential *-ese*, and discussed in Section 2.2.2.1, because only temporally bounded processes have internal phases, Q must be temporally bounded. To integrate with a phase internal to another process, the P process must also be bounded. Similarly, as discussed in Section 2.2.2.3, because P is integrated into Q's scope of predication, P must be predicable over Q's participant structure. This integration differs from that for sequential *-ese*, however, in that the target of the integration, the main phase, already contains an event predication with which the P clause process must cohere. If the Q clause process is telic, an attempt at integrating a telic P process would result in a conflict. If the Q clause process is not telic, a telic P could not be predicated over Q's participant structure as it

would require a different action chain. Consequently, P must be atelic.

An interesting consequence of the constraints in (29) is thus that the P clause process must be temporally bounded but atelic. Satisfaction of this constraint is most readily accomplished when the P clause verbs is of the type described in Langacker ([1991] 2002:93) as homogeneous but occurring in "bounded episodes." Such verbs in English include *sleep*, *walk*, *swim*, that are dynamic but result in no change of state. They are perfective in that they are bounded within the scope of predication, but because they are internally homogeneous, their temporal extension is flexible. Since such processes are atelic from a point of view external to the process, the present model predicts that P clauses containing this type of verb cannot participate in a sequential *-ese* integration.

The operation of these constraints can be demonstrated by the behavior of posture verbs in Korean, which, as is cross-linguistically common, have both a telic and an atelic sense. The following example is ambiguous between the sequential and simultaneous senses:

(30) anc-ase chayk-ul ilk-ess-ta
sit-ESE book-ACC read-PST-DEC
'She sat down and then read a book.'
'She sat reading a book.'

The ambiguity is explained on the basis of *anc-ta*'s alternation in telicity. If it receives a telic reading, the sequential reading of *-ese* results; if it receives an atelic reading, the simultaneous reading of *-ese* results. It is not possible to interpret (30), however, such that the reading occurs during the act of sitting down. The following are unambiguous variations of (30) that confirm this analysis:

(31) a. ppalli anc-ase chayk-ul ilk-ess-ta
quickly sit-ESE book-ACC read-PST-DEC
'She sat down quickly and then read a book.'
b. olaystongan anc-ase chayk-ul ilk-ess-ta
long.time sit-ESE book-ACC read-PST-DEC
'She sat reading a book for a long time.'

The adverbs in the sentences above pick out, respectively, the telic and atelic senses of *sit*, yielding two unambiguous *-ese* constructions.

2.2.3.1 Manner and Means

As mentioned earlier, and exemplified in (27), it appears that in most cases where *-ese*'s predicates occur simultaneously the relation between the connected clauses is not merely temporal. A common function of the P clause in such cases is to specify the manner or means by which the Q clause action was accomplished. For example, one subcase of manner specification has to do with the manner of motion.

According to Talmy (2000)'s typology of verb lexicalization patterns, Korean exhibits the "Motion + Path" pattern where the verb root expresses both Motion and Path, but Co-events, such as Manner, are encoded in a Satellite, such as a gerundive. The following is a typical way in which manner is specified:

(32) John-i hakkyo-ey kele ka-ss-ta
John-NOM school-LOC walk go-PST-DEC
'John walked to school'

In the serial verb construction above, the manner satellite *kele* (Manner) and the motion verb *ka-ss-ta* (Motion + Path) cannot be separated by any intervening constituents. Serial verb constructions differ from *-ese* constructions in generating a syntactically mono-clausal structure (Choi 2003). Manner of motion uses of the *-ese* construction have ostensibly the same usage contexts as the serial-verb construction above, but they behave like other *-ese* constructions in exhibiting biclausal behavior, such as in having greater freedom with respect to intervening elements:

(33) John-i kel-ese hakkyo-ey ka-ss-ta
John-NOM walk-ESE school-LOC go-PST-DEC
'John walked to school'

Although there is a range of overlap between manner uses of *-ese* serial verb constructions like (32), there is by no means a straightforward correspondence. For example, (30) above cannot be expressed as a serial verb construction, because the verb does not specify motion:

(34) *chayk-ul anca ilk-ess-ta
book-ACC sit read-PST-DEC
'*She sat reading a book.'

In manner uses of *-ese*, such as (30) and (33), the P clause process integrates with the main phase of the Q clause process as described in Section 2.2.3, and serves to elaborate an underspecified aspect of the Q clause process—specifically, manner. This semantic relation between the P clause and the Q clause predicate can be accounted for by frame semantic role binding. In this case, the P clause fills the MANNER role, which as a peripheral frame element is optionally available in any event frame.

The same analysis can be made for temporally simultaneous *-ese* constructions where the P clause specifies the means by which the Q clause is accomplished. The following is an example:

(35) khemphyuthe-lul sse-se hal swu-iss-nunkey manha-ci-ess-ta
computer-ACC use-ESE do able-be-that be.many-CAUS-PST-DEC
'What you can do with a computer has increased.'

In (35) above, the event structure integration with regard to temporal structure is identical

to that of manner-specifying *-ese* constructions, which is to say that the bounded atelic P clause integrates with the main phase of Q. The difference in meaning arises from differences in frame semantic role mapping.

Consequently, the manner and means uses of *-ese* are best analyzed as compositionally derived rather than as variant *-ese* constructions. Thus, the *-ese* construction simply signals for an event integration of its attached clause to the main clause. Properties of those clauses, such as aspectual structure and frame structure, then interact and constrain the event integration compositionally yielding a number of variations.

2.2.3.2 Causatives in the main clause

Another interesting subtype of temporally simultaneous *-ese* occurs where the Q clause is causative. Causatives in Korean are formed derivationally via suffixes, such as *-li*, *-i*, and *-ci*, that attach to the verb root. The resulting predicates are interesting in that the verb root's original meaning is incorporated only into the final state of the derived process. The predicate as a whole is temporally bounded and telic, but the activity is underspecified with regard to how the end result was achieved. The following is an example with the verb *cwuk-ta* 'dead':

(36) a. cwuk-ess-ta
die-PST-DEC
'It died.'

b. cwuk-i-ess-ta
die-CAUS-PST-DEC
'He killed it.'

c. chong-ul swa-se cwuk-i-ess-ta
gun-ACC shoot-ESE die-CAUS-PST-DEC
'He killed it by shooting a gun.'

d. mangchi-lo ttayli-ese cwuk-i-ess-ta
hammer-INST hit-ESE die-CAUS-PST-DEC
'He killed it by hitting it with a hammer.'

In (c–g) above, as was the case with (12b), the P clause specifies the means by which the Q clause predicate root was accomplished. These examples, however, differ from the type exemplified in (35) in having telic P clause predicates. Consequently, the examples above present a problem for the prediction (c) in (29).

The present event integration model is, however, able to account for the described phenomena. The causative derivational suffix in the Q clause produces an event structure with a final state specified by the result of the verb root. This results in a main phase that is bounded and telic, by virtue of being a phase of a process with an end state, but unspecified with regard to ontological relations. Thus, the causative Q clause allows a telic P clause specifying those relations to be integrated with its main phase such that the Q clause predicate is understood to be the result of the P clause process. It turns out then that prediction

(29c) only holds in the special case where the Q clause has a fully specified main phase. The event integration is, however, the same, and consequently it is not necessary to treat this as a variant *-ese* construction.

One question that could be asked at this point is, what is the difference between this use of *-ese* and the causal one? From the perspective of native speaker intuitions, this is clearly a separate sense. One key difference is that causal *-ese* deals with two conceptually distinct events, whereas in this case the two clauses capture different aspects of what is conceptually a single event.

2.3 Constructional interactions

Thus far we have seen that the event integration model developed for *-ese* appears to make correct predictions with regard to its ability in its various senses to accommodate predicates in its P and Q clauses of varying aspectual and participant structures. In this section, I test the model against *-ese*'s interaction with two grammatical constructions, progressives and negation.

2.3.1 Interaction with progressives

In Cognitive Grammar, the progressive is analyzed as the imposition of an immediate scope internal to a perfective process such that the portion inside the immediate scope is effectively homogeneous (Langacker [1991] 2002). This is represented by the diagram in figure 2.5. In such cases, the process is imperfective with respect to the immediate scope, but perfective with respect to the outer scope.

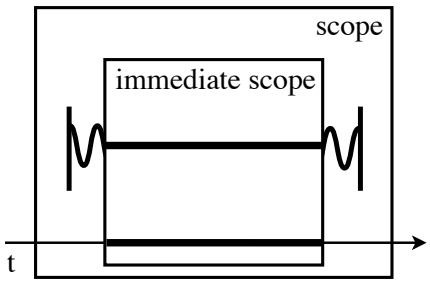

Figure 2.5: Progressive

In Korean, the progressive is formed using a verbal suffix *-ko* followed by the existential verb *iss-ta*. Based on this analysis of progressive aspect, the semantic model for *-ese* constructions presented thus far yields particular predictions with regard to the interaction between *-ese* and progressivization.

2.3.1.1 Progressives in the P clause

Progressivization in the P clause essentially causes it to become imperfective—unbounded within its scope of predication and homogeneously construed. As such, progressivized P clauses conflict with requirements (16a–b) in being unbounded and atelic. Consequently, they are predicted not to occur with the sequential sense of *-ese*. This prediction is borne out:

(37) *John-i cip-ey ka-ko iss-ese kongpwu hay-ss-ta
John-NOM home-LOC go-PRG PRG-ESE study do-PST-DEC
'*John is going home and then studied (there).'

Temporally simultaneous event integration also required that the P clause be temporally bounded. Consequently, we expect the simultaneous uses of *-ese*, whether manner or means, to behave similarly in disallowing progressives in the P clause:

(38) a. *chayk-ul nwue iss-ese ilk-ess-ta
book-ACC lie PRG-ESE read-PST-DEC
'*He read while he was lying down.'
b. *ttwi-ko iss-ese hakkyo-ey ka-ss-ta
run-PRG PRG-ESE school-LOC go-PST-DEC
'*He went to school by being running.'
c. *khemphwuthe-lul ssu-ko iss-ese swukcey-lul hay-ss-ta
computer-ACC use-PRG PRG-ESE homework-ACC do-PST-DEC
'*He did his homework being using the computer.'
d. *tol-ul tenci-ko iss-ese changmwun-ul kkaythu-li-ess-ta
stone-ACC throw-PRG PRG-ESE window-ACC shatter-CAUS-PST-DEC
'*He broke the window by being throwing a stone.'

In contrast, since causal *-ese* allows imperfective processes in its P clause, we predict it to allow progressivized P clauses:

(39) cip-ey ka-ko iss-ese cyenhwa-lul an pat-napota
home-LOC go-PRG PRG-ESE phone-ACC NEG receive-CJTR
'I guess he's not picking up because he's still on his way home.'

2.3.1.2 Progressives in the Q clause

It is worth noting that in the previous section, it was assumed that in the P clause, the *-ese* construction would apply after the progressive, which is reasonable based on the morpheme order. Based on the requirements of the sequential and simultaneous *-ese* integration types, if progressives in the Q clause were to apply prior to the integration, we would expect the same pattern as for progressives in the P clause, as integration was precluded for unbounded Q clause processes. That pattern corresponds semantically to the case where the progressive

scopes only the Q clause process, but is difficult to isolate empirically due to the possibility of the other pattern, which is that progressives in the Q clause apply after the integration. In this section, I examine and test the predictions of the event integration model assuming the latter pattern.

It has been proposed by others, e.g. Narayanan (1997), Lakoff & Johnson (1999), that the progressive (or present imperfect), focuses only on the main part of the overall process. For the sequential sense of *-ese*, the present analysis predicts that the sequential semantics will be preserved and that the progressive semantics will target only the Q clause process. This is because the P clause process is integrated with the start phase of the Q clause, while progressivization targets only the main phase of Q. The following example fulfills these expectations:

(40) John-i cip-ey ka-se kongpwu ha-ko iss-ta
John-NOM home-LOC go-ESE study do-PRG PRG-DEC
'John went home and is studying (there).'

In the example above, the trip home was completed, and what is in progress is the studying. The conceptual structure for (40) is illustrated in Figure 2.6. The diagram shows that for sequential *-ese*, because the P clause process is integrated into the start phase of Q, it is not represented in the immediate scope imposed by the progressive on the main phase of Q.

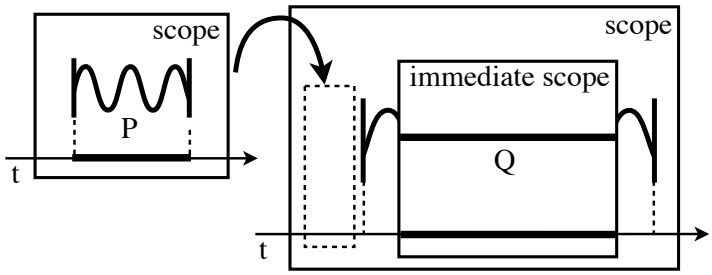

Figure 2.6: Sequential *-ese* and Q clause progressivization

For the temporally simultaneous uses of *-ese*, however, the expectations are different. For typical manner and means specifying *-ese* constructions, because the P clause event is co-extensively integrated with the main phase of the Q clause, the model predicts that progressivization in the Q clause will target both processes. This prediction is borne out in the following examples:

(41) a. chayk-ul nwue-se ilk-ko iss-ta
book-ACC lie-ESE read-PRG PRG-DEC
'He is reading while lying down.'
b. ttwi-ese hakyo-ey ka-ko iss-ta
run-ESE school-LOC go-PRG PRG-DEC
'He is going to school by running.'

c. khemphwuthe-lul ssu-ese swukcey-lul ha-ko iss-ta
computer-ACC use-ESE homework-ACC do-PRG PRG-DEC
'He is doing homework using the computer.' In all the examples convey that both the P and Q clauses processes are in progress. The resulting conceptual structure is illustrated in Figure 2.7, which shows that because the P clause process is integrated with the main phase, both the P and Q clause processes are represented in the immediate scope imposed by the progressive.

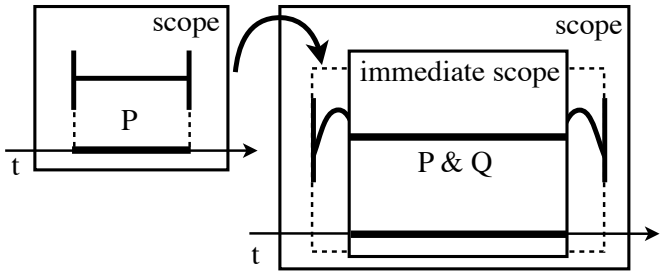

Figure 2.7: Simultaneous *-ese* and Q clause progressivization

In the case of causatives in the Q clause, the main phase is occupied only by the P clause process and the Q clause verb root specifies the end state. Thus, the model predicts that progressivization in the Q clause will target the P clause process:

(42) tol-ul tenci-se changmwun-ul kkaythu-li-ko iss-ta
stone-ACC throw-ESE window-ACC shatter-CAUS-PRG PRG-DEC
'He is (in the middle of) throwing a stone and breaking the window.'

In the sentence above what is in progress is not the actual shattering of the window, but the process leading up to it.

Finally, the present analysis predicts that the causal sense of *-ese* should be compatible with a progressivized Q clause:

(43) paykopha-se lamyen-ul kkuli-ko iss-ess-ta
hungry-ESE ramen-ACC boil-PRG PRG-PST-DEC
'He was making ramen because he was hungry.'

In contrast to the simultaneous *-ese* cases, because with causal *-ese*, the P clause is predicated as a separate event, our model predicts that the progressive semantics should affect only the Q clause process. That expectation is also satisfied by the example above.

2.3.2 Interaction with main clause negation

Because the effect of negation in the P clause of *-ese* constructions has already been discussed, in this section I examine the interaction between *-ese* constructions and negation in the main,

or Q, clause. Korean has two grammatical forms of negation—long-form and short-form. Both the sequential and causal uses of *-ese* allow long-form negation in the main clause to target the dependent clause rather than the main clause. This is shown by the two possible readings for each of the following sentences:

(44) a. key-ney cip-ey ka-se kongpwu ha-ci anh-ass-eyo
he-POSS house-LOC go-ESE study do-COMP NEG-PST-DEC.POL
i. 'I went to his house and didn't study there.'
ii. 'I didn't go to his house and study there (i.e. I studied somewhere else)'

b. swukcey-ka manh-ase key-ney cip-ey ka-ci
homework-NOM many-ESE he-POSS house-LOC go-COMP
anh-ass-eyo
NEG-PST-DEC.POL
i. 'Because I had a lot of homework, I didn't go to his house'
ii. 'I didn't go to his house because I had a lot of homework (but for some other reason)'

Short-form negation in the Q clauses of sequential and causal *-ese* constructions, on the other hand, behave differently. Sequential *-ese* allows negation to scope the dependent clause, but causal *-ese* does not allow:

(45) a. key-ney cip-ey ka-se kongpwu an hay-ss-eyo
he-POSS house-LOC go-ESE study NEG do-PST-DEC.POL
i. 'I went to his house and didn't study there.'
ii. 'I didn't go to his house and study there (i.e. I studied somewhere else)'

b. swukcey-ka manh-ase key-ney cip-ey an ka-ss-eyo
homework-NOM many-ESE he-POSS house-LOC NEG go-PST-DEC.POL
i. 'Because I had a lot of homework, I didn't go to his house'
ii. '*I didn't go to his house because I had a lot of homework (but for some other reason)'

Negation of temporally simultaneous *-ese* constructions behaves the same as for sequential *-ese* constructions. Both forms of negation can target either the main clause or the dependent clause:

(46) a. chayk-ul nwuwe-se ilk-ci anh-ass-ta
book-ACC lie-ESE read-COMP NEG-PST-DEC
'I didn't read book while lying down (but while doing something else).'

b. chayk-ul nwuwe-se an ilk-ess-ta
book-ACC lie-ESE NEG read-PST-DEC
'?I didn't read book while lying down (but while doing something else).'

This pattern of behavior with respect to negation can easily be explained by the proposed event integration model if we understand short-form negation as process-internal negation,

and long-form negation as imposing a new scope in which relations outside the scope of the main verb process can also be targeted. With both sequential *-ese* and simultaneous *-ese*, the event integration brings the P clause process into the scope of the Q clause process. Thus, short-form negation is able to target and negate the P clause process. Since for causal *-ese*, the P clause process remains outside the scope of Q, it cannot be targeted by short-form negation. On the other hand, long-form negation, which operates outside the scope Q is able to target the P clause process in either case.

2.4 Relative time

In this section, I present an analysis of the relative time sense of *-ese* in light of the event integration model. This use of *-ese* itself divides into two types, which are illustrated by the examples below:

(47) a. yeltwusi-ka cina-se cip-ey tolao-ass-ta
12.oclock-NOM pass-ESE home-LOC return-PST-DEC
'He returned home just past midnight.'
b. ku ai-nun elye-se ttokttok hay-ss-ta
that child-TOP very.young-ESE smart be-PST-DEC
'When he was very young, that child was smart.'

The first type, represented by (a) above, bears striking resemblance to the sequential *-ese*, in that the Q clause occurs immediately after the time profiled by the P clause. Interestingly, this construction does not require the subjects to be the same. Nonetheless, the event integration model is able to account for these in the same way as sequential *-ese*. Cognitive grammar differentiates between participants and the setting, such that aspects of the setting do not participate in the action chain Langacker ([1991] 2002:230). Thus, for P clauses that make purely temporal predications, the only factor affecting their ability to integrate into the start phase of a Q clause process are telicity and temporal boundedness, which (47a) satisfies.

In addition to the subjects being different, this type of relative time *-ese* also caused problems for earlier analyses because it permits negation in the P clause. A couple examples are presented below:

(48) a. yeltwusi-ka an cina-se cip-ey tolao-ass-ta
12.oclick-NOM NEG pass-ESE home-LOC return-PST-DEC
'He returned home just before midnight.'
b. seysi-ka an toy-se swukcey-lul kkuthnay-ss-ta
3.oclock-NOM NEG become-ESE homework-ACC finish-PST-DEC
'I finished the homework just before 3 o'clock.'

These examples do not pose a problem for the the present model because the P clauses still profile points in time. In both metaphorical conceptualizations of time, the non-occurrence

of an event—the passing of time in (a) and the change of state in (b)—maps in the target domain of time to a point before the reference point. Thus, for example, in (a) negation in the P clause has the effect of profiling a time just prior to midnight rather than midnight itself.

This analysis is supported by the relative time *-ese* construction's interaction with progressivization. The following examples show progressivized P and Q clauses respectively:

(49) a. yeltwusi-ka cina-ko iss-ese cip-ey tolao-ass-ta
12.oclock-NOM pass-PRG PRG-ESE home-LOC return-PST-DEC
'*He returned home just as it was passing midnight.'
'He returned home because it was passing midnight.'
b. yeltwusi-ka cina-se cip-ey tolao-ko iss-ess-ta
12.oclock-NOM pass-ESE home-LOC return-PRG PRG-PST-DEC
'He was returning home after it passed midnight.'

For (49a), a relative time reading is not available, and it is only possible to interpret the sentence as expressing a causal relation. For (49b), as was the case with sequential *-ese*, a progressive Q receives the reading that the P clause event has completed, but that the Q clause event is still in progress.

The other type of relative time *-ese*, shown in (47b), seems similar to simultaneous *-ese* constructions, at least in comparison to (47a), in that the qualities mentioned—youth and intelligence—occur simultaneously over some stretch of time. However, this *-ese* construction does not interact with negation in the same way:

(50) a. ku ai-nun elye-se an ttokttok hay-ss-ta
that child-TOP very.young-ESE NEG smart be-PST-DEC
'When he was very young, that child was not smart.'
b. ku ai-nun elye-se ttokttok ha-ci anh-ass-ta
that child-TOP very.young-ESE smart be-COMP NEG-PST-DEC
'When he was very young, that child was not smart.'

Unlike simultaneous *-ese* constructions, in (50), negation in the Q clause is able to independently target the Q clause predicate. Although it is difficult, given the narrow contexts that license this sense, to ascertain whether negation can also target the P clause's relation to the main clause, the following examples suggest that it is possible:

(51) a. ttokttok ha-ki-nun hay-ss-nuntey, ku salam-un elye-se
smart be-NMZ-TOP be-PST-but, that person-TOP very.young-ESE
an ttokttok hay-ss-ta
NEG smart be-PST-DEC
'Smart he was, but not when he was young.'
b. ttokttok ha-ki-nun hay-ss-nuntey, ku salam-un elye-se
smart be-NMZ-TOP be-PST-but, that person-TOP very.young-ESE

ttokttok ha-ci anh-ass-ta
smart be-COMP NEG-PST-DEC
'Smart he was, but not when he was young.'

In the examples above, short and long form negation produce the same reading. In contrast to the pattern for causal *-ese*, short form negation is able to target the relation between the clauses. This latter type of relative time *-ese* further diverges in behavior from causal *-ese*, as well as from the former type of relative time *-ese*, in not allowing negation in the P clause.

According to Nam (1994), this type of relative time *-ese* often occurs in the context of advice-like suggestions:

(52) a. sayngsen-un singsing hay-se mek-nun-ta
fish-TOP fresh be-ESE eat-PRES-DEC
'You eat fish while it is fresh.'

b. celme-se yelsimhi kongpwu-lul hay-la
young-ESE diligently study-ACC do-SUG
'Study hard while you are young.'

The examples above, however, behave differently than (47b) with respect to negation. Although both sentences below are pragmatically implausible, they show that the Q clause cannot be independently negated with either short form or long form negation:

(53) a. ?wuli-nun sayngsen-un singsing hay-se an mek-nun-ta
we-TOP fish-TOP fresh be-ESE NEG eat-PRES-DEC
'?We eat fish while it is not fresh.'
'*While the fish is fresh, we don't eat it.'

b. ?wuli-nun sayngsen-un singsing hay-se mek-ci anh-nun-ta
we-TOP fish-TOP fresh be-ESE eat-COMP NEG-PRES-DEC
'?We eat fish while it is not fresh.'
'*While the fish is fresh, we don't eat it.'

The sentences above are implausible because they claim that the speakers eat fish while it is rotten. Thus, while negation is able to affect the condition of the fish when it is eaten, its being eaten is unchallenged—a pattern that was characteristic of simultaneous *-ese*.

This type of relative time *-ese* is also distinguished from the first type represented by (47a) in that the P clauses in these expressions are not strictly time predicates. Similar to (47b), the P clauses cannot be negated as in (50) while still retaining the relative time interpretation. However, they appear nonetheless restricted to expressions that are in some way inherently temporal. For example, the following are unacceptable:

(54) a. *hankwuk-ey sala-se ttokttok hay-ss-ta
Korea-LOC live-ESE smart be-PST-DEC
'*While living in Korea, he was smart.'

b. *ttokttok hay-se yelsimhi kongpwu-lul hay-la
smart be-ESE diligently study-ACC do-SUG
'*Study hard while you are smart.'

The sentences above could be interpreted causally—though they would all sound strange—but they cannot be interpreted in the relative time sense. A relevant detail might be that the P clauses of all three expressions (47b) and (52a–b) seem to pick out an inherently temporally bounded aspect of a participant in the main clause. Being young, as in (47b) and (52b), as well as freshness, as in (52a), have natural, time-based expiration as a property central to their predication. Natural, time-based expiration is not a property of the P clauses in (54). If we take this as sufficient to establish boundedness in the conceptualization of the P clause, the examples in (52) could be analyzed as main phase integrations, in the same way as temporally simultaneous *-ese*, which would also be coherent with their behavior with respect to negation.

The relative time use of *-ese*, examined on the basis of the event integration model developed in this paper, thus appears to divide into at least three types. Although further empirical work is needed for a comprehensive analysis, especially for the type represented by (47b), which is able to connect two stative predicates, the present framework was relate this use of *-ese* to its other uses, and make sense of a number its apparent idiosyncrasies.

As was the case for the manner and means uses of *-ese*, the relative time semantics of *-ese* can be viewed as arising through frame semantic role mapping, rather than from the construction's conventionalized meaning. We have already encountered frame semantic role mapping operating independently of whether the integration was of the start phase or main phase type. For example, (24) in Section 2.2.2.3 shows roles such as PLACE, INSTRUMENT, and SOURCE mapped to P clause participants in the case of sequential *-ese*. It may be the case that certain roles, such as TIME, are able to map to both start and main phase integrated entities, while other ones, such as MANNER, may not. From this investigation into the semantics of *-ese* constructions, it appears that the interaction between event integration and frame semantic role mapping is principled but lexically specific, thus making it difficult to characterize its semantics without reference to a cognitive model.

2.5 Conclusion

In this chapter, I developed a predictive model for Korean *-ese*'s pattern of polysemy using a combination of independently motivated cognitive linguistic mechanisms. Based on this approach, the connective *-ese* represents an operation yielding a configuration of conceptual event structures: juxtaposition for its causal sense, and integration for the others. Event integration, which integrates two event predications into a single composite event predication, was found to break down further based on whether the integration target was a start or main phase, yielding sequential or simultaneous temporal relations. These variations are shown in Figure (2.8).

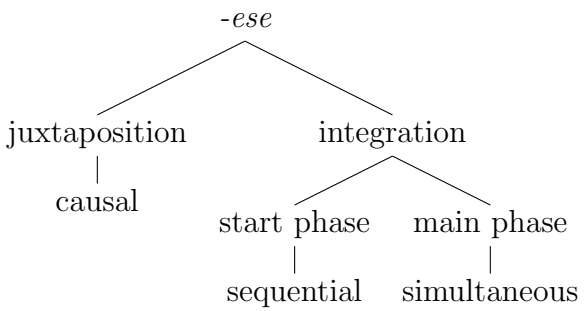

Figure 2.8: *-ese*'s event structure configurations

An important facet of this model, pertaining to the ontology of event structure, was that although events may be related sequentially or causally (or presumably in other ways as well), event-internal phases are only structured sequentially. Because phases are parts of a single event predication, event integration was found to be highly sensitive to properties of the joined predicates. Factors that influenced the outcome of *-ese*'s event integration included temporal boundedness, telicity, and participant structure. With regard to participant structure, the relevant factors were predicability over the same action chain and frame structure. The model allowed for bidirectional interaction between event integration and frame structure. Participant structure as determined by the frames evoked could serve to constrain the event integration. However, within constraints imposed by the event integration, frame semantic role mapping could lead to *-ese* constructions conveying manner, means, or relative time. This approach was found to be successful in accounting for a number of previously acknowledged descriptive difficulties. It furthermore provides an explanation for the particular convergence of behaviors exhibited by the connective as well as a basis for comparison with other connectives that bundle similar but different behaviors.

The integration of processes with respect to internal phases raises questions as to what types of integrations are possible and how such integrations might interact with phase altering operations. For example, it was demonstrated in Section 2.2.3.2, that a causative suffix could alter a telic Q clause process to allow for the integration of a telic P clause process into its main phase. Furthermore, the present chapter presented examples of integrations involving the start and main phases of the Q clause process, but one not in which the integration targets the finishing phase. Although the proposed model preclude this latter pattern as a possibility, it is not attested in *-ese*'s polysemy network. These questions thus invite further investigation with a larger, cross-linguistic sample of connective constructions.

Chapter 3

Space building and Korean *-unikka*

3.1 Overview

In this chapter, I present a semantic-pragmatic analysis of *-unikka* constructions based on Mental Spaces Theory (Fauconnier 1985, Sweetser & Fauconnier 1996, Dancygier & Sweetser 2005). This approach allows us to tackle a number of descriptive challenges surrounding *-unikka* in a way that accounts for and explains its particular convergence of behaviors. An additional result is a useful semantic model for the purposes of comparison to other connectives. As such, throughout the chapter, *-unikka*'s pattern of behavior is contrasted with that of *-ese*, as discussed in the previous chapter. Despite that they are both typically classified as causal connectives, and thought to be similar, we find that the connectives differ radically in terms of the conceptual mechanisms behind their semantics and, consequently, how they are used.

3.1.1 Background on *-unikka*

The connective suffix *-unikka* has received much attention in Korean linguistics, especially in comparison to *-ese*, because of the difficulty that both linguists and language instructors have had in characterizing its meanings and uses. It has been observed by many researchers that both connectives exhibit a pair of meanings roughly characterizable as Temporal Sequence and Causality (Lukoff & Nam 1982, Sohn 1993, Kim 1994). The following are examples of clauses connected by *-ese* and *-unikka* in each of the two senses, respectively:

(1) a. John-i collye-se naccam-ul ca-ss-ta
John-NOM be.sleepy-ESE nap-ACC sleep-PST-DEC
'John took a nap because he was sleepy.'

b. John-i salap-ul yele-se pyenci-lul kkenay-ss-ta
John-NOM drawer-ACC open-ESE letter-ACC take.out-PST-DEC
'John opened the drawer and (then) took out a letter.'

(2) a. John-i cam-ul an ca-nikka kongbu-lul cyeytaylo mos
John-NOM sleep-ACC NEG sleep-UNIKKA study-ACC properly NEG
ha-ci
do-SUP
'John can't study properly because he doesn't sleep.'

b. John-i nayngcangko an-ey po-nikka wuywu-ka chwungbwuni
John-NOM refrigerator inside-LOC see-UNIKKA milk-NOM plenty
iss-tey
exist-HEARSAY
'John looked in the refrigerator and says there's plenty of milk.'

Much attention has been directed toward understanding the differences between the causal uses of *-ese* and *-unikka*. Ree (1977:180) characterizes *-ese* as "providing a direct reason for the main clause" whereas *-unikka* "has to do with the speaker's knowledge, belief, or assertion." Lukoff & Nam (1982:559) argue that the distinction between *-ese* and *-unikka* is one of "cause" vs. "reason." Lee (2002) proposes a scalar typology of conjunctions along a "conceptual/inferential" scale, where *-ese*'s causality is more "conceptual" and *-unikka*'s causality is more "inferential." Similarly, Sohn (1993) characterizes the two connectives in terms of the "structural" vs. "phenomenal" semantic distinction proposed in Goldsmith & Woisetschlaeger (1982), in which the former pertains to how the world is constructed objectively and the later to how people perceive or experience it.

All these approaches to capturing the distinction between *-ese* and *-unikka*, however, suffer from a lack of theoretical underpinning. It is unclear how a "cause" vs. "reason" distinction or a "structural" vs. "phenomenal" distinction can be represented in terms that relate to other aspects of Korean grammar or to language in general. Thus, although these distinctions are descriptively useful in pointing to the existence of certain generalizations, they do very little in terms of explaining them. For example, it is widely recognized that *-ese* and *-unikka* are by and large not interchangeable in the contexts in which they appear. Sohn (1993:84) shows that the pattern divides along the lines of the content, epistemic, and speech act levels described in Sweetser (1990):

(3) a. pi-ka o-nikka/ase chwup-ta.
rain-NOM come-UNIKKA/ESE cold-DEC
'It was cold because it rained'

b. onul suni-ka hakkyo-ey anh o-ass-unikka/*ase aphun key
today Suni-NOM school-LOC NEG come-past-UNIKKA/ESE sick COMP
thullimeps-ta.
sure-DEC
'Suni must be sick today because she didn't come to school.'

c. pi-ka o-nikka/*ase naka-ci ma.
rain-NOM come-UNIKKA/ESE go.out-COMP NEG.IMP
'Don't go outside, because it's raining.'

In (3a), the causal relation is in the content domain, and thus the rain is the cause of the coldness. In (3b), however, Suni's absence at school does not cause her illness; rather, her absence at school causes the speaker to conclude that Suni must be sick. Similarly, the rain in (3c) causes the speaker to issue the command not to go outside and is operative in the domain of speech acts. Example (3) suggests that *-ese* is limited to causal assertions at the content level.

A similar pattern arises when comparing English *because* constructions with and without comma-intonation with respect to the content, epistemic, and speech act levels:

(4) a. Bill ate a hamburger because he was hungry.
b. Bill ate a hamburger, because he was hungry.

(5) a. *Bill must be home because I see a light on.
b. Bill must be home, because I see a light on.

(6) a. *Let's go home because I need to do homework.
b. Let's go home, because I need to do homework.

Sweetser (1990) explains the above pattern as an interaction between independently motivated properties of clauses marked by comma intonation (clause-final drop in intonation) and properties of the three levels. Chafe (1984) observes that without comma intonation, the main clause in a *because* construction is presupposed and only the causal relation is asserted. However, a main clause with comma intonation is interpreted as being independently asserted. Sweetser argues that conclusions and speech acts are necessarily assertive, and as such, *because* clauses without comma intonation, and thus without assertive main clauses, are limited to the content domain. She shows that this interaction between comma intonation and the content, epistemic, and speech act levels holds for a variety of different connectives.

The need for a finer-grained, theoretically motivated analysis is demonstrated by Oh's (2005) findings in a corpus-based study of the distribution of *-ese* and *-unikka* in actual usage. Oh argues that the relationship between *-ese* and *-unikka* and the usage levels is not as clear-cut as it appears in (3) above. Adding a textual/discourse level[1] proposed by Crevels (2000) to the three levels described by Sweetser (1990), he argues that both connectives are used at all four levels, but at differing levels of preference. The results are shown in Table 3.1.

The question arises then as to why the distribution of usage along the different levels occurs as shown. What is it about *-unikka* such that it can be used in all four levels, but appears to disfavor the content level? What is it about *-ese* that steers its preference strongly toward the content level?

[1]The textual/discourse level—not to be confused with metalinguistic level discussed in Dancygier & Sweetser (2000)—refers to cases where an *-unikka* clause is used without a main clause, and where it appears to address or modify some other part of the discourse.

-(e)se	content	epistemic	illocution	textual
spoken (142)	64%	11%	7%	18%
written (164)	77%	16%	5%	2%

-(u)nikka	content	epistemic	illocution	textual
spoken (190)	16%	23%	25%	36%
written (63)	16%	41%	17%	25%

Table 3.1: *-ese* and *-unikka* token frequency in *Sejong* spoken and written corpora

3.1.2 Summary

At least some of the difficulty encountered in analyzing these connectives stems from approaching the semantics of connectives without a sufficiently sophisticated conceptual model. If *-ese* and *-unikka* are, at some fundamental level, simply conjunctions with a primitive meaning CAUSE it is unclear where in the theory one could locate the sources of the apparent complexity in the way that these connectives are used. The present approach, framed in Mental Spaces Theory (MST), models *-unikka* as a space builder which yields its two primary senses as parametric variations—the sequential sense arising where *-unikka* builds a new mental space, and the causal sense where *-unikka* evokes an already structured mental space. These mental spaces are positive in epistemic stance and serve as presupposed background to a main clause predication—in some cases by establishing an embedded perspective. In addition to explaining the multi-domain behavior of *-unikka*, the analysis accurately predicts *-unikka* constructions to have other uses—such as topic marking and independent discourse functions.

The previous chapter analyzed *-ese* constructions in terms of conceptual integration between event structures or between phases of event structures. As we look closely at *-unikka* with the properties of that model as a basis of comparison, it becomes clear how *-unikka*'s cognitive implementation causes it to deal with the perception of events rather than the events themselves. Although in some cases, *-ese* and *-unikka* seem quite similar in meaning, the present approach argues that they arise via very different cognitive mechanisms.

3.2 The sequential sense of *-unikka*

As shown in (3) above, besides the causal sense in which *-unikka* constructions are used, they are used in another sense which is difficult to describe unequivocally. Lukoff & Nam (1982:561) characterize this sense as "narrating a process of discovery" whereby, given a *P-unikka Q* construction, the discovery of Q follows the scene described in P. Similarly, Pak (1989:138) describes this sense of *-unikka* as "the speaker's past/present act resulting in the direct perception of the reality of the referential object in the main independent clause."

The following are examples of this sense of *-unikka* offered by Lukoff & Nam (1982) and Pak (1989), respectively:

(7) a. pakk-ul nayta-po-nikka chelswu-ka twule-o-te-la
outside-ACC out-see-UNIKKA Chelsu-NOM enter-come-EVID-DEC
'When I looked outside, I saw Chelsu come in.'

b. ecey cip-ey ka-nikka ulci-ka wa iss-ess-e
yesterday home-LOC go-UNIKKA Ulci-NOM come exist-PST-DEC
'Yesterday when I went home, Ulci had come.'

The evidential marker *-te* marks its clause as past sensory observation (Song 2002), and occurs often with *-unikka* in conversational narratives of past events.

Kim (1994) characterizes this sense of *-unikka* as expressing Temporal Sequence comparable to that of *-ese*. A difference, she suggests, is that *-ese* constructions express only "necessary sequences" whereas no such condition is required by *-unikka*.[2] Two events occur in "necessary sequence" if whenever they co-occur, they must occur in the given sequence. She provides the following example as a case where *-unikka* in (a) cannot be replaced with *-ese* without resulting in unnatural discourse (pg. 502–503):

(8) a. hanphen, ku pay-lul tta-ko iss-ten Mexican-i
on.the.other.hand the pear-ACC pick-CONN be-ATTR Mexican-NOM
naylyewa po-nikka
get.down see-UNIKKA

b. pakwuni katuk tule iss-ten pay-ka epsecye-ese
basket full put be-ATTR pear-NOM disappear-CAUSE

c. elitwungcelhay hako iss-nuntey,..
embarassed get be-CIRCUM
'On the other hand, as the Mexican who was picking the pears came down and saw (the baskets), (but) the basket which was full of pears had disappeared, so/and thus (he) got embarrassed...'

Kim also claims that in (8a), at the point where *-unikka* is used, the speaker takes on the viewpoint of the Mexican "as if the speaker himself is at the deictic center" (pg. 503). This would be more clearly evident if sentence (b) above contained a deictic expression as follows:

(9) [oren-ccok/hansikan-cyen-ey] pakwuni-ey katuk tule iss-ten pay-ka
right-side/one.hour-ago-LOC basket-LOC full put be-ATTR pear-NOM
epsecye-ese
disappear-CAUSE

[2]In chapter 2, the Temporal Sequence semantics of *-ese* was proposed to derive from the phased internal structure of verbal processes. Since the start phase necessarily precedes the main phase, the observation that *-ese* imposes a seeming necessity to the sequence is not difficult to explain. Given the heterogeneity of possible types of events, it seems unlikely, however, that "necessity" of sequence could hold up as a generalization apart from contextualization relative to frame structures.

'...the basket [on the right/which an hour ago] which was full of pears...'

In (9), the directional meaning 'on the right' would be understood as relative to the orientation of the Mexican just as he had come down to look for the pears. The time expression meaning 'an hour ago' would also be evaluated relative to that point in time. Thus, an answer to the question of interest—what is the basis of the sequential meaning of *-unikka*?—must also account for this apparent shift in perspective.

3.2.1 A mental spaces analysis

The deictic shift that characterizes sequential *-unikka* argues for a different approach toward an analysis than for *-ese* in the previous chapter. This is because *-unikka* pertains to the relation between an object of perception and the perceiver, rather than strictly between objects of perception themselves. This can be illustrated by reference to the stage model described by Langacker ([1991] 2002:211), which is shown in Figure 3.1. Given certain

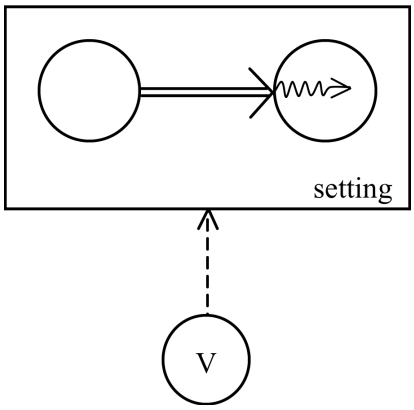

Figure 3.1: The stage model

objects of perception, i.e. the setting, matters pertaining to whose perception it is (V) and the conditions characterizing the act of perception are aspects of grounding. Although to a certain extent a viewpoint does affect what can be perceived, sequential *-unikka* primarily helps to situate its main clause relative to the ongoing discourse, and thereby, ultimately, to the discourse participants.

Mental Spaces Theory (Fauconnier 1985, Sweetser & Fauconnier 1996) provides a powerful framework for modeling the conceptual activity of discourse participants in terms of constructing and connecting different kinds of mental content. Thus, the theory crucially distinguishes between linguistic cues that serve to elaborate on content within a mental space and those that build up or establish relations between spaces. Mental spaces are structured cognitive domains similar to possible worlds, but only partially structured, and more general in allowing for domains that are not world-like at all—e.g. the domain of a restaurant menu

(Sweetser & Fauconnier 1996:3). As mental spaces are built up and evoked through the unfolding of discourse, what results is a lattice-like conceptual structure, shared between the interlocutors, in which mental content is situated relative to other content, and ultimately to the speech context. Thus, the possibility of evoking previously created and structured mental spaces is also a key distinction necessary for modeling discourse.

The present analysis of *-unikka* is based on Dancygier & Sweetser's (2005) approach to English conditionals in which they present a number of constructional parameters that systematically characterize the ways in which conditionals, such as *if*, *when*, and *since*, set up or manipulate mental spaces. I integrate this approach with Sanders et al.'s (2009) Basic Communicative Spaces Network (BCSN), in which the Base space is broken out into a number of spaces that are always automatically available in any communicative interaction. Crucially, the spaces are differentiated by the explicitness or implicitness of the subject of consciousness (SoC). Epistemic and speech act spaces (as well as metalinguistic spaces) have implicit, offstage SoCs, while content spaces have either explicit SoCs or none at all. Using the BCSN, Sanders et al. (2009) were able to account for the complex ways in which subjectivity ties into the use of Dutch causal connectives *daarom*, *dus*, and *daardoor*.

Based on these frameworks, I propose that sequential *-unikka* builds a new mental space that serves as the viewpoint-embedded background for the clause that follows it. The main clause elaborates a separate mental space that is construed relative to that viewpoint. An important facet of this analysis is that the viewpoint belongs to an explicit SoC in the background space. Similar to the analysis of *when* in Dancygier & Sweetser (2005), *-unikka* builds background toward which a positive epistemic stance is taken, and like *when*, the content of *-unikka* clauses is presupposed rather than asserted.

The effect of positive epistemic stance is illustrated by the contrast between predictive *if* and *when*, which both signal the creation of new mental spaces, but which differ in their epistemic stance. Consider the following sentences:

(10) a. If Sherlock solves this case, he will become the most famous detective ever.
b. When Sherlock solves this case, he will become the most famous detective ever.

Predictive *if* is neutral in epistemic stance toward its protasis. The resulting mental space configuration, shown in Figure 3.2, shows—in addition to the possible future space in which Sherlock solves the case and its extension where he becomes the most famous detective—an alternative space in which Sherlock fails to solve the crime and its extension where he does not become famous. In contrast, predictive *when* constructions take a positive epistemic stance toward the content of the *when* clause. Since, as Dancygier & Sweetser (2005:47) points out, "a clause which serves to build background towards which a positive stance is taken is by nature presupposed," the content of *when* clauses is presupposed. This results in the prediction being expressed as a certainty. Consequently, as shown in Figure 3.3, predictive *when* constructions do not signal the building of alternative spaces.

Returning to the analysis of *-unikka*, given a sequential *P-unikka Q* construction, the P clause elaborates a content space with new information detailing the way in which an explicit

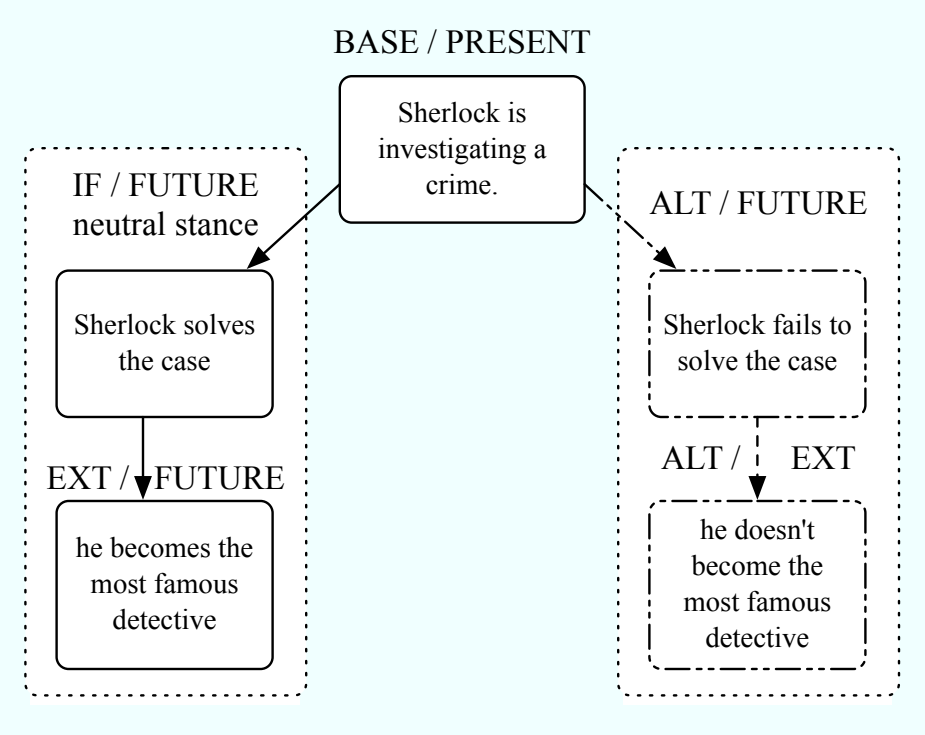

Figure 3.2: Mental spaces for *if* predictive conditionals

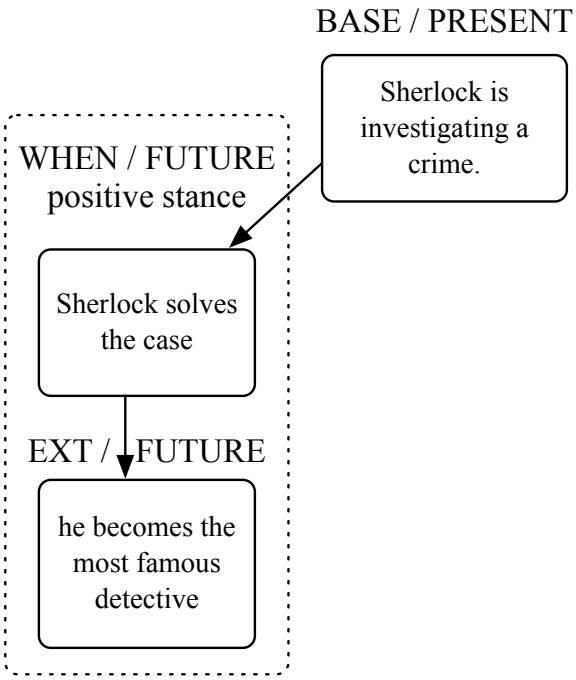

Figure 3.3: Mental spaces for *when* predictive conditionals

SoC comes to a point of perception. The Q clause elaborates a separate mental space with the perceptual content of the perception event described in the P clause. This SoC is often the speaker, as in (7a–b), but can be another subject of consciousness present in the scene, as in (8a). The P clause content is presented as presupposed background that serves to situate the Q clause content. The perceptual content is grounded in the perception event of the P clause, and through that ultimately to the speech content. Figure 3.4 diagrams the mental space configuration for example (7a). Space construction begins in the speech act space where the communicative interaction is modeled. The use of *-unikka*, results in the construction of a content space where the perceptual event is linked to an explicit SoC, in this case the speaker. As epistemic stance toward this space is positive, no alternative spaces are constructed, as was the case for *when* in Figure 3.3. The main clause content is then expressed in an embedded content space as the perceptual content of the backgrounded perceiving event. Thus, sequential *-unikka* is a space builder and signals the building up of a particular kind of mental space structure.

Based on this analysis, the sequential aspect of *-unikka*'s semantics arises from the fixed temporal relationship between the establishing of a viewpoint and the ensuing observation, which is that the viewpoint is established first, and then the observation follows. Since viewpoints do not determine what events actually unfold, the analysis makes sense of Kim's (1994) intuition that there is no "necessity" to the sequences marked by *-unikka*. Thus, through the establishing of an embedded perspective, the mental spaces model above is able to account for the deictic shift accompanying *-unikka*'s use, as well as for the various attempts mentioned above at describing the subjective quality of its sequentiality. In the following section, I show how this model also accounts for sequential *-unikka*'s complex pattern of interaction with regard to tense, aspect, modality, and evidentiality marking.

3.2.2 Interaction with tense, aspect, modality, and evidentiality

Much like sequential and causal *-ese*, sequential *-unikka* does not allow tense, aspect, modality, or evidentiality marking (TAME) in the P clause. This pattern receives a straightforward explanation under the present account. Because *-unikka* signals the construction of a particular type of mental space structure, linguistic items giving conflicting signals are excluded. For example, modals also signal the building of particular kinds of mental space structures—e.g., prediction, volition, possibility—that relate the content of their clauses in specific ways to the existing discourse structure. They are incompatible with *-unikka* because *-unikka* itself establishes a particular mental space configuration for the content of the clauses it connects—specifically, it relates perceptual content to the perceptual event that gave rise to it. Similarly, tense, aspect and evidentiality markers cannot appear in *-unikka*'s P clause, because they establish other grounding relations between their content and the surrounding mental space configuration. For example, sequential *-unikka* does not allow perfective aspectual marking because from the perspective of the perceptual content in the Q clause, the act of perceiving is not yet over. Thus, to the exclusion of other markers, *-unikka* itself

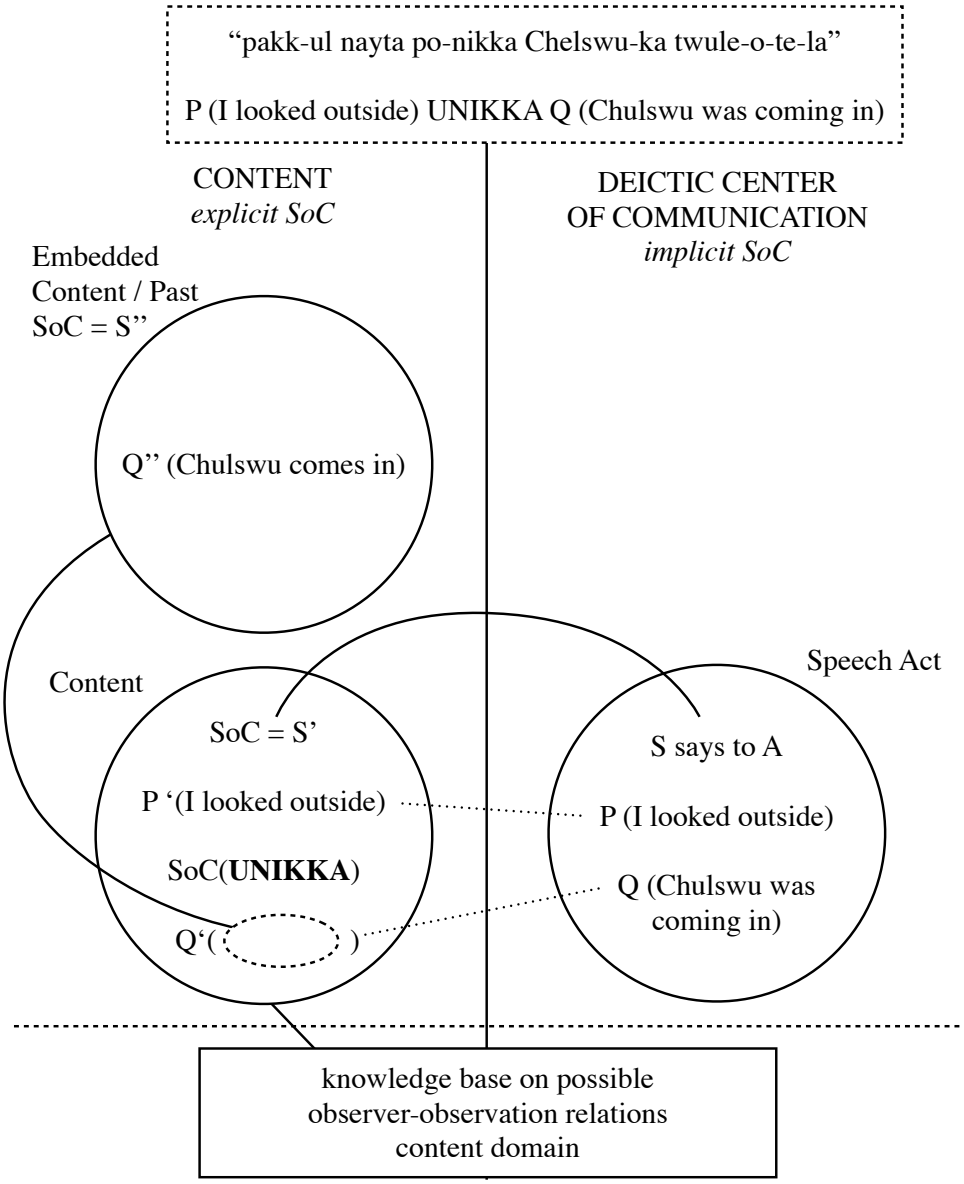

Figure 3.4: Mental space configuration for Ex. (7a)

imposes an aspectual profile on the P clause such that the activity of perceiving is construed event-internally while the content of perception is presented in the embedded mental space.

The behavior of *-unikka*'s Q clause with respect to TAME is less one-sided. Tense, aspect, and evidential markers are permitted, but modality marking is not. The unacceptability of modality marking is straightforwardly explained by *-unikka*'s setting up of the Q clause mental space as perceptual content, thus excluding other kinds of space build ups. Aspectual marking in the Q clause, affecting the event structure conceptualization of the perceived events, is predicted to be unaffected by the present model, because the Q clause content

is construed in a separate mental space. Tense and evidentiality marking in the Q clause appear to work with *-unikka* for the purposes of discourse navigation. The remainder of this section discusses how the present model makes sense of these behaviors.

The *-unikka* construction sets up an embedded perspective not unlike that of free indirect quotational forms. Sanders & Redeker (1996:291–292) defines perspective as "the embedding of a subject's point of view in the narrator's discourse reality," and provides the following excerpt as an example:

(11) He heard something and turned around. There were the three Englishmen again. Now, could they really be tourists? ...

The train of expressions above is characteristic of narratives where one has the sense that the narrator is going in and out of a character's consciousness. Thus, the observation made in the second sentence and the subsequent thought question seem to belong to the person who turned around in the first sentence. The following is an analogous example using *-unikka*:

(12) Chelswu-ka ppusu-lul ta-nikka Hyunswu-hanteyse cenhwa-ka
Chulswu-NOM bus-ACC ride-UNIKKA Hyunswu-from phone-NOM
wa-ss-ta. yay-ka mwusun il-i iss-ulka? ...
come-PST-DEC. 3SG-NOM what work-NOM exist.INT
'Chulswu got on the bus when he got a phone call from Hyunsoo. What's going on with her? ...'

In (12) above, everything following *-unikka* occurs from Chelswu's perspective where he is on the bus, and the free indirect question is understood as belonging to him in that setting. Thus in (12), the *-unikka* clause provides background for the narrative that unfolds on the bus, elaborating on the setting—including the subject of consciousness from whose perspective things occur.

This shift in perspective explains why in conversational contexts *-unikka* clauses are often followed by main clauses marked with an evidential or indirect speech marker. Consider the following examples, both marked with with indirect speech marker *-tey*:

(13) a. Chelswu-ka hakkyo-ey amuto eps-ess-tey
Chelswu-NOM school-LOC anyone not.exist-PST-QUOT
'Chelswu said there was no one at school.'
b. Chelswu-ka hakkyo-ey ka-nikka amuto eps-ess-tey
Chelswu-NOM school-LOC go-UNIKKA anyone not.exist-PST-QUOT
'Chelswu said when he went to school there was no one there.'

In (13a), the speaker identifies Chelswu as the source of the information that there was no one at school. (13b) provides additional information about how Chelswu obtained this information, which is that he experienced it directly when he went to school. In contrast to the narrative example in (12) where use of *-unikka* helped to move the reader into the world

of the character, the use of *-unikka* with the indirect speech marker *-tey* in the main clause enables the conversational viewpoint to remain with the interlocutors.

Depending on the distance between the embedded and speech contexts, and where the conversation is headed, speakers have a range of options for managing viewpoint through the choice of Q clause suffixes. The following examples illustrate some of those options:

(14) a. Chulswu-ka hakkyo-ey ka-nikka amuto eps-ess-ta
Chulsu-NOM school-LOC go-UNIKKA anyone not.exist-PST-DEC
'When Chulsu went to school, there was no one there'
b. onul hakkyo-ey ka-nikka amuto eps-te-la
today school-LOC go-UNIKKA anyone not.exist-EVID-DEC
'Today I went to school and there was no one there'
c. onul hakkyo-ey ka-nikka amuto eps-ess-ta
today school-LOC go-UNIKKA anyone not.exist-PST-DEC
'Today I went to school and there was no one there'

Unlike (13b), (14a) ends without the indirect speech marker despite that *-unikka* affects a viewpoint shift to one where Chelswu is at school. Thus, this sentence is most naturally followed by continued narration or a discussion on matters pertaining to Chelswu's experience in the embedded context. Sentence (14b) is similar to (13b), except that the embedded perspective is still the speaker's and the Q clause is marked with evidential *-te* rather than *-tey*. Although there is no shift in terms of who the SoC is, there is a shift in that the viewpoint is distant from the speech context in terms of time and space. In terms of the BCSN, there is a shift in viewpoint, from the implicit SoC of the deictic center of communication, to the explicit SoC of the focused content space. Much like the indirect speech marker, the evidential marking on Q brings the conversation back to the context of the interlocutors, and we would expect the conversation to proceed with matters relevant to the speech context. Finally, (14c), without evidentiality marking, keeps the perspective as that of the speaker while she was at school, with the expectation that the following discussion would pertain to matters there at that time.

Thus, taking a mental spaces approach to the use of sequential *-unikka* allows us to model its effects in terms of the building up of mental space structures and the tracking of viewpoint across them. Interestingly, all of the examples presented thus far involved embedded viewpoints that were temporally or subjectively removed from the speech context. If, however, the P clause viewpoint coincides with the speaker's viewpoint in the speech context—and thus the Q clause describes immediate experience—the Q clause is unmarked:

(15) changmwun-ul yel-unikka chwup-ta
window-ACC open-UNIKKA cold-DEC
'Now that I opened the window, I'm cold'

Interestingly, the sentence above can convey either sense—sequence or cause—whereas all

the other sentences thus far were clearly not causal. The sequence sense applies to a context where the speaker has just opened the window and experienced the coldness immediately prior to the uttering the sentence. Under these conditions evidentiality marking cannot appear on the Q clause.

Thus far, I have presented a mental spaces analysis of the semantics and pragmatics of sequential *-unikka*, characterizing it in terms of space building parameters that have already been found useful for characterizing English and Dutch connectives (Dancygier & Sweetser 2005, Sanders et al. 2009). According to this analysis, sequential *-unikka* signals the building of a particular kind of mental space configuration. Specifically, *-unikka* builds a backgrounded content space containing an explicit SoC and shifts the viewpoint such that the situation narrated in that space becomes a new deictic center for the construal of the main clause content. This shift in viewpoint enables speakers to narrate events from a perspective that is distanced circumstantially and subjectively from the speech context. Consequently, sequential *-unikka* is often used in combination with morphology in the main clause that returns the viewpoint back to the unembedded context.

3.3 The causal sense of *-unikka*

As mentioned above, sentence (15) can also be used to assert that the opening of the window caused it to get cold in the room. It could be used in a situation where the window was opened in the presence of the interlocutors, and some time later the speaker felt cold. The speaker then expresses that it is cold and identifies the prior opening of the window as being the cause. Crucially, causal *-unikka*, unlike its sequential counterpart, does not have the effect of shifting viewpoint to a situationally or subjectively distanced SoC. In addition, unlike sequential *-unikka*, causal *-unikka* requires that the P clause contain only given information. For example, (15) could not be felicitously used in a setting where the addressee was not present when the window was opened.

In terms of the present mental spaces framework, causal *-unikka* differs from sequential *-unikka* in evoking rather than building its P clause mental space. For a space to be evoked, it must be accessible in the prior context—e.g., previously built mental space structures, whether by discourse or by common immediate experience. As was the case for the sequential sense, the speaker takes a positive epistemic stance toward the P clause space and presents its content as presupposed background. The resulting mental space configuration is shown in Figure 3.5. Thus, in contrast to the space configuration for sequential *-unikka* in Figure 3.4, causal *-unikka* does not elaborate P clause content or establish an embedded viewpoint. Instead the P clause serves to evoke previously constructed content as causally related background to the content elaborated by the Q clause. In these respects, the causal sense of *-unikka* is strikingly similar to that of *since* as analyzed in Dancygier & Sweetser (2005).

Because it does not establish an embedded viewpoint like the sequential sense, sentence enders on the main clause do not serve to reorient viewpoint. Similarly, as there is no fixed

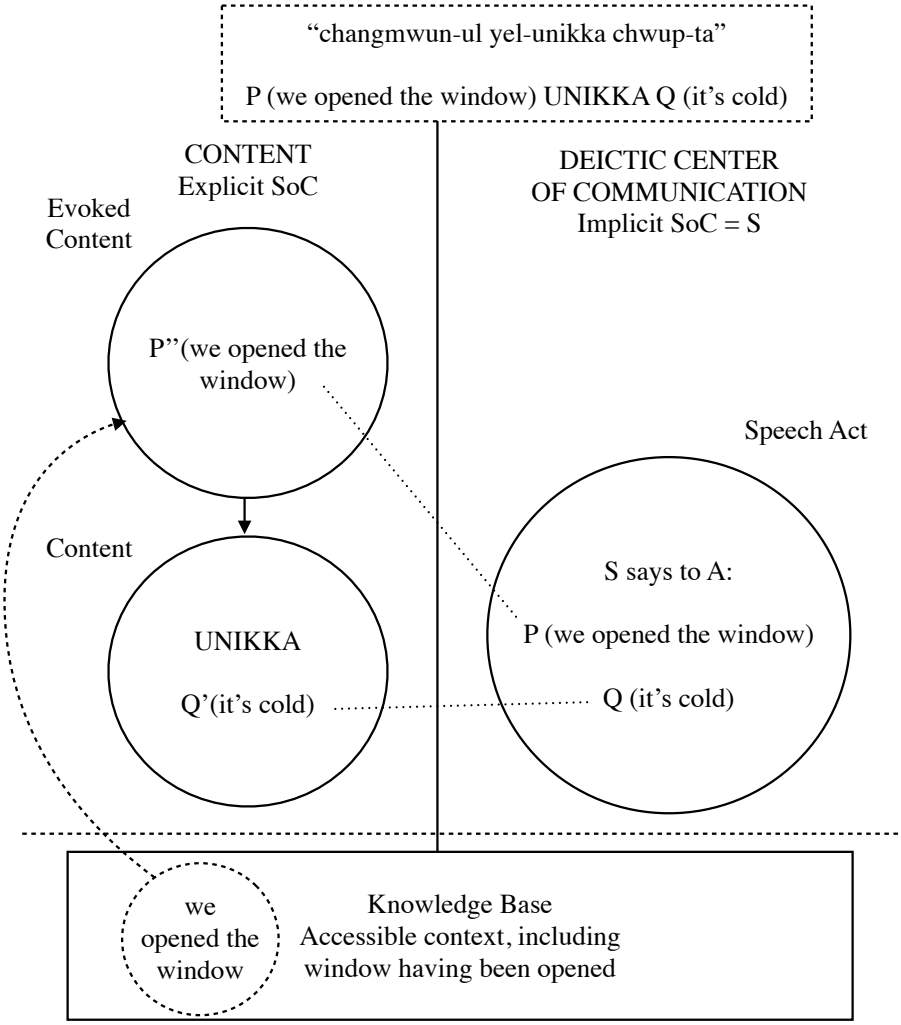

Figure 3.5: Mental space diagram for causal reading of (15)

temporal relationship between the P and Q clauses, there is no restriction on tense marking on the P clause. Consider the following examples:

(16) a. nwun-i manhi wa-ss-unikka chwuwu-ess-napota
snow-NOM a.lot come-PST-UNIKKA cold-PST-DEC
'Since it slowed a lot, it seems to have been cold.'

b. nayil nwun-i o-lke-nikka hakkyo-lul tat-ul cwumbi
tomorrow snow-NOM come-FUT-UNIKKA school-ACC close-PP preparation
ha-ko iss-keyss-ta
do-PRG PRG-MD-DEC
'Since it is going to snow tomorrow, they must be preparing to close the school.'

Both examples above have main clauses that make an epistemic domain assertion: (16a) asserts that it appears to have been cold, and (16b) that people must be engaging in a certain activity. Unlike sequential *-unikka*, there is no claim made that anyone, whether the speaker or some other character, observed the Q clause content. The causal relations in (16) are also epistemic causal relations. Thus, based on knowledge of cause-effect relations, one can reason from effects to their causes, or from effects to enabling conditions as in (16a). In fact, causal relations in the epistemic domain can be quite complex—for example, (16b) involves general knowledge of snow storms causing schools to close, a strong prediction that it will snow, and that closing a school requires preparation. Since one can make various types of assertions, e.g. conclusions, guesses, predictions, on the basis all kinds of thing—events in the past, expectations about the future, conjectures, reported speech, etc.—there is a great deal of flexibility with regard to the two clauses connected by *-unikka* in the epistemic domain. The following is an example from mathematical reasoning:

(17) $a^2 + b^2 = c^2$-nikka $c = \pm\sqrt{a^2 + b^2}$
'Since $a^2 + b^2 = c^2$, $c = \pm\sqrt{a^2 + b^2}$.'

A similar flexibility is available with causal relations in the speech act domain. Just like epistemic assertions, speech acts can be motivated by events in the past, expectations about the future, conjectures, etc. Consider the following examples:

(18) a. nayil ilccik ttena-lke-nikka icey cip-ey ka-ca
tomorrow early leave-FUT-NIKKA now home-LOC go-IMP
'Since we're leaving early tomorrow, let's go home now.'

b. khong sim-un-tey khong-na-ko, phath sim-un-tey
bean plant-NMLZ-LOC bean-appear-and red.bean plant-NMZL-LOC
phath-na-n-ta-nikka kekceng ha-ci ma
red.bean-appear-PRES-DEC-UNIKKA do-COMP NEG.IMP
'Since beans come up where beans are planted, and red beans come up where red beans are planted, don't worry.'

In (18a) the speaker suggests that he and the addressee leave, providing the given information about plans to leave early the next day as the reason for the suggestion. In (18b), the speaker tells the address not to worry, evoking a proverb assumed to be known to the addressee, as the reason. As evident from examples (17)–(18), causal *-unikka* allows for a wider range of inflectional morphology on its conjoined predicates. Inflectional morphology on the Q clause verb serves to identify the kind of assertion being made, as well as to locate the domain in which *-unikka*'s causal relation is to be interpreted. For epistemic and speech act causal relations, the range of inflectional morphology that can appear in the P clause verb is indicative of the broad range of types of content that can be evoked as a reason for the main clause assertion.

The evocative rather than creative aspect of causal *-unikka*'s role in structuring mental space configurations restricts its utility in the content domain. To be evoked, the P clause

content must be part of the accessible context. Accessible discourse context includes mental space structure previously constructed by the interlocutors' prior dialogue or through common experience. It can also include information that is by nature presupposed by both parties as accessible to the speaker (Dancygier & Sweetser 2000:128). Hence, the content of an evoked space is assumed to be familiar to both speech participants. Causal relations in the content domain require that the cause (or enablement), which would be evoked by the P clause, temporally precede the effect. Thus, to use causal *-unikka* in the content domain, the cause of the Q clause content, which must temporally precede Q, must be available in the context. The following are causal examples from Lukoff & Nam (1982:561) and Sohn (1993:84) which meet these conditions:

(19) a. palam-i pwu-nikka namuiph-i tteleci-n-ta
wind-NOM blow-UNIKKA tree.leaf-NOM fall-PRES-DEC
'The leaves are falling because the wind is blowing.'
b. pi-ka o-nikka chwup-ta.
rain-NOM come-UNIKKA cold-DEC
'It's cold because it rained'

In both examples above, the Q clause event must be cotemporal with the with speech event, with the P clause event temporally preceding the Q clause event. In addition, the P clause content must be accessible in the context either because the interlocutors are in the same place, having experienced the same weather, or through prior discourse. Both examples, however, would be strange to offer as answers to questions about the cause of the Q clause events, because the Q clause content is new information. For example, (19b) could not be an answer to "Why is it so cold?" or "Why are you cold?" In fact, the only contexts in which either of them could be spoken are those in which the causal relationship is rather obvious.

The following is an example in which causal *-unikka* is used to answer a *why* question. However, it requires a special context:

(20) A: (Tells a narrative about how she had to leave her car and walk home 10 blocks because her purse was stolen.)
B: kuntey, wuey cenhwa-lul an hay-ss-e?
but why phone-ACC NEG do-PST-INT
'but, why didn't you call?'
A: ani, cenhwa-kaci humchye-ka-ss-unikka mos hay-ss-ci
no phone-even steal-go-PST-UNIKKA NEG do-PST-DEC
'... since my phone got stolen too, I couldn't.'

In the final sentence in (20), the Q clause content occurs in the past, and the temporally preceding cause in the P clause is deemed by the speaker to be accessible to the hearer because of the story she just told. By using *-unikka* and evoking content that was just communicated, Speaker A responds to B's question in a way implying that B should have known the answer already from having listened to the story. As noted earlier, causality

in epistemic or speech act domains does not have a temporal precedence requirement since reasons for reaching a conclusion or making a suggestion can pertain to the past, present, or future. For instance, the mathematical reasoning example in (17) does not involve events or temporal relations. Consequently, content evoked from the accessible context as a cause in such domains bears no presumption of obviousness, and does not yield connotations of reproach.

Thus, with regard to *-unikka*'s flexibility of usage, there is a division between the epistemic and speech act domain uses on the one hand, and the content domain uses on the other. This pattern is straightforwardly captured by the BCSN, which groups the epistemic and speech act domains together by virtue of their having implicit SoCs and separates out the content domain as distinct in having either explicit SoCs or none at all. The flexibility of the causal relation for the epistemic and speech act uses of *-unikka*—e.g. reasoning from effects to causes, effects to enablements, predictions to probable courses of actions based on them—is accounted for in this model through the presence of an implicit SoC in these domains responsible for the causal connection. In contrast, content domain causal relations, in the absence of an implicit SoC, is limited to physically viable causal relations such as cause-effect and enablement-effect relations, which are time-directionally constrained. This behavior, however, need not strictly be the case, since the BCSN allows for content spaces with explicit SoCs. In fact, *-unikka*, was found to have content domain uses where an explicit SoC bears responsibility for the relation between the clauses—the sequential use.

To a certain extent, there is an element of causality in the sequential readings of *-unikka* as well. The following is an example from Sohn (1993:93) which illustrates this effect:

(21) kulelli-ka eps-nuntey kulemyense [sacin-ul chac-ko po-**nikka**], swuswul
that-NOM cannot-and saying photo-ACC find-and see-UNIKKA surgery
cen pota koyngcanghi cohaci-ess-nuntey
before than very improve-PST-and
"while thinking 'that (looking worse than before the operation) can't be', I intently looked for her pre-surgery photo. [When I found that photo], I discovered that the result of the surgery was actually a dramatic improvement."

The sequential use of *-unikka* in (21) accords with the P clause in this example being new rather than given information. However, Eve Sweeter (p.c.) has pointed out that in (21), there is a causal relation between looking at the picture and the resulting mental space in which dramatic improvement is realized. Furthermore, the speaker's search for the picture in the P clause was for the purpose of verifying the result of the surgery. Success in finding the picture and examining it, causes her to realize that the surgery indeed resulted in improvement. The observation following the *-unikka* clause in (21) is not altogether clear as to whether it describes just what was seen or whether it describes some attendant evaluation as well. Thus, not only are there cases such as (15) where both sequential and causal readings are possible, but examples like (21) show that sequential and causal semantics can be conflated, in this case, due to the nature of observation and realization in human cognition.

3.3.1 Causal *-unikka* and topicality

In using a causal *-unikka* construction, the speaker chooses and evokes material accessible in the context with a positive epistemic stance, and establishes background for the following Q clause, and potentially for whatever utterances may follow after that. Consequently, this analysis predicts *-unikka* to exhibit topic marking properties, much like similarly characterized connectives in Sweetser (1990:125). This expectation coheres with the characterization of *-unikka* by Sohn (1993:90), that it "signals the speaker's belief that the cause/reason expressed by *-nikka* is known or knowable to the interlocutor," and that it behaves as a topic marker. For example, Sohn provides the following examples to point out that *-unikka* requires definite references in its P clause (pg. 91):

(22) a. nwu-ka chwuwu-ese mwun-ul tat-ass-ni?
who-NOM cold-ESE door-ACC close-PST-INT
'Who was cold and hence closed the door?'
'Did someone close the door because it was cold?'

b. nwu-ka chwuwu-nikka mwun-ul tat-ass-ni?
who-NOM cold-UNIKKA door-ACC close-PST-INT
'*Who was cold and hence closed the door?
'Did someone close the door because it was cold?'

The *-ese* construction in (22a) has two possible readings based on two possible interpretations of the pronoun *nwu-ka*, which can be either the WH pronoun meaning 'who' or the indefinite pronoun meaning 'someone.' Thus, (22a) can be a polar question or a WH question. A similar sentence using *-unikka* in (22b), however, allows only the polar question reading. Sohn argues that the unavailability of the WH question reading derives from *-unikka*'s topic marking function, which requires that the P clause be given information assumed to be identifiable to the hearer. Under the present analysis, the P clause in *-unikka* constructions is given because it is evoked, previously structured context. Sohn highlights another class of patterns indicative of topic marking—examples such as the following where *-unikka* occurs sentence finally (pg. 92):

(23) A: appa, cengmal kanunke-ya?
dad surely go-INT
'Daddy, are you sure we're going (to the beach)?'

B: ung. ka-n-ta-nikka
yes go-PRES-DEC-UNIKKA
'Yes, we are going (I already told you so)'

In the example above, the *-unikka* clause appears without a main clause, and is used by the father to reassure or mildly admonish his child that they are indeed going to go to

the beach. Sohn analyzes these as discourse functional uses where *-unikka* "recapitulates previously mentioned information ... to bring it back into focus" (pg. 92). Again, this type of use is captured straightforwardly by the present mental spaces analysis. Instead of responding merely by saying, "yes," the father additionally evokes the mental space in which he had previously said that they were going to go. Thus, although there is nothing connected by *-unikka*, i.e. no Q clause, the expression is fully meaningful. In this case, if something were to follow *-unikka*, it would have to be a stronger admonishment to the effect of "why are you asking me again?" or "so be quiet!"

Kim & Suh's (1994) examination of the interactive meaning of *-unikka* in conversational contexts provides further support for the mental spaces analysis proposed in this section. They characterize *-unikka*'s role as providing ground for inviting the interlocutor's collaboration and co-alignment with the speaker-initiated, interlocutor impinging action (pg. 127). The following is an example in which *-unikka* is used in succession by both discourse participants, in this case, two teaching assistants of a Korean language class, who are complaining to each other about a recent, poorly devised quiz:

(24) (Lunch talk)

S: =yey: kulehkey ilpwule thulin-ke-l hay noh-akackwu, (k//ule
yes like.that deliberately wrong-thing-ACC do put-CONN like:that
-nikka–)
-CONN
'Yes. In these kinds of questions, you deliberately include wrong answers, and, (I mean-).'

J: kuntey keki-ey te mwuncey-nun thulin-k– ma macun-ke-l thuli-
but there-LOC more problem-TOP wrong correct-thing-ACC wrong
(.) tako hayse i ccem o ccem-ul kkak-ullye **-ni//kka**:
-QUOT do.CONN two point five point-ACC cut.off-INTENT -CONN
'But what is more problematic is, as I tried to cut off 2.5 points if the students made a wrong guess by correcting the grammatical parts of the sentence, (I find,...)'

S: ne//y:
yes
'

J: um:
Right.
'

S: =ne//mwu pwulssangha-ci-yo?
Too pitiful-COMM-POL
'The students are too pitiful, right?'

J: nemwu mianha-ci -yo?
Too sorry-COM -POL
'We feel sorry too much for the students, right?' (Kim & Suh 1994:116)

The uses of *-unikka* in (24), as well as earlier in (23), are interesting because *-unikka* is used independently, outside of a connecting construction—that is, there is no connected Q clause. In both these cases, the *-unikka* appears to be independently grounded. This dialogue can be captured in a mental spaces analysis as the two TAs evoking aspects of shared accessible context as background to a shared Q-clause mental space. The content of the P-clause in the first use of *-unikka* by speaker S consists of information assumed to be familiar to the addressee. The P clause of the subsequent use of *-unikka* by J is similarly assumed to be familiar to speaker S. This mutual assumption of familiarity—since it is unlikely that the interlocutors had previously shared about their experiences to the level of detail in these sentences—serves to build solidarity. This is consistent with use of affective tags in the final exchange of regretful sentiments, which serve to facilitate interpersonal engagement (Holmes 1982, 1984). Through the exchange of *-unikka* clauses to evoke aspects of the same contextual background toward the same content, the interlocutors mutually affirm their choices regarding what is relevant, i.e. topic-worthy, with regard to causal reasoning about the testing experience. Thus, the conversation is not characterized by any significant exchange of information, but through it a kind of social solidarity is built. The resulting mental space configuration is depicted in Figure 3.6.

3.4 Comparing *-ese* and *-unikka*

Unlike most comparisons of *-ese* and *-unikka* which characterize their difference in terms of a single-dimensional dichotomy (Lukoff & Nam 1982, Sohn 1993, Kim 1994) or scale (Lee 2002, Oh 2005, Hong 2006), the present work characterizes them in terms of differing cognitive mechanisms. As discussed in Chapter 2, *-ese* operates on cognitive event structures that model the interaction between participant entities across time. In contrast, as presented in this chapter, *-unikka*, operates on mental spaces, and the modeling of discourse between a speaker and hearer. Thus, although they both convey causal relations and in some cases are substitutable, *-ese* and *-unikka* do fundamentally different things.

As discussed in Section 3.1.1, one difference in behavior had to do with how the connectives interact with Sweetser's (1990) usage levels as observed by Sohn (1993) and Oh (2005). In agreement with Sohn's (1993) claim, the present analysis predicts *-unikka* to have access to all three content, epistemic, and speech-act domains, but for *-ese* to be limited to the content domain. This latter prediction contradicts Oh's (2005) findings, which suggested that *-ese* merely had a strong preference for the content domain, but could be used in all three. However, the present analysis does predict the pattern observed by Oh (2005) for *-unikka*, in which *-unikka* could express causal relations at all the levels, but the content level was disfavored in terms of usage frequency. With regard to *-unikka*'s access to all the levels, since content, epistemic and speech act domains are different types of mental spaces, and because *-unikka*, as a space-builder, essentially sets up mental spaces and connections between them, it is able to engage in the setting up of background for all the different types.

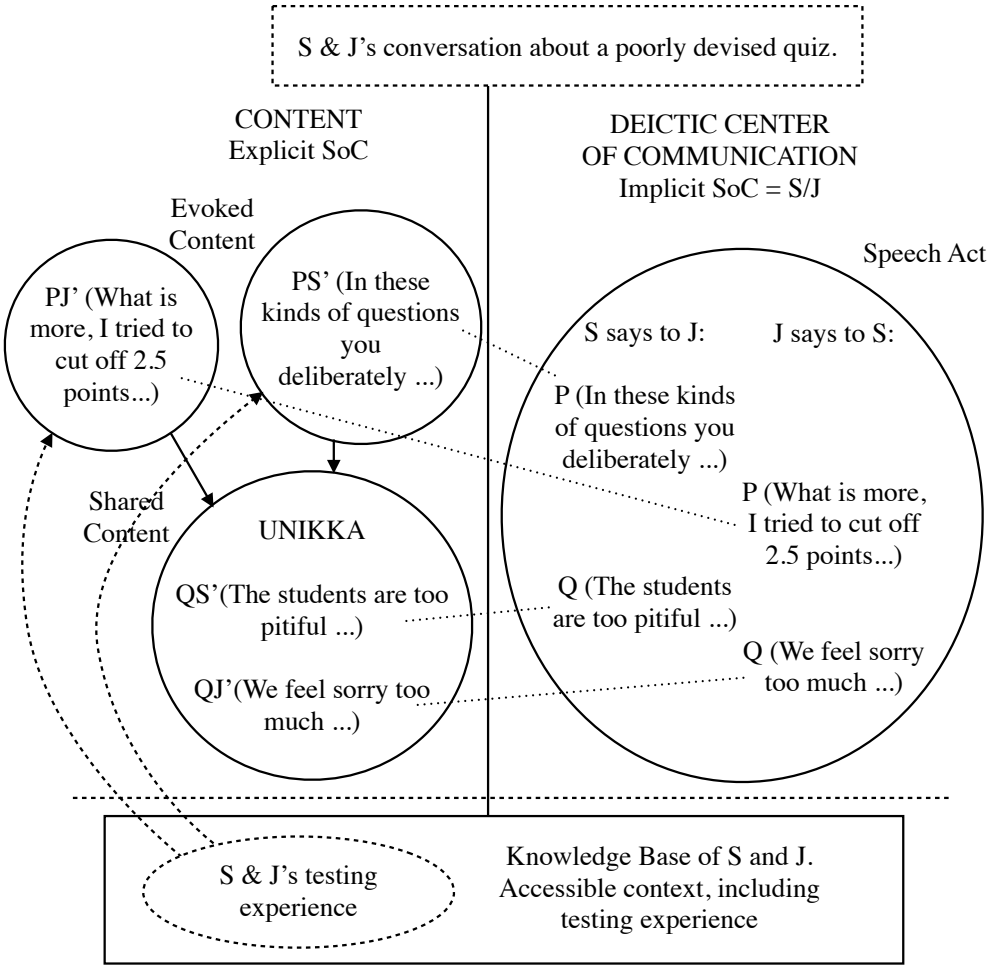

Figure 3.6: Mental spaces for (24)

This is illustrated in Figure 3.7.[3]

Note that epistemic domain causality refers to a causal relationship between the content of P and the concluding of the content of Q. Similarly, speech act domain causality refers to the causal relationship between the content of P and the issuing of the speech act whose content is Q. The textual/discourse level in Oh (2005) refers to uses of *-unikka* without a main clause, where the *-unikka* clause seems to address some aspect of the discourse. Such usages were discussed at the end of Section 3.3.1.

In addition to showing why *-unikka* can be used in all four of Oh's domains, the analysis of *-unikka* in Section 3.3 also predicts the depressed usage frequency of *-unikka* in the content domain, as shown in Table 3.1. The analysis argued that because content domain Q clauses are always set in the present or the past, if the Q clause, containing the effect, is in the present,

[3]Unlike the other mental space diagrams, the speech act component of the content and epistemic domain uses of *-unikka*, as well as for the P clause utterance, have been omitted.

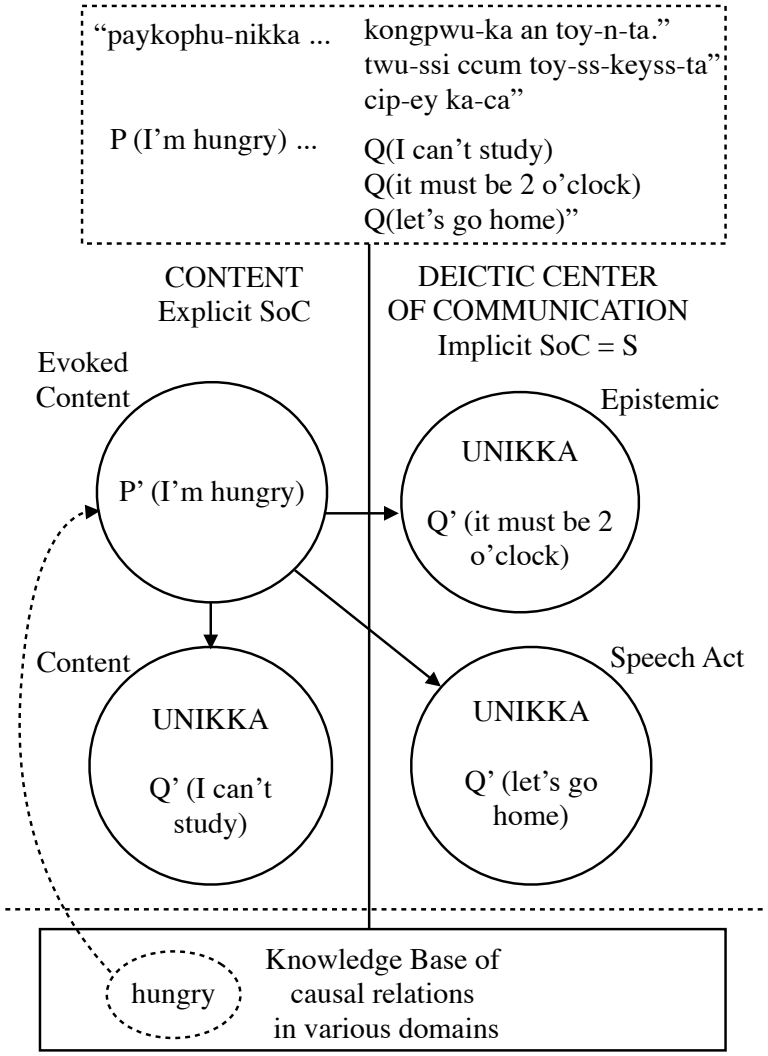

Figure 3.7: *-unikka* and Content, Epistemic, and Speech Act domains

i.e. nearly cotemporal with the speech event, then the cause, which must be accessible in the context in order to be evoked, would often be obvious. This deviation from the norms of informative speech (Grice 1975) renders content level *-unikka* less useful for unmarked assertion of causal relations. Instead, the P clause evocation has a tendency of producing a reproach, because the evoked content often became accessible via speech earlier in the conversation. In contrast, epistemic and speech act level causal relations, which do not require a fixed temporal relationship between the P and Q clauses, are not subject to the same pragmatic limitations.

The present analysis is challenged, however, by Oh's (2005) findings for *-ese*. According to Chapter 2, *-ese* connects two verbal processes within a single viewing arrangement and is dependent on the main clause for its grounding relation. Thus, its causal relation applies

only within a mental space, as *-ese* constructions are essentially a type of content. This analysis predicts therefore that *-ese* would be limited to content domain uses. Oh's findings, shown in Table 3.1, contradict this prediction, because although the majority of uses were in the content domain, epistemic, speech act, and discourse domain uses were also found at low frequencies. A close examination of the exceptional cases, however, shows that the present model's predictions are born out. The following is the example that Oh provides from the *Sejong* corpus as a typical case of an epistemic domain use of *-ese* (pg. 477):

(25) A: him sey-key po-i-canha... il-to cal ha-key sayngki-kwu
strength strong-ADV see-PASS- work-also well do-COMP look-and
'you look strong... and you look like you will work well'
B: ciyeng-a ne-nun cipan-il-ul manhi hay-**ese** phal-i
Ciyeng-VOC you-TOP household-work-ACC much do-ESE arm-NOM
tukke-un-kapo-a
thick-PRES-seem-INF
'Ciyeng, your arm seems to be thick since you have done lots of house chores'

In the statement by B above, having done a lot of chores is asserted as the cause of the thickness of Ciyeng's arms rather than as the cause for person B concluding that she has thick arms. I illustrate this distinction with the following examples from English:

(26) a. I think [Paul has thick arms because he works out a lot.]
b. I think [Paul has thick arms,] because he works out a lot.
c. [Paul has thick arms,] because he works out a lot.

In the sentences above, brackets have been added to mark the thought content. In (a), the speaker thinks that the cause of the thickness of Paul's arms is his frequent working out. The causality is in the content domain, but it is predicated inside the speaker's thought space created by the space-builder "I think." The sentence in (b), where there is a pause indicated by the comma, has another possible reading, which is that the speaker may never even have seen Paul but concludes that he probably has thick arms based on her knowledge that he works out a lot. This interpretation is also available for sentence (c). Of all these sentences, only (c) with the discussed interpretation is an example of epistemic domain causality. Although the same interpretation is available for (b), the causality in (b) is still in content domain because the caused effect, i.e. "I think," is explicitly mentioned. The use of *-ese* in (25) corresponds to example (26a), where Ciyeng's doing of housework causes her arms to get thicker. Although the statement as a whole is epistemic in nature, the causal relation holds in the content domain.

Next, I turn to speech act domain uses of causal *-ese*. That *-ese* constructions are used in certain types of speech acts, specifically that of expressing gratitude or apology, has also been observed by Ree (1977) and Lukoff & Nam (1982). The speech act domain example presented in Oh (2005:478) as representative of those found in the *Sejong* corpus is an example of apology:

(27) A: way ice o-nya?
why now come-INT
'Why are you coming now?'
B: nuc-**ese** coysonghay-yo
late-ESE sorry-END
'I am sorry for being late.'

It is important to notice however that both expressions of thanks and apology in Korean are achieved by describing regretful emotional states. Eve Sweetser (p.c.) and Michael Ellsworth (p.c.) have pointed out that these instances may not be true examples of causality in a speech act domain. They suggest rather that the causality is in the content domain, where what is caused is the emotional state underlying the expression of thanks or apology. That this is the case is supported by the possibility of third person attributive expressions that refer to the emotional state rather than to a speech act:

(28) chelswu-ka calmos-hay-se mianhay-ss-ci man ...
chelswu-NOM not.good-do-ESE sorry-PST-COMP but ...
'Chelswu did wrong and (because of that) felt sorry but ... '

Sentence (28) might appear in a story where the narrator is describing Chelswu's feelings of regret about some earlier wrongdoing. Here, the sorriness is an emotional state caused by the act of doing wrong (of the realization thereof). This sentence does not itself contain an apology, and it does not suggest that one occurred. If apologetic speech acts in Korean conventionally involve conveying a description of the speaker's regretful emotional state as the content of the apology, it may be the case that the *-ese* clause, such as the one in (27), expresses the cause of the regretful feelings, as in (28), rather than the reason for the speech act.

It was also highlighted in Ree (1977) that, contrary to expectation, *-unikka* cannot be used to express gratitude or apology. The present analysis predicts this to be the case because content domain uses of *-unikka* where the Q clause is cotemporal with the speech event were found to issue reproaches. The reproach effect, however, did not emerge for speech act domain uses of *-unikka*. The fact that no apology can be made with *-unikka*, which does have speech act domain uses, suggests that apologies are conventionalized in Korean such that when the wrongdoing is expressed in the apology, it appears as the cause of the regretful feelings rather than as a cause of the apologetic speech act. This is supported by attested examples like the dialog between students in (24) examined by Kim & Suh (1994). It that dialog, although *-unikka* is used independently without a main clause, the expressions that do appear in the context set up by the *-unikka* expressions are rhetorical tag questions expressing emotions of regret. The last line from the dialog is reproduced below:

J: nemwu mianha-ci -yo?
Too sorry-COM -POL
'We feel sorry too much for the students, right?'

Similar to (28) above, regretful emotions are expressed, but it is clear that no apologizing has taken place. Furthermore, as would be expected under the present model, although *-unikka* cannot be used to set up an apologetic speech act, it can be used to set up other speech acts through which apologetic emotions are expressed.

Thus, since the examples cited by Oh (2005) as representative of the epistemic and speech act level uses of *-ese* in his study have turned out instead to be content level uses, it is plausible that the instances of epistemic and speech act uses of *-ese* tabulated in Table 3.1 by Oh (2005) may also be instances of content level causal expressions. The discourse or textual level, however, which describes sentences in which the main clause is omitted, is not a usage level in the sense of Sweetser (1990). Nevertheless, the question remains as to how the present model accounts for such uses of *-ese*. The following is the sample presented by Oh (2005:478) from the *Sejong* corpus as a representative case:

(29) A: khapuli sikhy-e-cwe-yo?
kahpuli order-AUX-END
'Do you want me to order 'Khapuri' for you?'
B: ani, ani-yo cehuy yoke ta mos masye-yo
no, no-END we this all cannot drink-END
'No, no. We cannot even drink this one.'
A: ani, wuli ipmas-taylo sikhi-n-keskath-**ase**
no we mouth.taste-as order-PRES-seem-ESE
'No. (But,) since it seems that I ordered what I liked...'
B: ani, koyaynchanha-yo
no all.right-END
'No. I am all right'

In the dialog above, *-ese* in the second sentence spoken by A appears sentence-finally, without a main clause. This appears problematic, because if *-ese* connects event structures causally, where is the second event, i.e. the effect? The utterance is understood without difficulty as providing the reason for the question that A initially asked. It should be noted, however, that A's question cannot be substituted for the missing main clause, i.e. the following is unacceptable:

(30) *wuli ipmas-taylo sikhi-n-keskath-**ase**, khapuli sikhy-e-cwe-yo?
we mouth.taste-as order-PRES-seem-ESE kahpuli order-AUX-END
'Because it seems that I ordered what I liked, do you want me to order 'Khapuri' for you?'

Following the conversation carefully, we see that B's response to A's initial question—that she cannot finish the drink she currently has—implies that A is concerned about the quantity of what was ordered. A's response to B's statement, which contains the sentence-final *-ese*, attempts to correct the misunderstanding by stating that the concern had to do with the taste or flavor of what was ordered, rather than the quantity. Since the attention of speaker

here is on the mental states of the addressee, a detailed analysis of this phenomenon then requires modeling intersubjectivity (Traugott & Dasher 2002), which is possible to do in mental spaces theory (Verhagen 2005). Speaker A's second utterance in (29) assumes that speaker B has a mental space in which speaker A posed her original question because she was concerned about the quantity of what was ordered. The purpose of that utterance is to provide speaker B with content with which to fix that mental space and to stop speaker B's presupposition about A's intentions from further affecting the discourse.

Since the purpose of the *-ese* clause in (29) is to provide new information to the addressee with which to alter the content of a mental space, causal *-unikka*, which evokes given information, cannot be substituted for *-ese* in this example, despite that sentence-final *-unikka* is shown by Oh (2005) to be one of its most frequent types of usage. Although *-ese* and *-unikka* can be used in ways that are similar in form and appear similar in meaning, the present model, in which they signal very different things in the cognitive processing of language, provides insight into an otherwise unexpected instance of behavior. Thus, examples like this demonstrate the utility of the present model and taking a cognitive-functional approach to the meaning and use of connective expressions.

Hong (2006) also undertakes a comparison of *-ese* and *-unikka*, using a semantic-pragmatic scale based on the 5-level classification in Degand (1998), Degand & Pander Maat (1999). The levels, listed below, are similar to the three levels proposed by Sweetser (1990), except that the content and epistemic levels are further subdivided, with the five levels constituting a scale from minimally subjective to maximally subjective.

(31) a. Non-volitional content level
b. Volitional content level
c. Judgmental epistemic level
d. Evidential epistemic level
e. Speech act level

The subdivision of the content level into volitional vs. non-volitional levels is used to capture the difference between causal relations where the effect comes about through the willful decision of an agent from those that do not. The judgmental and evidential epistemic levels correspond to deductive vs. inductive causal inferences respectively, similar to Degand & Pander Maat (1999) causal vs. non-causal epistemic levels. Based on this framework and the application of substitution testing, Hong (2006) argues that one factor distinguishing *-ese* and *-unikka* is the latter's inability to convey non-volitional causal relations. The following are his examples (p. 32):

(32) a. hongsoo-ka na-se/#nikka salam yelmyeong-(i)
flood-NOM happen-ESE/UNIKKA people 10-(NOM)
silcong-toy-ess-ta
disappear-become-PST-DEC
'10 people disappeared because there was a flood.'

b. pihayngki-ka chwulak-hay-se/#ha-nikka Chelswu-ka samanghay-ss-ta
airplane-NOM crash-happen-ESE/UNIKKA Chelswu-NOM die-PST-DEC
'Chelswu was dead because the airplane crashed.'

However, it is possible to use causal *-unikka* in a non-volitional context. Suppose two sisters are talking on the phone, where one still lives at home with her parents, while the other who is older has gone off to college. They talk about various matters including how their parents have had lots of guests coming over recently. Later in the conversation, the older sister asks the younger what mom is doing. The younger sister could respond with the following:

(33) sonnim-i o-nikka sicang po-le naka-ss-ta
guests-NOM come-UNIKKA shopping see-for go.out-PST-DEC
'She went out shopping, because guests are coming.'

The evocative *-unikka* clause causally connects the mom's having gone out to shop to a previously mentioned discourse topic. The mother went shopping because guests are coming over, which involves an intentional decision on her part. However, in the same context, the following sentence would also be fine:

(34) sonnim-i o-nikka cip-ey mek-ul-key manha-ci-ess-ta
guests-NOM come-UNIKKA house-LOC eat-to-things lots-CAUS-PST-DEC
'Things to eat around the house have increased, because guests are coming.'

In this case, because of the frequency of hosting guests, the family has been stocking their refrigerator or pantry more abundantly. As with (33), the *-unikka* clause recapitulates an earlier discourse topic. There is, however, no volitionality represented explicitly in the sentence. Returning to the examples in (32), the reason why *-unikka* is inappropriate in these contexts has not so much to do with the type of causality involved, whether objective or volitional, but with discourse factors surrounding the use of *-unikka*. For example, for (32b), the basic content of sentence inclines it toward being for the purpose of informing the addressee about the cause of Chelswu's death. Because *-unikka*'s evokes content toward which a positive epistemic stance is taken, it behaves much like a topic marker. The only way that *-unikka* could be used in this context is if the addressee knew that there was a plane crash, but did not know that Chelswu had died in it, and in addition, it would not be obvious to the addressee why the plane crash is relevant to Chelswu's death.

Although it is possible for *-unikka* to be used in non-volitional contexts, as (34) shows, the present model does predict that such usages would tend to be rarer. This is because temporal succession is much less informative with respect to inferring causal relations for a series of events involving volitional agents than for those involving only nonvolitional objects or states of affairs. For example, even if the addressee in (33) knew that guests were coming as well as that this is a likely cause for the mother having gone shopping, it is not obviously the case, because she could have gone shopping for any number of other reasons. The same generally does not hold for non-volitionally caused effects, such as for the examples in (32):

if the cause is given information, then a statement of the cause-effect relation often renders the relation obvious.

Based on the 5-level classification in (31), Hong (2006) characterizes *-ese* as low-subjectivity and *-unikka* as high-subjectivity, with *-unikka* being able to accommodate only down to the volitional content level, and *-ese* being able to reach only up to evidential epistemic level. The following examples from that study, are provided as evidence of *-ese*'s use in the judgmental and evidential epistemic levels, respectively (pg. 126):

(35) a. Chelwu-ka harwucongil nol-ko iss-ese sihem-ey
Chelswu-NOM all.day play-PRG PRG-ESE test-GEN
hapkkek-hay-ss-um-e thullim-eps-ta-ko na-nun
pass-do-PST-NMLR-COMP error-not.exist-DEC-COMP 1s.TOP
syngkak-hay
think-do
'I think that Chelswu must have passed the exam because he is playing all day.'

b. nwun-i nok-ko iss-ese onto-ka yengsang-i la-ko
snow-NOM melt-PRG PRG-ESE temperature-NOM zero-be DEC-COMP
mit-e
believe-DEC
'Because the snow is melting, I think the temperature is above zero.'

The examples above show that what Hong (2006) refers to as epistemic levels are not comparable to the epistemic level discussed in this chapter. Because the examples explicitly mention the cognizer as well as the act of cognition, these are cases where the subject of consciousness is explicit and constitute content level uses of *-ese*. According to the present model, *-ese* causally connects cognitive processes, conceptual structures that model the interaction between participant entities and their change over time. Cognition itself, i.e. thinking, can be made the object of conceptualization, and that is the case for the examples in (35). The mental spaces analysis of (35b) diagrammed in Figure 3.8 shows that the thought space is embedded in a content space in which the activity of thinking as well as the cognizer are explicitly represented. In contrast, in epistemic spaces the subject of consciousness is implicit as is the act of believing or concluding.

Although the various characterization of *-ese* and *-unikka* according to objective/subjective or structural/phenomenal scales or dichotomies are to a certain extent successful at capturing their differences, the present approach, modeling them in terms of cognitive mechanisms, is better able to explain why a speaker would choose to use one over the other and how the resulting discourse effects emerge. For example, the following pair of sentences illustrate different ways of coding embedded perspective that depend on a semantic difference between *-unikka* and *-ese*. Sentence (a) is from Kim (1994:505), and (b) is identical to (a) except that the second occurrence of *-unikka* in (a) has been replaced with *-ese*. In both cases, the first occurrence of *-unikka* is the sequential sense:

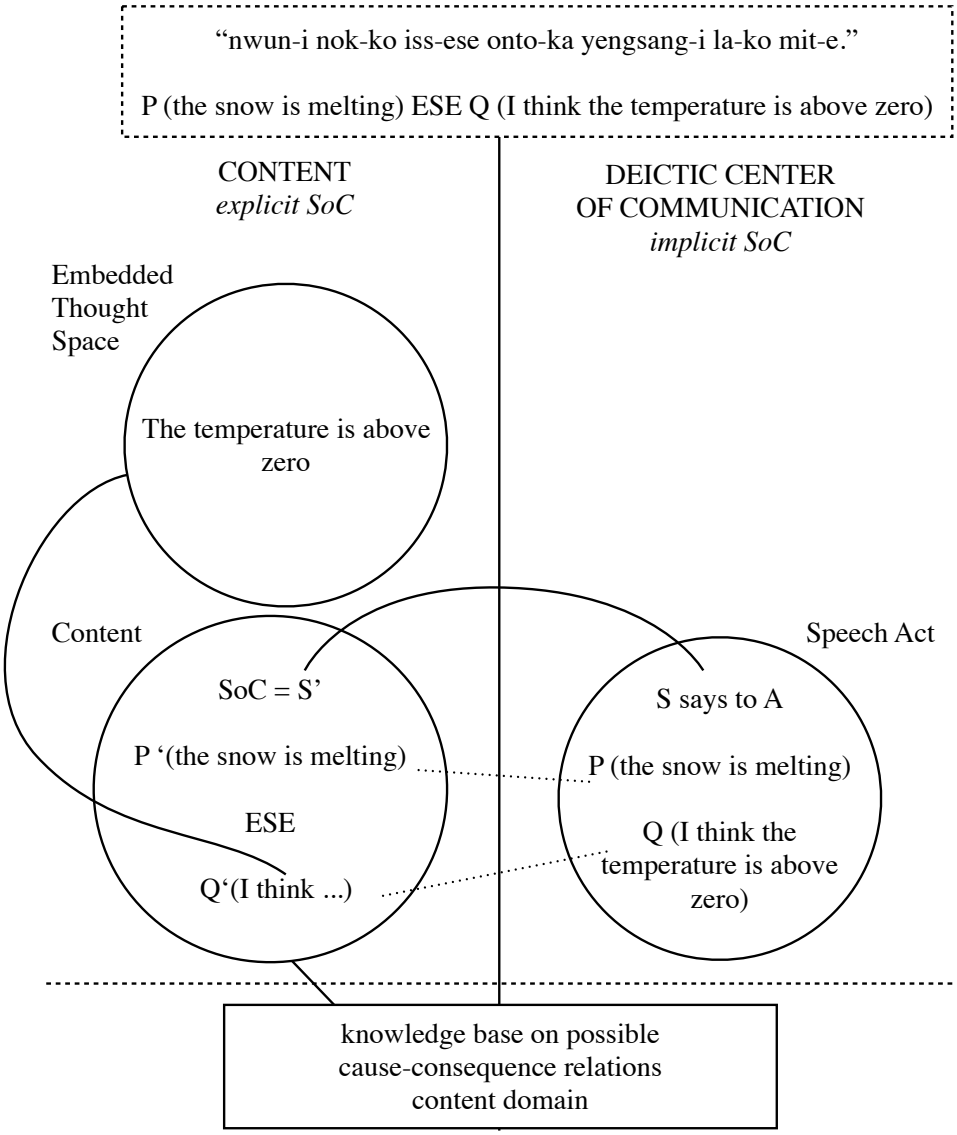

Figure 3.8: Mental spaces for (35b)

(36) a. nay-ka ku salam-eykey cenhwa-ul ha-nikka, ku salam-i
I-NOM the name-to phone-ACC call-UNIKKA the person-NOM
aphu-**nikka** onul hoyuyi-ey chamsek-ha-l swu eps-tay
sick-UNIKKA today meeting-LOC attendance-do-ATTR way not-HEARSAY
'I made a phone call to him, (and I heard that) he is sick, so he cannot attend the meeting today.' [K94.10b]

b. nay-ka ku salam-eykey cenhwa-ul ha-nikka, ku salam-i
I-NOM the name-to phone-ACC call-UNIKKA the person-NOM

aphe-**ese** onul hoyuyi-ey chamsek-ha-l swu eps-tay
sick-ESE today meeting-LOC attendance-do-ATTR way not-HEARSAY
'I made a phone call to him, (and he told me that) he is sick, so he cannot attend the meeting today.'

In the sentences in (36), one employee is explaining to the other employee how he found out that another employee will not be attending a meeting due to illness. The sentences describe the same state of affairs, but present their content from slightly different perspectives. The part of the sentences following the first instance of *-unikka* pertains to the interaction that occurred over the phone. The perspectival difference becomes apparent when one considers that it is awkward in Korean for a person to use *-unikka* as a way of communicating that he or she cannot come to a meeting because of an illness. Consider the following pair of sentences as possible ways that the sick employee could have spoken over the phone:

(37) a. cey-ka aphu-**nikka** onul hoyuyi-ey chamsek-ha-ci mot
I-NOM sick-UNIKKA today meeting-LOC attendance-do-COMP can't
ha-keyss-upnita
do-VOL-DEC
'?I cannot attend the meeting today because I'm sick'

b. cey-ka aphu-**ese** onul hoyuyi-ey chamsek-ha-ci mot
I-NOM sick-ESE today meeting-LOC attendance-do-COMP can't
ha-keyss-upnita
do-VOL-DEC
'I cannot attend the meeting today because I'm sick'

According to the present analysis, the awkwardness of (37a) is explained by causal *-unikka* evoking preexisting mental space content in the P clause. Thus, the speaker assumes that the hearer should already know about the callee's illness. If the basic premise of the situation is that the caller is learning that the callee is sick through the phone call, this expression is inappropriate. The statement in (37a) could be issued as a reproach, however, e.g. if the employee had already told the caller about being sick, but the caller was still not understanding the situation. Such a situation would then be analogous to the example in (20). In a typical calling-in-sick scenario, (37b) would be more typical.

Thus, the description of the phone call encounter in (36b) could be an indirect report of the sick employee's speech whereas (36a) could not. In (36a), the second *-unikka* keeps the narrative in the speaker's perspective and from a point of view in which the sickness was given information. It is thus a somewhat anachronistic narrative. In (36b), the description of the phone call has the possibility of being from the perspective of the sick employee—although that is not required. Given these considerations, it would be fair to characterize *-unikka* in these examples as being more subjective in some sense than *-ese*. However, the present approach articulates the difference between these connectives in a way that allows us to explain why they interact with other discourse phenomena in the ways that they do.

3.5 Conclusion

In this chapter I proposed a mental spaces model for the semantics and pragmatics of *-unikka*, which provided a unified account of its sequential and causal uses, as well as a number of other discourse functions. In its sequential sense, *-unikka*, as a space builder, creates a new mental space that sets up an embedded viewpoint as presupposed background for a main clause observation. Anteriority was found to derive from the nature of perspective setting and observation, which is that temporally the setting up of a viewpoint always precedes the making of observations from that viewpoint. In addition to providing an explanation for the subjective feel of *-unikka* compared to *-ese* with respect to their sequential uses, the analysis explained why evidential or indirect speech markers tend to appear on *-unikka*'s Q clause in conversational contexts. Finally, the sequential use of *-unikka*, by a connecting a viewpoint to an ensuing observation, was argued as also involving a causal relation.

The causal uses of *-unikka* were found to differ from the sequential use primarily along a space-building parameter—specifically, the causal use evokes structure already available in the context rather than creating and elaborating a new space. This characteristic was found to interact with the nature of causality in content domains such that content domain causal uses of *-unikka* are more limited in terms of applicable contexts, especially in scenarios where the caused effect is non-agentive. In contrast, the model predicted causal *-unikka* to have broader applicability to the epistemic and speech act domains, because causal relations in those domains need not have a fixed temporal relationship between cause and effect. Because independently evoked, positive epistemic stance, background mental spaces are essentially topics, this analysis also predicts Sohn's (1993) findings on *-unikka*'s topical properties. The mental spaces analysis of *-unikka* also made sense of some of *-unikka*'s discourse effects, whether used in its more canonical *P-unikka Q* form or independently of a main clause.

Thus, the present cognitive linguistic analysis of *-unikka* constructions was able to bring together, clarify, and explain a wide variety of generalizations and impressions about *-unikka*'s usage patterns. By appealing to conceptual structures and the processes by which language use builds up and manipulates mental representations, the analysis was able make predictions at a level inaccessible to surface characterizations, such as those analyzing *-unikka* as a topic marker or a causal conjunction with "phenomenal" semantics. In comparing and contrasting *-ese* and *-unikka*, we find that rather than being fundamentally similar except for certain qualitative properties, the two connectives are fundamentally different in cognitive make-up. The semantics of *-ese* is based on the conceptual system for understanding events as the interaction of participant entities across time, whereas *-unikka*'s semantics is based the conceptual system for managing interpersonal communication. From these bases, each connective issues a network of meanings and uses that cover a certain range of contexts. Although there are cases where there is functional overlap, such that the connectives could be substituted one in place of the other, these are the exception rather than the rule—for reasons that this model makes clear.

Chapter 4

Analysis of Korean *-taka* and *-myense*

4.1 Overview

The Korean connectives *-taka* and *-myense* pose a wide range of analytical challenges. Typically described as an interruptive connective, *-taka* is used to express a range of relations that includes cotemporality, succession, cause, and alternation. It also has a predictive conditional use which is peculiar in allowing only for the prediction of undesirable outcomes. Similarly, simultaneous *-myense* is used to express cotemporality, addition, and concession. The connectives are similar in a number of ways, but their similarities also highlight interesting differences in behavior. For instance, both connectives require that the subjects of their conjoined clauses be identical. However, the constraint is violable and the connectives differ with respect to the pattern of exceptions they allow. The connectives both allow past tense marking in their initial clause, but tense marking in *-taka*'s initial clause yields a successive reading, while for *-myense* the result is an obligatory concessive reading. A detailed characterization and analysis of these types of issues, which surround the connectives' various uses and the factors that condition them, are the goals of this chapter.

The analysis proposed to account for *-taka* and *-myense*'s various uses is based on the approach developed in Chapters 2 and 3. The complex interaction between facets of event structure, subjectivity, and discourse modeling exhibited by these connectives is shown to require an analytical approach that integrates all of these components.

4.1.1 Background on *-taka*

Because of its range of uses, Korean *-taka* has proven to be a difficult connective to characterize. Based on what are considered to be the most typical uses, the earliest references to *-taka* describe it as an "interruptive" connective that expresses the discontinuation of the preceding clause activity in favor of the one in the main clause (Lukoff 1945, Choi 1961). A typical example of this use is shown in (1).

(1) chelswu-ka hakkyo-ey ka-taka cip-ey tolao-ass-ta
Chelswu-NOM school-LOC go-TAKA home-LOC return-PST-DEC
'Chelswu was on his way to school, when he returned home.'

Example (1) describes a scenario in which Chelswu was on his way to school, but then turned around and returned home before reaching the school. Since Chelswu can be half way there or 99% of the way there when he turns back, it appears that *-taka* requires only that he didn't arrive at school, i.e. his trip there was interrupted.

It is well known, however, that *-taka* is able to express a range of related circumstantial relations. For example, the minimally different example in (2), in which the *-taka* clause contains the past tense (anteriority) marker *-ess*, can only mean that Chelswu arrived at school prior to turning back[1].

(2) chelswu-ka hakkyo-ey ka-ss-taka cip-ey tolao-ass-ta
Chelswu-NOM school-LOC go-PST-TAKA home-LOC return-PST-DEC
'Chelswu went to school, and then he returned home.'

Arguably, (2) could still be viewed as "interruptive" in that the end state of the preceding clause event is broken by the turn of events in the following clause (Lee 1993b). Attempting to characterize *-taka* more generally, without considering cases like (2) as peripheral, Martin & Lee (1969) introduce the term "transferentive," and claim that *-taka* constructions "indicate a shift in action: either of the verb action itself, or of its direction, or of the recipient of its benefit" (pg. 267). However, *-taka* has still other uses that cannot be characterized as interruptive or transferentive:

(3) sewul-ey sal-taka paywuca-lul manna-ss-ta
Seoul-LOC live-TAKA spouse-ACC meet-PST-DEC
'He met his spouse when he was living in Seoul.'

(4) nemeci-taka heli-lul tachi-ess-ta
fall-TAKA waist-ACC injure-PST-DEC
'He injured his back his back when he fell.'

Example (3) cannot be used to mean that living in Seoul was interrupted or that there was a shift from living in Seoul to meeting his spouse. Instead it conveys that the meeting occurred sometime while the subject was living in Seoul. Similarly, (4) describes a situation in which the subject fell and injured his back as a result of it. It cannot be used to mean that the fall was interrupted by the process of injuring his back or to say that there was some sort of shift of action from falling to getting injured. Song (1988) characterizes these as "concurrence" readings and suggests that they occur when the verbs in the main clause conjunct are either passive and intransitive or transitive but involuntary. However, it appears

[1]The status of the inflectional marker *-ess* as to whether it marks past tense, perfect tense, perfective aspect or a more general relation such as anteriority is controversial. See Section 4.5 for discussion. Glosses throughout the chapter reflect the traditional analysis of *-ess* as marking past tense (PST).

that the concurrence reading is not obligatory, as examples (5)–(5), which have passive or involuntary main clauses, seem nonetheless to convey interruption.

(5) totwuk-i ton-ul hwumchi-taka cap-hy-ess-ta
thief-NOM money-ACC steal-TAKA catch-PASS-PST-DEC
'The thief was captured while stealing money.'

(6) chelswu-ka swukcey-lul ha-taka cam tul-ess-ta
Chelswu-NOM homework-ACC do-TAKA sleep hold-PST-DEC
'Chelswu fell asleep while doing his homework.'

In (5), there is the sense that the theft was foiled by the capturing of the thief, and in (6), the Chelswu's homework remains incomplete due to his falling asleep. Concurrence characterizes (5)–(6) to some extent, as the capture and the stealing may have had some temporal overlap, as well as doing homework and the process of falling asleep. However, unlike (3)–(4), in which interruptive meaning was precluded, in (5)–(6), it is required.

Because of its variety of uses, characterizations of *-taka* have tended either to fall short descriptively or be too abstract to be of predictive value. For example, Lukoff (1982), while acknowledging *-taka*'s interruptive sense, claims that it focuses attention to an event's durative aspect and should be considered a "durative" conjunction. Song (1988) points to yet another way in which *-taka* is used—as a predictive conditional, as in (7)—and suggests that at its core, *-taka* captures a perceptual "contiguity" between the conjoined events that exists in the minds of the interlocutors.

(7) wuntong manhi ha-taka(-nun) tachi-n-ta
exercise a.lot do-TAKA(-TOP) injure-PRES-DEC
'If you exercise a lot, you're going to get injured.'

The conditional use of *-taka* in (7) constitutes a warning to the addressee not to exercise too much, lest she get injured. It can felicitously be used if the addressee is in the middle of exercising at the time of utterance, or if it is known to the speaker that the addressee has been exercising recently. Conditional *-taka* is often followed by the focus marker *-nun*, but it is not obligatory. The conditional use of *-taka* is especially challenging analytically, because, as Akatsuka & Sohn (1994) have observed, the construction imposes a peculiar requirement that the speaker consider both the protasis and apodosis to be undesirable. Thus, as shown in (8), conditional *-taka* cannot be used to make affectively positive predictions. Examples (7)–(8) show that although exercising a lot could be evaluated either way, as good or bad, when it appears in a conditional *-taka* construction, it must be considered bad as in (7) and lead to a bad outcome. It cannot lead to a positive outcome as in (8). In contrast, *-myen*, the more prototypical conditional connective can be used with either affective stance, as shown in (9a–b).

(8) #wuntong manhi ha-taka(-nun), kenkang hayci-n-ta
exercise a.lot do-TAKA(-TOP) healthy become-PRES-DEC

Intended 'If you exercise a lot, you're going to become healthy.'

(9) a. wuntong manhi ha-myen, tachi-n-ta
exercise a.lot do-MYEN injure-PRES-DEC
'If you exercise a lot, you're going to get injured.'
b. wuntong manhi ha-myen, kenkang hayci-n-ta
exercise a.lot do-MYEN healthy become-PRES-DEC
'If you exercise a lot, you're going to become healthy.'

Akatsuka & Sohn (1994) propose that the interruptive and conditional uses of *-taka* represent an ongoing process of grammaticalization, in which *-taka*'s interruptive sense, pertaining to external situations, has developed into a more internal or evaluative sense through subjectification (Traugott 1989, Traugott & Dasher 2002). Although their diachronic account is plausible, and apparently historically attested for Japanese *-tewa*, they offer no explanation as to why interruptive *-taka* has developed into a negative affect conditional instead of a neutral one, or for that matter, why it has developed a conditional sense at all.

The need for a cognitive-functional analysis of *-taka*'s semantics that specifies the mechanisms responsible for its various uses is further highlighted by the behavior of *-taka*'s conditional sense with respect to the usage domains described by Sweetser (1990). If the conditional use of *-taka* represents a "semantic shift from person-neutral to speaker-centered" such that *-taka* conveys the "speaker's evaluative judgment" (Akatsuka & Sohn 1994:217), we might reasonably expect *-taka* to have epistemic and speech act domain uses. For example, Sohn (1993:85) uses *-unikka*'s usability in all three domains, in contrast to *-ese*'s being limited to the content domain, as evidence that *-unikka* involves the "speaker's subjective attitude whereby the speaker's own point of view plays a central role in creating the causality." However, *-taka*'s conditional use appears to be limited to the content domain, as demonstrated by examples (10)–(12). Parallel examples using conditional *-myen* are provided to show that the unavailability of epistemic and speech act interpretations for *-taka* is not on account of the particular conjuncts involved.

(10) a. pitiokeyim-ul ha-taka sihem tteleci-n-ta
videogame-ACC do-TAKA exam fall-PRES-DEC
'If you play video games, you are going to fail the exam.'
b. pitiokeyim-ul ha-myen sihem tteleci-n-ta
videogame-ACC do-MYEN exam fall-PRES-DEC
'If you play video games, you are going to fail the exam.'

(11) a. *pitiokeyim-ul ha-ko iss-taka sihem tteleci-ess-napota
videogame-ACC do-KO be-TAKA exam fall-PST-MOD
'*If he is playing video games, he probably failed the exam.'
b. pitiokeyim-ul ha-ko iss-umyen sihem tteleci-ess-napota
videogame-ACC do-KO be-MYEN exam fall-PST-MOD
'If he is playing video games, he probably failed the exam.'

(12) a. *pitiokeyim-ul ha-ko iss-taka kuman ha-ko cip-ey ka-la
videogame-ACC do-KO be-TAKA stop do-KO home-LOC go-IMP
'*If you are playing video games, stop it and go home.'
b. pitiokeyim-ul ha-ko iss-uymen kuman ha-ko cip-ey ka-la
videogame-ACC do-KO be-MYEN stop do-KO home-LOC go-IMP
'If you are playing video games, stop it and go home.'

The content domain examples of *-taka* and *-myen* in (10) are predictive conditionals, predicting in both cases a real-world outcome—failing an exam—if the addressee acts out the content of the initial clause. In contrast, in (11), the initial clause content constitutes evidence on the basis of which the speaker will or will not conclude the content of the following clause. Similarly, in (12), although *-myen* can be used to conditionally motivate an imperative speech act, *-taka* cannot.

The survey of *-taka*'s various uses in this section has pointed to the inadequacy of existing characterizations and the lack of a substantive analysis of *-taka*'s semantics. The connective has been found to express, at the very least, interruption, succession, concurrence, and conditionality. In some cases, such as succession, there is an associated formal difference, such as past tense marking in the preceding clause. Concurrence readings are not formally marked, but associated with passive and involuntary main clauses. The conditional sense also seems to require involuntary main clause predicates. For example, (13a) with an involuntary main clause is acceptable, but the minimally different agentive variant in (13b) cannot be used as a predictive conditional even though the negative affective stance condition is plausibly satisfied for the apodosis clause. Formally, conditional *-taka* is distinct in often being topic marked, but the marking is not obligatory. Furthermore, some of the senses exhibit additional constraints. For example, conditional *-taka* requires negative affect towards its protasis and apodosis clauses, which is not the case for other uses of *-taka*.

(13) a. khal kaciko nol-taka(-nun) cwuk-nun-ta
knife with play-TAKA(-TOP) die-PRES-DEC
'If you play with knives, you will die.'
b. *khal kaciko nol-taka(-nun) nwukwu-lul cwuk-i-n-ta
knife with play-TAKA(-TOP) someone-ACC die-CAUS-PRES-DEC
'*If you play with knives, you will kill someone.'

The temporal succession use also has a peculiar constraint requiring explanation. Specifically, it doesn't allow for just any reasonable sequence of events. In the following examples, although (14a), with interruptive *-taka*, is fine, if the preceding clause is marked with *-ess* as in (14b), rather than taking on a succession reading, the sentence becomes unacceptable. Lee (1993b) suggests that when the *-ess*-marked initial clause contains a goal-directed action, the construction conveys an interruption and reversal of the final state of the initial clause. This characterization would account for why (14b) is unacceptable, in contrast to (15a), where the main clause represents a reversal of what happened in the initial clause. However, it makes the wrong prediction for (15b), which is acceptable, even though there is ostensibly

no reversal in the main clause.

(14) a. chelswu-ka cha-lul sa-taka cip-ey o-ass-ta
Chelswu-NOM car-ACC buy-TAKA home-LOC go-PST-DEC
'Chelswu went home in the middle of buying a car.'
b. *chelswu-ka cha-lul sa-ss-taka cip-ey o-ass-ta
Chelswu-NOM car-ACC buy-PST-TAKA home-LOC go-PST-DEC
'*Chelswu bought a car and then came home.'

(15) a. chelswu-ka cha-lul sa-ss-taka tasi phal-ass-ta
Chelswu-NOM car-ACC buy-PST-TAKA again sell-PST-DEC
'Chelswu bought a car and then resold it.'
b. chelswu-ka cha-lul sa-ss-taka hakkyo aph-ey twu-ko
Chelswu-NOM car-ACC buy-PST-TAKA school front-LOC leave-and
cip-ey ka-ss-ta
home-LOC go-PST-DEC
'Chelswu bought a car, and then left it in front of the school and went home.'

The connective *-taka* is also known for the constraints it imposes on its conjuncts. In a usage study of a number of Korean connectives in discourse, Kim (1990) found that *-taka* had the strongest tendency toward subject identity between its conjuncts, with 90% of uses appearing in same-subject contexts. A same-subject constraint is not unusual for Korean connectives, also appearing in some form for causal and sequential *-ese* as well as simultaneous *-myense*, but interestingly, *-taka* admits a systematic exception in the case that the predicates are identical, as in (16). Consequently, *-taka* has been described as requiring of its conjoined clauses that either the subject or the predicate, but not both, be the same (Nam 1994, Song 1988). Although this characterization of *-taka*'s subject identity constraint appears to be descriptively valid, it begs for further analysis. Is the constraint syntactic or semantic? Is the disjunction between subjects and predicates conventionalized, or is there some other factor that it derives from? Why don't other connectives' subject identity constraints show this pattern?

(16) ai-tul-i chwum chwu-taka elun-tul-i chwum chwu-n-ta
child-PL-NOM dance dance-TAKA adult-PL-NOM dance dance-PRES-DEC
'The children were dancing and now the adults are dancing.'

In summary, the connective *-taka* turns out to exhibit a range of complex uses and behaviors. The connective is known predominantly for its interruptive/transferentive use, associated with agentive main clauses, which are characterized by a shift in action, whether during or following the completion of the initial clause event. When the main clause is passive or involuntary, the connective is thought to convey concurrence—that the events overlap or that the main clause event happens in the context of the first. However, it is also possible in these cases for the main clause event to interrupt the preceding clause event. When the main clause is involuntary, the connective can also be used to issue a conditional prediction.

Finally, in cases where the conjoined predicates are identical, it was possible for the subjects of the conjuncts to differ, and the construction to convey succession.

4.1.2 Simultaneous *-myense*

Whereas *-taka* typically conveys that one event is superseded by another, *-myense* is used to convey that two events take place at the same time. In the literature, the relation it marks has been characterized variously as "temporal overlap" (Sohn 1995, Choi 1961, Kim 1992), "simultaneous" (Lukoff 1982, Lee 1993b), as well as "same time addition" (Sohn 2009), and treated as equivalent to English *while* (Rogers et al. 1992, Chang 1996, Sohn 2001). Example (17) conveys that Chelswu simultaneously watched TV and did his homework.

(17) chelswu-ka TV-lul po-myense swukcey-lul hay-ss-ta
Chelswu-NOM TV-ACC see-MYENSE homework-ACC do-PST-DEC
'Chelswu did his homework while watching TV.'

The sense of simultaneity is best exemplified in cases like (17) where the main clause contains a volitional action. When the main clause contains involuntary actions, as in (18)–(19), the sentence generally conveys that the main clause event has occurred in the context of the initial clause event. The difference is somewhat subtle, but enough to make the sentences difficult to translate into English using "while," and better suited for translation with "when." For example, in (19), the process of falling and the process of getting injured cannot be considered to have occurred simultaneously. Instead, the sentence describes a situation in which an injury occurred sometime during a fall, and most likely at or toward the end of the fall. The distinction between these two senses is suggested in Martin & Lee's (1969) brief characterization of *-myense* as corresponding to 'while' or 'when,' but no account is given as to the conditions under which *-myense* receives one or the other interpretation.

(18) sewul-ey sal-myense paywuca-lul manna-ss-ta
Seoul-LOC live-MYENSE spouse-ACC meet-PST-DEC
'He met his spouse when he was living in Seoul.'

(19) nemeci-myense heli-lul tachi-ess-ta
fall-MYENSE waist-ACC injure-PST-DEC
'He in injured his back when he fell.'

When the main clause refers to an involuntary action, the interpretation appears to depend on the aspectual properties of the conjuncts. Using the classification proposed by Vendler (1957), (18) represents an activity followed by an achievement, while (19) has *-myense* connecting two achievements. As one might expect, when *-myense* connects two durative predicates as in (20)–(21), the sentence conveys a sense of overlap in addition to cotemporality:

(20) mwul-i cungpalha-myense cwuletul-ess-ta
water-NOM evaporate-MYENSE shrink-PST-DEC

'The water shrank as it evaporated.'

(21) chelswu-ka ca-myense kho-lul kwul-ess-ta
Chelswu-NOM sleep-MYENSE nose-ACC snore-PST-DEC
'Chulswu snored as he slept.'

In contrast, when the main clause is agentive, even punctual events receive a construal where the subject exerts effort to coordinate the simultaneous execution of the connected events. Although in (22), *-myense* connects two achievements, and in (23), an activity and an achievement, their construal is not markedly different from (17), which connects two activities.

(22) chelswu-ka os-ul ip-uymense moca-lul pese-ss-ta
Chelswu-NOM clothes-ACC put.on-MYENSE hat-ACC take.off-PST-DEC
'Chulswu took off his hat while putting on his clothes.'

(23) chelswu-ka tampey-lul phiwu-myense kong-ul cha-ss-ta
Chelswu-NOM cigarette-ACC smoke-MYENSE ball-ACC kick-PST-DEC
'Chelswu kicked the ball while smoking a cigarette.'

Additional exceptional patterns obtain when one or both of the clauses is stative. For stative predicates in the main clause, those that denote a permanent state of affairs result in uninterpretable sentences, as shown in (24). Those that denote a temporary or typically episodic state of affairs are construed with starting temporal bounds. Thus, (25) conveys that the subject's stomach ache started while he was studying. As was the case for nonvolitional main clauses, the initial clause of (25) provides the temporal context for the main clause event.

(24) *sihem kongpwuha-myense ttokttok hay-ss-ta
exam study-MYENSE smart be-PST-DEC
'*While studying for the exam, he got smart.'

(25) sihem kongpwuha-myense payka aph-ass-ta
exam study-MYENSE stomach hurt-PST-DEC
'While studying for the exam, he had a stomach ache.'

When the initial clause of the *-myense* construct is stative, the sentence can convey cotemporality or concession. For example, (26) can be used to express merely that Chelswu had a stomach ache while he went to school or that Chelswu went to school despite having a stomach ache. As with statives in the main clause, when (26) is construed cotemporally, the initial clause stative predicate also receives a construal with a starting temporal bound. Thus, (26) conveys that the stomach ache began prior to Chelswu's leaving for school. If the stative predicate in the initial clause denotes a permanent state of affairs, however, a concessive reading is obligatory. For example, (27) can only mean that Chelswu failed even though he is smart. Example (28), in which the main clause event does not sufficiently

contradict expectations raised by the initial clause, is unacceptable and cannot be construed cotemporally.

(26) chelswu-ka payka aphu-myense hakkyo-ey ka-ss-ta
Chelswu-NOM stomach hurt-MYENSE school-LOC go-PST-DEC
'Chelswu went to school while he had a stomach ache.'
'Chelswu went to school even though he had a stomach ache.'

(27) chelswu-ka ttokttokha-myense sihem-ey tteleci-ess-ta
Chelswu-NOM smart-MYENSE exam-LOC fall-PST-DEC
'Even though Chelswu is smart, he failed the exam.'

(28) *chelswu-ka ttokttokha-myense sihem-ey pwuthe-ss-ta
Chelswu-NOM smart-MYENSE exam-LOC stick-PST-DEC
'*Even though Chelswu is smart, he passed the exam.'

When both conjuncts are stative, the *-myense* construct is thought to convey the co-occurrence of states predicated by the initial and main clauses. As suggested by the translations in (29)–(30), the co-occurrence can also be construed concessively if it conflicts with the speaker's expectations. Thus, for (29), if being cheap and good is considered a typical co-occurrence of qualities with respect to cars, the sentence conveys merely co-occurrence. If, however, cheapness is thought to imply poor quality, the sentence can convey concession.

(29) i cha-nun ssa-myense coh-ta
this car-TOP cheap-MYENSE good-DEC
'This car is cheap and good.'
'This car is cheap but good.'

(30) na-nun sulphu-myense pankap-ta
1sg-TOP sad-MYENSE glad-DEC
'I am sad and glad (at the same time).'
'I am sad but glad (at the same time).'

The concessive uses of *-myense* described thus far are consistent with König's (1988) characterization of concessive connectives, e.g. "q although p," as presupposing that "if p, then normally not q." Thus, in (27), if someone is claimed to be smart, then one might normally expect that person to have passed, rather than to have failed, an exam. Similarly the concessive readings for (29)–(30) occur only in the context of a presupposition that the first quality usually precludes the second.

As was the case for *-taka*, the connective *-myense* generally does not allow tense or modality marking in the initial clause, but does allow the past tense *-ess*. When *-ess* occurs in the *-myense* clause, a concessive reading is obligatory. In (31), Chelswu watches TV but then tells people that he didn't. The concessive relation depends on the presupposition that one normally does tell people that they didn't do things that they actually did. Such a presupposition is not available for (32), where Chulswu watches TV and then does his

homework. Although the presence of *-ess* in the initial clause seems to alter the temporal relation such that the initial and main clause events are not cotemporal, but rather occur one after the other, a sequential non-concessive reading is not possible for (32).

(31) chelswu-ka TV-lul po-ass-umyense anh po-ass-tako ha-n-ta
Chelswu-NOM TV-ACC see-PST-MYENSE NEG see-PST-QUOT do-PRES-DEC
'Although Chelswu watched TV, he says that he didn't.'

(32) *chelswu-ka TV-lul po-ass-umyense swukcey-lul ha-n-ta
Chelswu-NOM TV-ACC see-PST-MYENSE homework-ACC do-PST-DEC
'*Although Chelswu watched TV, he is doing his homework.'

Sohn (1995) considers this a case of homophony, and claims that concessive *-myense* allows tense marking in its initial clause, while simultaneous *-myense* does not. This view, however, is difficult to sustain, because the co-occurrence/concession polysemy is cross-linguistically common, and concessive connectives have been found diachronically to develop from connectives denoting temporal overlap (König 1985, Traugott & König 1991). Furthermore, the concessive and simultaneous uses of *-myense* exhibit the same subject identity constraint, with the same exceptions.

The connective *-myense* requires the subjects of its conjuncts to be identical, much like *-taka*. Consequently, the conjuncts in (33) cannot be connected with *-myense*. Example (34) shows that the constraint also applies to concessive uses of *-myense*.

(33) *chelswu-ka TV-lul po-myense yenghi-ka swukcey-lul
Chelswu-NOM TV-ACC see-MYENSE Yenghi-NOM homework-ACC
hay-ss-ta
do-PST-DEC
'*Yenghi did her homework while Chelswu watched TV.'

(34) *chelswu-nun kwail-ul cowaha-myense umma-ka yachey-man
Chelswu-TOP fruit-ACC like-MYENSE mom-NOM vegetable-only
cwu-ess-ta
give-PST-DEC
'*Although Chelswu likes fruit, his mom gave him only vegetables.'

In some cases, when one or both of the conjuncts' subjects is inanimate, *-myense*'s same subject condition appears to be suspended, as shown in (35a–b). In Kim's (1990) discourse usage study, 86% of *-myense* conjoined clauses had coreferential subjects, and of the remaining 14%, at least one of the subjects was inanimate. Example (36) shows that *-myense*'s subject identity constraint differs from *-taka*'s and does not allow subjects to differ when the predicates are identical.

(35) a. pi-ka o-myense palam-i pwul-ess-ta
rain-NOM come-MYENSE wind-NOM blow-PST-DEC
'It rained and (at the same time) it was windy.'

b. pay-ka twuycipeci-myense chelswu-ka mwul-ey ppaci-ess-ta
boat-NOM capsize-MYENSE Chelswu-NOM water-LOC fall.in-PST-DEC
'As the boat capsized, Chelswu fell into the water.'

(36) *aitul-i nolay ha-myense eluntul-to nolay hay-ss-ta
children-NOM sing do-MYENSE adults-too sing do-PST-DEC
'*While the children sang, the adults sang too.'

The suspension of *-myense*'s subject identity constraint, however, does not apply for just any inanimate subjects. Example (37) shows a case in which the subjects of both conjuncts are inanimate, but the sentence is unacceptable.

(37) *cha-ka cinaka-myense namwu-ka ssuleci-ess-ta
car-NOM pass.by-MYENSE tree-NOM fall-PST-DEC
'*The tree fell over as a car drove by.'

To explain the acceptability of examples like (35a–b) in light of others such as (37), Lee (1993b) suggests a semantic basis for the exception to the subject identity condition, and proposes that the subjects may be different as long as there is a common cause or force behind the events in the two clauses. Thus, in (35a), the rain and the wind are caused by the same natural forces, and similarly, in (35b), the same force is behind the capsizing of the boat and Chelswu's falling into the water. In fact, (36) and (37) are acceptable if they are construed causally. Thus, (36) could be used to describe a scene in which the childrens' singing causes the adults to start singing as well. Similarly, (37) could be used if it is understood that somehow the driving by of the car caused the tree to fall. Although this approach is largely successful at characterizing the exceptions to the subject identity condition, the question remains as to why the *-taka* and *-myense* connectives exhibit these particular, and differing, exceptions.

Returning to the relationship between simultaneous and concessive *-myense*, examples (38)–(39) show that the same exceptional pattern with respect to the identical subject constraint holds for concessive *-myense*. While (38), with different subjects, is unacceptable, (39), though its subjects are also different, is licensed, because the same force, presumably nature, can be seen as behind the events in both conjuncts.

(38) *manhun cip-i mwuneci-ess-umyense wuli cip-un koaynchanh-ass-ta
many house-NOM collapse-PST-MYENSE our house-TOP okay-PST-DEC
'*Although many houses collapsed, ours was okay.'

(39) pi-ka o-ass-umyense kongki-nun kencoha-ta
rain-NOM come-PST-MYENSE air-TOP dry-DEC
'Although it rained, the air is dry.'

An interesting, and somewhat unexpected, characteristic of concessive *-myense* constructions is that with respect to Sweetser's (1990) usage domains, they appear to be limited to the content domain. This is demonstrated by examples (40)–(42), where *-myense*'s behavior is

contrasted with concessive *-ciman* to show that the conjuncts themselves do not preclude concessive construals.

(40) a. ton-ul ta ile-ss-ciman, kippe ha-n-ta
money-ACC all lose-PST-CIMAN, happy do-PST-DEC
'Although he lost all his money, he's happy.'

b. ton-ul ta ile-ss-umyense, kippe ha-n-ta
money-ACC all lose-PST-MYENSE, happy do-PST-DEC
'Although he lost all his money, he's happy.'

(41) a. sihem-un cal po-ass-ciman, meli-nun pyello anh cowa
exam-TOP well see-PST-CIMAN, head-TOP much not good
'Although he did well on the exam, he's not that smart.'

b. *sihem-un cal po-ass-umyense, meli-nun pyello anh cowa
exam-TOP well see-PST-MYENSE, head-TOP much not good
'*Although he did well on the exam, he's not that smart.'

(42) a. sikan-un eps-usi-keyss-ciman, hankaci pwuthak hay-to
time not.have-HON-MOD-CIMAN, one favor do-COMP
toy-lka-yo?
permit-INT-HON
'Although you probably don't have much time, could I ask you for a favor?'

b. *sikan eps-usi-keyss-myense, hankaci pwuthak hay-to
time not.have-HON-MOD-MYENSE, one favor do-COMP
toy-lka-yo?
permit-INT-HON
'*Although you probably don't have much time, could I ask you for a favor?'

The content domain uses of *-ciman* and *-myense* in (40) describe real-world outcomes that have occurred, contrary to what might normally be expected given the circumstances in the initial clause. In contrast, for the epistemic domain uses in (41), the speaker asserts a belief in the main clause despite evidence in the initial clause that would indicate otherwise. Finally, for the speech act domain examples in (42), the speaker poses a question, while acknowledging in the initial clause that the circumstances are not appropriate for doing so. Examples (41)–(42) show that *-myense*'s concessive use does not extend to the epistemic and speech act domains.

This behavior with respect to the usage domains could be considered unusual because adversativity, including concession, fundamentally involves the perception or conceptualization of contrast (Sweetser 1990:104). If concessive *-myense* involves a contrast with respect to an expected norm, whose sense of norm is it? Given this inherent subjectivity, one might expect concessive *-myense* to function only in the epistemic and speech acts domains. Accordingly, Sweetser (1990) observes that *while* can be used adversatively in the epistemic and speech act domains, but appears to be limited to cotemporal relations in the content domain (pg. 155):

(43) a. While Paris is large, it is not impersonal.
b. While I sympathize with your troubles, bring me a paper on Monday or else!

In summary, the connective *-myense* turns out to exhibit a range of complex behaviors. Though it is primarily thought to convey simultaneity, and to be equivalent to *while*, it has uses that are better translated using *when*, as well as additive and concessive uses. The connective's polysemy was shown to interact with the aspectual properties of its conjuncts, as well as whether volitionality is present in the main clause. In addition, *-myense* is characterized by a subject identity condition that requires that its subjects be identical, except if they are inanimate and if the conjoined events are motivated by a common cause or force. Finally, concessive *-myense*, despite an inherent subjectivity, was found to be limited to content domain use.

4.1.3 Summary

This section's descriptive introduction to *-taka* and *-myense* has revealed considerable complexity in the semantics and pragmatics of these connectives, and points to a number of questions and challenges. Given *-taka*'s various uses, there are questions as to how these uses are related to each other, what cognitive mechanisms are involved, and what role *-taka* plays in each case. Although attempts at descriptive characterization have been made for each of *-taka*'s uses, they were found to be inadequate for a number of reasons. First, they were descriptively inadequate. Some of *-taka*'s uses could not be considered interruptive or transferentive, and some uses had interruptive readings despite being predicted to have concurrence readings. Secondly, no explanations have been offered as to the particular constraints that characterize different uses of *-taka*, such as the negative affect requirement on predictive conditionals, or precisely what conditions license the temporal succession use. There was the question as to why conditional *-taka* was limited to content domain uses despite being considered "speaker-centered," as well as why *-taka* exhibits a disjunctive constraint requiring either subjects or predicates, but not both, to be the same.

Similarly, given *-myense*'s various uses, there are questions as to which aspects of meaning *-myense* is responsible for. Put another way, how does *-myense*'s semantics interact with other contextual factors to give rise to its various uses? In addition, these uses exhibited behaviors that require explanation. For example, although temporal simultaneity and concession as semantic variants of the same form is not unusual, why is it that when the initial clause contains a permanent state or is marked with anterior *-ess*, a concessive construal is obligatory? How does *-myense*'s same subject condition, with its peculiar exception, relate to *-myense*'s semantics? Why is *-myense*'s concessive use limited to the content domain?

Although *-taka* and *-myense* do not represent the same semantic category, they exhibit a number of similarities that motivate an analysis of one in light of the other. For example, Nam (1994) characterizes the temporal relationship between *-taka* and *-myense* as one of complementarity in profiling with respect to a common time structural background, as depicted in Figure 4.1. In the figure, S_1 represents the initial clause event, and S_2 the

main clause event. The vertical line labeled C represents the connection between the events established by the connective, which is also the point at which S_2 begins. Based on this common temporal framework, Nam (1994) views *-taka* as concerned with the α portion of the S_1 event, while *-myense* is concerned with the β part. For *-taka*, the S_1 event, which would naturally run to completion until the V_1 completion point, is either discontinued or backgrounded at the point C. Thus, at the "speech time," for typical interruptive *-taka* constructions, S_1 would have been discontinued, while S_2 is in progress. In contrast, for simultaneous *-myense* constructions, both S_1 and S_2 would be in progress.

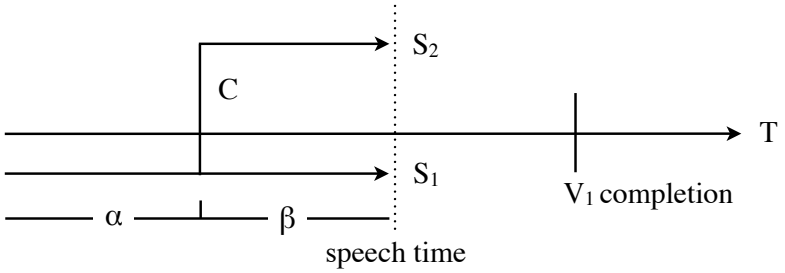

Figure 4.1: *-taka* vs. *-myense* (Nam 1994:197)

Consequently, in some cases, non-interruptive uses of *-taka* and non-simultaneous uses of *-myense* can refer to the same situation. Examples are shown in (44). For both connectives, this sense can only occur when the main clause contains an involuntary action.

(44) a. sewul-ey sal-taka/-myense paywuca-lul manna-ss-ta
Seoul-LOC live-TAKA/-MYENSE spouse-ACC meet-PST-DEC
'He met his spouse when he was living in Seoul.'

b. nemeci-taka/-myense heli-lul tachi-ess-ta
fall-TAKA/-MYENSE waist-ACC injure-PST-DEC
'He injured his back when he fell.'

Apart from these semantic connections, *-taka* and *-myense* both permit only past tense marking in their initial clause and both exhibit subject identity constraints. The similarities, however, are also punctuated by differences, such as the effect of past tense marking in the initial clause, the systematic exceptions that each connective allows to its subject identity constraint.

How then can these connectives be modeled so as to account for both convergences and divergences in their meanings and uses? In this chapter, I present semantic-pragmatic models for *-taka* and *-myense* that address these issues. The models are built on the framework developed in Chapters 2 and 3 to account for *-ese* and *-unikka*, and are able to provide a unified analysis of the complex behaviors sketched out in this section. In the following section, I present a sketch of the most relevant parts of the framework. Analyses for *-taka*'s and *-myense*'s range of uses are presented in turn in Sections 4.3 and 4.4. These are followed

by a comparative look at three phenomena in Sections 4.5–4.7: anteriority marking in the initial clause, subject identity constraints, and usage domain accessibility.

4.2 Event structure and volitionality

The event structure framework developed in Chapter 2 integrated aspects of Cognitive Grammar, Frame Semantics, and Narayanan's (1997) biologically motivated aspectual model, to account for *-ese*'s uses as a sequential, cotemporal, and causal connective. The further integration of this framework into the Basic Communicative Spaces Network (Sanders et al. 2009) in Chapter 3 allowed for an analysis of *-unikka*'s various uses and a better articulated differentiation of *-ese* and *-unikka*'s causal uses. I now show that this framework is able to support a unified analysis for the various uses of *-taka* and *-myense* constructions.

Verbal semantics in Cognitive Grammar (Langacker [1991] 2002) is modeled in terms of processes, which represent the conceptualization of change across time of relational state between participants. In Figure 4.2, the circles and squares represent the same participants across time, and the vertical dashed lines between them represent the relation between them, which is static at any single point in time but can be conceptualized as changing when a series of such relations is sequentially scanned. Sequential scanning is represented by the thicker portion of the time dimensional line. The differentiation between the circle and the square represents the asymmetry in profiling that characterizes relational predicates, e.g. the trajector-ground asymmetry in motion predicates. Dynamicity is not required of processes, and so processes can also represent time-stable situations. The outer box that encloses all the participants and the relations between them represents the scope of predication. As demonstrated in Chapter 2, predicational scope is instrumental to differentiating between relevant vs. irrelevant aspects of temporal and participant structures. Thus, perfective and imperfective processes are largely differentiated on the basis of whether or not they are temporally bounded within the scope of predication. Similarly, predicational scope allows for the differentiation of required, optional, and irrelevant participant roles.

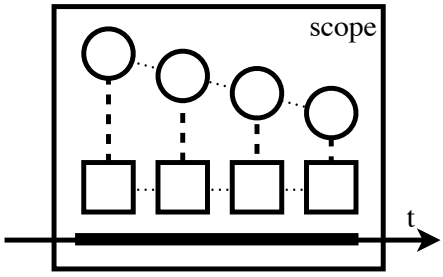

Figure 4.2: A process

However, in addition to event-structural relations such as interruption, succession, and simultaneity, which could perhaps be modeled strictly in terms of processes, *-taka* and *-myense*

exhibit senses that require the involvement of a subject of consciousness (SoC). For example, a predictive conditional use of *-taka* requires negative affect toward its protasis and apodosis, which raises the question—whose negative affect? Similarly, for adversative uses of *-myense*, there is the question as to whose perception of contrast is involved, or whose expectation is contradicted. Along these lines, for example, Sweetser (1990:104) doubts the availability of any purely content domain uses of English *but*.

Mental Spaces Theory (Fauconnier 1985, Sweetser & Fauconnier 1996) provides a cognitively plausible framework for the analysis of complex discourse phenomena, including the relations expressed by connectives. It has been used to model the meaning and use of conditional contructions (Dancygier & Sweetser 2000, 2005) as well as concessive constructions and their relation to causals (Verhagen 2000, 2005). The analysis of Dutch causal connectives has pointed to the need to differentiate connectives on the basis of Langacker's (1990) notion of subjectivity (Pander Maat & Sanders 2001). For example, Dutch *daarom* locates causality in the volitionality of an explicit SoC, while in epistemic domain uses of *dus*, the causal relation stems from the reasoning process of an implicit SoC—the speaker. Finally, *daardoor* expresses causal relations independent of the involvement of any SoC. Examples of these uses from Sanders et al. (2009:21) are given in (45)–(47) below.

(45) Het was een warme dag. Daarom ging Jan zwemmen.
'It was a hot day. That's why Jan when swimming.'

(46) Het licht bij de buren is uit. Dus ze zijn niet thuis.
'The neighbors' lights are out. So they are not at home.'

(47) De zon scheen. Daardoor steeg de temperatuur.
'The sun is shining. As a result the temperature rose.'

To account for such phenomena, Sanders et al. (2009) introduce the Basic Communicative Spaces Network (BCSN), an approach that integrates subjectivity and usage domains into an MST-based framework. The BCSN model articulates mental space structure that must always be available by default in any communicative situation to interpret the various types of linguistic expressions that characterize discourse. As shown in Figure 4.3, at the linguistic level, the model distinguishes between deictic spaces with implicit SoCs, represented on the right, and content spaces with explicit SoCs, on the left. The building and elaboration of spaces begins from the speech act space and extends to other spaces, supported by the knowledge base represented at the conceptual level. Figure 4.3 depicts the mental space configuration for the content-volitional use of *daarom* in (45). The evaluation of *daarom* in the content-volitional space connected to the explicit SoC, Jan, yields the construal that Jan decides to do the action in Q for the reason in P. Thus, it is the explicitly mentioned subject, Jan, rather than the speaker who is responsible for the causal connection.

In contrast, with epistemic *dus*, as shown in (46), it is the speaker, who is not explicitly mentioned, who concludes that the neighbors are not at home based on the observation that their lights are out. Thus, *dus* expresses a causal relation in an epistemic domain in which the speaker is the implicit SoC. Finally, *daardoor*, in (47), expresses content domain

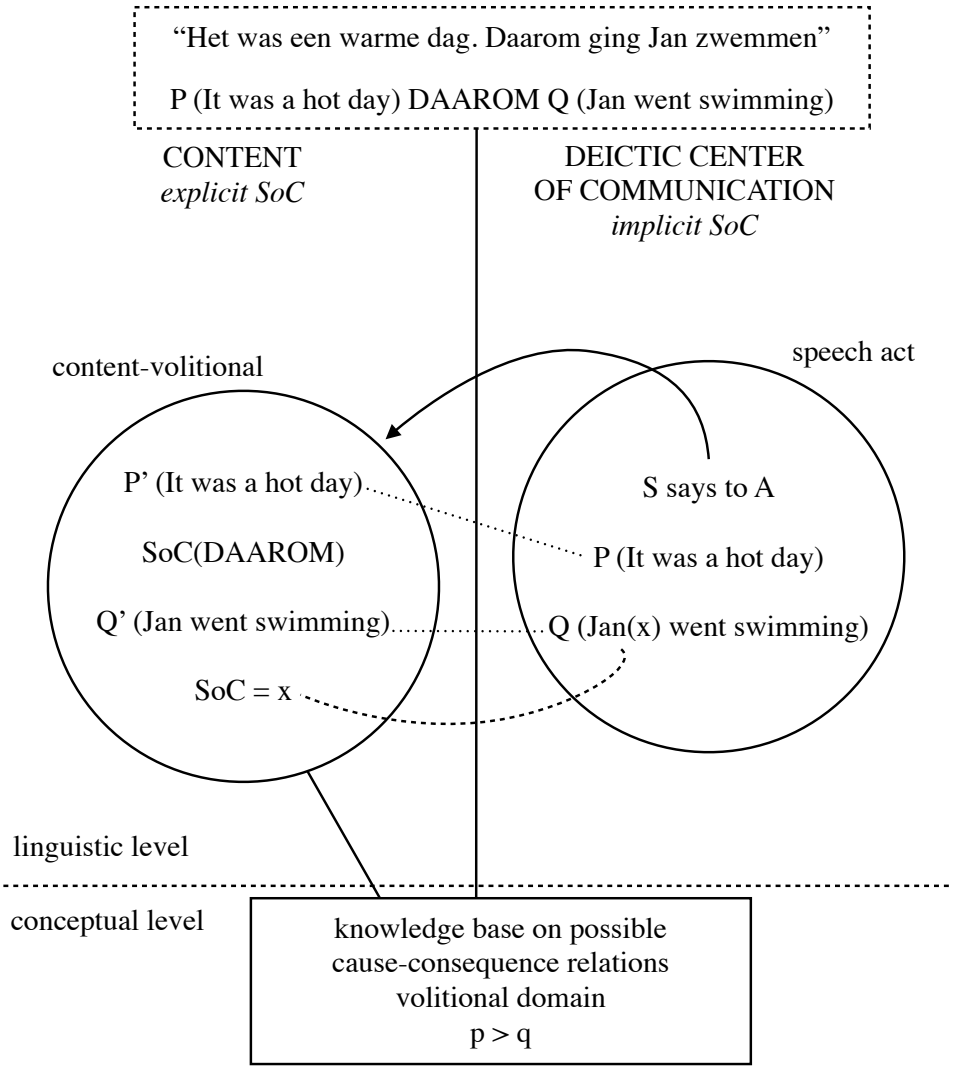

Figure 4.3: content volitional *daarom* (Sanders et al. 2009:35)

causal connections without any volitional involvement. In this case, the causal relation is maximally on stage and thus maximally objective in the sense of Langacker (1990). In the BCSN, this is represented through content nonvolitional domains, which are distinct in having no associated SoC. Figure 4.4 depicts the mental spaces configuration for (47). Similar to *daarom*, space construction starts from the speech act space in the deictic center of communication. For *daardoor*, however, no explicit SoC is mentioned, and the causal relation between P and Q is interpreted relative to a content nonvolitional space rather than a content volitional space.

In this section, I have briefly reviewed aspects of two frameworks developed independently to account for different linguistic phenomena. The process model from Cognitive

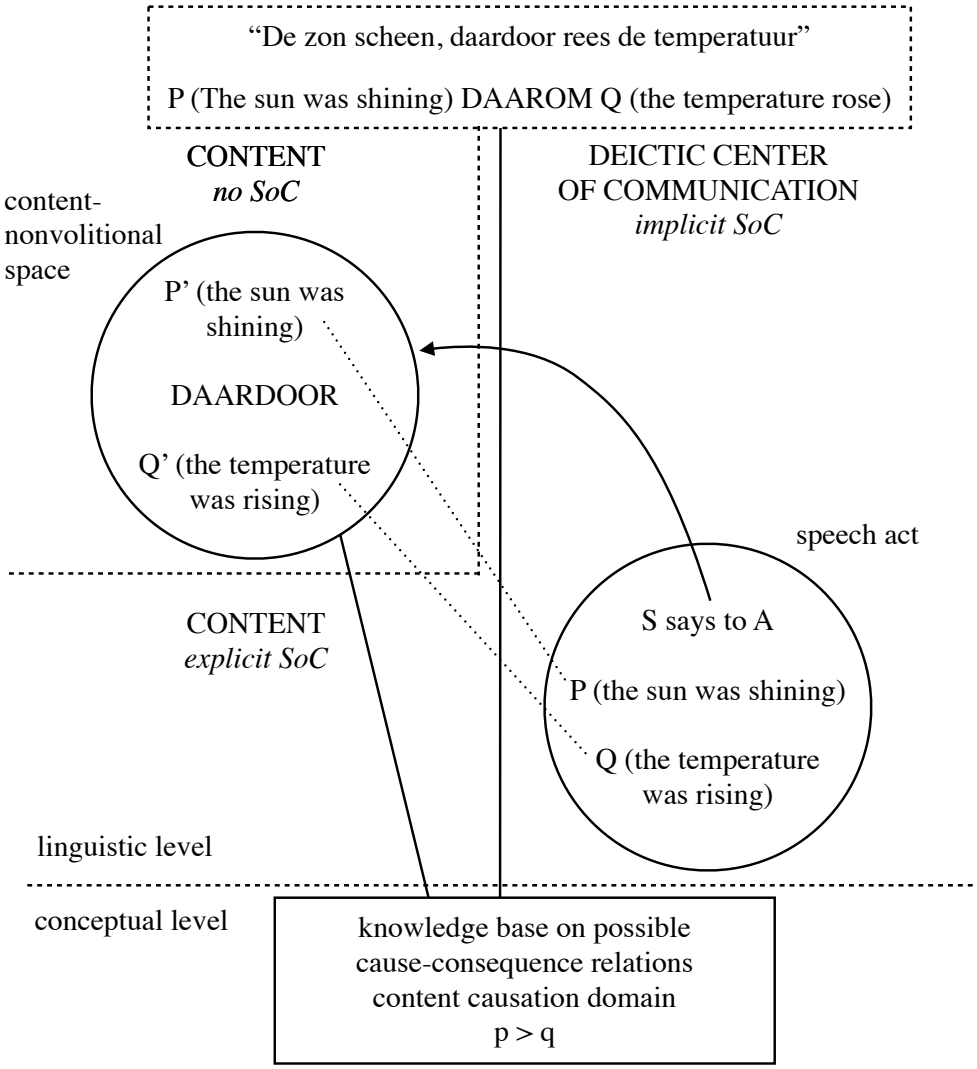

Figure 4.4: content nonvolitional *daardoor* (Sanders et al. 2009:51)

Grammar was developed to account for the semantics of verbs. The Basic Communicative Spaces Network was developed to account for the various types of causal relations expressed by causal connectives—in particular, the types that require differentiation on the basis of subjectivity. These frameworks are compatible and complementary in that the process model constitutes a type of content from the perspective of Mental Spaces Theory. In Chapter 3, this basis for integration allowed for the comparison of Korean causal connectives *-ese* and *-unikka* relative to a common overarching framework. In this chapter, I apply this integrated framework toward the analysis of Korean connectives *-taka* and *-myense*.

4.3 An analysis of *-taka*

In event-structural terms, *-taka* can be modeled as establishing two kinds of relations between the processes it connects, one temporal and the other pertaining to participant structure. As shown in Figure 4.5, given a construction *P1-taka P2*, processes P1 and P2 are temporally aligned such that the start of P2 is within the temporal bounds of P1. This is represented by the dashed vertical line connecting the beginning of P2's sequential scanning to a point in the middle of P1's sequential scanning. The construction temporally profiles the scanned part of P1 up to the alignment point, and then the scanned part of P2 thereafter. The graying out of the remainder of P1 is to indicate that, depending on whether P1 is construed as interrupted, that portion may not be scanned at all. Secondly, the model includes an identity relation between the profiled participants of the processes, such that they represent the same entity. This relation, shown in Figure 4.5 as a dotted line connecting the circles in both processes, is the same identity relation that connects identical participants within the same process across time, such that sequential scanning results in a construal where the relation between the participants changes, rather than the participants themselves. This constraint on subject identity will be revisited in Section 4.6, where it will be shown that in fact the picture is not so simple.

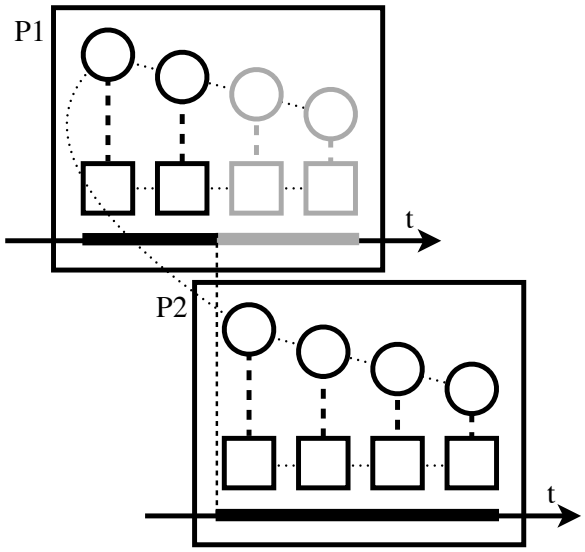

Figure 4.5: event-structural components of *P1-taka P2*

In addition to the event-structural components, the model includes a subjective component. If the main clause process P2 includes an explicit subject of consciousness (SoC) in a volitional role, the construction locates the decision to discontinue P1 and initiate P2, and the reason for doing so, in the volitionality of that explicit SoC. Thus, in examples like (48), the explicit SoC, Chelswu, decides to discontinue his to trip to school and instead to return home. The decision, and the unstated reasons for it, are attributed to Chelswu. The explicit

SoC may be linguistically represented in either clause, or it may be omitted entirely if the referent is contextually recoverable, which is behavior typical of NPs in Korean.

(48) chelswu-ka hakkyo-ey ka-taka cip-ey tolao-ass-ta
Chelswu-NOM school-LOC go-TAKA home-LOC return-PST-DEC
'Chelswu was on his way to school, when he returned home.'

This is analogous to content-volitional Dutch *daarom* in (45), where the explicit SoC, Jan, is responsible for the causal relation between it being a warm day and his going swimming. Specifically, Jan decides to go swimming, and the preceding clause contains his reason for deciding to do so. Although the relation expressed by *-taka* is not causal, the explicit SoC is similarly responsible for the relation it expresses. In (48), Chelswu decides to go home. The context of that decision is given by the preceding clause. Thus, while he is in the middle of going to school, he decides to discontinue his trip to school, and instead to return home. The volitional component of *-taka* is schematically presented in Figure 4.6. Given a process P1, already in progress, *-taka* represents the SoC's decision to discontinue P1 and instead initiate P2. The decision implies an evaluation of P1 and P2, in which the SoC finds P1 less desirable and P2 more desirable.

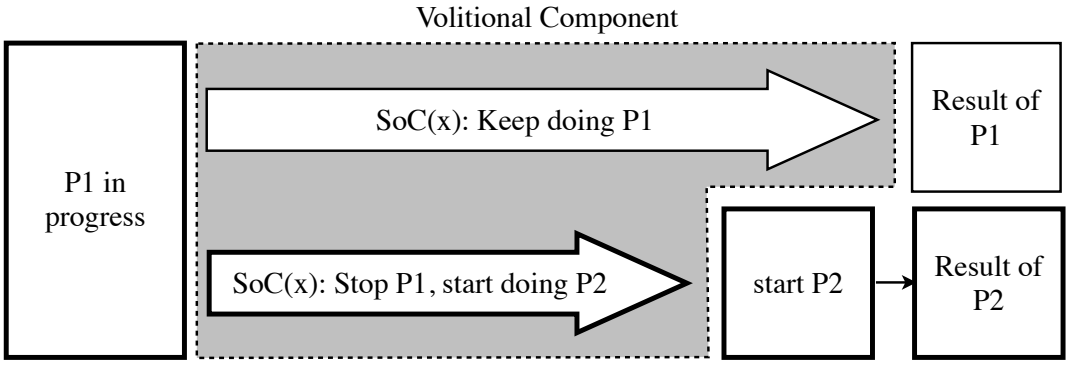

Figure 4.6: Volitional component of *P1-taka P2*

Under this analysis, (48) represents a content-volitional use of *-taka*. Figure 4.7 shows the corresponding mental space configuration. Space construction begins in the speech act space, where Chelswu is explicitly mentioned and becomes available as an explicit SoC. A content space is constructed to interpret the event-structural aspects of the *-taka* construction. Because of the volitionality involved in P2, this space is a content-volitional space in which the explicit SoC connected to the space is identified as Chelswu. In this space, temporal and participant structural relations are interpreted according to the model depicted in Figure 4.5, which relies on the knowledge base represented in the diagram at the conceptual level. In addition, *-taka*'s volitional component is interpreted with Chelswu as the SoC.

Thus far, the model seems to account for uses of *-taka* where the main clause (P2) specifies a volitional process. It is, however, able to give a straightforward account of the other uses

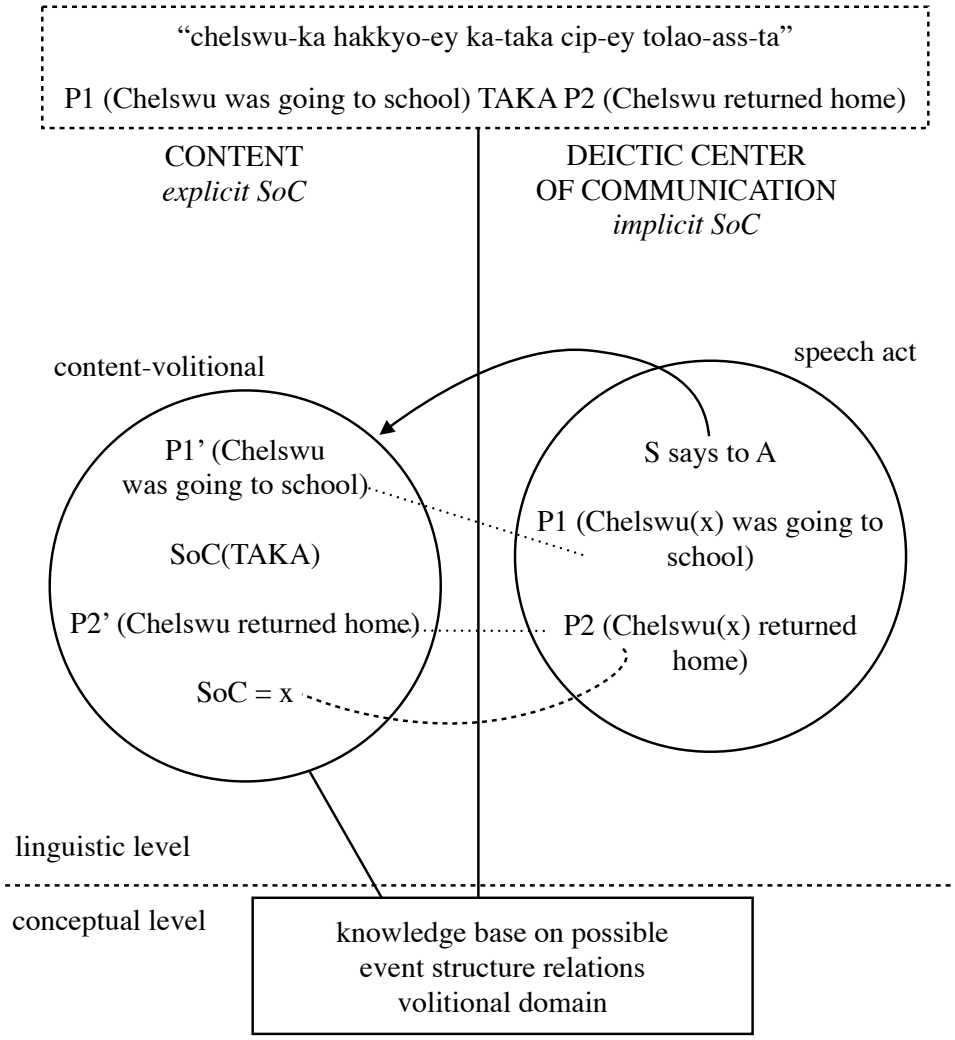

Figure 4.7: Content-volitional use of *-taka* in (48)

of *-taka* as well. As presented in Section 4.1.1, involuntary processes can appear in the main clause of *-taka*, and in such cases, it is possible for *-taka* to express concurrence rather than interruption. The following is an example of this use, which is reproduced from (3).

(49) sewul-ey sal-taka paywuca-lul manna-ss-ta
Seoul-LOC live-TAKA spouse-ACC meet-PST-DEC
'He met his spouse when he was living in Seoul.'

In (49), the main clause describes a serendipitous event rather than a planned-out meeting. Based on the present model, I propose that examples like (49) constitute content-nonvolitional uses of *-taka*. An analysis in terms of the BCSN is shown in Figure 4.8. As before, space construction begins in the speech act space. A content space is constructed to

interpret the *-taka* construction, but since there is no volitionality involved in P2, the space is a content-nonvolitional space. As with interruptive uses, the temporal and participant structural relations are interpreted according to the model depicted in Figure 4.5.

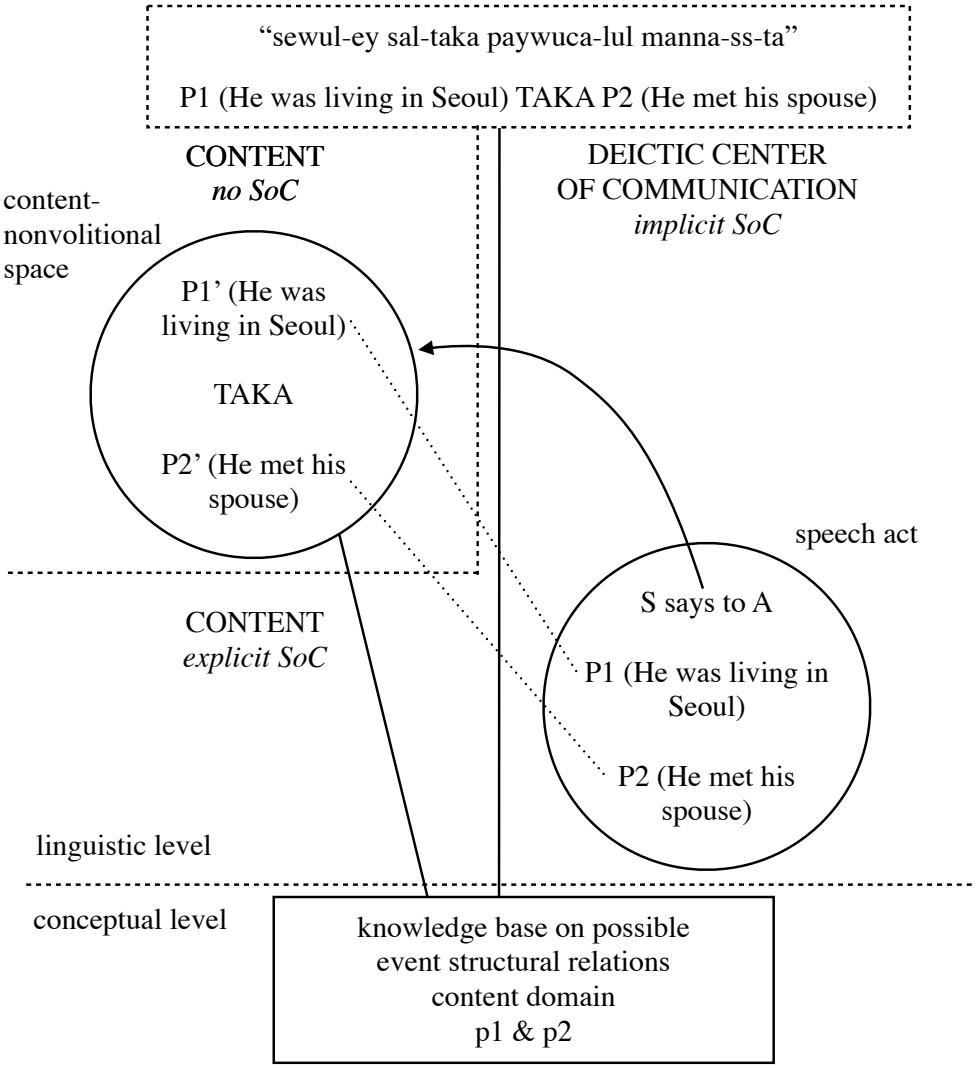

Figure 4.8: Content-nonvolitional use of *-taka* in (49)

A crucial difference, however, is that there is no SoC connected to this space, and no SoC to connect to *-taka*'s volitional component. Consequently, *-taka*'s volitional component becomes irrelevant. This is depicted in Figure 4.9. The diagram shows P1 in progress and continuing to completion without volitional interference. Instead of P2 being initiated, it is construed as occurring at the point of temporal alignment. The thin arrows in the diagram represent transitions that do not involve volitionality. Without the volitional component, the diagram in Figure 4.9 does not contain any information that is not already represented

in the event-structural component depicted in Figure 4.5. Thus, besides the constraint that the profiled participant in P1 and P2 are the same, all that *-taka* specifies is that P2, in this case meeting his spouse, occurs sometime inside the temporal bounds of P1, living in Seoul.

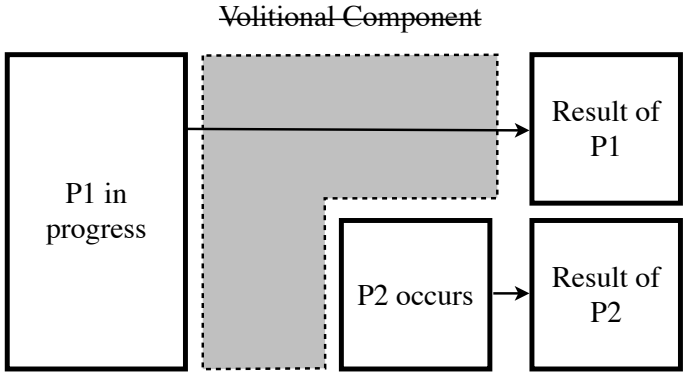

Figure 4.9: *P1-taka P2* in a nonvolitional space

An important feature of the model is that the interruption of P1 is not a constraint directly attached to *-taka*. In content-volitional uses of *-taka*, P1's discontinuation occurs as the result of a volitional decision by an explicit SoC. In content-nonvolitional uses, where there is no SoC to intervene, discontinuation of P1 is not entailed, which explains why *-taka* can express co-occurrence, as in (49). Given the participant identity constraint, and the temporal alignment, the rest of the details are interpreted according to the speaker's knowledge base of possible event structure relations, as represented at the conceptual level in the BCSN. For example, for (49), since living in Seoul occurs at a significantly larger time scale compared to a chance meeting, it is understood to extend temporally beyond the meeting. Consequently, the model predicts content-nonvolitional uses of *-taka* to permit a level of flexibility with regard to the circumstantial relationship between its conjuncts. A few of these possibilities are represented by the following examples.

(50) nemeci-taka heli-lul tachi-ess-ta
fall-TAKA waist-ACC injure-PST-DEC
'He injured his back when he fell.'

(51) kkwum-ul kkwu-taka kkay-ss-ta
dream-ACC dream-TAKA awake-PST-DEC
'I woke up in the middle of a dream.'

(52) hancham payka aphu-taka icey-nun koaynchanh-ta
long.time stomach has.pain-TAKA now-TOP okay-DEC
'My stomach hurt for a long time, but right now it's okay.'

All the examples above have nonvolitional main clauses with PATIENT or EXPERIENCER subjects. Thus, they would all be interpreted relative to a content-nonvolitional space without an SoC. In (50), the injury is understood to occur sometime during the fall, with the

most obvious reading being that it occurs toward the end of the fall. The fall is in no way interrupted by the injury. In (51), however, waking up does interrupt the dream, as waking up entails no longer being asleep. In (52), although the condition of the stomach has changed from bad to okay, it would be strange to say that the latter state interrupted the former. In each case, I argue that content-nonvolitional *-taka*'s contribution is to establish that the conjoined processes involve the same profiled participant, i.e. the subject, and to establish a temporal alignment such that P2 begins somewhere in the middle of P1. Whether the event structure model is constructed such that P2 overlaps with P1, as in (50)–(51), or not, as in (52), or whether P2 temporally extends beyond P1, as in (51)–(52), or not, as in (50), depends on the knowledge base of possible event-structural relations. The present analysis thus predicts *-taka* constructions with volitional main clause predicates to require the discontinuation of P1. When the main clause predicate is nonvolitional, the analysis predicts either discontinuation or continuation of P1 to be possible.

Although the event-structural component of the model, apart from the volitional component, was argued as allowing for a measure of flexibility in the construal of *-taka* constructions, the two constraints it specifies yields a number of predictions about the kinds of processes that can be connected by *-taka* as well as the variations in meaning that may result. First, the processes must each have a participant slot that can be filled by the same entity. For example, in (53), Chelswu is both the DRAWER of the initial clause and the EATER of the following clause.

(53) chelswu-ka kulim-ul kuli-taka aisukhulim-ul mek-ess-ta
Chelswu-NOM picture-ACC draw-TAKA ice.cream-ACC eat-PST-DEC
'Chulswu stopped drawing and ate ice-cream.'

If one of the processes does not have a slot that can accommodate a participant entity from the other process, the two processes cannot be accommodated by the model, which requires that the same entity be a profiled participant in both processes. This requirement stems from the embodied basis of *-taka*'s semantics—the issue of how many volitional things one person can do at the same time. Thus, the model correctly predicts that in cases like (54), where there is no participant slot in P2 that can accommodate an entity from P1, the clauses cannot be joined by *-taka*. Essentially, situations like (54) which do not involve the same participant entity in P2 as from P1, even if the processes overlap temporally, are outside the purview of *-taka*. In contrast, in (55), where *chi-ta* 'to strike' is used transitively, such that Chelswu is a profiled participant in P2 as well, conjunction with *-taka* is possible. It should be noted that while (54) represents a failed attempt at a nonvolitional use of *-taka*, (55) constitutes a successful volitional use. Thus, in (55) while it is possible that after striking the ball, Chelswu resumed his trip to school, the sentence conveys an interruption of the trip in order to strike the ball.

(54) *chelswu-ka hakkyo-ey ka-taka penkay-ka chi-ss-ta
Chelswu-NOM school-LOC go-TAKA lightning-NOM strike-PST-DEC
'*Lightning struck while Chelswu was going to school.'

(55) chelswu-ka hakkyo-ey ka-taka kong-ul chi-ss-ta
Chelswu-NOM school-LOC go-TAKA ball-ACC strike-PST-DEC
'Chelswu struck a ball while he was on his way to school.'

The distinction between the content-volitional and content-nonvolitional uses of *-taka* allows the model to make clearer predictions with respect to what aspectual properties *-taka* requires for its conjuncts. For content-volitional *-taka*, none of the conjuncts may be stative. That the main clause cannot be stative follows from the the volitional role of the subject in the main clause of content-volitional uses of *-taka*. In other words, if the main clause were stative, it would be non-volitional. A stative initial clause is also incompatible with content-volitional *-taka* because, as per Figure 4.6, the volitional component requires an initial clause process that can volitionally be stopped or permitted to continue.

The ban on stative predicates does not apply to cases where states are actively maintained. Cognitive grammar models stative verbs with imperfective processes that are homogeneous and unbounded in their scope of predication. Actively maintained states constitute activities, which are homogeneous, but temporally bounded processes. Such processes can be discontinued, and may occur in content-volitional uses of *-taka*. The following examples show that while content-volitional *-taka* does not allow imperfective processes in the initial clause, it does allow homogeneous but temporally bounded processes. Thus, although in (56), the subject cannot volitionally discontinue the stomach ache and decide to go to the hospital, he can choose to discontinue waiting out the pain, as in (57)[2].

(56) *pay-ka aphu-taka pyengwen-ey ka-ss-ta
stomach-NOM hurt-TAKA hospital-LOC go-PST-DEC
'*I went to the hospital after my stomach hurt for a while.'

(57) pay-ka aphu-n kes-ul cham-taka pyengwen-ey ka-ss-ta
stomach-NOM hurt-NMLZ thing-ACC endure-TAKA hospital-LOC go-PST-DEC
'I went to the hospital after trying to wait out my stomach ache.'

In content-nonvolitional uses of *-taka*, where the volitional component of the model does not need to be satisfied, all four combinations of stative and active aspectual type clause conjunctions are possible. As expected, temporal alignment of differing process types yields different interpretations. First, when both processes are imperfective, as in (58), *-taka* constructions tend to convey a transition from the initial clause state to the main clause state. It is important to note that in cases like (58), both the initial clause and main clause stative processes are construed with starting temporal bounds. Thus, (58) conveys that sometime after the stomach ache started, it went away.

(58) payka aphu-taka koaynchanh-ta
stomach hurt-TAKA ok-DEC
'My stomach was hurting and now it feels okay.'

[2]It should be noted here that (56) can be acceptable if it is understood to mean what is explicitly stated in (57).

According to the model, even for content-nonvolitional uses of *-taka*, the start of the P2 process is aligned to a point inside P1. For the temporal alignment to be informative, however, a reference point in P1 is required, as in cases like (58), where the P1 stative process is construed with a starting temporal bound. Similarly, the constructions allows for imperfective P2's which can be construed as having a starting temporal boundary at the alignment point. Since content-nonvolitional *-taka* does not stipulate a discontinuation for P1, the model predicts that whether a change of state is conveyed, as opposed to just an additional stative predication of P2, depends on the particular processes involved. Thus, in (58), the stomach feeling okay requires that the stomach no longer be hurting. However, in (59), the stomach ache continues beyond the point where the headache begins.

(59) payka aphu-taka meli to aphu-ta
stomach hurt-TAKA head also hurt-DEC
'My stomach was hurting and now my head hurts too.'

When a nonstative initial clause process is connected to a stative main clause process, the model's predictions for P1 and P2 are the same—the *-taka* construction allows for P2 processes which can be construed with a starting temporal bound, which is aligned to a point inside the temporal bounds of P1. No discontinuation of P1 is required. Thus, (60) conveys that the person's stomach began hurting on his way to see the doctor. The sentence does not mean that the trip to the doctor was discontinued.

(60) uysa-lul po-le-ka-taka payka aph-ass-ta
doctor-ACC see-PURP-go-TAKA stomach hurt-PST-DEC
'As I was going to see the doctor, my stomach started to hurt.'

The remaining combination to consider is a stative predicate followed by an nonstative one. For content-nonvolitional *-taka*, the model predicts this to be a possible configuration, since the requirements of the volitional component do not apply. As before, the stative initial clause process, P1, is construed with a starting boundary within its scope of predication. The start of the nonstative P2 process is temporally aligned to a point within P1 following its starting point. As before, content-nonvolitional *-taka* establishes P2's start as during P1, but whether the P1 state persists beyond the alignment point depends on the particular processes involved. Thus, in (61), the subject fainted sometime after the start of his stomach ache. It is unclear whether the stomach ache continues to be in effect at the point where the person became unconscious.

(61) payka aphu-taka kicel hay-ss-ta
stomach hurt-TAKA faint do-PST-DEC
'He fainted while he had a stomach ache.'

Not any stative process, however, can be construed as having a starting temporal bound in its scope. Thus, the model predicts that states that are construed as expressing permanent state of affairs will not be compatible with *-taka* in either clause position. The following

	content-volitional	content-nonvolitional
STATIVE-taka STATIVE	N	Y
STATIVE-taka NONSTATIVE	N	Y
NONSTATIVE-taka STATIVE	N	Y
NONSTATIVE-taka NONSTATIVE	Y	Y

Table 4.1: Stative and nonstative conjunct combinations allowed by *-taka*

examples, considered uninterpretable, support this prediction.

(62) *ttokttokha-taka sihem-ey tteleci-ess-ta
smart-TAKA exam-LOC fall-PST-DEC
'*He was smart, but then failed the exam.'

(63) *sihem kongpwuha-taka ttokttokhay-ss-ta
exam study-TAKA smart-PST-DEC
'*As he studied for the exam, he became smart.'

Table 4.1 summarizes the possible stative-nonstative process combinations with respect to conjunction with *-taka*. In the content-volitional domain, neither conjunct may be stative. In the content-nonvolitional domain, either conjunct may be stative. Thus, the modeling of *-taka* both in terms of a volitional component and an event-structural component allows us to give a more precise account of *-taka*'s behavior with respect to the aspectual types of its conjuncts, not only in terms of combinations that are permitted, but also in terms of the variations in meaning that result.

Although the present analysis has not distinguished between the various nonstative aspectual types, e.g. achievement, accomplishment, activity (Vendler 1957), with respect to *-taka*'s initial and main clause predicates, the present model predicts content-volitional uses to be uniformly interruptive, but for content-nonvolitional uses to exhibit a wider range of possible interpretations. This prediction appears to be consistent with Kim's (2011 [to appear]) corpus-based investigation of *-taka* which concludes that *-taka*'s semantics is largely dependent on the aspectual characteristics of the surrounding verbs. The study classifies verbs occurring in *-taka*'s initial and main clauses in terms of the 10 aspectual types described by Croft (2010 [to appear]). Although the study does not examine volitionality as a factor, representative examples provided consistently show volitional main clauses to yield interruptive readings, while uses with nonvolitional main clauses exhibit variability.

Thus far, I have presented a conceptual model for *-taka* constructions in terms of volitionality and event structure. In the following section, I show that this model can be extended to account for the negative affect conditional use.

4.3.1 Conditional *-taka*

In this section I present an analysis of the conditional sense of *-taka* using the event structure and volitionality model developed above for *-taka*'s temporal senses. Although the conditional use of *-taka* is not rare, a unified analysis relating it to the others has been elusive. As mentioned in Section 4.1.1, not only is there the issue of the conditional semantics itself, but also the issue as to why the apodosis (P2) must be an undesirable consequence, as shown in (64a–b).

(64) a. kongpwu yelsimhi ha-taka kenkang-ul haychi-n-ta
study diligently do-TAKA health-ACC ruin-PRES-DEC
'If you study diligently, you will ruin your health.'
b. *kongpwu yelsimhi ha-taka sengkong hakey toy-n-ta
study diligently do-TAKA success do become-PRES-DEC
'*If you study diligently, you will end up succeeding.'

Akatsuka & Sohn (1994) point out that when using this construction the speaker evaluates both P1 and P2 to be undesirable. For example, in (64a), the speaker exhibits negative affect toward both the apodosis, the ruining of the addressee's health, and the protasis, studying diligently. While it presumes that the addressee also recognizes P2 to be undesirable, since the usage context is one in which the addressee is carrying out the protasis, there is affective disagreement with respect to P1. Example (64b) shows that when the apodosis is a positive, beneficial outcome, the sentence is unacceptable. The subjective nature of the constraint is demonstrated by the following example, which can only be used if the speaker and the addressee both consider the apodosis, losing weight, to be an undesirable outcome:

(65) yachey-man mek-taka sal paci-keyss-ta
vegetables-only eat-TAKA flesh sink-FUT-DEC
'If you only eat vegetables, you will lose weight.'

Another characteristic to note about uses of conditional *-taka* is that they feature nonvolitional main clauses. It turns out to be difficult, if not impossible, to formulate warnings using *-taka* with agentive main clauses. For both examples in (66), the context is that the addressee is playing with knives and the speaker is issuing a warning. An agentive main clause, as in (66a), is unacceptable, in contrast to the variant in (66b), in which killing someone is an unintended consequence. Consequently, conditional *-taka* appears to be more closely related to the content-nonvolitional use of *-taka* rather than the content-volitional one.

(66) a. *khal kaciko nol-taka nwuku-lul cwuk-i-n-ta
knife with play-TAKA someone-ACC die-CAUS-PRES-DEC
'*If you play with knives (like that), you will kill someone.'
b. khal kaciko nol-taka cwuk-nun-ta
knife with play-TAKA die-PRES-DEC

'If you play with knives (like that), you will die.'

The examples above show that conditional *-taka* is used to make conditional predictions about possible future outcomes. Predictive conditionals, according to Dancygier & Sweetser (2005), construct spaces in which the apodosis content follows from the protasis content as well as alternative spaces in which the protasis is negated such that the apodosis does not occur. This space configuration is depicted in Figure 4.10 for the *if* predictive conditional example in (67).

(67) If Sherlock solves the case, he will become the most famous detective ever.

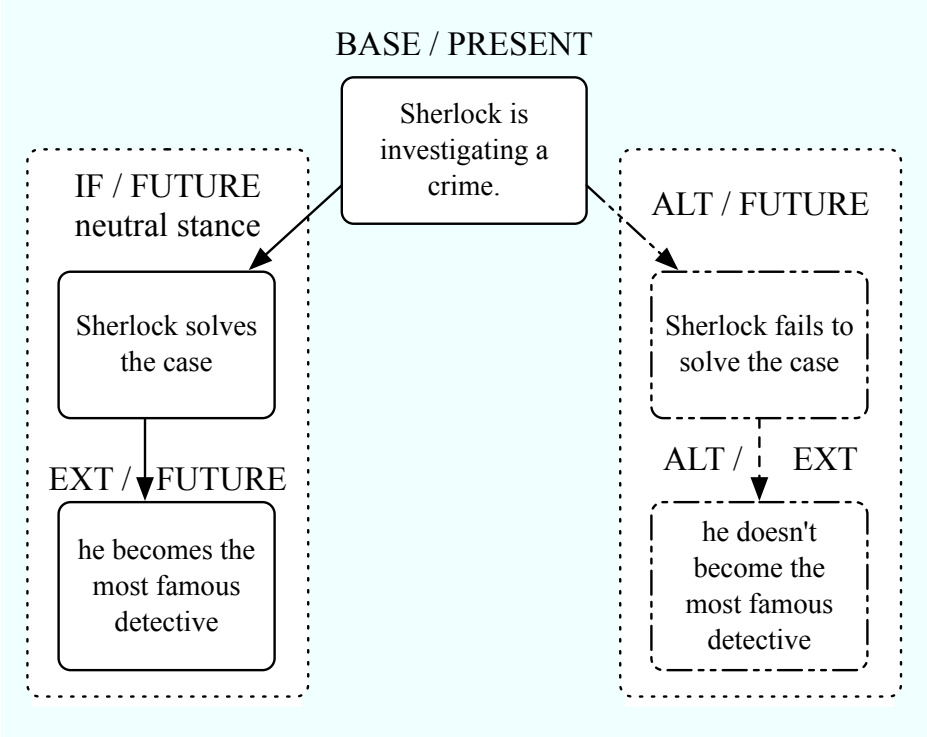

Figure 4.10: Predictive conditional with alternative spaces

In the conditional future space, Sherlock solves the crime and becomes the most famous detective ever. In the alternative space, Sherlock fails to solve the crime, and does not become the most famous detective ever. Dancygier & Sweetser (2005:46) point out that the building of alternative spaces is contingent on the construction's epistemic stance toward the protasis. *If* predictive conditionals are characterized by neutral epistemic stance toward their protases, which results in the construction of alternative spaces, as shown in Figure 4.10. In contrast, *when* predictive conditionals, which exhibit positive epistemic stance toward their protases, do not signal for the construction of alternative spaces. Furthermore, conditional space setups can be accomplished without the presence of explicitly conditional forms such

as *if* and *when*, as in the case of *and* and *or* conditionals, where the relevant space building parameters are supplied by predictive verb forms (Dancygier & Sweetser 2005:237–239). For example, a space configuration similar to that of Figure 4.10 could be constructed by (68), which conveys the same predictive scenario, except predicated on the addresee rather than on a Sherlock, a third person subject.

(68) Solve that case, and you will become the most famous detective ever.

The switch to a 2nd person subject for (68) reflects a property of *and*-conditionals that distinguishes them from *if*-conditionals, which is that the former specifically involves the interests of the speaker and addressee (Dancygier & Sweetser 2005:241). Thus, while *and*-conditionals do not formally ban 3rd person subjects, they occur rarely outside of specific pragmatic contexts.

For conditional *-taka*, I propose that a similar configuration of predicted future and alternative spaces is constructed as for English *if* predictive conditionals. As for English coordinate *and*, conditionality is not part of *-taka*'s conventional semantics, and instead, conditional space construction is signaled by predictive verb forms in the main clause. As the main clause of conditional *-taka* constructions is nonvolitional, the predicted future space is a content-nonvolitional space. For content-nonvolitional uses of *-taka*, the main clause process is an unintended event that occurs in the middle of the initial clause event. Thus, for example (64a), in the predicted future space, the subject—in this case the addressee—studies diligently and ruins his health. As was the case for (68), the epistemic stance toward the predictive space is neutral, and an alternative space is also created. In the alternative space, the SoC discontinues studying and does not ruin his health. The predicted future and alternative spaces are depicted in Figure 4.11.

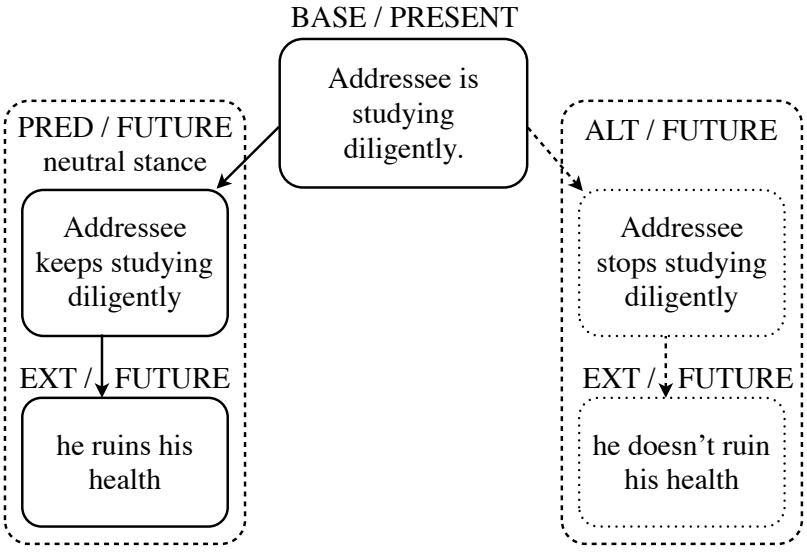

Figure 4.11: Predicted future and alternative spaces for (64a)

Thus, while *-taka* is not itself a conventionally conditional construction, because its semantics readily makes an alternative scenario available, when it is used in a predictive context, it signals neutrality of epistemic stance toward the prediction, which in turn results in the construction of alternative future spaces. It will be discussed later, that in fact, while the availability of a content volitional use of *-taka* enables the construction of the alternative future space depicted in Figure 4.11, the impetus is provided pragmatically by a context in which the speaker is highly personally invested in the prediction.

Another important part of the analysis of the conditional use of *-taka*, is the volitionality that characterizes the SoC in the alternative space. Since the explicit SoC in the alternative space decides to discontinue the P1 process, as shown in Figure 4.11 where the addressee stops studying diligently, the alternative space is a content-volitional space in which *-taka*'s volitional component must be taken into account. However, as pointed out for example (64a), negative affect toward the protasis belongs to the speaker rather than to the addressee, who is the explicit SoC that stops studying in the alternative space.

The present mental spaces approach is able to account for the mixed consciousness evident in the alternative spaces of *-taka* conditionals through conceptual blending. In their analysis of Dutch epistemic causal *dus* in free indirect speech contexts, Sanders et al. (2009:40–41) show that the narrator's consciousness can be identified with that of an explicit SoC, creating a blended subjectivity. For example, in (69), the conclusion that the neighbors are not at home seems to belong to both Jan and to the narrator, with the narrator taking on Jan's perspective. This is accounted for through a blended epistemic space, blending Jan's embedded epistemic space and the narrator's epistemic space. In the blended epistemic space, Jan's and the narrator's consciousness are merged.

(69) Jan ziet dat het licht bij de buren uit is. Dus ze zijn niet thuis.
P (Jan saw the lights at the neighbors' house were out.) DUS Q(they were not at home.)

Based on this approach, I propose that the alternative spaces of conditional *-taka* constructions is a blended space in which the explicit SoC and the speaker's implicit SoC are combined, such that the explicit SoC acts according to the volitionality of the speaker. Thus, in Figure 4.11, the explicit subject, the addressee, acting out the speaker's will, discontinues studying diligently. This type of blended subjectivity was proposed in Lakoff's (1996) mental spaces approach to cases like (70), which involve a two-part conceptualization of self—the Subject, taken to be the locus of experience, and the Self, which represents the body.

(70) If I were you, I would hate myself.

In (70), the protasis can be seen as setting up a counterfactual blended space in which the Subject of the speaker is combined with the Self of the addressee. In the extension of this space the blended subject-addressee hates himself. Similarly, the alternative space for (64a), depicted in Figure 4.12, is a blended space in which the Subject of the speaker is combined with the Self of addressee. In the extension of that space, the blended speaker-

addressee discontinues studying diligently, which results in an alternate outcome in which the addressee's health is not ruined. Figure 4.12 shows the mental spaces configuration for (64a) in terms of the Basic Communicative Spaces Network.

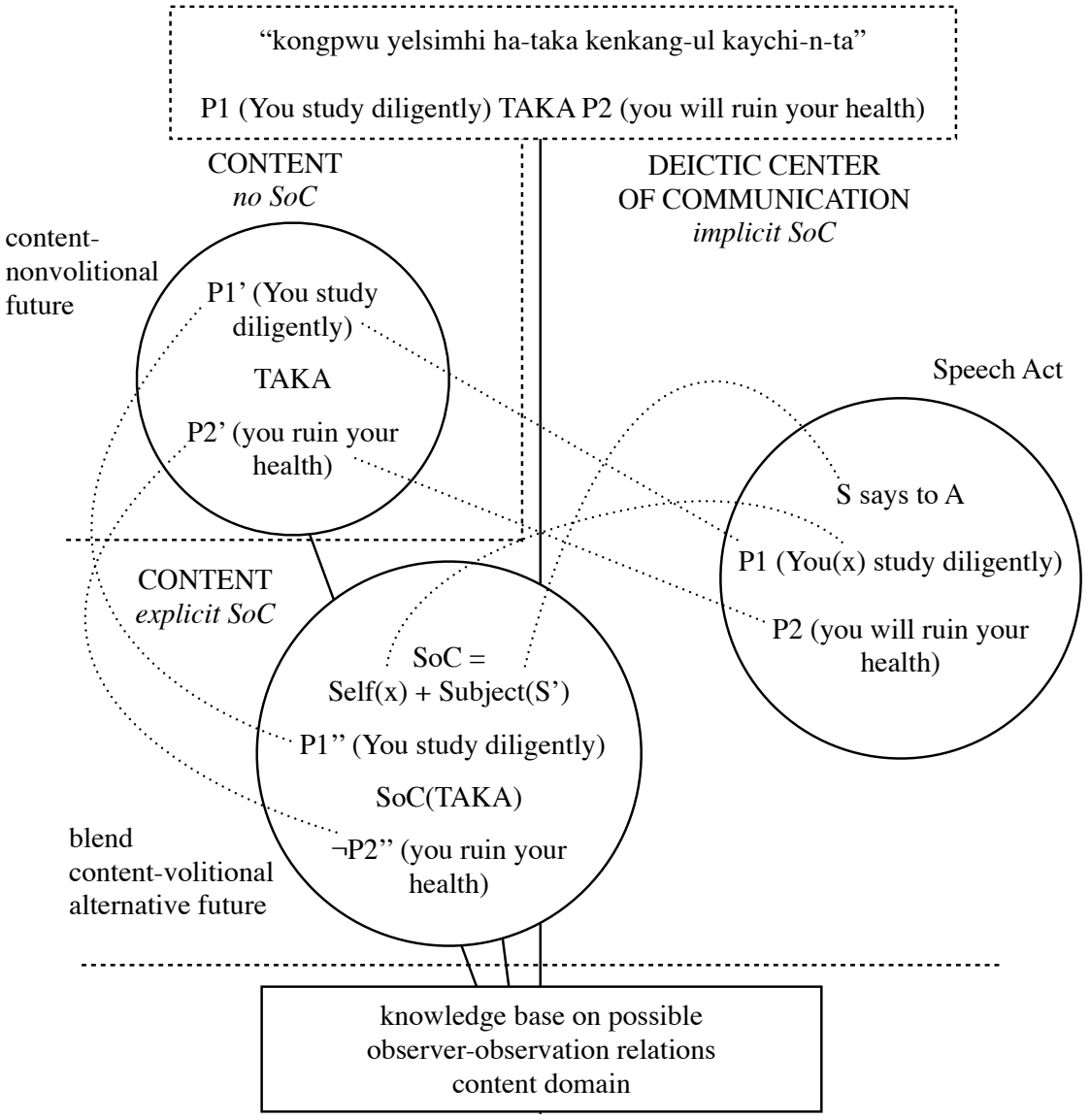

Figure 4.12: BCSN mental space configuration for (64a)

In Figure 4.12, the predictive future space is a content-nonvolitional space in which there is no SoC whose volitionality is connected with the interpretation of *-taka*. In content-nonvolitional spaces *-taka* signals only that the conjuncts contain the same subject and that P2 is temporally aligned to start in the middle of P1. The alternative construal possible with *-taka* allows for the construction of an alternative space, a content-volitional space in

which *-taka* is construed in connection with an explicit SoC. For content-volitional *-taka*, the volitional component specifies that the explicit SoC volitionally discontinues the P1 process and starts another process. That other process is not specified in conditional *-taka*'s alternate space. However, the volitional discontinuation of the P1 process in favor of another is sufficient to infer that in the alternative space, the specified nonvolitional P2 process, in this case ruining one's health, does not occur. As indicated in the content-volitional space the SoC is a blend of the Subject of the speaker and the Self of the addressee such that in the blended space, the explicit SoC, the addressee, acts volitionally according to the speaker's desires.

In addition to giving an analysis of the conditional use of *-taka*, this model crucially explains why the construction cannot be used to predict desirable outcomes. The reason for this is that the predictive conditional use only occurs when the main clause is nonvolitional. Because of this, the scenario in the content-volitional alternative space is always the one that aligns with the volitionality of the speaker. Since the alternative space, rather than the non-alternative, predicted future space, is always affectively aligned with the speaker's desires, the non-alternative, predicted outcome must always be one that is undesirable to the speaker.

Figure 4.13 shows the BSCN mental spaces analysis for (64b), which was deemed unacceptable due to its predicting a desirable outcome. The figure shows that in the predicted future content-nonvolitional space, the addressee continues studying diligently and becomes a success. In the content-volitional alternative space, the blended SoC, which includes the Self of the addressee and the Subject of the speaker, chooses to discontinue studying and consequently does not become a success. However, assuming that the speaker desires the well-being of the addressee, what results is a pragmatic contradiction akin to saying "If I were you, you would stop studying so that you don't become a success." Thus, because the alternative space is the one in which the speaker's volitionality is represented, it is also the space in which outcomes desirable to the speaker are expected to obtain through the willful discontinuation of the initial clause process. Consequently, the non-alternative space, i.e. the predicted future space, always contains an undesirable outcome, which, because it occurs in a content-nonvolitional space, arises unintentionally.

Interestingly, Korean conditional *-taka* is also similar to English *and*-conditionals in dispreferring 3rd person subjects. Example (71), which is a 3rd person version of (64a), does not yield a conditional interpretation, and instead constitutes a content-nonvolitional use of *-taka* modified by *-keyss*, which in 1st person contexts signals a volitional commitment, but in 3rd person contexts represents a conjecture about the future. Thus (71) constitutes a nonconditional prediction that Chelswu will probably ruin his health. The present model makes sense of the unavailability of a conditional interpretation in cases like (71). Because statements concerning 3rd parties typically do not involve the volitionality of the speaker, the construction of an alternative content-volitional space involving the speaker's volitionality is inhibited. In contrast, in advice or warning contexts, such as (64a), the speaker's volitionality is highly relevant as it is essentially the contrast between what the addressee would do and what the speaker would do that motivates the speech act. This allows for

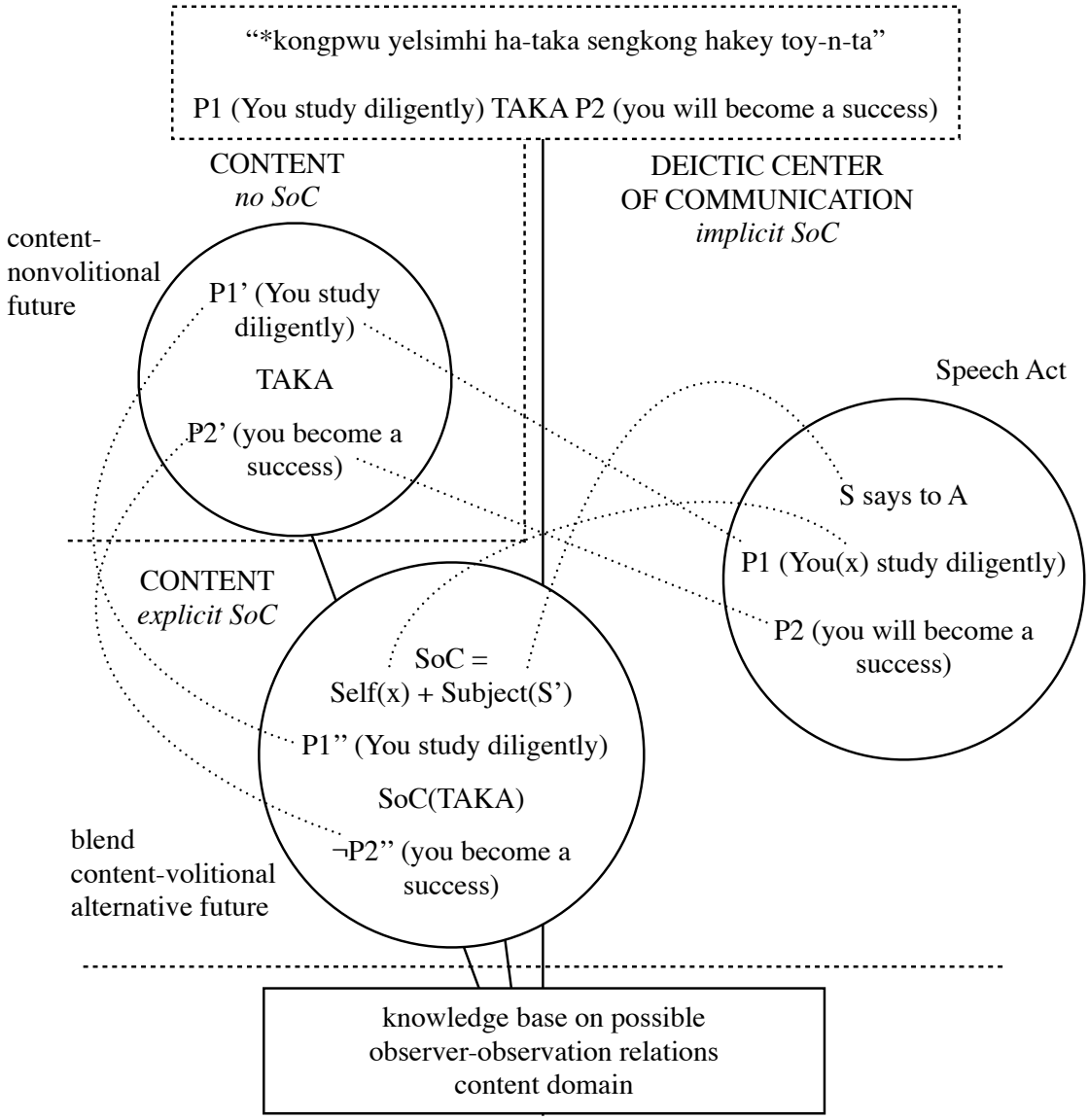

Figure 4.13: Mental spaces configuration for unacceptable example (64b)

the construction of an alternative content-volitional space that involves the speaker's volitionality. Thus, given the right pragmatic context, a conditional reading of (71) may be possible—for example, if it is uttered in the context of a passionate discussion between the speaker and the addressee about how they should do something about Chelswu's obsessive study habits.

(71) chelswu-ka kongpwu yelsimhi ha-taka kenkang-ul haychi-keyss-ta
Chelswu-NOM study diligently do-TAKA health-ACC ruin-MOD-DEC
'Chelswu may ruin his health while studying diligently.'

4.3.2 Summary

In this section I have presented an analysis of Korean *-taka* connective constructions in terms of a model that situates the verbal semantics of Cognitive Grammar (Langacker [1991] 2002) within Sanders et al.'s (2009) mental spaces based communicative model. Crucial to this analysis was the articulation of a volitional component for *-taka*, which took effect for content-volitional uses of *-taka* and essentially produced no effect for content-nonvolitional uses. The model was able to account for a wide range of behaviors surrounding the connective *-taka*, and, particularly, how the conditional use, including its negative affect requirement, is related to the basic interruptive use.

4.4 An analysis for *-myense*

With regard to event structure, *-myense* is similar to *-taka* and establishes some of the same temporal and participant structural relations between the processes it connects. As depicted for *-taka* in Figure 4.5, the process P2 is temporally aligned to start at a point inside process P1's temporal profile, and an identity relation establishes that the profiled participant in both processes is the same entity. The constraint on subjects, which turns out not to be purely syntactic, will be revisited in Section 4.6. The difference in the connectives with respect to event structure is one of profiling relative to the temporal alignment point. This is depicted in Figure 4.14, in which the darkened parts of the temporal profile bars show the profiling added by the respective connective constructions. For *-taka* in Figure 4.14(a), the sequentially scanned part of process P1 prior to the temporal alignment point is profiled along with process P2. Depending on the processes involved, if the P1 process is discontinued, the unprofiled portion of the P1 process might not be sequentially scanned at all. In contrast, for *-myense*, as shown in Figure 4.14(b), only the parts of the two processes that temporally overlap are profiled. The dashed vertical line that drops down from the end of process P1 indicates where the point of overlap ends. This line is gray because the end point of the overlap, in this figure, follows from the P1 process ending at that point—it is thus not a condition established by the construction. Thus, neither *-taka* nor *-myense* establish alignment constraints with respect to the ends of the conjoined processes. This event-structural differentiation between *-taka* and *-myense* is essentially compatible with Nam's (1994) proposal depicted in Figure 4.1.

Thus, to summarize the contrast between *-taka* and *-myense*, with respect to temporal relations, Figure 4.14(a) shows that *-taka* requires sequence between P1 and P2, while allowing for possible overlap. In contrast, *-myense* in Figure 4.14(b) requires overlap between P1 and P2, while allowing for sequence.

As was the case for *-taka*, in addition to the temporal and participant structural components, the present model also includes a volitional component. If the main clause process, P2, includes an explicit subject of consciousness in a volitional role, the construction locates the decision to simultaneously engage in the P2 process on top of the already ongoing P1

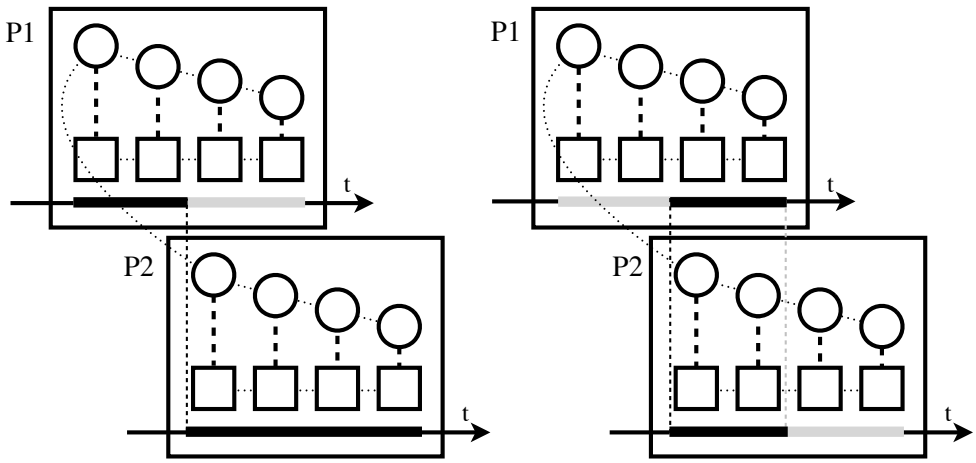

Figure 4.14: Profiling difference between *-taka* and *-myense*

process in the volitionality of that SoC. Thus, the main difference between the sentences presented in (72) resides in the SoC's decision with respect to the P1 process. The use of *-taka* in (72a) indicates that as he starts P2, Chelswu decides to discontinue watching TV. In contrast, in (72b), which represents a typical simultaneous use of *-myense*, Chelswu decides to continue watching TV and on top of it to start doing his homework.

(72) a. chelswu-ka TV-lul po-taka swukcey-lul hay-ss-ta
Chelswu-NOM TV-ACC see-TAKA homework-ACC do-PST-DEC
'Chelswu stopped watching TV and did his homework.'
b. chelswu-ka TV-lul po-myense swukcey-lul hay-ss-ta
Chelswu-NOM TV-ACC see-MYENSE homework-ACC do-PST-DEC
'Chelswu did his homework while watching TV.'

The sentences above constitute content-volitional uses the of the two connectives. Since the explicit SoC in content-volitional uses of *-taka* decides to discontinue the P1 process at the alignment point, an event-structural difference also obtains, as *-taka* entails there being no overlap between P1 and P2 for (72a). When the main clause is nonvolitional, the connectives are interpreted relative to a content-nonvolitional domain in which the volitional component of the connectives have no effect. Thus, content-nonvolitional uses of *-taka* and *-myense*, as in (73), do not exhibit the same type of contrast evident in (72).

(73) a. sewul-ey sal-taka/-myense paywuca-lul manna-ss-ta
Seoul-LOC live-TAKA/-MYENSE spouse-ACC meet-PST-DEC
'He met his spouse when he was living in Seoul.'
b. nemeci-taka/-myense heli-lul tachi-ess-ta
fall-TAKA/-MYENSE waist-ACC injure-PST-DEC

'He injured his back when he fell.'

As shown in Figure 4.14, without the contribution of a volitional component, the connectives *-taka* and *-myense* refer to the same event-structural configuration, but differ only in their profiling. In both cases, the main contribution that the connective makes is to temporally align the processes such that the P2 process starts sometime during the P1 process. Thus, content-nonvolitional *-taka* and *-myense* serve to temporally locate the the start of the P2 process relative to the P1 process. The connectives differ with regard to profiling on the P1 process, such that for *-taka* the start of P2 is located relative to the end of the profiled part of P1, while for *-myense* it is located relative to the start of the profiled part of P1. The two constructs are thus not conceptually identical, but the difference between them is one that is difficult to paraphrase or translate.

However, the model does not predict that all content-nonvolitional uses of the two connectives will yield similar meanings. Unlike *-taka*, because *-myense* profiles the part of the P1 process that overlaps with the P2 process, it requires that it be possible for the processes to occur simultaneously. Thus, while *-taka* can be used to connect the processes in (74), *-myense* cannot, because the processes cannot be construed as overlapping temporally. In (74a), since waking up interrupts sleep, dreaming in P1 cannot overlap temporally with waking up in P2. Similarly, in (74b), the stomach ache in the initial clause goes away in the main clause. Thus, because in both cases there can be no temporal overlap between the initial and main clauses processes, *-myense* cannot be used.

(74) a. kkwum-ul kkwu-taka/*-myense kkay-ss-ta
dream-ACC dream-TAKA/-MYENSE awake-PST-DEC
'I woke up in the middle of a dream.'

b. hancham payka aphu-taka/*-myense icey-nun koaynchanh-ta
long.time stomach has.pain-TAKA/-MYENSE now-TOP okay-DEC
'My stomach hurt for a long time, but right now it's okay.'

As pointed out in Section 4.1.2, when the main clause of a *-myense* construct involves a volitional action, the interpretation is consistently that of simultaneity. In contrast, when the main clause was nonvolitional, the semantics of the *-myense* connection was more variable and dependent on the aspectual types of the conjoined predicates. This asymmetry with respect to volitional vs. nonvolitional main clauses is predicted by the present model. As with *-taka*, when the main clause is agentive, the sentence is interpreted relative to a content-volitional space with an explicit subject of consciousness. The volitional component establishes responsibility for the execution of the P2 process on top of the P1 process to that SoC. The explicit SoC, the subject, is understood to be responsible for the initiation as well as for the sustenance of the temporal overlap between the processes. Thus, regardless of whether the conjoined processes are durative or punctual or telic or atelic, as shown in (22)–(23), the processes are interpreted as deliberately executed in tandem.

When *-myense*'s main clause is nonagentive, the construct is interpreted relative to a content-nonvolitional space in which the volitional component of *-myense* is effectively nul-

lified due to there being no SoC. In such cases, only the event-structural component of the model takes effect, including subject identity, the temporal alignment of P1 and P2, and the profiling of the temporal overlap. Without the influence of the volitional component, the cotemporality of the processes is construed based on the knowledge base of possible event structure relations. Thus, in some cases, *-myense* can be interpreted as locating the P2 process in time or as indicating that two processes have overlapped in duration. For example, as in (75), when a durative activity in *-myense*'s initial clause is followed by a punctual achievement in the main clause, the profiled overlap is momentary. Consequently, *-myense*'s main semantic contribution is to locate the occurrence of the main clause event in the context of the initial clause event. When the two processes are durative, as in (76), the duration of overlap is profiled in addition to the fact of co-occurrence.

(75) chelswu-ka wontongha-myense heli-lul tachi-ess-ta
Chelswu-NOM exercise-MYENSE back-ACC become.injured-PST-DEC
'Chelswu injured his back while exercising.'

(76) chelswu-ka wontongha-myense wul-ess-ta
Chelswu-NOM exercise-MYENSE cry-PST-DEC
'Chulswu cried while exercising.'

It is possible with respect to the present model for event-structural factors to override the semantics of simultaneity produced by the volitional component. For example, if it is not possible for the processes in the initial and main clause to occur at the same time to the same subject participant, what results is an unacceptable sentence. In (77), the same person cannot sleep and do homework at the same time. Another case of event-structural factors overriding the volitional component occurs when the initial clause is stative, as in (78). In such cases, although the explicit SoC is responsible for the initiation and execution of the P2 process, since P1 is stative, volitional exertion of effort is not required to simultaneously execute P2 on top of P1. Consequently, (78) does not have the same sense of coordinated simultaneous activity with respect to the initial and main clause processes, and the sentence conveys merely cotemporality, much like content-nonvolitional uses of *-myense*.

(77) *chelswu-ka ca-myense swukcey-lul hay-ss-ta
Chelswu-NOM sleep-MYENSE homework-ACC do-PST-DEC
'Chelswu did his homework while sleeping.'

(78) chelswu-ka payka aphu-myense hakkyo-ey ka-ss-ta
Chelswu-NOM stomach ache-MYENSE school-LOC go-PST-DEC
'Chelswu went to school while he had a stomach ache.'
'Chelswu went to school even though he had a stomach ache.'

As discussed in Section 4.1.2, example (78) can also be used to convey a concessive relation between the conjuncts. Concessive uses of *-myense* and the contexts in which they emerge are addressed in the following section.

4.4.1 Concessive *-myense*

In the previous section, I discussed how it was possible for event-structural factors to affect the semantic contribution of the volitional component. It is also possible, however, given the present model, for aspectual properties of the conjuncts to affect the interpretation of the temporal alignment imposed by the event-structural component. For example, when the initial clause contains a stative predication that is construed as permanent and always in effect, both co-occurrence and temporal overlap are rendered irrelevant. For example, in (79), since Chelswu's intelligence in the initial clause is construed as being true at all points in time, the cotemporality of his being smart and the event predicated in the main clause is informationally empty. Put another way, since Chelswu's being smart is construed as always being the case, that state of affairs will necessarily overlap with any event that occurs, which in (79) is his failing an exam. In this section, I argue that these conditions, under which cotemporal *-myense* would lack informative value, license the use of a grammaticized concessive *-myense* construction.

(79) chelswu-nun ttokttokha-myense sihem-ey tteleci-ess-ta
Chelswu-TOP smart-MYENSE exam-LOC fall-PST-DEC
'Although Chelswu is smart, he failed the exam.'

Verhagen (2000, 2005) proposes a mental spaces analysis of concessive constructions in which the required presupposition, i.e. "if p, then normally not q" (König 1988), is represented in a backgrounded mental space. Figure 4.15 shows the mental space configuration for *He did not pass his exams although he studied hard*. In the diagram, Space_1 contains the counter-expectational scenario in which the subject studied hard (p) and then failed his exams (not q). Use of *although*, however, signals for the evocation of a background space, Space_2 toward which a speaker takes a positive epistemic stance. In that space, the expected scenario, i.e. the one conforming to the norm that working hard makes passing more likely, occurs. In Verhagen's analysis, Space_2 represents the speaker's consideration of an addressee's possible conclusion based on the subject's having worked hard (p) that he must have passed the exam (q), in accordance with the acknowledged general trend that working hard makes passing more likely ($P \rightarrow Q$). In addition to accounting for the semantics of concessive connectives, the analysis was able to explain the nearly dual relationship between concessive and causal relations, where wide-scope negation over causal connectives could yield concessive interpretations, but wide-scope negation over concessive connectives does not yield causal interpretations.

Dancygier & Sweetser (2005) point out, however, that concessive meaning involves not just one backgrounded counter-expectational scenario, but a range of causal scenarios scaled according to the likelihood of the outcome. Thus, having worked hard and passing is more likely than having merely done some work and passing, which is still more likely than having done almost no work and passing, etc. A concessive construction, then, contrasts the actual scenario, having worked hard and failing, with the high-end-of-scale, i.e. highly likely, scenario of having worked hard and passing. This contrast with respect to a scale of mental

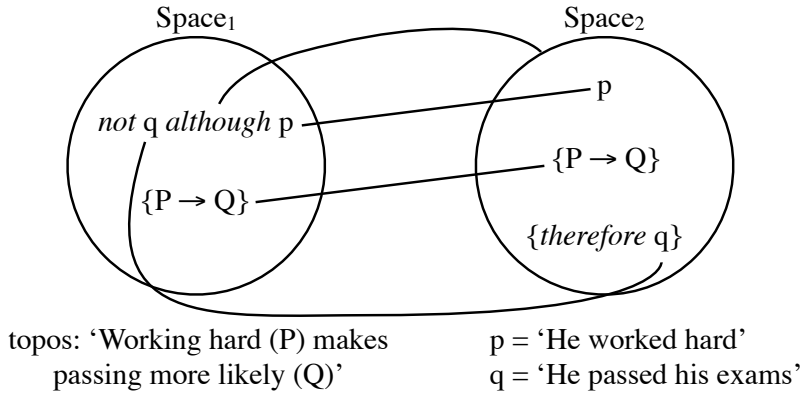

Figure 4.15: Mental space configuration for concessive *although* (Verhagen 2005:172)

spaces distinguishes concession from other forms of contrast. Figure 4.16 shows the mental spaces analysis of the same sentence, where instead of a single counter-expectational scenario, a scale of background mental spaces is evoked. The analysis depicted in Figure 4.16 essentially differs from that of Figure 4.15 in including a mental spaces implementation of the acknowledged general trend, i.e. 'topos' in Verhagen's terms.

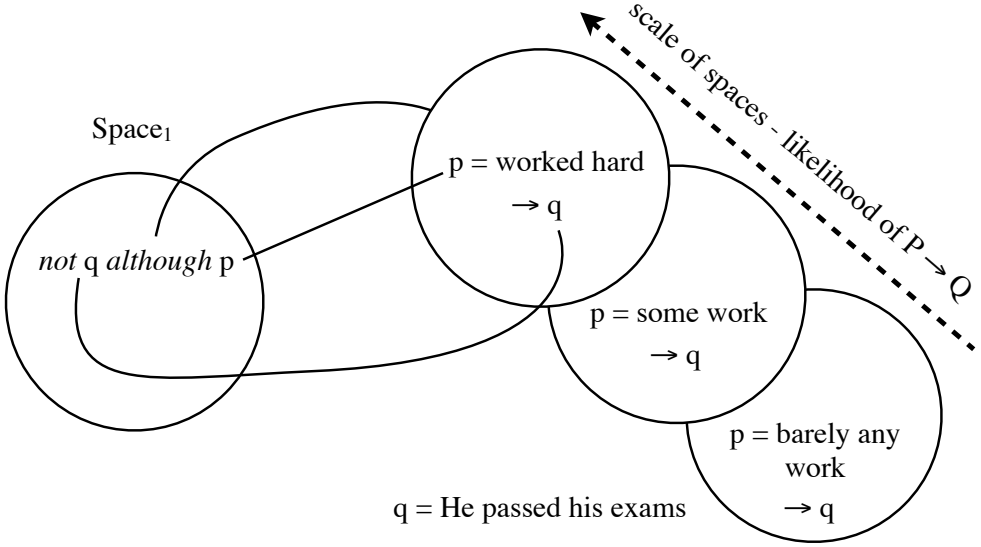

Figure 4.16: Concessives evoke a scale of mental spaces

Based on this approach, I propose that aspectual conditions, which would result in *-myense*'s cotemporal semantics lacking informative value, license the use of concessive *-myense*, a grammaticized variant of cotemporal *-myense*, which, in addition to establishing temporal and participant structural relations in a content domain, evokes a contrasting epis-

temic background space at the end of an expectational scale of background spaces to support a concessive construal. To illustrate, Figure 4.17 shows the mental space configuration for (79) in terms of the BCSN, with the conjuncts labeled so as to highlight correspondences to the analysis for "although" presented above. Space construction begins in the deictic center of communication in the speech act space. Since the main clause is nonvolitonal, a content-nonvolitional space is constructed to interpret the *-myense* construction. If the temporal relation established by *-myense* in the content-nonvolitional space is rendered irrelevant by a stative initial clause, concessive *-myense* can be licensed, provided that the accessible discourse allows for the evocation of a background space along an expectational scale of spaces. The epistemic space in Figure 4.17 represents the speaker's causal reasoning in which knowing that Chelswu is smart leads to the expectation that he passed the exam, based on a scale of expectations in which being smarter increases the likelihood of having passed. With this epistemic space as the background, the otherwise uninformative co-occurrence in the content-nonvolitional space is interpreted concessively.

As Verhagen (2005) argues, concession is intersubjective in that while the speaker asserts a state of affairs that contradicts the addressee's expectations, the speaker acknowledges, i.e. concedes, the validity the addressee's reasoning process. Couper-Kuhlen & Thompson (2000) show from conversational data that concessives are typically deployed in the context of a fundamentally dyadic, three-part interactive sequence. Given a conversation between interlocutors A and B, first, A states some sort of point X. Then, B responds with X', which acknowledges X as being valid. Finally, B moves on to make a point Y, which contradicts or contrasts with X. Concessive use of *although* or of *-myense* represents the second and third parts of that scenario. Thus, at the point that the concessive construction is deployed a space representing the content of the point X is already available. The evocation of that space, and the taking of positive epistemic stance toward it accomplish the concession, i.e. the step of acknowledging the addressee's point, prior to asserting a contrasting or conflicting point.

Concessive *-myense* differs crucially from *although* in that *-myense* still establishes temporal relations in the content domain. The evocation of the background spaces that give *-myense* its concessive character occurs only when aspectual factors render *-myense*'s temporal semantics irrelevant. This analysis explains why *-myense* constructs do not receive concessive construals apart from stative conjuncts. Thus, for example, (80), which describes a highly unlikely scenario, does not convey a concession. Although Chelswu's smoking while swimming may be counter-expectational, in this case, the temporal and volitional relations established by *-myense* in the content domain are highly informative.

(80) chelswu-ka swuyengha-myense tampey-lul phiwu-ess-ta
Chelwsu-NOM swim-MYENSE cigarette-ACC smoke-PST-DEC
'Chelswu smoked cigarettes while swimming.'
'*Chelswu smoked cigarettes even though he was swimming.'

The addition of *-to* 'even' to the end of *-myense* in (80), however, forces the concessive reading which is indicated above as being unavailable. This is consistent with an analysis in

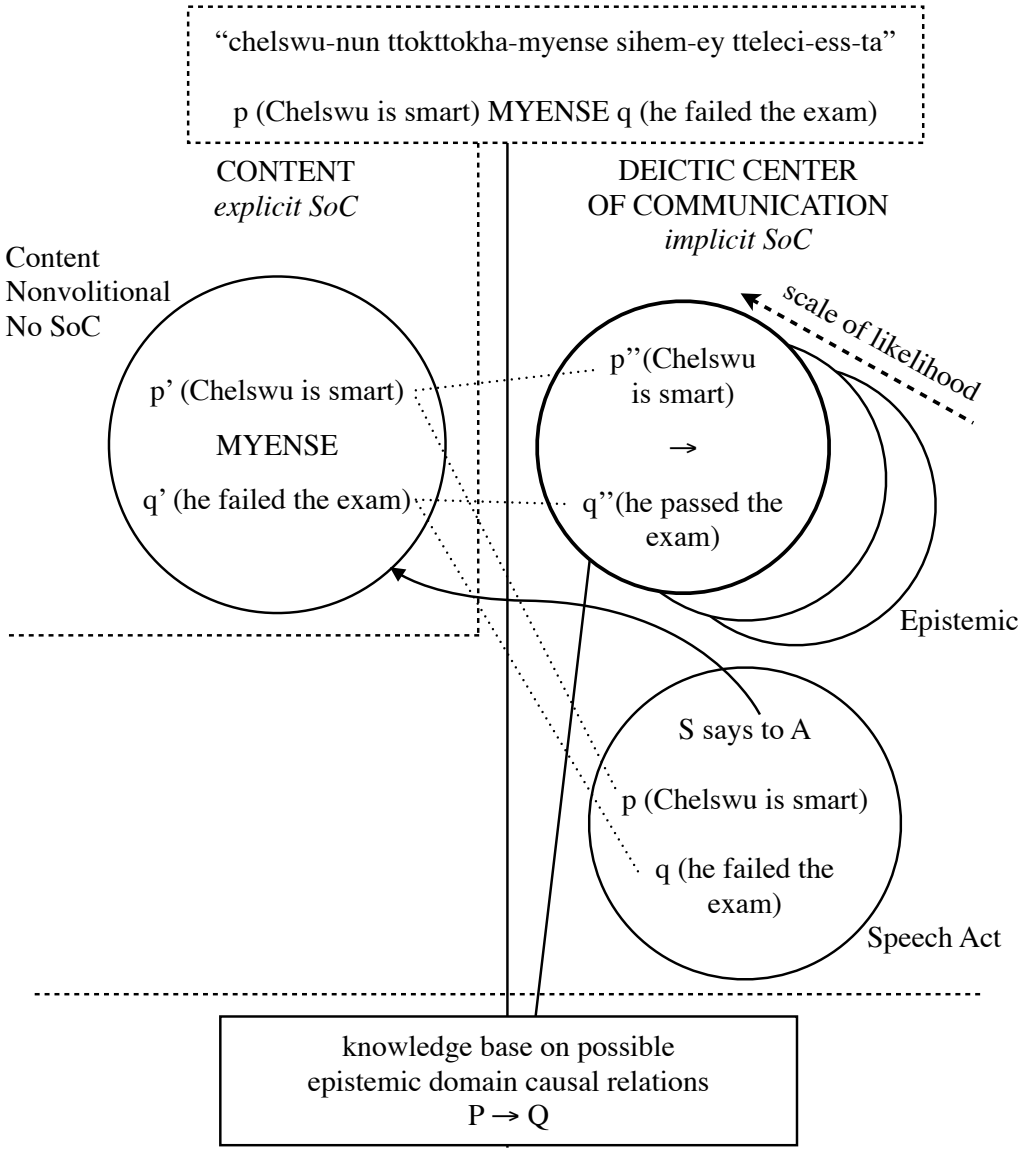

Figure 4.17: Mental space configuration for (79)

which *-to* explicitly signals for the construction of, and contrast with, a counter-expectational scale.

The present analysis also explains the why stative initial clause predicates that can be construed as temporary or episodic in occurrence allow for *-myense* to be used in either way, as a temporal relation or a concessive one. For example, for the cotemporal construal of (78), the stomach ache is construed as having begun just prior to Chelswu's departure for school. Thus, the sentence conveys a non-necessitated, informative co-occurrence. In contrast, if the stomach ache is not construed with an initial temporal bound, its scope of

predication does not include bounds in either direction, and the co-occurrence of the main clause process becomes uninformative, similar to (79). Construals with and without initial temporal bounds for (78) are depicted in Figure 4.18. In P1 of (a), Figure 4.18 shows the initial clause stative process construed with a starting bound in its scope of predication. In contrast, P1 of (b) is representative of a typical imperfective process in which the process is completely unbounded in its scope.

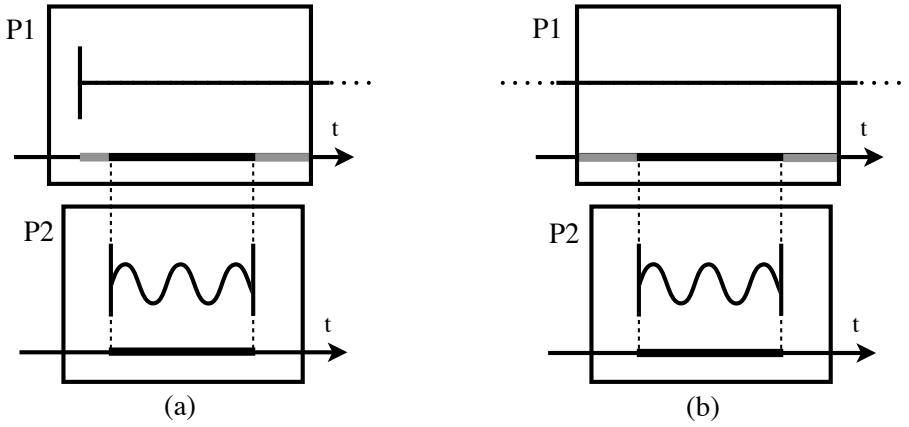

Figure 4.18: Construals with and without initial temporal bounds for (78)

The compatibility of main clause stative processes with the *-myense* construction depends on the process's ability to be construed with an initial temporal bound, such that the start of the process can be aligned by the temporal alignment constraint of the event structure component. Thus, here too, the model predicts the construction to differentiate between stative processes that are construed as permanent and unchanging and those that occur episodically. As expected, in (81), Chelswu's stomach ache is construed as having begun on his way to school. In contrast, (82), in which the stative main clause in temporally unbounded, is uninterpretable.

(81) chelswu-ka hakkyo-ey ka-myense payka aph-ass-ta
Chelswu-NOM school-LOC go-MYENSE stomach ache-PST-DEC
'Chelswu got a stomach ache while going to school.'

(82) *chelswu-ka hakkyo-ey ka-myense ttokttokha-ta
Chelswu-NOM school-LOC go-MYENSE smart-DEC
'*Chelswu is/got smart while going to school.'

An exceptional pattern obtains when both the initial and main clauses are stative processes construed as permanent states of affairs, as in (83). In such cases, I propose that *-myense* allows for the alignment of the two processes' predicational scopes without reference to temporal bounds. This alignment is depicted in Figure 4.19. From a time relational perspective, this event-structural configuration also raises the issue of relevance. The temporal profiling

of an overlap between two states of affairs construed as always being in effect in a content-nonvolitional domain in which there is no SoC lacks informational value. The model thus predicts that when licensed, these uses of *-myense* will require contextual support.

(83) chelswu-nun ttokttokha-myense cal sayngki-ess-ta
Chelswu-TOP smart-MYENSE good appearance-PST-DEC
'Chelswu is smart and good looking.'
'Chelswu is good looking even though he's smart.'

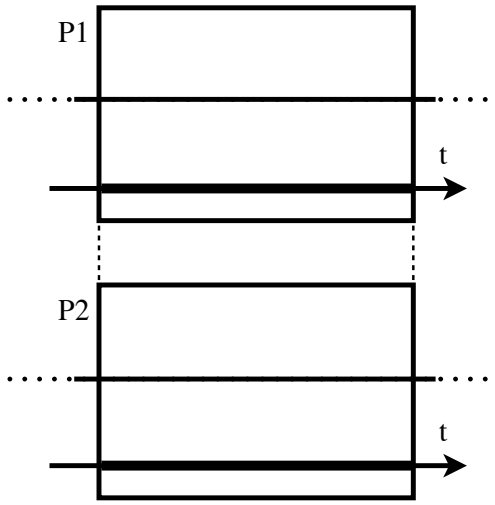

Figure 4.19: Temporal alignment for two imperfective processes, e.g. (83)

As a case in point, (83) which predicates two qualities onto the subject which are both construed as permanent states of affairs, has two possible interpretations. One possible interpretation is concessive, which is valid only under the presupposition that if one is smart, one is normally not good looking. The analysis for this reading is essentially the same as for example (79) diagrammed in Figure 4.17. Instead of the presupposition pertaining to a co-occurring event, the main clause in this case refers to a co-occurring quality. In the other interpretation, which is often considered an additive use, the *-myense* construct also conveys evidentiality—that the two qualities of the subject mentioned were perceived together by the speaker. As such, (83) could not be offered as a response to, "Tell me two things about Chelswu," asked to someone who has known Chelswu for a long time, but it could be given as a response to, "What do you think about Chelswu?" asked to someone who had just met him. (83) would then convey that these were qualities about Chelwsu that the speaker noticed at the same time. The mental space configuration for this construal is shown in Figure 4.20 in terms of the basic communicative spaces network. From the speech act space, a content-nonvolitional space, without a SoC, is constructed to interpret the *-myense* construction and its stative conjuncts. This is, however, in the context of an epistemic space in which the speaker's knowledge of Chelswu as smart and good looking is based on perceptual evidence.

In this evidential context, the temporal relations established by *-myense* in the content-nonvolitional space, i.e. co-occurrence and overlap, do carry informational value, because although they are states of affairs that are always in effect, they do not have to be perceived in tandem.

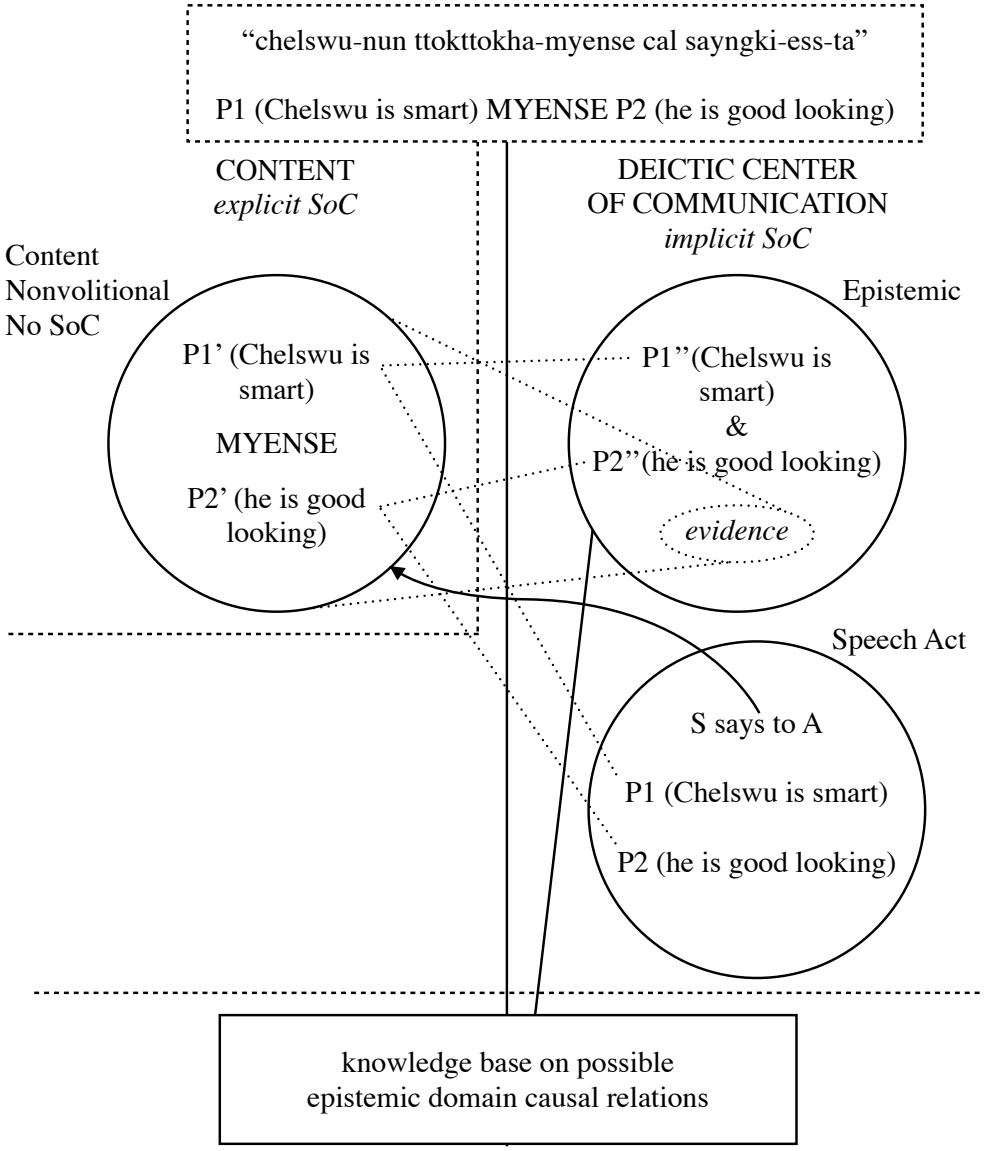

Figure 4.20: Mental space configuration for additive reading of (83)

4.4.2 Summary

In this section, I have presented an analysis of Korean *-myense* constructions using the same framework used for Korean *-taka* in Section 4.3. The analysis shows *-myense*'s semantics as dependent on the volitional and aspectual characteristics of its conjuncts, the informational value of the resulting temporal profiling, as well as the availability and type of backgrounded epistemic mental spaces. The model was able to account for a wide range of *-myense*'s uses and behaviors, including why in some cases cases a concessive reading is possible and why in other cases, it is required.

In the following section, I show how these models for *-taka* and *-myense* are able to explain why these connectives behave the way that they do semantically when the past tense marker *-ess* occurs in their initial clause.

4.5 Anteriority marking in the initial clause

Unlike *-ese*, which did not allow for tense or modality marking of any kind in its preceding clause, both *-taka* and *-myense* allow the past tense marker *-ess* to precede it. Other tense or modality markers, however, cannot appear (Nam 1994, Sohn 1995). When *-ess* occurs in the initial clause, both connectives exhibit striking differences in semantic behavior compared to their unmarked uses. In this section, I will begin by discussing what those differences are, and then show they can be accounted for given the analyses developed in the preceding sections.

When *-taka*'s initial clause is marked with *-ess*, the *-taka* construction appears to convey temporal succession, rather than interruption or overlap, as can be seen in (84).

(84) chelswu-ka hakkyo-ey ka-ss-taka cip-ey tolao-ass-ta
Chelswu-NOM school-LOC go-PST-TAKA home-LOC return-PST-DEC
'Chelswu went to school and then returned home.'

Although it would be convenient to characterize *-ess* marking in the *-taka* construction as a simple shift from interruption to temporal succession, there are some issues that make this difficult. First, it turns out that the construction has additional constraints it applies to its conjuncts, as is evident in the following examples, where simply adding *-ess* to the initial clause results in unacceptable sentences.

(85) a. chelswu-ka cha-lul sa-taka cip-ey ka-ss-ta
Chelswu-NOM car-ACC buy-TAKA home-LOC go-PST-DEC
'Chelswu went home in the middle of buying a car.'
b. *chelswu-ka cha-lul sa-ss-taka cip-ey ka-ss-ta
Chelswu-NOM car-ACC buy-PST-TAKA home-LOC go-PST-DEC
'*Chelswu bought a car and then went home.'

Furthermore, in some cases, the inclusion of *-ess* appears to cause the *-taka* construction

to convey aspects of meaning beyond temporal succession, as in (86), where there is a causal implication. Lee (1993b) suggests that the behavior of *-ess-taka* divides according to aspectual properties of the P1 clause. When the P1 clause contains a goal-directed action, the construction conveys an interruption and reversal of the final state reached in the initial clause, as is the case in (85a) above. The reversal requirement would explain why (85b) was unacceptable. He further suggests that when P1 contains an activity verb, the construction conveys the breaking of the speaker's expectation that nothing would follow from the activity. For example, (86) describes a situation in which the speaker was unexpectedly reprimanded for speaking to a certain woman.

(86) ku yeca-wa mal-ul hay-ss-taka honi na-ss-ta
that woman-with talk-ACC do-PST-TAKA trouble happen-PST-DEC
'I talked with that woman and paid dearly for it.'(Lee 1993b:532)

Although this characterization accounts for the examples above, it turns out to be descriptively inadequate. For example, the reversal criterion for goal-directed actions turns out to be too strict, as temporal succession is possible in (87) without the action in the initial clause being undone. In addition, (88) shows that the unexpected outcome sense does not depend on the initial clause containing an atelic activity verb.

(87) chelswu-ka cha-lul sa-ss-taka hakkyo aph-ey twu-ko cip-ey
Chelswu-NOM car-ACC buy-PST-TAKA school front-LOC leave-and home-LOC
ka-ss-ta
go-PST-DEC
'Chelswu bought a car, and then left it in front of the school and went home.'

(88) chelswu-ka chinkwu-lul ttayli-ss-taka honi na-ss-ta
Chelswu-NOM friend-ACC hit-PST-TAKA trouble happen-PST-DEC
'Chelswu hit his friend and then was reprimanded for it.'

When the *-myense*'s initial clause contains *-ess*, the construction no longer conveys simultaneity or temporal overlap, and similar to *-taka* the initial clause process is understood instead to have occurred temporally prior to the main clause process. However, such *-myense* constructs cannot be used to convey temporal sequence. Instead, the construct requires a concessive construal. This behavior is demonstrated in examples (89a–b).

(89) a. chelswu-ka cha-lul sa-ss-umyense cacenke-lul ta-ko
Chelswu-NOM car-ACC buy-PST-MYENSE bicycle-ACC ride-and
o-ass-ta
come-PST-DEC
'Even though Chelswu bought a car, he came here on his bicycle.'

b. *chelswu-ka cha-lul sa-ss-umyense wuncenhayo-ass-ta
Chelswu-NOM car-ACC buy-PST-MYENSE drive.come-PST-DEC
'*Chelswu bought a car and then drove here.'

What temporal category the suffix *-ess* represents is a matter of controversy in Korean linguistics. A common view, which could also be considered the traditional view, is that *-ess* marks past tense (Martin 1954, Choi 1961, Lee 1987, Sohn 1995). However, it has also been argued to be a perfective aspect marker (Nahm 1978, Park & Ho 1993), or as being two distinct homophonous forms with one marking past tense and the other perfective aspect (Na 1971, Lee 1988). Some works argue for one temporal category as basic with the others as extended uses. For example, Sohn (1995) argues *-ess* as being a past tense marker that can also convey perfective aspect, Oh (2003) and Chung (2005) argue for *-ess* as anterior (perfect) marker, in the sense of Bybee et al. (1994), with contextual extensions that cover past and perfective uses. In a similar but distinct approach, Lee (1993a) argues for *-ess* as marking a vaguer notion of 'anterior,' which does not include continued relevance, where particular realizations as past tense, perfect, and perfective are contextually determined.

For the present analysis, I adopt the more recent approaches that treat *-ess* as an anterior marker with a range of contextually dependent uses (Oh 2003, Chung 2005). Anterior marking is taken to indicate that a situation occurs prior to the reference time and it relevant to the situation at the reference time (Bybee et al. 1994:54). Because the difference that *-ess* often seems to make in the initial clause of *-taka* is to indicate that the initial clause process has run to completion rather than having been aborted, *-ess*, in the context of *-taka*, is often argued as conveying perfective aspect (Sohn 1995, Nam 1996, Oh 2003). I will argue, however, that for both *-taka* and *-myense*, because the completion of the initial clause process marked by *-ess* remains highly relevant to the main clause predication, *-ess* establishes anteriority. When *-ess* is incorporated into the models developed for *-taka* and *-myense* as an anteriority marker, I show that the models are able to account for the observed semantic patterns.

4.5.1 *-ess* in the initial clause of *-taka*

Given the event-structural models represented in Figure 4.14 for *-taka* and *-myense*, I propose that *-ess* establishes an anterior (perfect) construal of the initial clause process (P1) relative to the the connective's temporal alignment point. Specifically, the P1 is construed as completed prior to the alignment point, which is also P2's starting point, with the P1's result state construed as a continuing stative process. The altered temporal model for *-taka* is shown in Figure 4.21. The dotted line connecting the circles indicate that the circles represent the same entity across time within as well as across the processes. The dashed vertical line shows that the start of process P2 is aligned to a point at or after the end of process P1. The grayed atemporal relations represent the stative continuation of the end state of P1, which may or may not be altered by the main clause (P2) process.

The model thus predicts the P2 process to be construed as beginning where P1 ends, with P1's end state being in effect at the point that P2 begins. Examples (90)–(92) show that this is consistent with *-ess*'s effect on *-taka*'s semantics by showing the same P1 and P2 clauses conjoined with *-taka*, *-ko* and *-ese*, respectively, as points of comparison.

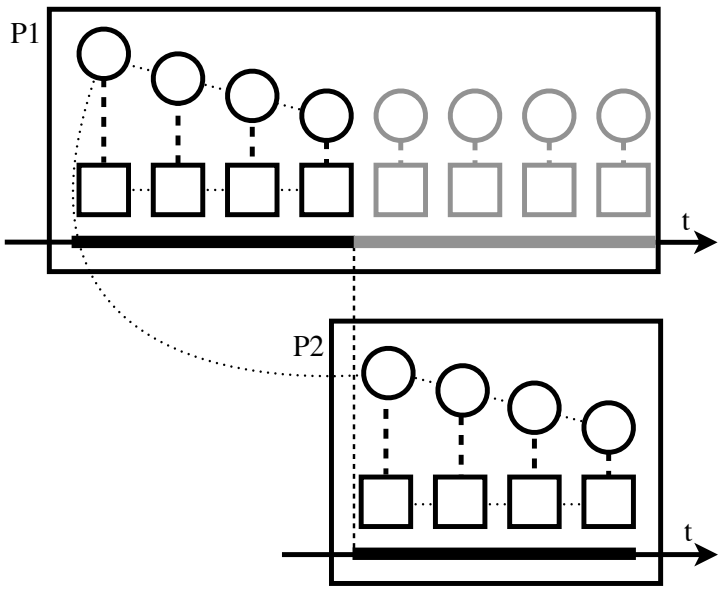

Figure 4.21: *-taka* with anterior *-ess*

(90) chelswu-nun taycen-ey ka-ss-taka taykwu-lo ka-ss-ta
Chelswu-TOP Daejeon-LOC go-PST-TAKA Daegu-LOC go-PST-DEC
'Chelswu went to Daejeon, and then from there to Daegu.'

(91) chelswu-nun taycen-ey ka-ss-ko taykwu-lo(-to) ka-ss-ta
Chelswu-TOP Daejeon-LOC go-PST-KO Daegu-LOC(-also) go-PST-DEC
'Chelswu went to Daejeon, and he also went to Daegu.'

(92) chelswu-nun taycen-ey ka-se taykwu-lo ka-ss-ta
Chelswu-TOP Daejeon-LOC go-ESE Daegu-LOC go-PST-DEC
'Chelswu went to Daegu by way of Daejeon.'

Example (90) conveys that Chelswu traveled to Daejeon, arrived there, and subsequently traveled to Daegu from Daejeon. This interpretation is consistent with the main clause process, P2, starting off from where the P1 processes ended. In contrast, the *-ko* construction in (91) conveys that Chelswu went to both Daejeon and to Daegu, without specifying the order in which the trips occurred nor anything about the path that was taken. Thus, (91) could denote a trip with the same itinerary as (90), but it could also denote two separate round-trip journeys to the two cities from wherever Chelswu initially was, which is not a reading available for (90). The *-ese* construction is similar to *-taka* in requiring that Chelswu traveled to Daejeon and then to Daegu, in that order, but it further conveys that Chelswu went to Daejeon only for the purpose of going to Daegu. In other words, in example (92), Chelswu's trip is to Daegu, and his going to Daejeon is just the beginning part of that trip. That reading is also unavailable for the *-taka* construction in (90). In contrast to

the successive sense in (90), the *-taka* construction in (93) in which the initial clause is not marked with *-ess* conveys that Chelswu changed course and went to Daegu without going all the way to Daejeon.

(93) chelswu-nun taycen-ey ka-taka taykwu-lo ka-ss-ta
Chelswu-TOP Daejeon-LOC go-TAKA Daegu-LOC go-PST-DEC
'Chelswu was going to Daejwon when he changed course and went to Daegu.'

Examples (90)–(93) thus illustrate the effect of the shift in temporal alignment signaled by *-ess* in *-taka* constructions. They also show that, in addition to the temporal shift, the resulting state of the *-ess*-marked initial clause process is highly relevant to the construal of the main clause process.

An important part of the *-taka* analysis, however, is the volitional component of the model which takes effect in content-volitional domains, but is essentially absent in content-nonvolitional domains. According to the model, content-nonvolitional domain uses of *-taka* establish only temporal relations and a subject identity requirement. An outcome of this for uses of *-taka* without anteriority marking with regard to the aspectual types of its conjuncts was that content-nonvolitional uses were much more flexible, allowing all possible combinations of stative and nonstative conjunct clauses. Similarly, for content-nonvolitional *-taka*, the present model predicts the only effect of anteriority marking in the initial clause to be event-structural, resulting from the shift in temporal alignment. Thus, while the clauses connected by content-volitional uses of *-ess-taka* in (85b) appear to be subject to a reversal constraint such that (85b) is unacceptable, the minimally different content-nonvolitional variant in (94b) is not similarly constrained. In (94a), Chelswu ends up going home without completing the purchase of the car. With past tense marking in the initial clause, as in (94b), Chelswu ends up going home after the car is purchased.

(94) a. chelswu-ka cha-lul sa-taka cip-ey ka-key toy-ss-ta
Chelswu-NOM car-ACC buy-TAKA home-LOC go-NMLZ become-PST-DEC
'Chelswu ended up going home in the middle of buying a car.'

b. chelswu-ka cha-lul sa-ss-taka cip-ey ka-key
Chelswu-NOM car-ACC buy-PST-TAKA home-LOC go-NMLZ
toy-ss-ta
become-PST-DEC
'Chelswu bought a car and then ended up going home.'

For content-volitional uses of *-taka*, the shift in temporal alignment, and specifically, the completion of the P1 process, also entails a change to the volitional component of the model. Rather than signaling a decision by the SoC to discontinue doing P1 and begin P2, *-taka* signals a decision by the SoC to alter the state of affairs brought about by process P1 by doing process P2. This is depicted in Figure 4.22. Rather than an in progress P1, as in Figure 4.6, the context of the SoC's decision is the completed P1. Instead of allowing the result of the P1 process to persist, *-taka* indicates a decision by the SoC alter that end state

by doing P2.

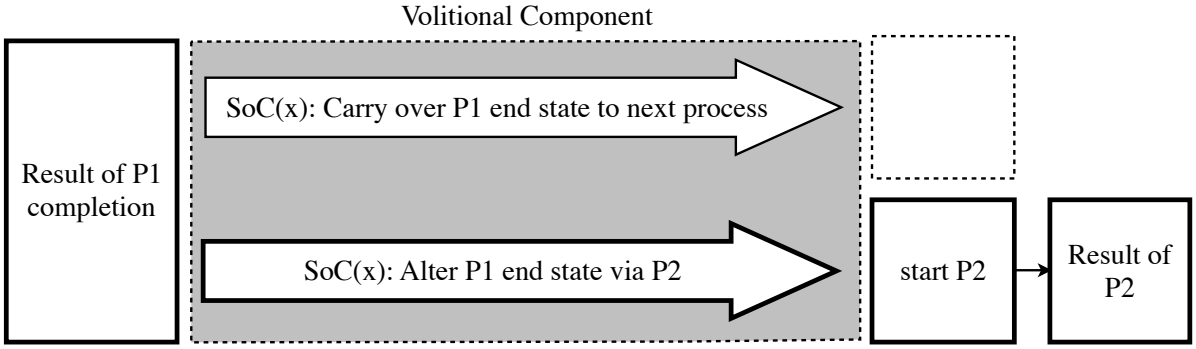

Figure 4.22: Volitional component of *-taka* with *-ess* marking

This content-volitional model yields a number of predictions. First, when the P1 process is telic and brings about a particular state of affairs, the P2 process must be telic and bring about a change to that state of affairs. This requirement is satisfied when the P2 process results in a reversal of the P1 process, as proposed in Lee (1993b) for uses of *-taka* with goal-directed initial clauses. Thus, in (95), the completion of P1 results in the clothes being on. That state is altered by the P2 process such that the clothes are no longer on. For motion predicates, as in (96), the end state of P1, being at the store, can be altered by going somewhere else. Thus (96) is acceptable despite there being no reversal of the P1 process.

(95) os-ul ip-ess-taka tasi pes-ess-ta
clothes-ACC put.on-PST-TAKA again take.off-PST-DEC
'He put the clothes on and then took them back off.'

(96) kakey-ey ka-ss-taka kukcang-ey ka-ss-ta
store-LOC go-PST-TAKA theater-LOC go-PST-DEC
'She went to the store and then to the theater.'

This analysis also accounts for the unacceptability of (85b) and the acceptability of (87, which are reproduced below in (97a–b). In (97a), the main clause does not alter the state of affairs brought about by the initial clause, in which Chelswu, having purchased a car, is in possession of it. In (97b), although Chelswu still presumably owns the car, the main clause alters the end state of P1 in that Chelswu is no longer in possession of the car when he comes home. Example (98) shows that merely doing something with the purchased car is not sufficient. The model correctly predicts (98) to be unacceptable, because although Chelswu is doing something with the car, like in (97b), he still owns the car and is in possession of it. Thus in (98), the P2 process does not alter the state of affairs brought about by the P1 process.

(97) a. *chelswu-ka cha-lul sa-ss-taka cip-ey ka-ss-ta
Chelswu-NOM car-ACC buy-PST-TAKA home-LOC go-PST-DEC

'*Chelswu bought a car and then went home.'

b. chelswu-ka cha-lul sa-ss-taka hakkyo aph-ey twu-ko
Chelswu-NOM car-ACC buy-PST-TAKA school front-LOC leave-and
cip-ey ka-ss-ta
home-LOC go-PST-DEC
'Chelswu bought a car, and then parked it in front of the school and went home.'

(98) *chelswu-ka cha-lul sa-ss-taka wuncen hay-se cip-ey
Chelswu-NOM car-ACC buy-PST-TAKA drive do-ESE home-LOC
ka-ss-ta
go-PST-DEC
'*Chelswu bought a car, and then drove it home.'

An atelic P2 process cannot alter the state of affairs brought about by a telic P1 process. Thus, the model predicts such combinations to be unacceptable. This is supported by (99), which shows that when the P1 process is telic, as in purchasing a car, the P2 process cannot be an atelic activity, such as complaining. It is important to note that these constraints are predicted by the model only for content-volitional uses of *-taka*. For content-nonvolitional uses, in which the volitional component has no effect, the model predicts neither the alteration requirement nor the telicity requirement to apply, even in the case where P1 is telic. This is demonstrated by (100), which is very similar to (99), except that the main clause activity is marked as nonvolitional.

(99) *chelswu-ka cha-lul sa-ss-taka pwulphyeng-ul hay-ss-ta
Chelwsu-NOM car-ACC buy-PST-TAKA complain-ACC do-PST-DEC
'*Chelswu bought a car and then complained (about it).'

(100) chelswu-ka cha-lul sa-ss-taka pwulphyeng-ul ha-key
Chelwsu-NOM car-ACC buy-PST-TAKA complain-ACC do-NMLZ
toy-ss-ta
become-PST-DEC
'Chelswu bought a car and then ended up complaining (about it).'

For content-volitional uses of *-ess-taka*, when the initial clause contains an atelic activity, the alteration requirement is vacuously satisfied. In other words, since no new state of affairs results from the P1 process, no change of state is required. Consequently, atelic initial clause processes can be followed by telic or atelic main clauses, as demonstrated by (101a–b) respectively.

(101) a. halwucongil pwulphyeng-ul hay-ss-taka cha-lul sa-ss-ta
all.day complain-ACC do-PST-TAKA car-ACC buy-PST-DEC
'He complained all day and then bought a car.'

b. calang-ul hay-ss-taka pwulphyeng-ul hay-ss-ta
brag-ACC do-PST-DEC complain-ACC do-PST-DEC

'He boasted and then complained.'

Activities, such as those in the atelic clauses in (101), are temporally bounded but homogeneous processes. Because of this homogeneity, the shift in temporal alignment due to the presence of *-ess* in the initial clause produces little to no semantic effect. Figure 4.23 illustrates a shift in temporal alignment for heterogeneous processes on the left and for homogeneous processes on the right. As shown by the diagram on the right of Figure 4.23, the only difference made by the shift on the construal of P1 is one of relative duration. Since the mapping between real-world event time and cognitive scanning time is flexible, the model predicts there to be little to no meaningful temporal effect. As shown by (102a–b), when the P1 process is homogeneous, the same eventualities can be described without using *-ess* in the initial clause.

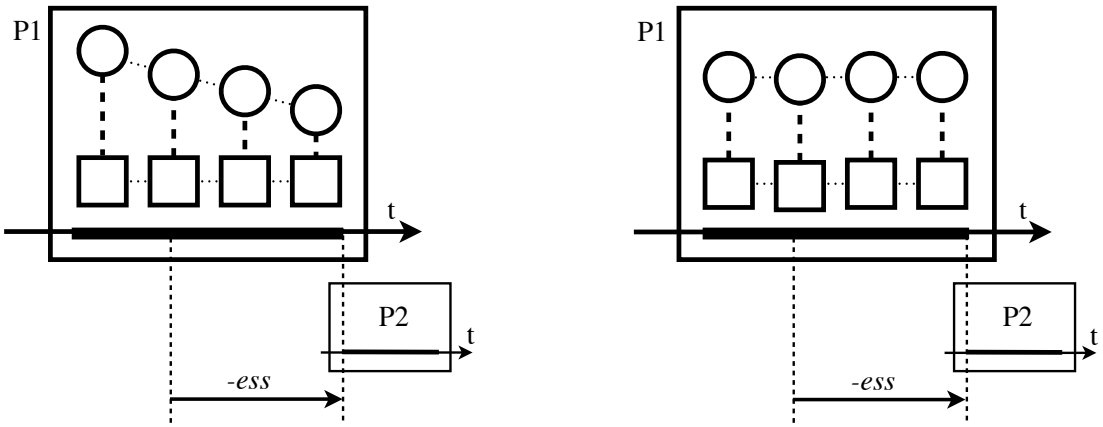

Figure 4.23: Shift in temporal alignment for heterogeneous vs. homogeneous P1 processes

(102) a. halwucongil pwulphyeng-ul ha-taka cha-lul sa-ss-ta
all.day complain-ACC do-TAKA car-ACC buy-PST-DEC
'He complained all day and then bought a car.'

b. calang-ul ha-taka pwulphyeng-ul hay-ss-ta
brag-ACC do-DEC complain-ACC do-PST-DEC
'He boasted and then complained.'

According to the present model, one difference between the uses of *-taka* in (102) and (101) is that in the uses without anteriority marking in the initial clause, the explicit SoC decides to discontinue the P1 activity at the temporal alignment point. In contrast, when *-ess* occurs in the initial clause, the temporal alignment is shifted to the end of the P1 activity, and the explicit SoC's decision pertains only to P2. However, for the activities in examples (101)–(102), and for most similarly episodically occurring activities, the temporal bounds are already volitionally determined. For example, in (101a–b), complaining and boasting have no inherent end point. Instead, they are both activities that end whenever the person

engaged in the activity decides to stop. Thus, for the atelic P1 processes in (101), it is still the case that the explicit SoC decides to discontinue the P1 processes. If an involuntary P1 activity is followed by a volitional P2 process, the model predicts that there would be a semantic difference between uses of *-taka* with and without *-ess* in the initial clause. The reason for this is that for uses of *-taka* without *-ess* in the initial clause, the P1 process would be voluntarily discontinued, while for uses of *-taka* with *-ess* in the initial clause, the temporal alignment would be shifted to the natural, involuntary end point of the activity. This is confirmed by the examples in (103). Examples (103a–b) differ in that the former carries the sense that the sleep was interrupted, while the latter carries the sense that the person had slept enough and then went to school.

(103) a. cam-ul ca-taka hakkyo-ey ka-ss-ta
sleep-ACC sleep-TAKA school-LOC go-PST-DEC
'He was sleeping and then he (woke up and) went to school.'
b. cam-ul ca-ss-taka hakkyo-ey ka-ess-ta
sleep-ACC sleep-PST-TAKA school-LOC go-PST-DEC
'He slept (for a while) and then went to school.'

In the analysis of past tense marked *-taka* constructions presented above, the predicted behaviors with respect to telic and atelic P1 processes applies to content-volitional uses of *-taka*. For content-nonvolitional uses *-taka*, the presence of *-ess* in the initial clause, which signals the same shift in temporal alignment as for content-volitional uses, produces a yet different effect. In the examples in (104), *col-ta* 'to doze' means to sleep lightly, usually without lying down, and is an atelic activity. In (104a), which is not marked with *-ess* in the initial clause, falling off the chair occurs while the person is dozing, potentially but not necessarily interrupting it. In (104b), with *-ess* in the initial clause, falling off the chair follows an episode of dozing, but there is, furthermore, a causal relation implied between the dozing and the subsequent fall.

(104) a. col-taka uyca-eyse tteleci-ess-ta
doze-ACC sleep-TAKA chair-from fall-PST-DEC
'While dozing, he fell off his chair.'
b. col-ass-taka uyca-eyse tteleci-ess-ta
doze-ACC sleep-PST-TAKA chair-from fall-PST-DEC
'He dozed and fell off his chair.'

For *-taka* constructions without tense marking in the initial clause, as in (104a), the P2 process was interpreted as starting at a temporal alignment point which was interior to the P1 process. Whether the P2 process is construed as overlapping with the remainder of the P1 process, and whether the P1 process continues to completion, were dependent on the particular characteristics of the processes themselves. When the *-taka* clause is marked with *-ess*, the start of P2 follows after a completed P1, as shown in Figure 4.21. One significant difference then between the *-taka* model without *-ess* and the one with *-ess*, is

that for the former, causal implicature is highly unlikely, while for the latter it appears to be strongly welcomed. Specifically, we have two ordered and adjacent same-subject processes in which the first, a perfective process, is immediately followed by a nonvolitional process. The following are examples from English which demonstrate the same effect:

(105) a. As he was talking to a woman, John was fiercely reprimanded.
b. John talked to a woman and was fiercely reprimanded.

In (105a), where the reprimand and the talking are construed as overlapping, a causal construal is precluded. A forward causal implicature, however, is readily available for (105b). Thus, the model predicts content-nonvolitional uses of *-taka* with *-ess* marking in the initial clause to receive a causal construal. This pattern is supported by the following examples:

(106) a. khemphyute-lul ssakey sa-ss-taka pelikey toy-ss-ta
computer-ACC cheaply buy-PST-TAKA throw.away become-PST-DEC
'I bought a computer for cheap and ended up throwing it away.'
b. khal kaciko nol-ass-taka tachi-ess-ta
knife with play-PST-TAKA hurt-PST-DEC
'He played with a knife and got hurt.'
c. kongpwu-lul yelsimhi hay-ss-taka il ttungi toy-ss-ta
study-ACC diligently do-PST-TAKA one rank become-PST-DEC
'He studied hard and became ranked #1.'

All examples above convey that P1 was the reason that P2 occurred. Although listeners find it very confusing, it is possible to explicitly cancel the causal implicature. For example, the additional discourse in (107) could be offered as a clarification on (106a). Again, it is important to note the distinction between content-volitional and content-nonvolitional uses of *-taka*. For content-volitional uses of *-taka* with anteriority marking in the initial clause, the volitional component does not allow for a causal conversational implicature because causality is already semantically specified. For content-volitional *-taka*, the P2 occurs because the explicit SoC decided to do P2.

(107) kulentay, ssakey san-kes ttaymwuney-ka anhi-ko nay-ka ttelethulye-se
but cheap buy-NML reason-NOM NEG-and 1SG-NOM drop-ESE
pelikey toy-ss-e
throw.away become-PST-DEC
'but it wasn't because I bought it for cheap, it was because I dropped it.'

With *-ess* characterized as an anterior marker enacting a temporal shift with a continuing resulting state, the present model was able to account for a clustering of the *-taka* construction's behaviors that was formerly somewhat mysterious. These included the *P1-ess-taka P2* construction not accepting certain combinations of P1 and P2 that can be connected when *-ess* is absent, the presence of *-ess* in the initial clause not producing any semantic effect in certain cases, and the causal sense of *P1-ess-taka P2*. The model was able to explain how

these phenomena arise as well as the conditions under which they arise. These are summarized in Figure 4.24. Crucial to the analysis was the distinction between content-volitional and content-nonvolitional uses of *-taka*, where in the former, the event-structural relationship between the P1 and P2 processes was also subject to the requirements of the volitional component of the model.

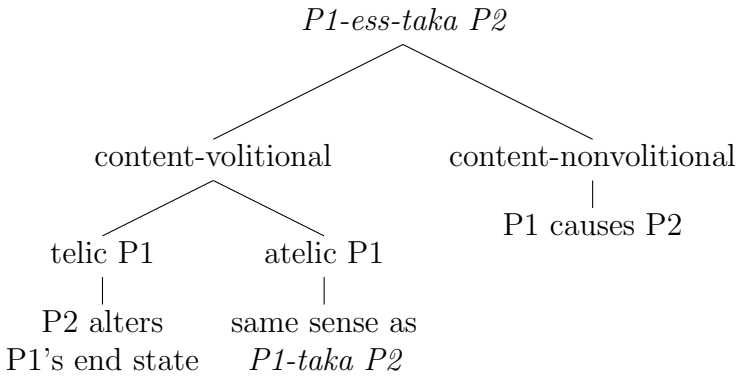

Figure 4.24: Senses of *P1-ess-taka P2*

4.5.2 *-ess* in the initial clause of *-myense*

When *-ess* occurs in the initial clause of *-myense*, although the initial clause process is understood as occurring prior to the main clause process, the construction requires a concessive construal, and cannot be used to convey temporal sequence or cotemporality. Thus, example (108) can only be construed concessively. Based on the conceptual model proposed for *-myense* and the approach to *-ess* used above for *-taka*, I propose that when *-ess* occurs in the initial clause of the *-myense* construction, it effects the same temporal shift with end state continuation. However, in the context of *-myense*'s temporal profiling, the completion of the initial clause process is construed as occurring outside the initial clause's scope of predication. The result is that for the purposes of *-myense* connection, the initial clause is imperfective, i.e. temporally unbounded and homogeneous in its predicational scope. This event-structural configuration is depicted in Figure 4.25.

(108) o-n-ta-ko yaksokhay-ss-umyense an o-ass-ta
come-PRES-DEC-QUOT promise-PST-MYENSE NEG come-PST-DEC
'Although he promised he would come, he didn't.'

The difference in the way that *-ess*'s temporal semantics is realized with respect to *-taka* and *-myense* can be accounted for by differences in the event-structural components of the two connectives. Specifically, as shown in Figure 4.14, *-taka* profiles the portion of the P1 process prior to the temporal alignment indicated by *-taka*, while *-myense* profiles the part of P1 that follows it. In both cases, the parts of the P1 process profiled by the connective

construction are kept inside the scope of predication. For *-taka*, *-ess*'s anteriority is construed so as to keep the profiled part of P1, from its start, within the scope of predication, as in Figure 4.21. For *-myense*, which profiles the the part of the P1 process that follows the connective's temporal alignment point, *-ess*'s anteriority is construed as shifting the initial clause process out of the scope of predication, as in Figure 4.25.

As discussed in Section 4.4.1, when *-myense*'s initial clause process is stative and cannot be construed with a starting temporal bound inside the scope of predication, *-myense* requires a concessive interpretation. I propose that this is why *-myense* is obligatorily concessive when *-ess* occurs in the initial clause. Thus, in (109), anteriority marking in the initial clause shifts the dynamic activity of practicing into the past and out of the scope of predication. Within the scope, as indicated in Figure 4.25, is an imperfective process which represents the result of having done that practicing. The *-myense* construct profiles the temporal overlap between this initial clause state and the main clause event of falling. Since the outcome of having practiced is construed as a permanently ongoing state, the temporal overlap with the fall lacks informative value in the sense that any and every event also overlaps with that state. Thus, the construct requires a concessive presupposition to license its use. If an epistemic space can be evoked in which knowledge about Chelswu having practiced leads to the conclusion that Chelswu would not fall, then against that backgrounded space, the temporal profiling in the content-nonvolitional space constitutes a counter-expectational assertion.

(109) chelswu-ka yensup-ul paykpen hay-ss-umyense nemeci-ess-ta
Chelswu-NOM practice-ACC 100.times do-PST-MYENSE fall-PST-DEC
'Chelswu fell even though he practiced a hundred times.'

In this section, I presented analyses for the behavior that results as the *-taka* and *-myense* constructions interact with anteriority marking in their initial clauses. The semantics of *-taka* amd *-myense* constructs supports the analysis of *-ess* as marking anteriority (perfect),

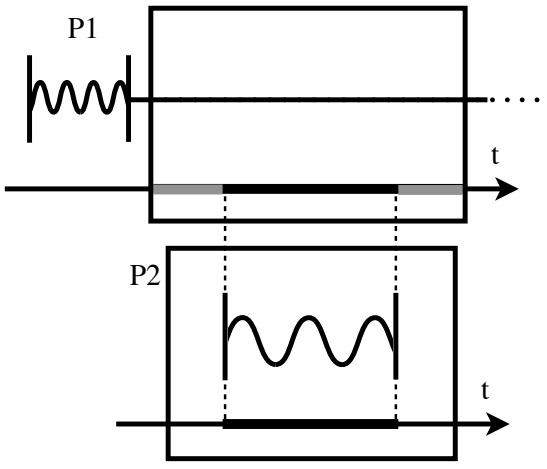

Figure 4.25: *-myense* with anterior *-myense*

in which the situation marked as occurring prior to a reference time is construed as relevant to the situation at the reference time. For both *-taka* and *-myense*, the temporal alignment specified by the construction serves as the reference time, which is also the point at which the main clause process is construed as starting. For *-taka*, when the initial clause is marked with *-ess*, the main clause process is construed as starting from the state of affairs brought about by the initial clause process, with additional requirements for telic initial clauses in a content-volitional context. For *-myense*, in which the presence of *-ess* in the initial clause requires a concessive construal, the initial clause situation is presupposed as predicting the non-occurrence of the main clause process. Thus, with *-ess* modeled as marking anteriority, the analyses proposed for *-taka* and *-myense* in the earlier sections have been shown to be able to explain the behaviors that emerge when the connectives co-occur with *-ess*.

4.6 Subject identity constraints

It was observed in Section 4.1 that *-taka* and *-myense* both exert subject identity constraints. Given the similarity of the conceptual models that have been proposed for *-taka* and *-myense* in the preceding sections, we might expect the constraints to behave similarly, which for the most part, they do. There were, however, differences with respect to the kinds of violations that their constraints permitted. A natural question then is whether the differences in the models can account for these differences in the behavior of the two connectives' subject identity constraints. For example, it is possible to produce apparent violations of the constraints for both connectives by referring to the subject in one clause and a part or possessed extension of the subject in the other, as in the following examples:

(110) a. pay-ka twuycipeci-taka ai-ka mwul-ey ppaci-ess-ta
boat-NOM capsize-TAKA child-NOM water-LOC fall.in-PST-DEC
'The child fell into the water as the boat flipped over.'

b. pay-ka twuycipeci-myense ai-ka mwul-ey ppaci-ess-ta
boat-NOM capsize-MYENSE child-NOM water-LOC fall.in-PST-DEC
'The child fell into the water as the boat flipped over.'

The sentences above are acceptable as long as the child was on the boat when it flipped over. The examples in (110) seem to indicate that the the subject identity constraint is not syntactic for either connective, since they demonstrate that there are use cases that permit two distinct subjects. The matter appears to be not so easily settled, however, because Korean allows for multiple NP subjects based on certain kinship, possession, and whole-part relationships between the NPs (Sohn 2001:289), as shown in (111). This phenomenon in conjunction with Korean freely omitting contextually identifiable NPs is used in Song (1988) to argue that apparent different-subject uses of *-taka*, except for those conveying alternation, are actually same-subject uses.

(111) chelswu-ka hyeng-i nwun-i hana-ka khu-ta
Chelswu-NOM old.brother-NOM eye-NOM one-NOM big-DEC
'One of Chelswu's older brother's eyes is big.'

However, Kim (2001) demonstrates that of the nominative elements, only the immediately preverbal NP exhibits properties typical of grammatical subjects. These include the ability to trigger honorification on the verb, the ability to host the nominative honorific marker *-kkeyse*, and ability to serve as an antecedent to the subject-oriented reflexive anaphor *caki*. Thus, it seems unlikely that a purely syntactic account of *-taka* and *-myense*'s subject identity constraints could be sustained on the basis of Korean multiple NP subjects.

For *-myense*, we will see later that the set of relationships that license multiple NP subjects is too narrow to account for the range of possible difference subjects. For *-taka*, I propose an analysis of its subject identity constraint in terms of Langacker's ([1991] 2002) concept of action chains. In Cognitive Grammar, grammatical relations such as subject and object as well as semantic roles such as agent and patient are defined relative to an action chain, which models interactions between participant entities in terms of asymmetric energy transfers. A canonical agent is the head of the action chain and the source of the energy transmission, while a canonical patient is the tail of the action chain, and thus the sink. The subject is the head of the profiled part of the action chain. Given two clauses, P1 and P2, with their respective action chains, I propose that *P1-taka P2* requires the head of the profiled parts of both action chains to overlap. The overlap condition points to the possibility of action chain participants subsuming multiple nodes of the energy transfer network. For example, in (112), Smedley's fingers and the on-off switch of TV serve to transmit energy, and while they could have been specified as instruments, they are instead subsumed into an undifferentiated agentive participant (Langacker [1991] 2002:220). This possibility of participants having substructure is depicted in Figure 4.26.

(112) Smedley switched off the TV.

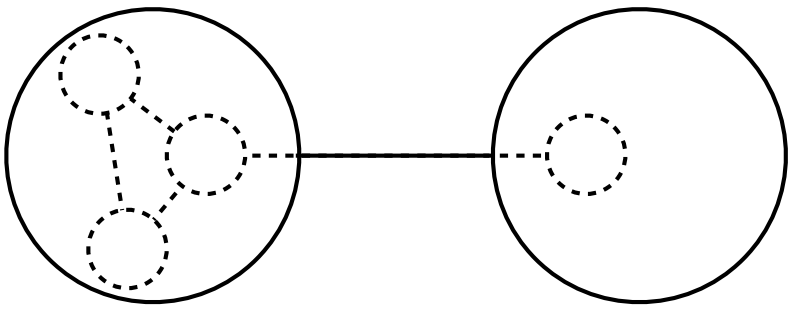

Figure 4.26: Participants with substructure (Langacker [1991] 2002:220)

Thus, for typical same-subject uses of *-taka*, the same entity serves as the head of the profiled parts of the action chains of both the P1 and P2 clauses. This is the case for

example (113a), where Chelswu both does his homework and watches TV. In example (113b) the subject of the P2 clause represents a part of the substructure of the subject of the P1 clause, thus satisfying the overlap criterion proposed above. Finally, in (113c), the P1 and P2 clause subjects represent non-overlapping action chain participants. These three types of action chain interaction, corresponding to (113a–c), are depicted in Figure 4.27.

(113) a. chelswu-ka swukcey-lul ha-taka TV-lul po-ass-ta
Cheslwu-NOM homework-ACC do-TAKA TV-ACC watch-PST-DEC
'Chelswu did his homework and then stopped and watch TV.'

b. chelswu-ka swukcey-lul ha-taka yenphil-i ppwule-ci-ess-ta
Chelswu-NOM homework-ACC do-TAKA pencil-ACC break-RES-PST-DEC
'While Chelswu was doing his homework, his pencil broke.'

c. *chelswu-ka swukcey-lul ha-taka yenghi-ka
Chelswu-NOM homework-ACC do-TAKA Yenghu-NOM
nol-le-o-ass-ta
play-PURP-come-PST-DEC
'While Chelswu was doing his homework, Yenghi came over to play.'

In Figure 4.27, circles represent participant entities, and arrows the transmission of energy. Bolded circles represent profiled participants. In diagram (a), the action chains of the P1 and P2 processes, marked with dotted lines labeled P1 and P2, show that the same participant, indicated by gray highlighting, is the head of the profiled parts of both action chains. In this case, the common participant, being an agent, is also the head of the action chain. Diagram (a) represents the action chain configuration for (113a). In diagram (b), which represents (113b), the head of the profiled part of the P2 action chain, i.e. the pencil, is a part of the structure subsumed by the head of the profiled part of the P1 action chain, an agent whose internal structure is undifferentiated, as in (112). The overlap, i.e. the common profiled head participant, is highlighted in gray. As the pencil most likely broke through a transmission of energy, it is not the head of its action chain, just the head of the profiled portion. This is indicated by the presence of an unbolded, i.e. not profiled, entity from which it receives energy. Diagram (c), which corresponds (113c), shows two independent action chains. The heads of the the action chains are separate participants. This configuration does not conform to the proposed condition and cannot be used with *-taka*.

What has been referred to as *-taka*'s subject identity constraint is thus reanalyzed here as an action chain intersection requirement where the intersection must involve the heads of the profiled parts of the respective action chains, whether in part or in whole.

As mentioned in Section 4.1.1, one way in which *-taka*'s subject identity constraint appears to differ from *-myense*'s is that it allows the subjects to be different if the predicates are the same, as in the following example:

(114) chelswu-ka wuncenha-taka yenghi-ka wuncenha-n-ta
Chelswu-NOM drive-TAKA Yenghi-NOM drive-PRES-DEC
'Chelswu was driving and now Yenghi is driving.'

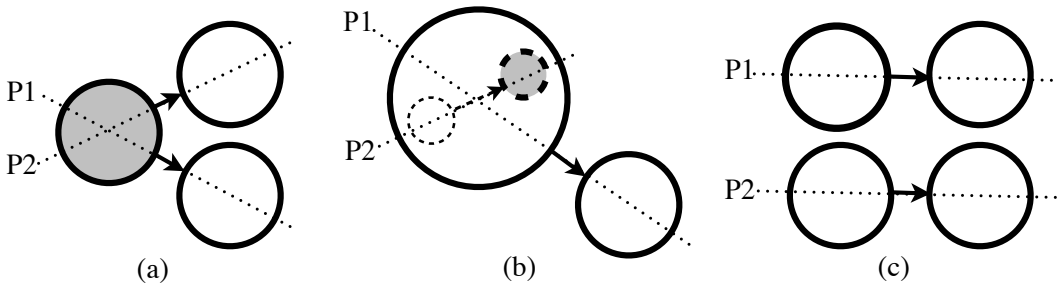

Figure 4.27: action chain configurations for *-taka*

The sentence above conveys that Chelswu and Yenghi are taking turns driving. Thus, it conveys alternation, rather than interruption.[3] Although driving is volitional, the semantics of the sentence is incompatible with the proposed volitional component of *-taka*, which conceptualizes a single volitional agent deciding to discontinue one activity to engage in another. The alternation use of *-taka* is also peculiar in being possible only for activity processes—i.e. those that are homogeneous but temporally bounded. Example (115) shows that telic as well as stative processes cannot be construed as alternating with *-taka*.

(115) a. *chelswu-ka ttena-taka yenghi-ka ttena-n-ta
Chelswu-NOM leave-TAKA Yenghi-NOM leave-PRES-DEC
'*Chelswu was leaving and now Yenghi is leaving.'

b. *chelswu-ka phyenci-lul ssu-taka yenghi-ka phyenci-lul
Chelswu-NOM letter-ACC write-TAKA Yenghi-NOM letter-ACC
sse-n-ta
write-PRES-DEC
'*Chelswu was writing a letter and now Yenghi is writing a letter.'

c. *chelswu-ka ttokttokha-taka yenghi-ka ttokttokha-ta
Chelswu-NOM smart-TAKA Yenghi-NOM smart-DEC
'Chelswu was smart and now Yenghi is smart.'

Given the model for *-taka* proposed in Section 4.3, alternating *-taka* appears to be a constructional variant whose semantic model is related but not necessarily predictable from the interruptive use of *-taka*. The semantic model proposed for *-taka*, leaving aside the volitional

[3] It should be noted that there is another alternation construction that involves use of *-taka*. That construction has a formal difference and follows the form *P1-taka P2-taka ha-ta* which conveys an indefinite repetition of the P1-P2 scenario, as in the following example:

(i) chelswu-ka sewul-ey ka-ss-taka yenghi-ka sewul-ey ka-ss-taka hay-ss-ta
Chelswu-NOM Seoul-LOC go-PST-TAKA Yenghi-NOM Seoul-LOC go-PST-TAKA do-PST-DEC
'Chelswu went to Seoul and then Yenghi went to Seoul, and they kept doing that for a while.'

This construction, and the relationship between the *-taka* clauses that appear in it and those that appear independently of it may be the object of later inquiry.

component, involved two kinds of constraints—temporal alignment of the processes and an identity constraint on the subjects. The latter constraint was examined in greater detail and recast above as an overlap, or intersection, condition on the heads of the profiled parts of the respective action chains. Given a common most prominent participant entity, the temporal alignment of the processes such that P2 begins in the middle of P1 yields *-taka*'s semantics—one participant entity dealing with two potentially competing events.

In the case of alternating *-taka*, I propose that the construction specifies an additional constraint—identity of the conjoined processes. In other words, the processes are construed not as two similar processes, but as a single process. This predicts correctly that alternating *-taka* requires its conjuncts to be construed as the same instance of an activity, i.e. it does not allow for two distinct instances of the same activity. Thus, example (114) can only mean that Chelswu and Yenghi are taking turns driving the same car on the same trip. It cannot refer to scenarios in which they are driving separate cars.

This analysis of alternating *-taka* is depicted in Figure 4.28, where the dotted line connecting the atemporal relations within and across the processes indicates homogeneity between the P1 and P2 processes with respect to their internal subunits. Activities, for instance, which are dynamic but cyclic, yielding no overall change of state, are homogeneous by virtue of being composed of identical subunits. Note that subunit-internal dynamicity is not represented in the diagram for reasons of space. Alternative *-taka* establishes the same temporal alignment and process transition across that alignment point as interruptive *-taka*. In this case, however, the processes are construed as one, and what changes is who the subject participant is. The processes cannot be construed as a single process if the processes are telic as in (115a–b), because each process involves a distinct change of state. The unavailability of (115c) follows from an aspect of the model that alternating *-taka* shares with interruptive *-taka*, which is that the processes must be temporally bounded. Thus, the additional constraint proposed above interacts with the temporal alignment constraint proposed earlier for interruptive *-taka* to account for alterating *-taka*'s aspectual characteristics as seen in (115a–c).

While a strictly syntactic subject identity constraint would be unsustainable for alternating *-taka*, I show here that the semantic model underlying the action chain overlap constraint proposed above explains a part of alternating *-taka*'s semantics. Alternating *-taka*'s process identity requirement, in which the processes are construed as a single process, entails that the processes' action chains also be construed as being a single action chain. What is interesting is that the construction at the same requires the subjects to be different. The apparent paradox is resolved by the ability of action chain participants to include substructure. I propose that alternating *-taka* construes the differing subjects as parts of a larger common participant, as depicted in Figure 4.29. While the individual entities labeled S1 and S2 are distinct they overlap, or are a part of, a larger participant that is construed as the head of the action chain. Thus, the conceptual structure of alternating *-taka* is that of a multiplex subject, in action chain terms, engaged in a common activity.

The connective *-myense*, however, was found to have its own class of exceptions to the same subject constraint in the case where the subjects of its conjuncts were inanimate and,

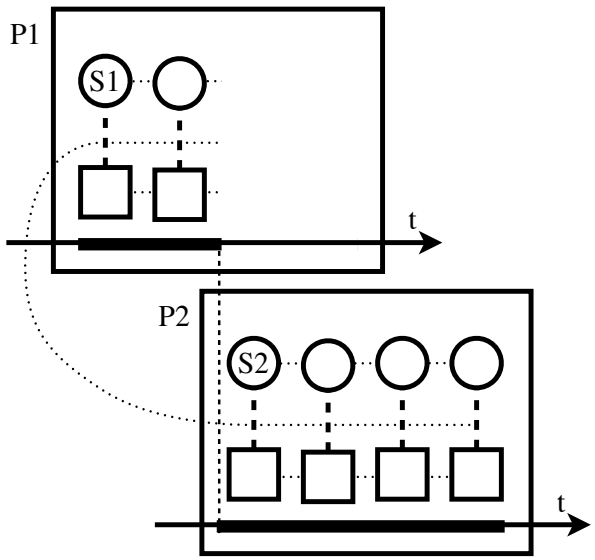

Figure 4.28: Alternating *-taka* requiring predicate rather than subject identity

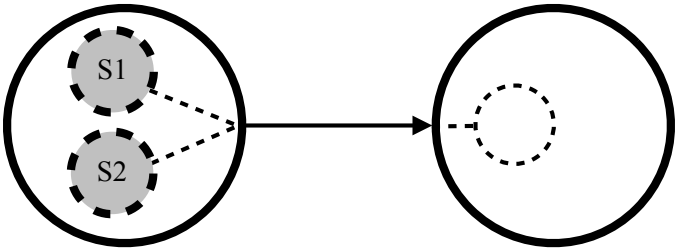

Figure 4.29: Alternating *-taka*'s action chain

according to Lee (1993b), motivated by a common cause or force. Since this class of exceptions concerns cases where the subjects are inanimate, we would expect these uses of *-myense* to be content-nonvolitional uses, which were not subject to the constraints established by the volitional component and were consequently more flexible in terms of temporal construal. Although the subjects of these uses are different, they are conceptualized as interactively linked. For example, in (116a), the car hitting the tree and the tree falling over involve a temporal synchronization based on the force interaction between the car and the tree. In contrast, (116b) represents an attempt at using *-myense* to establish a cotemporal relation between non-interacting processes.

(116) a. cha-ka namwu-lul tulipat-myense namwu-ka ssuleci-ess-ta
car-NOM tree-ACC ram-MYENSE tree-NOM fall-PST-DEC
'As the car rammed into the tree, the tree fell over.'

b. *cha-ka cina ka-myense namwu-ka ssuleci-ess-ta
car-NOM pass.by go-MYENSE tree-NOM fall-PST-DEC

'As the car drove by, the tree fell over'

For some speakers, it is possible to use *-myense* with different animate subjects if there is a causal relation between the conjuncts. For example, (117) can be used to refer to a scenario in which the children's singing causes the adults to start dancing. However, the situation is not one in which the adults decided to start dancing, but one in which the adults find themselves having started to dance.

(117) aitul-i nolayha-myense eluntul-i chwum-ul chwu-ess-ta
children-NOM sing-MYENSE adults-NOM dance-ACC dance-PST-DEC
'As the children sang, the adults started to dance.

Examples such as (116a) and (117) are clearly beyond the reach of an analysis that attempts exploit of the multiple NP subject construction, as the their subjects are not related according to the same relations that license multiple NP subjects, e.g. kinship, possession, part-whole, etc. Instead, I propose below a reanalysis of *-myense* subject identity condition in terms of action chains, similar to that proposed for *-taka*, that accounts for the observed level of flexibility.

Figure 4.30 diagrams the action chain configuration for (118) below, which could be considered a prototypical simultaneous use of volitional *-myense*. As the diagram shows, the same participant entity is the head of both action actions, labeled P1 and P2. Thus for (118), an agent volitionally engages in the two processes simultaneously.

(118) chelswu-ka khal-lo sakwa-lul ccal-umyense pal-lo pellay-lul
Chelswu-NOM knife-INSTR apple-ACC cut-MYENSE foot-INSTR bug-ACC
cap-ass-ta
catch-PST-DEC
'Chelswu caught a bug with his foot while cutting an apple with a knife.'

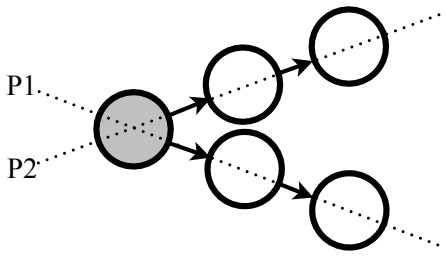

Figure 4.30: Action chains for (118)

For volitional *-myense*, I propose that the construction requires the same action chain overlap as for *-taka*, in which the heads of the profiled portions of the action chains must either be the same entity or intersect in terms of substructure. This accounts for examples like (110b) where the head of the profiled part of P1's action chain is included in the head

of the profiled part of P2's action chain. For nonvolitional uses of *-myense*, the construction is more flexible and allows the common participant to be upstream from the heads of the profiled parts of the action chains. Figure 4.31 shows the action chain configuration for example (116a). In this diagram, identical entities have been drawn separate to indicate the difference in profiling between the two action chains. The bold vertical lines indicate that the entities are the same. In this case, the common participant is the head of the profiled part of P1's action chain, but is farther upstream than the head of the profiled part of P2's action chain.

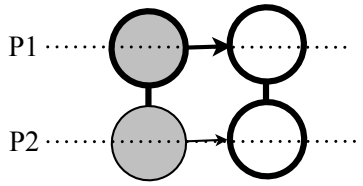

Figure 4.31: Action chains for (116a)

In contrast, example (116b), despite their subjects referring to the same entities, represents a case in which there is no energy transmission interaction between the participants of the conjoined clauses, and where the conjoined events are simply cotemporal. The constraint proposed above correctly predicts that *-myense* cannot be used for such cases.

It should be noted that the present model does not require the common participant to be explicitly realized in the sentence. For instance, for the example in (119), the energy transmissions represented by each conjunct are understood as having originated from some common source. This source as well as all the intermediate energy transmissions leading up to the rain and the lightning are not profiled. The action chain configuration for (119) is schematized in Figure 4.32. The bolded circles are the distinct heads of the profiled parts of the respective action chains. The grayed circle represents the common upstream participant, which in this case might be something like "Nature," and the dashed arrows indicate that the unprofiled upstream parts of the action chain are schematic and do not represent particular entities.

(119) pi-ka o-myense penkay-ka chi-ess-ta
rain-NOM come-MYENSE lightning-ACC strike-PST-DEC
'While raining, lightning struck'

In this section, I revisited the participant structural constraints of *-taka* and *-myense*, which were taken for granted in the analyses presented earlier in Sections 4.3 and 4.4. Specifically, I addressed different-subject usage cases for each connective that would constitute violations to a purely syntactic subject identity constraint. I provided analyses that accounted for the observed flexibility in terms of Cognitive Grammar's concept of action chains, which model participant interactions as a series of energy transfers. The same constraint, characterized as an overlap or intersection between the action chains at the head of the profiled

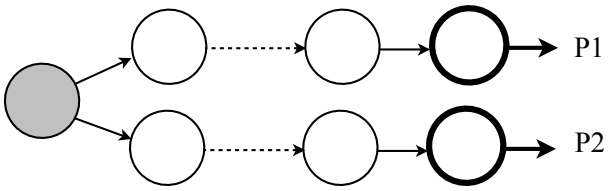

Figure 4.32: Action chains for (119)

portion, was found to apply to *-taka* and volitional uses of *-myense*. Nonvolitional *-myense*'s greater flexibility was accounted for as the constraint applying at either the head of the profiled portion or farther upstream in an unprofiled part of the action chain. In addition, the present model also allowed for an analysis of alternating *-taka* as a separate construction involving an additional constraint on predicate identity.

4.7 Usage domain accessibility

In this section, I address the usage domain accessibility patterns for *-taka* and *-myense* which were brought up in Section 4.1 in light of the proposed conceptual models. Specifically, why do *-taka* and *-myense*, like *-ese*, not allow for epistemic or speech act domain uses? In chapter 3, it was argued that *-ese*, because it operates on event structure concepts, lacks grounding functionality, i.e. relating its content to the speech context, making it a type of content. Consequently, it differed radically from connectives like *-unikka* which can signal for the building and altering of mental space configurations, and serve to connect together aspects of the speech context.

Based on the conceptual models proposed for *-taka* and *-myense*, I will argue that these connectives too are limited to content domain use because their semantics is one of elaborating content, specifically event-structural content, rather than one of grounding. "Grounding" is meant in the sense of Langacker ([1991] 2002:321) and refers to the relating of entities or processes to the speech event, i.e. ground. Thus, while a simple verb names a process, e.g. *eat*, a finite clause, e.g. *I ate a hamburger*, is grounded in the sense of being situated with respect to the speech context.

In mental spaces terms, with respect to the BCSN, grounding relations are relations that characterize the connections between between mental spaces, which are all ultimately connected to the speech context as represented in the speech act space. To illustrate, Figure 4.33 shows the mental space configuration for "John went home after buying some groceries." From the speech act space, which represents the speech event, a content space is constructed to interpret the speech content. Past tense in the sentence indicates that the content of that space occurs in the past, relative to the time of the speech event. Tense, as it characterizes the relationship between the content space and the speech act space, is thus a grounding relation. In contrast, *after*, which relates two parts of the elaborated content in the content space, in this case the process of buying groceries and the process of going home, does

not not have grounding functionality. As such, in terms of grounding functionality, *after* is indistinguishable from the rest of the conceptual structures that elaborate the content space.

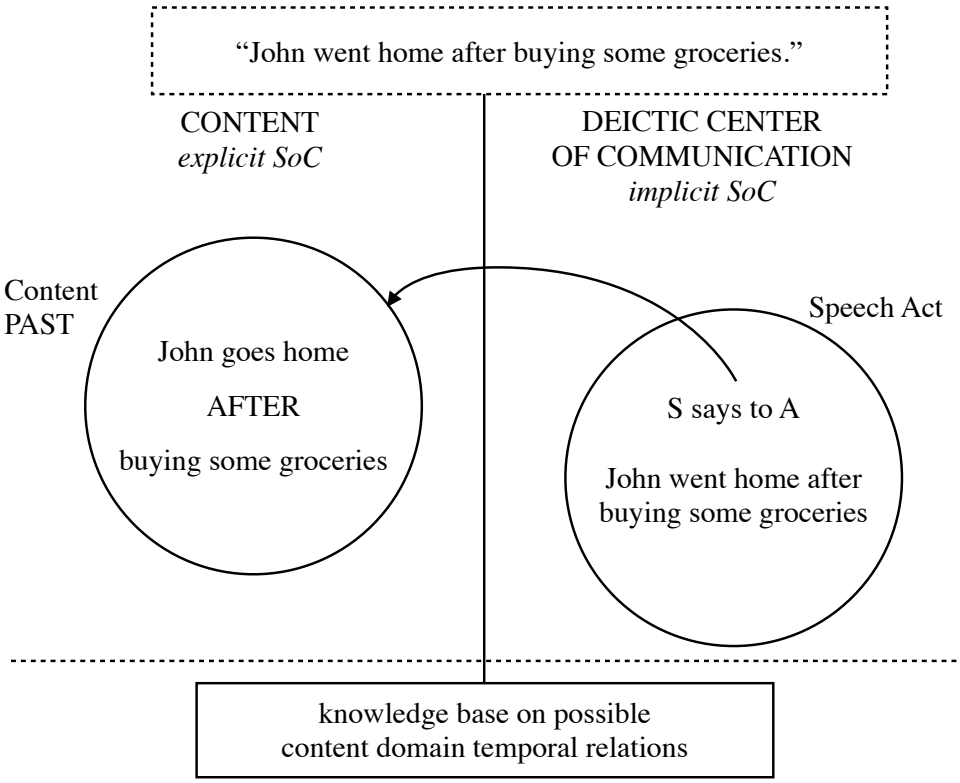

Figure 4.33: Mental space configuration for *John went home after buying some groceries.*

Furthermore, relations that apply in the deictic center of communication, including the epistemic and speech act spaces, are also grounding relations as they relate one part of the speech context with another. For example, the epistemic causal sentence "The neighbors must be gone, because the lights are out," *because* relates two epistemic states of the speaker within the speech event—i.e. the speaker's causal reasoning which is coincident with the speech event.

With regard to *-taka* and *-myense*, although they differ from *-ese* in that their conceptual models make reference to the explicit SoC in content-volitional spaces, they nonetheless do not exhibit grounding functionality that involves a relation to some aspect of the communicative context rather than just to other aspects of content. These connectives also differed from *-ese* in allowing the marker *-ess* to occur in their initial clauses. However, as argued in Section 4.5, *-ess* in that context marks anteriority, rather than tense, and thus also does not function as a grounding relation. With respect to their function as connectives that event-structurally relate two processes—e.g. interruptive, simultaneous, successive, etc.—*-myense* and *-taka* thus serve to elaborate content space-internal content.

The uses of *-taka* and *-myense* that are surprising in not having epistemic or speech act domain uses are, respectively, their conditional and concessives uses. Both of these uses involved the speaker's subjectivity, whether in judging an outcome to be undesirable or a co-occurrence as conflicting with normal expectations. The analyses proposed for these connectives, however, explain why in each case the connective is limited to content domain use.

In *-taka*'s case, for example, although a predictive conditional space configuration, including an alternative space, is set up, e.g. Figure 4.12, it was not the connective itself signaling for the construction of those spaces. Instead, the signal came from predictive tenses in the main clause. In both the predicted and alternative future content spaces, *-taka* serves to connect aspects of elaborated space-internal content to other aspects of content in the same space. It is the case, however, that the alternativity inherent in *-taka*'s semantics with respect to the presence or absence of volitionality is what allows it to be used in this way. Furthermore, it was the due to volitionality of the alternative space that limits *-taka*'s conditional use to negatively affected predictions and requires the blending in of the speaker's SoC. To summarize, the model was able to show how *-taka*'s conditional sense arises via the construction of a conditional space configuration. However, *-taka*'s part in that configuration is as part of the elaborated content, specifically as an event structure relation. As such, conditional *-taka* cannot be used to construct epistemic or speech act conditionals.

As proposed in Section 4.4.1, in the case of *-myense*, the concessive use arises through construing a content-domain cotemporality relation in the context of a backgrounded epistemic presupposition. This construal depended on the availability of a concessive presupposition, i.e. that, given the state of affairs in the initial clause, that the occurrence of the main clause is unexpected. The evocation of the backgrounded space, however, occurs only when aspectual qualities of the conjoined clauses interact in such a way as to make the temporal co-occurrence relation established by *-myense* uninformative. Thus, again, even for concessive *-myense*, the connective itself does not conventionally construct the concessive space configuration, and instead continues to function as an event-structural relation.

The analysis of concessive *-myense* presented in Section 4.4.1 also explains how it is that concessive *-myense* is able to function in the content domain, despite the fact that concession, by inherently involving the recognition of contrast, necessarily involves a subjectivity. Specifically, while the space in which *-myense*'s event-structural relations apply is a content space, the space which represents the speaker's expectations is an epistemic space.

At the end of Section 4.1.2, an interesting contrast was observed between concessive *-myense* and concessive *while* with respect to the usage domains. Specifically, while concessive *-myense* was limited to content domain use, *while* could be used concessively in the epistemic and speech act domains, but not in the content domain. I propose that the crucial difference has to do with the way that the two connectives differ with respect to grounding. Concessive *while* functions as a grounding relation in that it is able to relate two independently grounded predications. For example, in (120), *while* connects two independently grounded finite clauses, and conveys an epistemic concessive relation in which the main clause offers a counter-expectational conclusion. In contrast, *-myense*, which does not

allow tense or modality marking in its initial clause, nor independent subject reference, is not able to function as a grounding relation. As a point of comparison, (121) shows *while* with a nonfinite initial clause. (121) resists an epistemic concessive construal, and seems to convey instead a content cotemporal relation—that that subject had not been to the place during the time that he had been recommending it.

(120) While I recommend that place often, I have never been there myself.

(121) ?While recommending that place often, I have never been there myself.

The role of grounding in enabling or disabling access to the epistemic and speech act domains is also consistent with Sweetser's (1990) account of *because* constructions with and without comma intonation. Although *because* can express causal relations in all the domains, as shown in (122), it can only express relations in the epistemic and speech act domains, if the *because* clause is independently asserted. Independent assertion indicates grounding as it pertains to the speaker's immediate communicative intentions.

(122) a. Bill ate a hamburger because he was hungry.
b. Bill ate a hamburger, because he was hungry.

(123) a. *Bill must be home because I see a light on.
b. Bill must be home, because I see a light on.

(124) a. *Let's go home because I need to do homework.
b. Let's go home, because I need to do homework.

In this section, I discussed how the proposed models for *-taka* and *-myense* are able to explain the two connectives' limited access to the usage domains, and in particular, how despite having uses that involve subjectivity, such as conditional and concessive uses, the connectives cannot be used outside the content domain. The discussion focused on the notion of grounding (Langacker [1991] 2002) to distinguish between two types of relations in terms of mental space construction—construction that relates space-internal content only to other aspects of content in the same content space vs. construction that relates conceptual content to the speech context. With respect to the connectives examined thus far, it was argued that those of the former type are limited to use in the content domain.

4.8 Conclusion

In this chapter, I have articulated conceptual models for the connectives *-taka* and *-myense* in a framework that integrates the mental spaces based subjectivity model of the Basic Communicative Spaces Network with the event-structural framework of Cognitive Grammar. The polysemy exhibited by these connectives, as well as the constraints found to characterize various senses, suggest that the analysis of complex polysemy in connective constructions requires an integrated approach.

For example, the semantics of *-taka*, which can convey interruption, cotemporality, succession, and cause, as well as conditional prediction, was found to be dependent on the interaction of a number of factors, including the presence or absence of volitionality in the main clause, aspectual properties of its conjuncts, as well as space building on the basis of predictive tense marking. The analysis of the predictive conditional use of *-taka* revealed a complex interaction between space building and *-taka*'s event-structural alternation on the basis of volitionality. In particular, the predictive conditional use, with its negative affect requirement, could only have been analyzed with each of these components in place.

Similarly, the analysis of *-myense*, which conveys simultaneity, cotemporality, addition, and concession, also depended on an integrated approach taking into consideration the interaction between event structure, volitionality, and space building. This was especially the case for the analysis of the concessive use, which in some cases was unavailable, in some cases possible, and in some cases obligatory. All three cases—unavailability, possibility, and obligatoriness—are predictable from my analysis based on the aspectual type of the initial clause. It is obligatory when the P1 clause is temporally unbounded, possible in cases where the process can receive either a bounded or unbounded construal, and unavailable when the process is unambiguously bounded. The analysis furthermore explains how cotemporality with respect to an temporally unbounded process can give rise to concessive meaning—when counter-expectational background spaces are evoked to construe meaningfully what would otherwise be an informationally empty temporal relation.

For both *-taka* and *-myense*, the use of *-ess* in the initial clause produced effects that were difficult to make sense of apart from the proposed models. For example, *-taka* seemed to require actions in the initial clause to be reversed in the main clause, but only in some cases. For *-myense*, the use of *-ess* in the initial clause allowed only for obligatory concessive uses. Despite the very different semantic effects of *-ess*-marking for *-taka* and *-myense*, the proposed framework allowed for a compositional analysis of anteriority marking, in which the anterior semantics of *-ess*—pastness and continued relevance relative to a reference time—contributed the same temporal shift and aspectual modification when combined with either connective. For *-taka*, succession and its attendant constraints arise from the interaction between *-taka*'s volitional component and the resulting shift temporal alignment. For *-myense*, the use of *-ess* yields a temporally unbounded initial clause process, which allows only for a concessive interpretation.

In addition to these phenomena, the models were demonstrated as useful for understanding the connectives' subject identity constraints and the conditions under which exceptions are permitted. In particular, it was revealed that the constraints are not what some previous analysts had thought—that is, they are not syntactic constraints on coreference—but rather semantic/pragmatic constraints on coreference, which follow the from the connectives' primary role in representing alternate ways that a volitional agent can deals with temporally overlapping actions. The models were also able to explain why *-taka* and *-myense* are limited to use in the content domain, even when used as conditional or concessive connectives.

Besides providing improved empirical coverage on these connectives, the analyses presented demonstrate the need for an integrated approach to the semantic analysis of clause

connectives that is able to make sense of the ways that event-structural factors interact with subjectivity and the modeling of discourse.

Chapter 5

Polysemy and clause linkage typology

5.1 Overview

In the preceding chapters, I proposed detailed analyses of the semantics of Korean connectives *-ese*, *-unikka*, *-taka*, and *-myense*. At the center of each analysis was the connective's pattern of polysemy and the kind of theoretical framework needed to capture the relevant semantic distinctions as well as the factors that condition them. In addition to extending empirical coverage and establishing in greater detail the semantic and pragmatic characteristics of each connective construction, the analyses sought to do so using compatible theoretical frameworks that could be integrated to allow for substantive comparison and contrast.

As a case in point, Chapters 2 and 3 dealt with the apparent similarity between *-ese* and *-unikka*, two very commonly used connectives, which each have uses typically characterized as sequence and forward causality. The analysis of each connective's range of uses showed each connective's polysemy network to be highly complex and dependent on different parts of an integrated semantic-pragmatic framework. Thus, while sequentiality and forward causality are senses conveyed by each connective, they were found to be implemented in radically different ways.

The account, in Chapter 2, of the near complementary distribution between the sequential and forward causal senses of *-ese* required combining Cognitive Grammar's models for aspect and argument structure (Langacker [1991] 2002), which relied crucially on the notion of a scope of predication, with Narayanan (1997)'s biologically-based aspectual model, in which events consist of a series of internal phases. In the combined framework, sequential *-ese*'s semantics was modeled as an integration of the dependent clause process into the start phase of the main clause process. Simultaneous uses of *-ese*, including manner and means, as well as the relative time use, and the causal use were accounted for as variations on the integration model. The model was able to predict the aspectual and argument structural requirements of the sequential use of *-ese*, which otherwise appeared to constitute an arbitrary set of disjunctively stated rules. This approach allowed for a theoretically motivated characterization of *-ese*'s various uses, which was also able to account for peripheral cases

which had remained as puzzling exceptions for previous analyses.

While the analysis of *-ese* led to the development of a more highly articulated semantic framework for event structure modeling, the analysis of superficially similar *-unikka*, in Chapter 3, required a framework for modeling the building and managing of communicative context. The sequentiality of sequential *-unikka* was argued to derive from the inherent temporal relationship between the establishing of a viewpoint and the observation made from it. Thus, *-unikka* was modeled using Mental Spaces Theory (Fauconnier 1985, 1997)—more specifically, the Basic Communicative Spaces Network framework (Sanders et al. 2009) and the space structuring parameters proposed in Dancygier & Sweetser (2005) for conditional constructions. Sequential *-unikka* was modeled as building a new background space in which the dependent clause elaborates a subjectively or spatiotemporally distanced viewpoint for the observational content of the main clause. Causal *-unikka* was found to differ from sequential *-unikka* in evoking, rather than creating, the background space, which is presented as the reason for the main clause while at the same time recapitulating a prior discourse topic. This characteristic of causal *-unikka* was found to account for the difference in flexibility of usage between epistemic and speech act domain uses on the one hand and content domain uses on the other, with the latter found to be of relatively limited use.

Thus, while *-ese* and *-unikka* have senses which can be (and indeed have sometimes been) described in similar terms, it was argued in Chapter 3 that their semantic implementations are based on radically different parts of the overall cognitive semantic system. From the perspective of Mental Spaces Theory, the event-structural, i.e. aspectual and participant structural, model, the basis for the analysis of *-ese*, can be seen as a model for space-internal content—specifically, of content domain spaces. Thus, *-ese* constructions serve to elaborate mental space content, i.e. the object of conceptualization. In contrast, *-unikka* constructions have the added property of establishing relations between mental spaces, and thus operate at least partly at the level of structuring the communicative activity itself.

In Chapter 4, the semantic-pragmatic framework developed in Chapters 2 and 3 for the analysis and comparison of *-ese* and *-unikka*, was applied toward the analysis of *-taka* and *-myense*. Crucial to the analysis of these connectives was the distinction between volitional and nonvolitional content domain spaces provided in the Basic Communicative Spaces Network (Sanders et al. 2009). Although *-taka* is thought primarily to convey the interruption of one activity by another, it was found that interruption is only required for content volitional uses, and that nonvolitional uses instead specify only temporal and participant structural constraints that leave interruption open for interpretation depending on the semantics of the connected predicates. In addition, the mental spaces framework allowed for the analysis of conditional uses of *-taka*, including an explanation as to why conditional *-taka* can only be used to predict undesirable outcomes. While *-taka* itself, like *-ese*, serves only to elaborate space-internal content, the proposed alternativity in its semantics was argued to provide in predictive contexts the neutrality of epistemic stance that triggers the building of alternative spaces. It was argued that because the alternative space is structured as a content volitional space, the default predictive space always contains counter-volitional or undesirable outcomes.

Similarly, the analysis of *-myense* in Chapter 4 also depended on the distinction between volitional and nonvolitional content domains. Though the resulting semantic distinction is more subtle, volitional uses of *-myense* convey that its conjuncts are executed simultaneously, while nonvolitional *-myense* conveys merely that the conjuncts overlap temporally. It was argued that where the asserted temporal overlap is informationally vacuous in event-structural terms, *-myense* has developed a concessive sense which can be used when contrastive background spaces can be evoked against which the cotemporality can be interpreted. Thus, concessive *-myense* illustrates a type of construction that while able to structure background mental space relations is nevertheless tied to a content domain assertion.

The attempt at a detailed characterization of these four polysemous connectives in Chapters 2–4 has shown that a semantic framework that is to allow for substantive comparisons of connectives even within a language must be able to capture the interactions between a wide range of semantic and pragmatic factors. For instance, the analysis of *-ese* made use of a verbal semantic model that articulates aspectual features in terms of homogeneity and temporal boundedness relative to a scope of predication. Though the same model was used in the analysis of *-taka* and *-myense*, there it was necessary to factor in the distinction between volitional and nonvolitional spaces, and the notion of a subject of consciousness, such that both connectives' nonvolitional uses were much more sensitive to the aspectual features of their conjuncts. As another case in point, the analysis of sequential *-unikka* required the ability to model viewpoint and the shifting of viewpoint. Distinguishing between sequential and causal *-unikka* required the distinction between building new spaces and evoking existing ones, while the causal uses of *-unikka* also divided along the lines of content, epistemic, and speech act uses. The relatively infrequent use of content causal *-unikka*, relative to the epistemic and speech act uses, was accounted for via an interaction between its space evoking functionality and the temporal ordering inherent to content domain causal relations. Similarly, the analysis of conditional *-taka* showed that the volitional vs. nonvolitional distinction in its semantics could interact with predictive tenses to yield epistemically neutral spaces that also trigger the building of alternative spaces. While the present investigation is far from accounting for, or even uncovering for that matter, the whole possible range of such interactions, it demonstrates how at least a handful of cognitive semantic frameworks could be enlisted toward such an endeavor.

While the preceding chapters have focused on the individual semantic analysis of *-ese*, *-unikka*, *-taka*, and *-myense*, in this chapter, I conclude the dissertation with an investigation of the syntax of these connectives and a consideration of the implications of polysemy on the broader aims of clause linkage typology. As discussed in Chapter 1, one approach to the typology of clause linkage constructions is to try to develop categories such as coordination and subordination into cross-linguistically applicable notions by defining of a set of distinguishing criteria. Typically, the criteria take the form of syntactic tests, such as allowing for backward pronominalization or not allowing for asymmetric extraction, for which full satisfaction identifies either coordination or subordination and full dissatisfaction identifies the other. With the level of variation present across languages, and sometimes even in the constructions within one language, these criteria have tended to end up defining a spectrum

with coordination at one end and subordination on the other.

A number of linguists have observed however that this approach is not able to adequately capture the varieties of clause linkage patterns found cross-linguistically. For example, Foley & Van Valin (1984) have proposed a three-way classification, with "cosubordination" as a third prototype, to account for clause-chaining constructions in Papuan languages. Haiman & Thompson (1984) argues for the coordination/subordination approach to be abandoned altogether, and for clause linkage typology to be based instead on a set of finer-grained, independent, descriptive parameters.

Along similar lines, Bickel (2010) proposes an approach in which typological categories and implicational universals are empirically induced from a large number of variables. He proposes 11 independent variables that allow for a detailed descriptive characterization of clause linkage constructions in a wide range of languages. Statistical methods can then be employed to discover clusters of variable settings that may correspond to broadly applicable, if not universal, typological categories as well as correlations between variables that suggest implicational relations. The pilot study, based on 69 constructions from 24 languages, did not turn up clusters corresponding to the traditional categories of coordination, subordination, or cosubordination. The 11 variables used in the pilot study, which are not intended to be exhaustive, along with their possible values, are listed below:

- Illocutionary scope (conjunct, disjunct, local, extensible, contraint-free)
- Tense or status operator scope (conjunct, disjunct, local, transposed, extensible)
- Finiteness (finite, nonfinite)
- Illocutionary marking on the dependent clause (ok, banned, harmonic)
- Tense marking on the dependent clause (ok, banned, harmonic)
- Symmetry of range of categories expressed on linked clauses (symmetric or asymmetric)
- Question words inside dependent clauses (ok, banned)
- Extraction from the dependent clause (ok, banned)
- Focus marking on dependent clause (ok, banned)
- Position of the dependent clause vis-a-vis the main clause (fixed:pre-main, fixed:post-main, flexible-adjacent, flexible-relational)
- Layer of attachment (ad-v, ad-s)

In the following sections, I apply these variables toward the syntactic characterization of the connectives *-ese*, *-unikka*, *-taka*, and *-myense*, treating each of their senses separately so as to allow for syntactic comparison across the senses of each connective. Increased

granularity with respect to semantics is consistent with Bickel's (2010)'s approach which essentially advocates increased granularity with respect to syntactic categories—specifically, the hope is to discover patterns, not only between syntactic variables, but also between semantic ones, which might otherwise be obscured. Section 5.2 presents the results of the multivariate analysis, which are based on the variable assessments conducted in Section 5.3. Prior to concluding, methodological implications of the study for cross-linguistic typology are discussed in Section 5.4.

5.2 Results of the multivariate analysis

The results of the multivariate analysis applied in this section to clause linkage with *-ese*, *-unikka*, *-taka*, and *-myense*, are presented in Table 5.1. The variables examined in this study, which appear as columns in the table, are illocutionary scope (ILL Scope), tense and status scope (T/S Scope), scope of long-form negation (LFN Scope), scope of short-form negation (SFN Scope), finiteness (Finite), the possibility of illocutionary marking (ILL Mark) or tense and status marking (T/S Mark) on dependent clauses, symmetry (Sym), question words in the dependent clause (WH), extractability from the dependent clause (Ext), focus marking on the dependent clause (FOC), the positional possibilities of the dependent clause (Pos), and the possibility of center-embedding (Layer). Included are two variables that were not part of Bickel's (2010)'s: the scope of long-form negation and the scope of short-form negation. For reasons of space, variable names as well as values have been abbreviated. These variables have been applied to each sense of the connectives included in the study. For *-ese*, this includes the sequential (seq), manner, relative time (time), and causal (caus) senses; for *-unikka*, the sequential (seq), content causal (cn caus), epistemic causal (ep caus), and speech act causal (sp caus) senses; for *-taka*, the volitional (vol), nonvolitional (nvol), and conditional (cond) senses; and for *-myense*, the volitional (vol), nonvolitional (nvol), and concessive (conc) senses.

Cells in the scope-related columns containing "-" represent cases where there was an incompatibility between the connective construction and the test used to assess that column. For example epistemic causal *-unikka* and conditional *-taka* cannot be used in an interrogative context. The same constructions are incompatible as well with imperative or hortative contexts. While Bickel (2010) does not find transported illocutionary scope attested in his data, it is found to occur here for causal *-ese* and content causal *-unikka* with respect to the scope of polar questions.

5.2.1 Discussion

A comparison of the four uses of *-ese* along the lines of the 13 variables shown in Table 5.1 yields some interesting observations. First, the sequential and manner uses of *-ese* are identical across all 13 variables. These two senses and the relative time sense differ only with respect to the latter's ban on extraction and focusability. In contrast, causal *-ese*

Connective Cxn		ILL Scope	T/S Scope	LFN Scope	SFN Scope	Finite	ILL Mark	T/S Mark	Sym	WH	Ext	FOC	Position	Layer
-ese	seq	disj	conj	disj	disj	nfin	ban	ban	asym	ok	ok	ok	fix-pre	ad-V
	manner	disj	conj	disj	disj	nfin	ban	ban	asym	ok	ok	ok	fix-pre	ad-V
	time	disj	-	disj	disj	nfin	ban	ban	asym	ok	ban	ban	fix-pre	ad-V
	caus	trans	local	disj	local	nfin	ban	ban	asym	ok	ok	ban	fix-pre	ad-V
-unikka	seq	disj	-	local	local	nfin	ban	ban	asym	ok	ok	ban	fix-pre	ad-S
	cn caus	trans	local	local	local	nfin	ban	ok	asym	ok	ban	ban	fix-pre	ad-V
	ep caus	-	local	local	local	nfin	ban	ok	asym	ban	ban	ban	fix-pre	ad-S
	sp caus	local	local	local	local	nfin	ban	ok	asym	ban	ban	ban	flex-ad	ad-S
-taka	vol	disj	conj	disj	local	nfin	ban	ok	asym	ok	ok	ok	fix-pre	ad-V
	nvol	disj	conj	disj	local	nfin	ban	ok	asym	ok	ok	ok	fix-pre	ad-V
	cond	-	local	local	local	nfin	ban	ban	asym	ban	ok	ok	fix-pre	ad-S
-myense	vol	disj	conj	disj	local	nfin	ban	ban	asym	ok	ok	ok	fix-pre	ad-V
	nvol	disj	conj	disj	local	nfin	ban	ban	asym	ok	ok	ok	fix-pre	ad-V
	conc	local	local	local	local	nfin	ban	ok	asym	ban	ban	ok	flex-ad	ad-V

Table 5.1: Multivariate analysis of Korean *-ese*, *-unikka*, *-taka*, and *-myense*

differs from sequential and manner *-ese* along four variables, including three of the four that pertain to scope. With respect to all three differing scope variables, causal *-ese* is more highly constrained than the other senses. These results appear to pattern with the analysis of *-ese* in Chapter 2, in which the sequence, manner, and relative time senses are variations on the same event integration, while the causal sense is based on an event juxtaposition. In the former case, the conjoined events are construed as one complex event, while in the latter they remain two distinct but related events. Similarly with respect to the variables, the sequential, manner, and relative time *-ese* constructions appear to pattern together, with causal *-ese* as the odd one out. Of the event integration senses of *-ese*, the relative time sense, as discussed in Section 2.4, is also the most contextually restricted in terms of use. This may explain why it's behavior is similar to, but somewhat different, than the sequential and manner senses.

Comparing the senses of *-unikka* in Table 5.1 shows the highest degree of similarity between the epistemic and speech act causal uses, which differ only with respect to position, with speech act *-unikka* being more flexible. In he present analysis, this may be attributable to the clauses connected by speech act causal *-unikka* constituting independent speech acts, while for epistemic causal *-unikka*, the clauses are only independently asserted. The affinity between epistemic and speech act causal *-unikka* to the exclusion of content causal *-unikka* and sequential *-unikka*, which differ from the former along three and four variables, respectively, is also consistent with the Basic Communicative Space Network's division between spaces with implicit and explicit subjects of consciousness, which differentiates between epistemic and speech act spaces on the one hand and content spaces on the other.

For *-taka*, the volitional and nonvolitional senses are identical across all 13 variables. On the other hand, conditional *-taka* differs from these uses along five variables. Similarly, for *-myense*, the volitional and nonvolitional uses are also identical across all the variables, with the concessive use differing from them along seven variables. Thus, for both *-taka* and *-myense*, the senses that do not involve the structuring of mental spaces are identical to each other, and the one that does involve mental space structuring stands out.

Comparing across the form-based categories, there is a strong similarity between the sequential and manner senses of *-ese* and the volitional and nonvolitional senses of *-taka* and *-myense*. Figure 5.2 shows these constructions with a reduced set of variables, which include all the scope variables and the one non-scope variable for which there was any difference across the constructions—tense/status marking. The senses of *-ese* and *-myense* shown in Figure 5.2 differ only with respect to one variable: the scope of short-form negation. Specifically, the *-myense* senses are more limited in scope, allowing only for scope over the main clause, while the *-ese* senses allow short-form negation to scope either the main or the dependent clause. Similarly, the *-ese* senses and *-taka* senses differ along two variables, the scope of short-form negation, where the same difference as for *-myense* applies, and tense/status marking in the dependent clause, where *-taka*, unlike *-ese* allows marking on the dependent clause. This latter variable, tense/status marking, is also the only variable that differentiates *-taka* and *-myense*, with respect to the volitional and nonvolitional senses.

The syntactic similarities between the sequential and manner uses of *-ese*, and the voli-

Connective Cxn		ILL Scope	T/S Scope	LFN Scope	SFN Scope	T/S Mark
-ese	seq	disj	conj	disj	disj	ban
	manner	disj	conj	disj	disj	ban
-taka	vol	disj	conj	disj	local	ok
	nvol	disj	conj	disj	local	ok
-myense	vol	disj	conj	disj	local	ban
	nvol	disj	conj	disj	local	ban

Table 5.2: Reduced variable set for sequential and simultaneous *-ese*, *-taka*, and *-myense*

tional and nonvolitional uses of *-taka* and *-myense* appear to correlate with similarities in the semantic analyses proposed in the preceding chapters. Manner is one of the the simultaneous uses of *-ese*, and, as discussed in Chapter 4, with respect to their temporal semantics, *-taka*'s semantics includes sequentiality with the possibility of temporal overlap while *-myense*'s semantics includes temporal overlap with the possibility of sequentiality. According the analysis of sequential and simultaneous uses of *-ese* in Chapter 2, however, these senses of *-ese* differ from *-taka* and *-myense* in integrating their connected events conceptually into a single complex event. Thus, while the possibility of sequential and simultaneous connection using *-ese* is highly sensitive to the aspectual, participant structural, and frame structural properties of the conjuncts, *-taka* and *-myense*, which establish relations between conceptually distinct events, are much more robust with respect to establishing temporal relations. This difference with respect to event integration may be responsible for the difference in scope behaviors with respect to short-form negation—specifically, event integration in *-ese* may explain why short-form negation is able to scope the dependent clause. Section 2.3.2 proposed that short-form negation is unable to scope the dependent clause in causal *-ese* constructions because, unlike for sequential and simultaneous *-ese*, the dependent and main clause processes retain independent predicational scopes. Since the initial clause processes of *-taka* and *-myense* constructions also retain their scopes of predication, independently of the main clause processes, the same explanation may hold for the behavior of short-form negation with respect to these connectives.

Another pattern that emerges from Table 5.1 has to do with constructions that were analyzed as structuring connections across types of mental spaces. This includes epistemic and speech act causal *-unikka* which involve connections from evoked content spaces to epistemic and speech act spaces. Similarly, conditional *-taka* involved connections from content spaces structured by *-taka* to spaces in which the speaker's implicit subject of consciousness could provide either volitionality or evaluative judgment. Concessive *-myense* also involved construing a content space against a scale of epistemic spaces to give meaning to an otherwise informationally vacuous content space temporal relation. Sequential *-unikka* and causal *-unikka*, on the other hand, while also serving to structure mental spaces, involved con-

nections only between content domain spaces. While there are differences between these constructions as well, they all exhibit local scope constraints with respect to all the scope related variables and all ban question words in the dependent clause. They generally allow tense/status marking the dependent clause and ban extraction from it, with conditional *-taka* as the exception in both cases. Of the four constructions, only concessive *-myense* allows center-embedding, and two of the four, speech act causal *-unikka* and concessive *-myense* were the constructions among the set considered here for which alternate clause orders were considered the least unnatural.

While it would be premature to claim anything conclusively from these trends, there does appear to be a general alignment between the patterns observed above and broad distinctions that characterize the semantic-pragmatic framework assembled in the preceding chapters. One such distinction is the difference between structuring space-internal content and structuring cross-space relations. The connective senses which pertain to the aspectual alignment of event structures seem to pattern together, while connective senses which depend on operation across mental spaces form a separate cluster. The division is observable not only between connectives but also between meaning variations of the same connective form. Another significant semantic distinction is that between event integration—where two events are construed as a single complex event defined relative to the predicational scope of the main clause process—and the relating of events that retain separate predicational scopes. This distinction is pointed to by the scope of short-form negation, for which nonlocal scope, i.e. scope over the dependent clause, is attested only for the constructions for which event integration was proposed.

5.3 Application of variables to Korean connectives

This section applies the 13 variables discussed above to each connective sense considered in the study. There is one subsection for each variable, except for long-form and short-form negation, which though assessed independently, are examined within the same section. Each section describes the possible values for the variable, and where applicable, the specific construction used for the variable assessment.

5.3.1 Illocutionary scope

Illocutionary scope pertains to the scope of an illocutionary operator, such as a question or an imperative marker, appearing on the main clause. The possible values include CONJUNCT scope, where the illocutionary scope always extends to both clauses, DISJUNCT scope where it extends to either but not to both, and LOCAL scope where it is limited to the main clause. EXTENSIBLE scope refers to cases where LOCAL scope can optionally be extended to the dependent clause. Although it is claimed to be unattested for illocutionary scope (Bickel 2010:59), TRANSPORTED scope refers to cases where scope extends exclusively to the

dependent clause. Finally, CONSTRAINT-FREE covers cases where illocutionary scope is not constrained by the connective construction.

The behavior of illocutionary scope with respect to the Korean connectives and their various senses is determined below with polar questions.

5.3.1.1 *-ese*

The following examples show that sequential, manner, and relative time uses of *-ese*, respectively, allow for disjunct illocutionary scope, as the interrogative can scope either the main clause or the dependent clause, but not both.

(1) a. chelswu-ka chinkwu-ney cip-ey ka-se swukcey-lul hay-ss-ni
Chelswu-NOM friend-POSS house-LOC go-ESE homework-ACC do-PST-Q
'Chelswu went to his friend's house, and did he do homework?'
'Was it to his friend's house that Chelswu went and did his homework?'

b. chelswu-ka kele-se hakkyo-ey ka-ss-ni
Chelswu-NOM walk-ESE school-LOC go-PST-Q
'Was it to school that Chelswu walked?'
'Was it by walking that Chelswu went to school?'

c. chelswu-ka elye-se mikwuk-ey wa-ss-ni
Chelswu-NOM young-ESE US-LOC come-PST-Q
'Was Chelswu young when he came to the US?'
'Was it to the US that Chelswu came when he was young?'

In contrast, for the causal use of *-ese*, the interrogative cannot take scope over the main clause, on which the interrogative morphology appears. Instead, the main clause is presupposed, and the question applies to the cause expressed by the initial clause. Thus, causal *-ese* exhibits transported illocutionary scope.

(2) chelswu-ka cip-ey ka-se john-i wul-ess-ni
Chelswu-NOM house-LOC go-ESE John-NOM cry-PST-Q
'Did John cry because Chelswu went home?'
Not 'Chelswu went home and so did John cry?'

5.3.1.2 *-unikka*

For sequential *-unikka*, forming a question may require adding additional main clause morphology to return focus back to the speech context. For example, in (3a), specific reference must be made to the perceiving event, while in (3b), the marking of temporal distance is sufficient to allow for question formation. In both cases *-unikka* allows for disjunct illocutionary scope, i.e. the question can scope either the main or dependent clauses, but not both.

(3) a. changmwun-ulo nayta-po-nikka chelswu-ka o-nun-kes-i
window-through out-see-UNIKKA Chelswu-NOM come-REL-fact-NOM
po-i-ni
see-PASS-Q
'When you looked through the window, did you see Chelswu coming?'
'Was it through the window that you saw Chelswu coming?'

b. chelswu-ney hakkyo-ey ka-nikka haksayngtul-i wa-iss-te-ni
Chelswu-GEN school-LOC go-UNIKKA students-NOM come-PERF-RET-Q
'When you went to Chelswu's school, were the students there?'
'Was it when you went to Chelswu's school that there were students there?'

The situation is somewhat more complicated for the causal uses of *-unikka*. Example (4), which has two possible readings, seems to suggest disjunct scope. However, the first interpretation, in which the interrogative takes scope only over the dependent clause, is a content causal use of *-unikka*, while the second, in which the interrogative scopes the main clause, is a speech act use. If we differentiate between the two uses of *-unikka*, with respect to illocutionary scope, content causal *-unikka* allows only for transported scope, while speech act *-unikka* allows only for local scope.

(4) nayil sihem-i iss-unikka ilccik ka-lke-ni
tomorrow exam-NOM have-UNIKKA early go-FUT-Q
'Are you going to go home early because you have a test tomorrow?'
'Since you have a test tomorrow, are you going to go home early?'

Examples (5)–(6), show unambiguous cases of content causal *-unikka* and speech act causal *-unikka*, respectively:

(5) pay-ka aph-unikka kulen elkwul-ul mantu-ni?
stomach-NOM hurt-NIKKA that.kind face-ACC make-Q
'Are you making that face because your stomach hurts?'

(6) ilenke-ey tayhayse cal a-si-nikka mwe hankaci mwule
this.type.thing-LOC about well know-POL-UNIKKA something one.type ask
poa-to toy-lkka-yo
try-COMP permit-Q-POL
'Since you know well about these things, can I ask you a question about something?'

Interestingly, epistemic causal *-unikka* is incompatible with an interrogative context. The only possible valid reading of (7) is one in which the question takes local scope, but in that case the construction can only be interpreted as conveying a speech act causal relation. The interrogative cannot take scope over the dependent clause.

(7) *hakkyo-lul ilccik ttena-ss-unikka kamki-lul kellinke kat-ni
school-LOC early leave-PST-UNIKKA cold-ACC catch-fact like-Q

'Does he have a cold? because he left early.'

5.3.1.3 *-taka*

For *-taka*, examples (8)–(9) show that both volitional and nonvolitional uses allow for disjunct illocutionary scope.

(8) chelswu-ka TV-lul po-taka swukcey-lul hay-ss-ni
Chelswu-NOM TV-ACC see-TAKA homework-ACC do-PST-Q
'Chelswu watched TV, and did he stop and do homework?'
'Was Chelswu watching TV, and then he stopped and did homework?'

(9) chelswu-ka cacenke-lul ta-taka nemeci-ess-ni
Chelswu-NOM bike-ACC ride-TAKA fall-PST-Q
'When Chelswu fell, was it while riding his bike?'
'When Chelswu was riding his bike, did he fall?'

The conditional use of *-taka*, which is dependent on a predictive context for its semantics, cannot be rendered as a question. Example (10a) is a conditional prediction, but the minimally different interrogative variant in (10b) does not have conditional semantics.

(10) a. kongpwu-lul anh ha-taka sihem-ey tteleci-n-ta
study-ACC NEG do-TAKA exam-LOC fall-PRES-DEC
'If you don't study, you are going to fail the exam.'
b. kongpwu-lul anh ha-taka sihem-ey tteleci-llay
study-ACC NEG do-TAKA exam-LOC fall-want
'Do you want to not study and fail the exam?'

5.3.1.4 *-myense*

As shown in (11), volitional and nonvolitional uses of *-myense* allow the question to scope either the main clause or the dependent clause, but not both. In contrast, illocutionary scope for concessive *-myense*, shown in (12), is more constrained, scoping only the main clause where the question is marked. Furthermore, the interrogative concessive construction in (12) is pragmatically not so much a polar question as it is instead a way to express disbelief or surprise at the situation as a whole.

(11) a. chelswu-ka TV-lul po-myense swukcey-lul hay-ss-ni
Chelswu-NOM TV-ACC see-MYENSE homework-ACC do-PST-Q
'While he was watching TV, did Chulswu do his homework?'
'While he was doing his homework, did Chelswu watch TV?'
b. chelswu-ka sewul-ey sal-myense paywuca-lul manna-ss-ni
Chelswu-NOM Seoul-LOC live-MYENSE spouse-ACC meet-PST-Q
'Was Chelswu living in Seoul when he met his spouse?'
'When he was living in Seoul, did Chelswu meet his wife?'

(12) chelswu-ka cha-lul sa-ss-umyense cacenke-lul ta-ko wa-ss-ni
Chelswu-NOM car-ACC buy-PST-MYENSE bike-ACC ride-and come-PST-Q
'Did Chulswu ride his bike here even though he bought a car?'

5.3.2 Tense and status operator scope

This variable captures the effect of clause linkage on the scope of negation, tense, and other status operators marked in the main clause. The status category subsumes tense distinctions and epistemic modals into a realis/irrealis continuum (Van Valin 1984, Foley 1986). The possible values for this variable are the same as for illocutionary scope. Although Bickel (2010) excluded the scope of negation from his study due to relevant and sufficiently analyzed data being unavailable, scope of negation is included in this study and examined in the following section.

The semantics of the past tense marker *-ess* as well as its categorial status, as tense or aspect, remains a matter of controversy because of its high degree of contextually dependent polysemy (Lee 1993a, Sohn 1995, Oh 2003, Chung 2005). For this reason, the testing of tense scope in this section has been conducted with the future tense marker *-ulke*, the semantics of which is more stable in comparison. The marker *-ulke*, shortened from *-ul kes-i* 'is probable that', is generally considered to be a probable future epistemic modal (Sohn 1995, Chang 1996, Sohn 2001), which, for present purposes, puts it in the category of irrealis status operators.

5.3.2.1 *-ese*

Unlike illocutionary operators, for the sequential and manner uses of *-ese*, tense is constrained to conjunct scope, as shown in (13a–b) below. Thus, both the initial and main clause events are understood as future events.

(13) a. chelswu-ka chinkwu-ney cip-ey ka-se swukcey-lul
Chelswu-NOM friend-POSS house-LOC go-ESE homework-ACC
ha-lke-ta
do-FUT-DEC
'Chelswu will go to his friends house and do his homework.'
b. chelswu-ka kele-se hakkyo-ey ka-lke-ta
Chelswu-NOM walk-ESE school-LOC go-FUT-DEC
'Chelswu will walk to school.'

The relative time sense of *-ese* appears to be incompatible with future tense, as shown in (14). With the future tense marker on the main clause, the connective instead expresses a causal relation.

(14) ?elye-se mikwuk-ey o-lke-ta
young-ESE US-LOC come-FUT-DEC

'*He will come to the US while he is young.'
'He will come to the US because he is young.'

In contrast to the other senses above, the causal sense of *-ese* constrains the scope of tense to the main clause where it is marked. The initial clause in (15) is unmarked for tense and can be interpreted as occurring in the past, present, or future. Disambiguation is possible through the use of adverbial time expressions, as in (16).

(15) chelswu-ka cip-ey ka-se john-to cip-ey ka-lke-ta
Chelswu-NOM house-LOC go-ESE John-too house-LOC go-FUT-DEC
'Chelswu went home, so John will go home too.'

(16) chelswu-ka ecey/pankum/nayil cip-ey ka-se john-to
Chelswu-NOM yesterday/just.now/tomorrow house-LOC go-ESE John-too
cip-ey ka-lke-ta
house-LOC go-FUT-DEC
'Chelswu went home yesterday/went home just now/is going home tomorrow, so John will go home too.'

5.3.2.2 *-unikka*

As shown in (17), sequential *-unikka* is not compatible with future tense marking in the main clause. This is predicted by the semantics of the sequential *-unikka* construction which presents the main clause as an observation from the viewpoint established by the initial clause.

(17) *pakk-ul nayta-po-nikka chelswu-ka o-lke-ta
outside-ACC out-see-UNIKKA Chelswu-NOM come-FUT-DEC
'*I looked outside and Chelswu will come.'

In contrast, it is possible to use content causal *-unikka* with future tense in the main clause, as shown in (18). As was the case for causal *-ese*, the scope of future tense is limited to the main clause. Unlike *-ese*, however, the initial clause is temporally grounded to the immediate speech context and cannot be modified with adverbials that indicate otherwise.

(18) palam-i (*ecey/*pankum/*nayil) pwu-nikka namwuiph-i
wind-NOM (yesterday/just.now/tomorrow) blow-UNIKKA leaves-NOM
tteleci-lke-ta
fall-FUT-DEC
'The wind is blowing (*was blowing yesterday/*was just blowing/*will blow tomorrow), so the leaves will fall.'

The epistemic causal use of *-unikka* does not allow a future-tensed main clause. In the example below, the marker *-ulke* is instead an epistemic modal that expresses a measure of uncertainty regarding the assertion in the main clause. Thus, as (19) shows, it is possible for

-ulke to co-occur with the past tense marker *-ess*—a co-occurrence that is not possible when *-ulke* expresses futurity. As the past tense in (19) scopes only the main clause, it suggests that tense scope is local.

(19) hakkyo-lul ilccik ttena-n-ta-nikka kamki-ey kelly-ess-ulke-ta
school-ACC early leave-PRES-DEC-UNIKKA cold-LOC catch-PST-MOD-Q
'Since he is talking about leaving school early, he probably caught a cold.'

Finally, for speech act causal uses of *-unikka*, as shown in (20), the scope of future tense is limited to the main clause where it is marked. Thus, for all the causal uses of *-unikka*, tense scope appears to be local.

(20) pi-ka o-nikka kitalli-lke-ni
rain-NOM come-UNIKKA wait-FUT-Q
'Since it's raining, are you going to wait?'

5.3.2.3 *-taka*

For the volitional and nonvolitional uses of *-taka*, as shown in (21a–b), future tense is constrained to conjunct scope, such that both conjuncts are set in the future. It should be noted that (21b) is only acceptable in a fortune-telling context where the speaker presumes to have supernatural knowledge of the future.

(21) a. chelswu-ka TV-lul po-taka swukcey-lul ha-lke-ta
Chelswu-NOM TV-ACC see-TAKA homework-ACC do-FUT-DEC
'Chelswu will start watching TV and then stop and do homework.'
b. chelswu-ka cacenke-lul tha-taka nemeci-lke-ta
Chelswu-NOM bike-ACC ride-TAKA fall-FUT-DEC
'Chelswu will fall while riding his bike.'

Finally, conditional *-taka* allows future tense to take local scope only. It is possible to interpret (22) with conjunct scope. However, the sentence then ceases to be conditional, and instead would constitute a prophetic prediction similar to (21b).

(22) kongpwu anh ha-taka sihem-ey tteleci-lke-ta
study NEG do-TAKA exam-LOC fall-PST-Q
'If you don't study, you will fail the exam.'

5.3.2.4 *-myense*

The volitional and nonvolitional uses of *-myense* parallel the behavior observed for *-taka* and allow only for conjunct scope of future tense, as shown in (23). The nonvolitional use of *-myense* in (23b) also requires a prescient context and reads like a prophecy.

(23) a. chelswu-ka TV-lul po-myense swukcey-lul ha-lke-ta
Chelswu-NOM TV-ACC see-MYENSE homework-ACC do-FUT-DEC
'Chelswu will watch TV and do his homework (at the same time).'
b. sewul-ey sal-myense paywuca-lul manna-lke-ta
Seoul-LOC live-MYENSE spouse-ACC meet-FUT-DEC
'You will meet your spouse while living in Seoul.'

For concessive *-myense*, speakers differ as to whether it can be used with future tense at all. For those who accept it, only a local scope interpretation is available. Thus, in (24), the initial clause refers to Chelswu's habitual or general making of promises rather than one that he will make in the future.

(24) chelswu-nun yaksok-ul ha-myense ciki-ci anh-ulke-ta
Chelswu-TOP promise-ACC do-MYENSE keep-COMP NEG-FUT-DEC
'Although Chelswu makes promises, he will not keep them.'

5.3.3 Scope of negation

In addition to tense scope, I also examine the scope of negation with respect to each connective construction. As discussed previously in Section 2.3.2, Korean has two widely used syntactic forms of negation, long-form and short-form, which are illustrated below, respectively:

(25) a. manhun salam-i o-ci anh-ass-ta
many people-NOM come-COMP NEG-PST-DEC
'Many people did not come.'
b. manhun salam-i an o-ass-ta
many people-NOM NEG come-PST-DEC
'Many people did not come.'

Long-form negation is typically analyzed as a negative verb that takes a complement clause and short-form negation as a negative adverbial inserted before the verb (Sells 2001). Long-form negation has been found in at least some contexts to have wider scope than short-form negation (Hagstrom 1997, Sohn 2001) . Since the two forms are both widely used, they are both are considered in this section.

5.3.3.1 *-ese*

Examples (26a–c) show that the sequential, manner, and relative time uses of *-ese* allow long-form negation to scope either conjunct, but not both.

(26) a. chelswu-ka chinkwu-ney cip-ey ka-se swukcey-lul ha-ci
Chelswu-NOM friend-POSS house-LOC go-ESE homework-ACC do-COMP
anh-ass-ta
NEG-PST-DEC
'Chelswu went to his friends house and didn't do his homework there.'
'It wasn't to friend's house that Chelswu went and did his homework.'

b. chelswu-ka kele-se hakkyo-ey ka-ci anh-ass-ta
Chelswu-NOM walk-ESE school-LOC go-COMP NEG-PST-DEC
'Chelswu didn't walk to school (but still went there).'
'Chelswu walked somewhere but not to school.'

c. chelswu-ka elye-se mikwuk-ey o-ci anh-ass-ta
Chelswu-NOM young-ESE US-LOC come-COMP NEG-PST-DEC
'Chelswu wasn't young when he came to the US'
'When Chelswu was young, he didn't come to the US (but somewhere else).'

The same scope behavior characterizes the causal sense of *-ese*: long-form negation can scope either the main clause where it is marked or the causal relation marked on the dependent clause, as shown in (27).

(27) chelswu-ka cip-ey ka-se john-i wul-ci anh-ass-ta
Chelswu-NOM house-LOC go-ESE John-NOM cry-COMP NEG-PST-DEC
'John went home and that caused John not to cry.
'John's crying was not because Chelswu went home.'

For the sequential, manner, and relative time senses of *-ese*, short-form negation behaves the same as long-form negation with respect to scope. As shown in examples (28a–c), short-form negation can scope either conjunct, but not both. A difference in behavior is found for short-form negation and causal *-ese*. (28d) shows that short-form negation is limited to local scope over the main clause. It should be noted that examples (28a) and (28c) also have causal readings. The same readings are possible for the long-form negated examples in (26a) and (26c), but they are not as readily available. For both long-form and short-form negation, these causal readings are limited to readings where negation takes scope only over the main clause.

(28) a. chelswu-ka chinkwu-ney cip-ey ka-se swukcey-lul an
Chelswu-NOM friend-POSS house-LOC go-ESE homework-ACC NEG
hay-ass-ta
do-PST-DEC
'Chelswu went to his friends house and didn't do his homework there.'
'It wasn't to friend's house that Chelswu went and did his homework.'
'Because Chelswu went to his friend's house, he didn't do his homework.'

b. chelswu-ka kele-se hakkyo-ey an ka-ss-ta
Chelswu-NOM walk-ESE school-LOC NEG go-PST-DEC

'Chelswu didn't walk to school (but still went there).'
'Chelswu walked but not to school.'

c. elye-se mikwuk-ey an o-ass-ta
young-ESE US-LOC NEG come-PST-DEC
'He wasn't young when he came to the US'
'When he was young, he didn't come to the US.'
'Because he was young, he didn't come to the US.'

d. chelswu-ka cip-ey ka-se john-i an wul-ess-ta
Chelswu-NOM house-LOC go-ESE John-NOM NEG cry-PST-DEC
'John went home and that caused John not to cry.

5.3.3.2 *-unikka*

For all senses of *-unikka*, the scope of main clause negation is limited to the main clause. Examples (29) and (30) show that this applies for both long-form and short-form negation, respectively. For both types, negation cannot be interpreted as applying to the causal relation or to the initial clause.

(29) a. pakk-ul nayta-po-nikka chelswu-ka o-ko.iss-ci
outside-ACC out-see-UNIKKA Chelswu-NOM come-PROG-COMP
anh-ta
NEG-DEC
'I looked outside and Chelswu is not coming.'

b. palam-i pwu-nikka namwuiph-i kamanni iss-ci
wind-NOM blow-UNIKKA leaves-NOM still be-COMP
anh-nun-ta
NEG-PRES-DEC
'The wind is blowing, so the leaves are not staying still.'

c. chelswu-ka hakkyo-lul ilccik ttena-n-kes-ul po-unikka
Chelswu-NOM school-LOC early leave-REL-thing-ACC see-UNIKKA
kipwun-i coh-ci anh-ass-napota
feeling-NOM good-COMP NEG-PST-MOD
'Since he left the school early, maybe he isn't feeling well.'

d. pi-ka o-nikka naka-ci ma
rain-NOM come-UNIKKA go.out-COMP NEG
'Since it's raining, don't go outside!'

(30) a. pakk-ul nayta-po-nikka chelswu-ka an o-ko.iss-ta
outside-ACC out-see-UNIKKA Chelswu-NOM NEG come-PROG-DEC
'I looked outside and Chelswu is not coming.'

b. palam-i pwu-nikka namwuiph-i kamani an iss-ta
wind-NOM blow-UNIKKA leaves-NOM still NEG be-DEC
'The wind is blowing, so the leaves are not staying still.'

c. hakkyo-lul ilccik ttena-ss-unikka kipwun-i an coh-un-kapota
school-LOC early leave-PST-UNIKKA feeling-NOM NEG good-PRES-MOD
'Since he left the school early, maybe he isn't feeling well.'
d. pika o-nikka an toy
rain come-UNIKKA NEG become
'Since it's raining, you may not!'

5.3.3.3 *-taka*

Examples (31a–b) show that volitional and nonvolitional uses of *-taka* allow long-form negation to scope either the main clause or the dependent clause, but not both.

(31) a. chelswu-ka TV-lul po-taka swukcey-lul ha-ci
Chelswu-NOM TV-ACC see-TAKA homework-ACC do-COMP
anh-ass-ta
NEG-PST-DEC
'Chelswu watched TV and didn't do his homework in the middle of it.
'Chelswu didn't do his homework in the middle of watching TV (but at some other time).'
b. chelswu-ka cacenke-lul tha-taka nemeci-ci anh-ass-ta
Chelswu-NOM bike-ACC ride-TAKA fall-COMP NEG-PST-DEC
'Chelswu wasn't riding his bike when he fell.'
'While Chelswu was ridig his bike, he didn't fall.'

In contrast, the conditional use of *-taka* limits the scope of negation to the main clause, i.e. the apodosis.

(32) kongpwu-lul kulekhay ha-taka sihem-ey pwuth-ci anh-ulke-ta
study-ACC like.that do-TAKA exam-LOC stick-COMP NEG-FUT-DEC
'If you study like that, you are not going to pass the exam.'

With short-form negation, all three uses of *-taka* limit negation to local scope, as shown in (33a–c).

(33) a. chelswu-ka TV-lul po-taka swukcey-lul an hay-ass-ta
Chelswu-NOM TV-ACC see-TAKA homework-ACC NEG do-PST-DEC
'Chelswu was watching TV and didn't do his homework. (kept watching TV)'
b. chelswu-ka cacenke-lul tha-taka an nemeci-ess-ta
Chelswu-NOM bike-ACC ride-TAKA NEG fall-PST-DEC
'Chelswu was riding his bike and he didn't fall.'
c. cam-man ca-taka sihem-ey an pwuth-ulke-ta
sleep-only sleep-TAKA exam NEG stick-FUT-DEC
'If only sleep, you won't pass the exam.'

For both long-form and short-form negation, when negation scopes just the main clause, the interruptive semantics of the volitional use of *-taka* is nonetheless included in the scope of negation. In other words, the local scope interpretations of both (31a) and (33a) allow only for interpretations in which the initial clause activity is not interrupted.

5.3.3.4 *-myense*

As was the case for *-taka*, examples (34a–b) show that volitional and nonvolitional *-myense* are limited to readings where long-form negation scopes one or the other conjunct but not both. The concessive use of *-myense*, shown in (34c), limits the scope of negation to just the main clause.

(34) a. chelswu-ka TV-lul po-myense swukcey-lul ha-ci
Chelswu-NOM TV-ACC see-MYENSE homework-ACC do-COMP-TOP
anh-ass-ta
NEG-PST-DEC
'While watching TV, Chelswu didn't do his homework.'
'Chelswu didn't watch TV while he did his homework.'

b. chelswu-ka sewul-ey sal-myense paywuca-lul manna-ci
Chelswu-NOM Seoul-LOC live-MYENSE spouse-ACC meet-COMP
anh-ass-ta
NEG-PST-DEC
'While living in Seoul, Chelswu didn't meet his spouse (but he met someone else).'
'Chelswu wasn't living in Seoul when he met his wife.'

c. chelswu-ka cha-lul sa-ss-umyense wuncenhay o-ci
Chelswu-NOM car-ACC buy-PST-MYENSE drive come-COMP
anh-ass-ta
NEG-PST-DEC
'Although Chelswu bought a car, he didn't drive here.'

In contrast, as shown in (35), for short-form negation, all the uses of *-myense* limit the scope of negation to the main clause.

(35) a. chelswu-ka TV-lul po-myense swukcey-lul an hay-ss-ta
Chelswu-NOM TV-ACC see-MYENSE homework-ACC NEG do-PST-DEC
'While watching TV, Chelswu didn't do his homework.'

b. chelswu-ka sewul-ey sal-myense paywuca-lul an manna-ss-ta
Chelswu-NOM Seoul-LOC live-MYENSE spouse-ACC NEG meet-PST-DEC
'While he was living in Seoul, Chelswu didn't meet his wife (but someone else).'

c. chelswu-ka yaksok-ul hay-ss-umyense an cikhi-ess-ta
Chelswu-NOM promise-ACC do-PST-MYENSE NEG keep-PST-DEC
'Although Chelswu promised, he didn't keep it.'

5.3.4 Finiteness and marking possibilities

Finiteness has to do with the range of inflectional categories that are expressible in dependent clauses relative to main clauses. The possible values are FINITE, if the dependent clause verb must express at least as many categories as main clause verbs, NONFINITE, if only fewer categories are allowed on the dependent clause verb, or ANY if either the same or fewer categories may be marked.

Given these definitions, all of the various uses of the connectives in the present study are NONFINITE because they do not allow illocutionary marking in the dependent clause. Possible exceptions to this are the causal senses of *-unikka*, and *-myense*, which are discussed below.

5.3.4.1 Illocutionary marking on the dependent clause

This variable has to do with whether illocutionary force operators, such as imperative, hortative, or question markers, can appear on dependent clauses. The options are OK if they are permitted, BANNED if they are not, or HARMONIC if they are permitted only under the condition that the illocutionary marking on the dependent clause match that of the main clause.

As mentioned above, none of the the connectives allow for illocutionary force marking on the dependent clause, except for causal *-unikka* and *-myense*, for which examples are shown below:

(36) cip-ey ka-n-ta-nikka wuey hwa-lul nay-nya
house-LOC go-PRES-DEC-nikka why anger-ACC show-Q
'Why are you getting angry because I said I am going home?'

(37) cip-ey ka-ca-myense wuey keysok iss-nya
house-LOC go-HOR-MYENSE why continuously be-Q
'Why you still here while saying let's go?'

A property shared by the examples above is that in both cases the connectives appear to have taken on quotative functionality. A common view regarding these uses, however, is that the indirect quotative *-ko ha* 'and say' has been deleted, with its functionality attributed to the sentence ender *-ta-ca* (Kwon 2011, Chung 2009). Thus, (38) represents the non-grammaticized version of (37):

(38) cip-ey ka-ca-ko ha-myense wuey keysok iss-nya
house-LOC go-HOR-and say-MYENSE why continuously be-Q
'Why you still here while saying let's go?'

Since all the connectives, including *-ese* and *-taka*, can be preceded by quotative *-ko ha*, but only causal *-unikka* and *-myense* allow for the quotative sentence ender forms, as in (36)–(37), there is good reason to think that the latter possibility is constructionally specified. In either case, since the connective attaches to a quotative expression within which there is

illocutionary marking, I consider causal *-unikka* and *-myense* as not allowing illocutionary marking on their dependent clauses.

5.3.4.2 Tense and status marking on the dependent clause

This variable captures whether tense and status marking are permitted on the dependent clause. The possible values for tense marking are the same as for illocutionary force marking. The behavior of the connectives with respect to tense and status marking is summarized below:

- None of the uses of *-ese* allow tense or status, i.e. epistemic modal, markers to appear on the dependent clause verb.
- Sequential *-unikka* does not allow tense or status marking.
- Causal *-unikka*, in all domains, allows both tense and status marking on dependent clause verbs.
- Volitional and nonvolitional *-taka* allow only the past tense marker *-ess* to occur on the dependent clause verb. Other tense or status markers cannot appear in the dependent clause.
- Conditional *-taka* does not permit tense or status marking in the dependent clause.
- For *-myense*, the concessive use allows tense or status marking in the dependent clause.

In all the cases above where tense or status marking is permitted in the dependent clause, there is no requirement that matching tense or status marking occur in the main clause. This is illustrated for the causal sense of *-unikka* in (39), for volitional and nonvolitional *-taka* in (40), and for concessive *-myense* in (41).

(39) a. sonnim-i o-lke-unikka cip chongso-lul hay-ss-ta
guest-NOM come-FUT-UNIKKA house clean-ACC do-PST-DEC
'Since guests will come, we did house-cleaning.'

b. sonnim-i o-lke-nikka cip chongso-lul hay-ss-keyss-ta
guest-NOM come-FUT-UNIKKA house clean-ACC do-PST-MOD-DEC
'Since guests will come, (they) probably (already) did house cleaning.'

c. sonnim-i o-lke-nikka cip chongso-lul hay-la
guest-NOM come-FUT-UNIKKA house clean-ACC do-IMP
'Since guests will come, clean the house!'

(40) a. onul sewul-ey ka-ss-taka nayil tolao-lke-ta
today Seoul-LOC go-PST-TAKA tomorrow return-FUT-DEC
'(I) will go to Seoul today and then return tomorrow.'

b. onul sewul-ey ka-ss-taka nayil hwuhoy ha-lke-ta
today Seoul-LOC go-PST-TALA tomorrow regret do-FUT-DEC
'(You) will go to Seoul today and then regret it tomorrow.'

(41) cha-lul pankum sa-ss-myense ton-i eps-ta-ko
car-ACC just.now buy-PST-MYENSE money-NOM NEG.have-DEC-and
ha-n-ta
say-PRES-DEC
'Even though (he) just bought a car, (he) says he doesn't have any money.'

As discussed in Chapter 4, the past tense marker *-ess* that can occur in the initial clause of *-taka* and *-myense* constructions is a contextually dependent anteriority marker, rather than a grounding tense marker that relates the predicated event to the speech context. Thus, for example, in (40), the inclusion of *-ess* in the initial clause of *-taka* signals that the trip to the Seoul will be completed prior to the start of the return predicated in the main clause. The trip to Seoul and the arrival there are included in the scope of the future tense marked in the main clause.

A question arises then as to whether *-ess* in these constructions should be considered an aspectual marker rather than a tense marker, in which case it would make sense to classify *-taka* and *-myense* as banning tense marking in their dependent clauses. However, in that case, we would lose the ability to capture the difference in behavior between *-ese*, as well as sequential *-unikka*, on the one hand, and *-taka* and *-myense*, on the other, because *-ese* and sequential *-unikka* do not allow *-ess* to occur in their dependent clauses at all, regardless of whether it marks tense or aspect. For this reason, I classify volitional and nonvolitional *-taka* and concessive *-myense* as allowing for dependent clause tense and status operator marking.

5.3.5 Symmetry

This criterion has to do with whether the range of categories that can be expressed on linked clauses must be symmetric. Possible options are SYMMETRICAL in which case the range of categories expressed on the conjoined clauses must match, and ASYMMETRICAL in which they can be different. In the latter case, although a different range of categories may be expressed, the conjuncts must be of the same type, e.g. verb-headed clauses. Another option, FREE, covers cases where even the types may differ. None of the connective constructions considered here requires the categories expressed in theirs conjuncts to match. The conjuncts must, however, be of the same type.

5.3.6 Question words inside dependent clauses

This variable captures whether the connective construction permits question words inside the linked clause. On the basis of cross-linguistic variation, Bickel (2010) argues for considering this property separately from extractability. The possible values are OK if question words can appear in the dependent clause, and BANNED if they cannot.

5.3.6.1 *-ese*

The examples in (42) show that all four senses of *-ese* considered in the present study allow for question words in the dependent clause. It should be noted that *eti* 'where' in (42a) and (42d) can also mean 'somewhere,' in which case the sentences receive polar question readings.

(42) a. chelswu-ka eti-ey ka-se swukcey-lul hay-ss-ni
Chelswu-NOM where-LOC go-ESE homework-ACC do-PST-Q
'Where did Chelswu go and study?'

b. chelswu-ka enu khemphywuthe-lul sse-se swukcey-lul hay-ss-ni
Chelswu-NOM which computer-ACC use-ESE homework-ACC do-PST-Q
'Which computer did Chelswu use to do his homework?

c. elmankhum elye-se mikwuk-ey wa-ss-ni
how.much young-ESE US-LOC come-PST-Q
'How young were you when you came to the US?'

d. chelswu-ka eti-ey ka-se john-i wul-ess-ni
Chelswu-NOM house-LOC go-ESE John-NOM cry-PST-Q
'Where did Chelswu go such that John cried?'

5.3.6.2 *-unikka*

For *-unikka*, example (43) below shows that the sequential sense, in (a), and the content causal sense, in (b), allow question words to occur in the dependent clause. The epistemic and speech act causal uses of *-unikka*, however, shown in (43c–d), do not allow question words to occur in their linked clauses.

(43) a. enu changmwun-ulo nayta-po-nikka chelswu-ka
which window-through out-see-UNIKKA Chelswu-NOM
o-nun-kes-i po-i-ni
come-REL-fact-NOM see-PASS-Q
'Which window did you look through and see Chelswu coming?'

b. palam-i enuccok-eyse pwu-nikka namwuiph-i tteleci-ni
wind-NOM which.side-from blow-UNIKKA leaves-NOM fall-Q
'What direction is the wind blowing from such that the leaves are falling?'

c. *yenghi-ka hakkyo-lul myessi-ey ttena-ss-unikka kamki-lul
Yenghi-NOM school-LOC what.time-LOC leave-PST-UNIKKA cold-ACC
kelli-n-ke kat-ni
catch-PERF-fact like-Q
'*What time did Yenghi leave and so she probably has a cold?'

d. *encay-pwuthe ilenke-ey tayhayse cal a-si-nikka
when-since this.type.thing-LOC about well know-POL-UNIKKA

mwe hankaci mwule poa-to toy-lka-yo
something one.type ask try-COMP permit-Q-POL
'*Since when have you known well about these things and so can I ask you a question about something?'

The possibility of including a question word in the dependent clause of (43b) is surprising because it seems to contradict causal *-unikka*'s topic marking properties, regarding which Sohn (1993) observed that WH pronouns in the dependent clause could not receive indefinite readings. However, questions like (43b) using *-unikka* are interesting in that unlike similar questions with *-ese*, they solicit beyond-scale responses. For example, (43b) could be used in a context in which the speaker knows that the wind is causing the leaves to fall, but believes that there is no possible direction from which the wind could blow to cause this to happen.

5.3.6.3 *-taka*

The examples below show that volitional and nonvolitional uses of *-taka* allow question words in their linked clauses. The conditional use in (44c), however, does not. This is not surprising, since the conditional use was found earlier not to be compatible with an interrogative context.

(44) a. chelswu-ka enu TV show-lul po-taka swukcey-lul hay-ss-ni
Chelswu-NOM which TV show-ACC see-TAKA homework-ACC do-PST-Q
'Which TV show was Chulswu watching and then he did his homework?'
b. chelswu-ka nwukwu-ey cacenke-lul tha-taka nemeci-ess-ni
Chelswu-NOM who-GEN bike-ACC ride-TAKA fall-PST-Q
'Whose bike was Chelswu riding when he fell?'
c. *cha-lul elma-lo sa-taka hwuwey hay-ss-ni
car-ACC what.price-at buy-TAKA regret do-PST-Q
'What price did you buy the car at and then regret?'

5.3.6.4 *-myense*

Similarly, although the volitional and nonvolitional uses of *-myense* allow question words to occur in the dependent clause, concessive *-myense* does not.

(45) a. chelswu-ka enu TV show-lul po-myense
Chelswu-NOM TV-ACC see-MYENSE homework-ACC do-PST-Q
swukcey-lul hay-ss-ni

'Which TV show did Chulswu watch while doing his homework?'
b. eti-ey sal-myense paywuca-lul manna-ss-ni
where-LOC live-MYENSE spouse-ACC meet-PST-Q
'Where were you living when you met your spouse?'

c. *chelswu-ka mwusun cha-lul sa-ss-umyense cacenke-lul ta-ko
Chelswu-NOM what.kind car-ACC buy-PST-MYENSE bike-ACC ride-and
wa-ss-ni
come-PST-Q
'What kind of car did Chulswu buy, and then despite that ride his bike here?'

5.3.7 Extraction

Bickel (2010)'s extraction variable pertains specifically to extractability from the dependent clause, and is thus a slightly different criterion than those typically used to identify instances of subordination. For example, Kwon & Polinsky (2008) are concerned only with whether extraction can occur asymmetrically, i.e. non-across-the-board extraction, for which asymmetric extraction out of the main clause is sufficient. In this section, I test for the possibility of relativizing a nominal constituent in the dependent clause.

5.3.7.1 *-ese*

The examples below show that relativization of a constituent in the dependent clause is possible for the sequential, manner, and causal uses of *-ese*, but not for the relative time sense, which is shown in (46c).

(46) a. chelswu-ka $\__i$ ka-se swukcey-lul ha-n cip$_i$
Chelswu-NOM - go-ESE homework-ACC do-REL house
'The house$_i$ that Chelswu went to $\__i$ and did homework'
b. chelswu-ka $\__i$ sse-se swukcey-lul ha-n yenphil$_i$
Chelswu-NOM - use-ESE homework do-REL pencil
'The pencil$_i$ that Chelswu used $\__i$ to do homework'
c. *$\__i$ cina-se tolao-n sikan$_i$
- pass-ESE return-REL time
'*The time$_i$ that $\__i$ passed and (he) came home.'
d. chelswu-ka $\__i$ sa-se john-i hwa-lul nay-n cacenke$_i$
Chelswu-NOM - buy-ESE John-NOM anger-ACC show-REL bike
'The bike$_i$ that John got angry because Chelswu bought $\__i$'

5.3.7.2 *-unikka*

For *-unikka*, only the sequential use, shown in (47a), allows extraction from the dependent clause. Examples (47b–d) show that none of the causal senses of *-unikka* allow for extraction just from the dependent clause. It should be noted that across-the-board extraction as well asymmetric extraction from just the main clause are possible for the causal senses of *-unikka*.

(47) a. chelswu-ka $\__i$ ka-nikka amwuto eps-ta-ten hakkyo$_i$
Chelswu-NOM - go-UNIKKA anyone NEG.have-DEC-REL school

'The school$_i$ that Cheslwu went to $\__i$ and there was no one there.'

b. *chelswu-ka $\__i$ tani-ko sippheha-nikka yelsimi kongpwu-lul ha-nun
Chelswu-NOM - attend-and want-UNIKKA diligently study-ACC do-REL
tayhakkyo$_i$
college
'The college$_i$ that Chelswu studies hard because he wants to attend $\__i$'

c. *$\__i$ yele noh-ass-unikka nwuka cip-ey iss-napota-nun mwun$_i$
- open leave-PST-UNIKKA someone house-LOC be-EVID-REL door
'*The door$_i$ that someone is probably home because $\__i$ was left open.'

d. *nayil $\__i$ po-aya toy-unikka cip-ey ka-ca-nun sihem$_i$
tomorrow - see-COMP must-UNIKKA house-LOC go-HOR-REL exam
'*The test$_i$ that let's leave! because we have to take $\__i$'

5.3.7.3 *-taka*

For *-taka*, relativization of a constituent in the dependent clause is permitted for all its uses, as shown in (48).

(48) a. chelswu-ka $\__i$ ha-taka TV-lul po-ass-ten swukcey$_i$
Chelswu-NOM - do-TAKA TV-ACC see-PST-REL homework
'The homework that Chelswu was doing $\__i$ and then stopped and watched TV.'

b. chelswu-ka $\__i$ tha-taka nemeci-ess-ten cacenke$_i$
Chelswu-NOM - ride-TAKA fall-PST-REL bike
'The bike$_i$ that chelswu was riding $\__i$ when he fell.'

c. $\__i$ mis-taka hwuhoy han-n-ta-nun salam$_i$
- trust-TAKA regret do-PRES-DEC-REL person
'The person that you will regret if you trust $\__i$'

5.3.7.4 *-myense*

For *-myense*, the examples in (49) show that while extraction from the dependent clause is possible for the volitional and nonvolitional senses, it is not possible for the concessive use in (49c).

(49) a. chelswu-ka $\__i$ ha-myense TV-lul po-ass-ten swukcey$_i$
Chelswu-NOM - do-MYENSE TV-ACC see-PST-REL homework
'The homework that Chelswu was doing $\__i$ while watching TV.'

b. $\__i$ sal-myense paywuca-lul manna-ss-ten tosi$_i$
- live-MYENSE spouse-ACC meet-PST-REL city
'The city$_i$ that he met his spouse while living in $\__i$.'

c. *chelswu-ka $\__i$ sa-ss-umyense cacenke-lul tha-ko wa-ss-ten
Chelswu-NOM - buy-PST-MYENSE bike-ACC ride-and come-PST-REL

cha
car
'*The car$_i$ that Chelswu rode his bike here even though he bought $\__i$'

5.3.8 Focus marking on dependent clauses

The two preceding variables pertained to focus effects inside the dependent clause. This variable assesses whether the dependent clause itself can be focused by the placement of a focus marker at the edge of the clause. The possible values are the same as for question words and extraction. I test for the possibility of attaching the focus marker *-man* 'only' to the dependent clause. In cases where marking with *-man* is unacceptable, an attempt is also made with the focus marker *-to* 'also/even.'

5.3.8.1 *-ese*

For *-ese*, the examples below show that the sequential and manner uses of *-ese* allow for focus marking on the dependent clause, but that the relative time sense and the causal sense do not.

(50) a. chelswu-nun chinkwu-ney cip-ey ka-se-man swukcey-lul
Chelswu-TOP friend-POSS house-LOC go-ESE-only homework-ACC
hay-ss-ta
do-PST-DEC
'Chelswu went to his friends house and only there did he study.'

b. chelswu-nun kele-se-man hakkyo-ey ka-ss-ta
Chelswu-TOP walk-ESE-only school-LOC go-PST-Q
'Chelswu went to school only by walking.'

c. *elye-se-man/to mikwuk-ey wa-ss-ta
young-ESE-only/also US-LOC come-PST-DEC
'She came to the US only/also when she was young.'

d. *chelswu-ka cip-ey ka-se-man/to john-i wul-ess-ta
Chelswu-NOM house-LOC go-ESE-only/also John-NOM cry-PST-Q
'John cried only/also because Chelswu went home.'

5.3.8.2 *-unikka*

The examples below show that none of the uses of *-unikka* allow for focus marking on the dependent clause.

(51) a. *pakk-ul nayta-po-nikka-man/to chelswu-ka o-ko.iss-tela
outside-ACC out-see-UNIKKA-only/also Chelswu-NOM come-PROG-Q
'*Only/also when looking outside, I see Chelswu coming.'

b. *palam-i pwu-nikka-man/to namwuiph-i tteleci-n-ta
wind-NOM blow-UNIKKA-only/also leaves-NOM fall-Q
'*Only/also since the wind is blowing, the leaves are falling.'

c. *hakkyo-lul ilccik ttena-ss-unikka-man/to kamki-lul kellinke
school-LOC early leave-PST-UNIKKA-only/also cold-ACC catch-fact
kat-ta
like-DEC
'*Only/also since she left school early, she's coming down with a cold.'

d. *nayil sihem-i iss-unikka-man/to ilccik ka-ca
tomorrow exam-NOM have-UNIKKA-only/also early go-FUT-Q
'*Only/also since we have a test tomorrow, let's go home.'

5.3.8.3 *-taka*

For *-taka*, while none of its uses allow for focus marking with *-man* 'only,' all of its uses allow for focus marking on the dependent clause with *-to* 'also.' The latter case is shown in (52). The context for the conditional use in (52c) is one in which the warning was previously given with a different protasis. (52c) then offers another condition under which the main clause prediction is expected to obtain.

(52) a. chelswu-ka TV-lul po-taka-to swukcey-lul hay-ss-ta
Chelswu-NOM TV-ACC see-TAKA-also homework-ACC do-PST-DEC
'Chulswu did his homework also after watching TV.'

b. chelswu-ka cacenke-lul ta-taka-to nemeci-ess-ta
Chelswu-NOM bike-ACC ride-TAKA-also fall-PST-DEC
'Chelswu fell also while riding his bike.'

c. kongpwu anh ha-taka-to sihem tteleci-n-ta
study NEG do-TAKA-also exam fall-PRES-DEC
'If you don't study, you fail the exam, too.'

5.3.8.4 *-myense*

As shown in (53), all three uses of *-myense* allow for focus marking on the dependent clause, with either *-man* 'only' or *-to* 'also.'

(53) a. chelswu-ka TV-lul po-myense-man swukcey-lul hay-ss-ta
Chelswu-NOM TV-ACC see-MYENSE-only homework-ACC do-PST-DEC
'Chelswu did his homework only while watching TV.'

b. naccam ca-myense-to kkwum-ul kkwu-ess-ta
nap sleep-MYENSE-also dream-ACC dream-PST-DEC
'He had dreams while taking naps too.'

c. chelswu-ka cha-lul sa-ss-umyense-to cacenke-lul ta-ko
Chelswu-NOM car-ACC buy-PST-MYENSE-even bike-ACC ride-and
wa-ss-ta
come-PST-DEC
'Chelswu rode his bike here even though he bought a car.'

5.3.9 Position

This variable pertains to the positional possibilities of the dependent clause in relation to the main clause. The options are FIXED:POST-MAIN, if the order is fixed such that the dependent clause always follows the main clause, FIXED:PRE-MAIN if the order if fixed and the dependent clause always precedes the main clause, FLEXIBLE-ADJACENT if the dependent clause can come before or after the main clause, but must be adjacent, or FLEXIBLE-RELATIONAL, if the order is flexible and the dependent clause can be separated from the main clause by other dependent clauses.

5.3.9.1 *-ese*

For *-ese*, postposed dependent clauses generally do not occur in written Korean, though they do occur in speech where the dependent clause is presented as an added afterthought. Although this alternate order is possible, there is a clear contrast in terms of flexibility if we compare the connectives with their English translational counterparts. Thus, in (54), the Korean expressions with postposed depended clauses are much more dependent on marked contexts than either ordering of their English translations. This markedness is signified in the examples with '?' annotation.

(54) a. ?chelswu-ka swukcey-lul ha-ss-ta, chinkwu-ney cip-ey
Chelswu-NOM homework-ACC do-PST-DEC friend-POSS house-LOC
ka-se
go-ESE
'Chelswu did his homework, after going to his friend's house.'

b. ?chelswu-ka hakkyo-ey ka-ss-ta, kele-se
Chelswu-NOM school-LOC go-PST-DEC, walk-ESE
'Chelswu went to school, walking.'

c. ?yenghi-nun mikwuk-ey o-ass-ta, elye-se
Yenghu-TOP US-LOC come-PST-DEC young-ESE
'Yenghi came to the US, when she was young.'

d. ?john-i wul-ess-ta, chelswu-ka cip-ey ka-se
John-NOM cry-PST-DEC Chelswu-NOM house-LOC go-ESE
'John cried, because Chelswu went home.'

5.3.9.2 *-unikka*

A similar pattern holds for *-unikka*, where the postposed order is possible, but also licensed only as added afterthoughts. Speech act causal *-unikka* in (55d), however, appears to be an exception, as speakers consider it to be noticeably less unusual than the other postposed examples.

(55) a. ?chelswu-ka o-ko.iss-ta, pakk-ul nayta-po-nikka
Chelswu-NOM come-PROG-DEC outside-ACC out-see-UNIKKA
'Chelswu is coming, I looked outside.'

b. ?namwuiph-i tteleci-n-ta, palam-i pwu-nikka
leaves-NOM fall-PRES-DEC wind-NOM blow-UNIKKA
'The leaves are falling, because the wind is blowing.'

c. ?kamki-lul kelly-ess-napo-ta, hakkyo-lul ilccik ttena-ss-unikka
cold-ACC catch-PST-EVID-DEC school-LOC early leave-PST-UNIKKA
'He must have caught a cold, since he left school early.'

d. ilccik ka-ca, nayil sihem-i iss-unikka
early go-HOR tomorrow exam-NOM have-UNIKKA
'Let's leave early, since we have an exam tomorrow.'

5.3.9.3 *-taka* and *-myense*

For *-taka* and *-myense* also, while postposing the dependent clause is not unacceptable, it only occurs in the context of an added afterthought. An exception to this is the concessive use of *-myense*, for which speakers consider the noncanonical order significantly less unusual.

(56) a. ?chelswu-ka swukcey-lul hay-ss-ta, TV-lul po-taka
Chelswu-NOM homework-ACC do-PST-DEC TV-ACC see-TAKA
'Chelswu did his homework, having stopped watching TV.'

b. ?chelswu-ka nemeci-ess-ta, cacenke-lul tha-taka
Chelswu-NOM fall-PST-DEC bike-ACC ride-TAKA
'Chelswu fell, in the middle of riding his bike.'

c. ?sihem tteleci-n-ta, kongpwu anh ha-taka
exam fall-PRES-DEC, study NEG do-TAKA
'You're going to fail your exam, if your don't study'

(57) a. ?chelswu-ka swukcey-lul hay-ss-ta, TV-lul po-myense
Chelswu-NOM homework-ACC do-PST-DEC, TV-ACC see-MYENSE
'Chelswu did his homework, while watching TV.'

b. ?paywuca-lul manna-ss-ta, sewul-ey sal-myense
spouse-ACC meet-PST-DEC, Seoul-LOC live-MYENSE
'He met his spouse, while living in Seoul.'

c. chelswu-ka cacenke-lul ta-ko o-ass-ta, ecey cha-lul
Chelswu-NOM bike-ACC ride-and come-PST-DEC yesterday car-ACC

sa-ss-umyense
buy-PST-MYENSE
'Chelswu rode his bike here, even though he bought a car yesterday.'

Thus, with respect coding the positional possibilities of the dependent clause, the Korean connectives above raise two issues. First, although the postposed clause order is possible for all the connectives, there is the issue of capturing the language-internal difference between speech act causal *-unikka* and concessive *-myense*, on the one hand, and the rest of the connectives, on the other. Secondly, there is the issue of keeping variable settings comparable across languages. Specifically, if flexible clause order in Korean is not comparable to flexible clause order in say English, the utility of multivariate approach is diminished. For these reasons, I classify speech act causal *-unikka* and concessive *-myense* as FLEXIBLE-ADJACENT and the rest as FIXED:PRE-MAIN.

5.3.10 Layer

The layer variable has to do with the possibility of center-embedding the dependent clause inside the main clause. Ability to center-embed the dependent clause is assumed to mean that it is adjoined to V (AD-V), while inability to be center-embed the dependent clause is assumed to mean that it is adjoined to S (AD-S). The dependent clause can also be DETACHED, if it is syntactically and intonationally separate from the main clause.

5.3.10.1 *-ese*

Examples (58)–(61) show that all the connectives in their various senses allow for center-embedding of the dependent clause into the main clause, except for conditional *-taka*, as shown in (60c).

(58)

For *-ese*, center-embedding is unproblematic for the sequential, manner, and relative time senses in (59a–c), resulting in word orders that would not be considered out of the ordinary. Center embedding for causal *-ese*, shown in (59d), however, is considered by most speakers as acceptable but awkward.

a. chelswu-ka swukcey-lul yenphil-ul kkenay-se hay-ss-ta
Chelswu-NOM homework-ACC pencil-ACC take.out-ESE do-PST-DEC
'Chelswu, after talking out a pencil, did his homework.'

b. chelswu-ka swukcey-lul yenphil-lul sse-se hay-ss-ta
Chelswu-NOM homework-ACC pencil-ACC use-ESE do-PST-DEC
'Chelswu, using a pencil, did his homework.'

c. yenghi-nun mikwuk-ey elye-se o-ass-ta
Yenghu-TOP US-LOC young-ESE come-PST-DEC
'Yenghi, when she was young, came to the US.'

d. ?john-i swukcey-lul chelswu-ka o-ase an hay-ss-ta
John-NOM homework-ACC Chelswu-NOM come-ESE NEG do-PST-DEC
'John, because Chelswu came, didn't do his homework.'

5.3.10.2 *-unikka*

In contrast, for *-unikka*, only the content causal use allows for center-embedding. As shown in (59), the sequential, epistemic causal, and speech act causal uses of *-unikka* do not allow for center-embedding. Whereas causal *-ese* was judged to be awkward, speakers judge these cases as clearly unacceptable.

(59) a. *chelswu-ka kong-ul nay-ka pakk-ul nayta-po-nikka
Chelswu-NOM ball-ACC 1sg-NOM outside-ACC out-see-UNIKKA
cha-ko.iss-ta
kick-PROG-DEC
'*Chelswu, I looked outside and, is kicking a ball.'

b. emma-ka masissnun yoli-lul sonnim-i o-nikka
mom-NOM delicious cooking-ACC guest-NOM come-UNIKKA
ha-ko.iss-ta
do-PROG-DEC
'Mom, because guests are coming, is making delicious food.'

c. *yenghi-ka cha-lul hakkyo-lul ilccik ttena-nkel
Yenghi-NOM car-ACC school-ACC early leave-PST-UNIKKA
po-unikka sa-ess-napo-ta
buy-PST-EVID-DEC
'*Yenghi, since I see that she left school early, must have bought a car'

d. *ilccik cip-ey nayil sihem-i iss-unikka ka-ca,
early home-LOC tomorrow exam-NOM have-UNIKKA go-HOR
'*Let's, since we have an exam tomorrow, go home early'

5.3.10.3 *-taka*

As shown in (60), volitional and nonvolitional *-taka* allow the dependent clause to be center-embedded, but conditional *-taka* does not. As for the unacceptable *-unikka* cases, speakers are unequivocal about cases like (60c).

(60) a. chelswu-ka swukcey-lul TV-lul po-taka hay-ss-ta
Chelswu-NOM homework-ACC TV-ACC see-TAKA do-PST-DEC
'Chelswu did, having stopped watching TV, his homework.'

b. chelswu-ka moca-lul cacenke-lul ta-taka ttelethuli-ess-ta
Chelswu-NOM hat-ACC bike-ACC ride-TAKA drop-PST-DEC
'Chelswu dropped, in the middle of riding his bike, his hat.'

c. *sihem-ey cam-man ca-taka tteleci-n-ta
exam-LOC sleep-only sleep-TAKA fall-PRES-DEC
'You're going to fail, if your don't study, your exam.'

5.3.10.4 *-myense*

Finally, example (61) shows all of *-myense*'s senses allow for the dependent clause to be center-embedded.

(61) a. chelswu-ka swukcey-lul TV-lul po-myense hay-ss-ta
Chelswu-NOM homework-ACC TV-ACC see-MYENSE do-PST-DEC
'Chelswu, while watching TV, did his homework,.'
b. paywuca-lul sewul-ey sal-myense manna-ss-ta
spouse-ACC Seoul-LOC live-MYENSE meet-PST-DEC
'He, while living in Seoul, met his spouse.'
c. chelswu-ka cacenke-lul, ecey cha-lul sa-ss-umyense, ta-ko
Chelswu-NOM bike-ACC yesterday car-ACC buy-PST-MYENSE ride-and
o-ass-ta
come-PST-DEC
'Chelswu, even though he bought a car yesterday, rode his bike here.'

5.4 Implications for methodology

One issue that came up during the course of applying the multivariate approach to Korean connectives has to do with the language-particular choices inherent in the use of variables. From the perspective of construction grammar (Fillmore et al. 1988, Goldberg 1995, Kay & Fillmore 1999, Fried & Östman 2004), and in particular, the typological approach of Croft (2001), the variables of the multivariate approach represent language-internal constructions, i.e. conventionalized form-meaning mappings, that may or not have comparably realized counterparts in other languages. Bickel (2010)'s multivariate approach is highly attractive in that one of its aims is to capture a wide range of language-specific distinctions in the area of clause linkage. Furthermore, it may be possible that given variables of sufficiently fine granularity, statistical generalizations over a large sample of constructions across languages may be able to overcome a certain degree of categorial mismatch. Nonetheless, the cross-linguistic applicability of any particular variable is an empirical question that would require case by case examination.

As a case in point, the two negation constructions considered in this study yielded different results with respect to the effect of clause linkage on their scopes. For example, as shown in Table 5.1, short-form negation differentiates causal *-ese* from its other senses, showing the former to be more restrictive. The same scope restriction is not encountered for long-form negation, which does not differentiate between the four senses of *-ese*. For *-taka* and *-myense*, the situation is inverted such that long-form negation identifies conditional *-taka*

and concessive *-myense* as more highly constraining of negational scope than their respective other senses. For *-taka* and *-myense*, the scope of short-form negation, perhaps due to being already maximally constrained, does not differentiate between the senses of either connective. The only connective form whose analysis with respect to negation would remain unaffected by the choice of negation construction would be *-unikka*.

Thus, had short-form negation been chosen alone to represent negation, it would capture the distinction between causal *-ese* and its other senses, but be unable to differentiate between causal *-ese* and any of the other connectives' senses. If long-form negation were to be chosen by itself, it would capture some affinity between conditional *-taka*, concessive *-myense*, and all the senses of *-unikka*, to the exclusion of the remaining connective constructions, but lose the distinction between causal *-ese* and its other senses. However, to complicate matters further, Korean has other options for forming negatives. For example the following relativizing negative construction when combined with *-ese* is allowed only a transported scope reading targeting the causal relation. This behavior differs from both short-form and long-form with respect to causal *-ese*.

(62) chelswu-ka pay-ka aph-ese cip-ey ka-n-kes-un ani-ta
Chelswu-NOM stomach-NOM hurt-ESE house-LOC go-REL-fact-TOP NEG-DEC
'It is not the case that Chelswu went home because of a stomach ache.'

A solution to this problem from a descriptive standpoint would be to consider all the forms of negation. The proliferation of language-specific constructions, however, raises the question as to how to compare the results across languages. This issue can be further complicated if the construction used to code a variable is polysemous. As mentioned in Section 5.3.2, in this study, one of the motivations behind the choice of the future tense marker *-ulke* was to avoid the polysemous past tense marker *-ess*. Even then, however, it was not possible to avoid this difficulty entirely, because of the tense/status marking variable. In Section 5.3.4.2, certain senses of *-taka* and *-myense* allow the marker *-ess* to occur in the dependent clause. Though the marker has traditionally been considered a past tense marker, that view has been heavily challenged. In particular, the marker's semantic contribution when it occurs in the dependent clause of volitional *-taka* constructions is often used to point out that *-ess* can convey perfectivity, the perfect, or anteriority instead of past tense (Lee 1993a, Sohn 1995, 2001, Oh 2003). This raises the question as to whether the marker should be coded as tense or not. On the one hand, in that context, *-ess* differs from tense marking that grounds the clause with respect to the speech context, but on the other hand, *-ess* is not able to occur at all, for example, in the dependent clause of causal *-ese*, which accepts all other forms of aspectual marking. In fact, in a construction grammar framework, construction-specific interactions are not difficult to model. However, this suggests that there may be difficulties in applying seemingly universal categories, such as tense, consistently, even across the constructions within a language. Again, a descriptive solution for Korean may be to consider the possibility of *-ess*-marking a variable, and perhaps all the other tense/status markers separately as well. If *-ess* is polysemous, however, and covers a range of tense/aspect relations in a contextually

ILL Scope	T/S Scope	LFN Scope	SFN Scope	Finiteness	ILL Mark
disjunct	local	local	local	nonfinite	banned

T/S Mark	Symmetry	WH	Extraction	FOC	Position	Layer
ok	asymmetrical	ok	banned	banned	flexible-adjacent	ad-V

Table 5.3: Multivariate coding for collapsed causal *-unikka*

dependent fashion, it may prove difficult to compare across languages.

Thus far I have discussed methodological issues relating to the constructions that the variables in the study represent. This issue is relevant as well for the analysis of connective polysemy because of the variety of possible interactions between connectives and their conjuncts. For example, the tense/status marking variable discussed above, with *-ess* included, differentiates conditional *-taka* and concessive *-myense* from their respective volitional and nonvolitional counterparts. Another issue, however, pertains to the level of granularity of the connective constructions against which the variables are assessed. For example, while the present study separated out the content, epistemic, and speech act causal senses of *-unikka*, no such distinctions are present in Bickel (2010)'s pilot database.

If the content, epistemic, and speech act uses of *-unikka* are collapsed into a single causal *-unikka* category, the variables could be coded as shown in Table 5.3. The basic approach to the values in Table 5.3 for variables where values differed between the three causal senses was to favor positive identification. Thus, for illocutionary scope, examples like (4), which appear to allow for disjunctive scope readings when content causal relations are not distinguished from speech act causal relations, could lead to a DISJUNCT coding. Similarly for the possibility of question words occurring in the dependent clause (WH), for the causal uses of *-unikka* in Table 5.1, OK is the likely collapsed outcome, because possibility can be established on the basis of one positive identification. Likewise, the possibility of postposing the dependent clause for speech act *-unikka* and the possibility of center-embedding dependent clauses with content causal *-unikka*, would likely lead to the more positive, or the more detectable, value being coded, with potentially significant distinctions being missed.

An immediately recognizable outcome of collapsing *-unikka*'s causal categories is that a case of transported illocutionary scope, that of content causal *-unikka*, has been obscured. For the Korean data, transported illocutionary scope would still be attested for *-ese*, since *-ese* does not have epistemic or speech act causal senses. However, if this type of collapsing of distinctions were to occur systematically, certain variable settings could appear rarer than they actually are.

For example, English *because* clauses are also able to convey content, epistemic, and speech act causal relations, and as pointed out by Sweetser (1990), a crucial factor is whether comma intonation allows for the main clause to be independently asserted. This interaction

is illustrated for indicative content causals in (63). While (63a) asserts only the causal relation, (63b) also independently asserts the main clause content. The interrogative version of these sentences is shown in (64) to illustrate how this can affect the determination of illocutionary scope. Without a pause before the *because* in (64a), the question in the main clause can only target the causal relation, which results in a transported scope reading, much like content causal *-unikka*. The question in (64b), however, does not allow for a transported scope reading that targets only the causal relation in the dependent clause. If the *because* clause is intonationally marked as a question, a paraphrase could be, "Did John go to the store and was it because we ran out of milk?" That reading corresponds to a construct in which illocutionary force is marked on both clauses. Excluding that reading, the only other reading available for (64b) is a local scope reading where illocutionary scope does not extend to the dependent clause. In that case, the dependent clause asserts the reason for asking the main clause question, and what we have is a speech act domain use of *because*.

(63) a. John went to the store because we ran out of milk.
b. John went to the store, because we ran out of milk.

(64) a. Did John go to the store because we ran out of milk?
b. Did John go to the store, because we ran out of milk?

Again, if for *because*, content domain causal relations and speech act domain causal relations are not differentiated, examples like (64) would likely lead to the illocutionary scope variable for *because* being coded as allowing for disjunct scope.

Just as the constructions representing the variables raised issues of cross-linguistic comparability, the constructions and sense distinctions represented by the rows in Table 5.1 also raise similar issues. To a certain extent, when organized in this fashion, the rows represent semantic categories. For example, one could ask what connective constructions a language has for expressing a certain category, such as temporal sequence, with the aim of comparing them with semantically analogous constructions from other languages. As a case in point, temporal sequence, without considering the sequentiality present in causal relations, is represented four times to varying extents in Table 5.1, in sequential *-ese*, sequential *-unikka*, and volitional and nonvolitional *-taka*. In fact, none of these connectives is unequivocally about temporal sequence. Sequential *-ese* represents an event integration such that it cannot just connect together any two sequential events, sequential *-unikka* primarily sets up a viewpoint toward an observation, and *-taka* describes either a volitional switch from one event to another or just the start of a second event in the midst of a first with a possible but not necessary discontinuation of the first. Nonetheless, the detailed semantic analysis of these senses allows us to separate out the *-unikka*'s sequentiality as substantially different because it isn't established in the same event-structural way that the others are.

Given sufficient data it may be possible to find correspondences to finer grained semantic categories. For example, among the observed patterns was that connectives that involved connections to epistemic or speech act spaces, i.e. ones with implicit subjects of consciousness, had certain properties in common, specifically local scope restrictions and a ban on

question words in the dependent clause. From Table 5.1, this includes epistemic and causal *-unikka*, conditional *-taka*, and concessive *-myense*. While it seems unlikely for there to be a connective construction that isolates this space-configurational function, given a sufficient number of semantically varying, well-analyzed constructions with this property, it may be possible to control for the other factors. Thus, with a sufficiently large number of sense-distinguished constructions, it may be possible to find correlations between a semantic parameter, such as a certain kind of space-building, and variable values. This type of comparative analysis then would constitute a multi-multivariate approach in that the other dimension, represented by the rows in Table 5.1, can also be viewed as bundles of variables. This type of investigation does not need to be limited to the connective constructions of just one language, provided that they are all semantically analyzed using the same framework. Although the integrated semantic framework proposed in the present investigation needs to be tested against a much larger set of connective constructions from linguistically diverse sources, it is advanced here as an example of one that is able to capture at least the range of distinctions considered in this study for Korean.

Examining the multivariate approach from a construction grammar perspective, in which both dimensions of Table 5.1 represent constructions, which are conventionalized form-meaning mappings, it seems unlikely for implicational relations between variables or between connective constructions and variables to be motivated by the form side of the construction, apart from considerations like iconicity. It seems more plausible that they would arise as interactions between the semantic or functional side of the constructions, which may more accurately be thought of as bundles of semantic or functional features. While constructions vary from language to language, there may useful bundles of such features, or incompatible bundles, whose presence or absence recur across languages.

5.5 Conclusion

This dissertation was concerned with the applicability of comparison and contrast in the study of connective constructions, and specifically how the contrastive study of connective constructions relates to the patterns of polysemy in connectives, which Aikhenvald (2009) attests are cross-linguistically frequently polysemous. Toward this end, Chapters 2–4 engaged in a detailed analysis of four polysemous connectives in Korean, and in the process assembled an integrated semantic framework by which the connective constructions and their various senses could be compared to each other. As a case in point, the comparison between *-ese* and *-unikka*, on the basis of their both having sequential and causal senses, was argued to be an apples to oranges comparison. The comparative analysis from Chapter 3, which was based on analyses of each connective's polysemy network, was able to explain why they are used so differently despite shallow similarities.

This chapter explored the implications of the present approach to connective polysemy for Bickel (2010)'s multivariate approach to connective typology. The multivariate approach is promising because it uses a large number of independent variables that are minimally de-

pendent on theoretical assumptions and intended to capture as wide a range of distinctions as possible. Its empirical, inductive approach to determining cross-linguistically applicable categories aligns with a construction grammatical approach to typology which works ground up from language-specific constructions (Croft 2001). It was pointed out that from the perspective of construction grammar, since the variables of the multivariate approach represent language-specific constructions, a variable setting, i.e. a value, represents a distributional fact between two language-specific constructions. Just as fine-grained variables, and having more of them, enhances the ability to capture distinctions between connective constructions, it was argued that fine-grained semantic analyses of the connectives using a common semantic framework, and maximal differentiation of the various senses with respect to testing against the variables, could, provided a sufficiently large data sample, allow for the discovery of implicational relationships between semantic features of the connective constructions and those of the variable constructions.

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