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論文題目

On Form-Meaning Mismatches in English Modality and Tense: A Cognitive Grammar Perspective

(英語法助動詞及び時制における形式と意味のミスマッチについて
— 認知文法からの考察 —)

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（博士学位申請論文）

On Form-Meaning Mismatches in English Modality and Tense: A Cognitive Grammar Perspective

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by

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CHAPTER 1

Introduction

1.1 Introduction

This dissertation is concerned with problems of English modality and tense. Especially, we shall challenge certain linguistic problems that we call "form-meaning mismatches." One major task of linguistics is to clarify how meaning (i.e. our conceptualization, thought or feeling) is mapped onto linguistic form. While Saussure's (1916) epochal idea of arbitrariness on linguistic symbols is essentially valid, it is also true that certain groups of grammatical forms tend to convey certain arrays of meanings. For instance, if a language has two formally distinguished grammatical categories for its predicates, one group tends to be

employed to indicate a sense of action, which may be labeled as "verb", and the other to indicate some properties or states of objects/entities, which may be labeled as "adjective."

One major problem that puzzles linguists, however, lies in the fact that some semantically (seemingly) anomalous members are often included in such a grammatical category or vise versa, the problem of which is referred to as form-meaning mismatches here. For example, as taken out in an introduction of grammar books (cf. Gleason (1955:5)), the process of "destroying" can be expressed not only as a verb, but also as a noun, the category of which may be semantically expected to indicate things. Or in a sentence like Under the bed is warm, the prepositional phrase is employed as the subject, which should be occupied by the grammatical category of noun (phrases).[1]

We may have two options when we encounter problems like this. One is to put aside them just as an extended instance of arbitrariness. The other is to attempt to seek for a deep-going reason, or motivation, concerning why such an anomalous relationship comes about. We take the latter position to the form-meaning mismatches.

This dissertation addresses the two problems of this nature that has been annoying English grammarians: One is observed in the relationship between modal auxiliaries and

modality, and the other comes from that between tense and temporal meaning. We shall demonstrate that the form-meaning anomalies that have ever been observed in these grammatical categories are never in fact anomalous. Rather, its surface mismatches are essential for forming their formal categories.

We shall newly propose the two descriptive notions that we call Relative subjectificaion and Conflated Grounding for our analyses of English modals and tense. These two concepts are inspired by the Cognitive-Grammar notions of Subjectification and Grounding (Langacker (1991)). One fundamental enterprise of Cognitive Grammar is to provide to the form-meaning pairings a natural motivation, putting emphasis on cognitive activity in our mind (see Langacker (1987:Ch.1) for its general introduction). With these two notions, the theory has succeeded in clarifying many long-standing linguistic problems (for example, capturing the relationship among myriad senses of prepositional phases (Langacker (1990:326-330, 1991:169-171)). While we strongly share essential spirits of linguistic analyses with Cognitive Grammar, however, these two notions cannot straightforwardly capture the form-meaning mismatches observed in tense and modals, as will be discussed in the subsequent chapters. Therefore, we newly develop our own conceptual frameworks for tense and modal problems.

It should be noted here that our concepts of relative subjectificaton and conflated grounding go beyond a simple "modification" of Langacker's original ideas, just attempting to solve the grammatical phenomena related to modals and tense. Rather, we should take our uses of relative subjectification and conflated grounding as refined alternatives to the original concepts. As will be clarified in the subsequent chapters, the newly proposed ideas show advantages over the original counterparts in that the utilization of the former could be commensurable to a well-known phonological phenomena or a genetic model, unlike that of the latter. In addition, without modifications, our versions can be applied to other grammatical phenomena that Langacker and others have already succeeded in describing. Therefore, our proposals of relative subjectification and conflated grounding could be regarded as an alternative to the original ideas, rather than as a modification.

This dissertation assumes the structure as follows. First, in the rest of this chapter, we shall clarify the issues that are addressed in this dissertation, and further, introduce certain Cognitive-Grammar concepts that are required to follow the subsequent discussions. Specifically, in 1.2.1 and 1.2.2 two long-puzzling grammatical issues of modals and tense are introduced. Then,

in 1.2.3 and 1.2.4, two topics which has been overlooked in the literature in terms of the mismatch between the form and meaning are outlined: the relationship between the temporal connective before and tense, and that between the perfect construction and tense, respectively. Section 1.3 is allocated for the exposition of the Cognitive-Grammar concepts of force-dynamics and the Basic Epistemic Model.

After the introduction of the issues and the essential concepts of Cognitive Grammar, we shall allocate a separate chapter for each issue outlined in chapter one. In chapter two, the analysis of English modals based on the idea of relative subjectification is shown, and furthermore, chapter three discusses the English tense in terms of the notion of conflated grounding. Based on these discussions, we move on to the above-mentioned case studies of the before-clause and the perfect construction. The Concluding remarks of this dissertation are given in chapter six.

1.2 The Issues of this Dissertation

The aim of this section is to introduce the issues that are discussed in the subsequent chapters. For this purpose, we shall employ the following structure in each subsection.

First, we shall take out a (structurally) very simple example from each topic. And while considering it, we shall nail down the issue of the topic. Then, in the remainder of the subsection we outline how we provide a solution to that issue in each subsequent chapter.

1.2.1 A Form-Meaning Mismatch Observed in the English Modal Auxiliaries: Why can Can be Formally Grouped together with Other Modal Auxiliaries?

One essential problem with previous studies on English modals lies in the question of why the modal can can be grouped together with other modals. More specifically, English grammarians have puzzled over why the sense of "ability" that indicates an property of people/animals, can be expressed by a member of modal auxiliaries (i.e. can), the category of which is usually regarded as indicating some speaker's attitude towards a proposition, whether a modal is employed as epistemic or as deontic. Compare (1) with (2) below.

(1) Tom can swim very well.

(2) Tom may/must/should swim very well.

Example (1) including the modal can describes Tom's

excellent swimming ability, and, further, more importantly, to the content of this sentence, we can question its truth condition. Thus, we can add to (1) "No, what you said is not true." On the other hand, example (2) is regarded as expressing certain modalities, and its truth condition is open unlike that of (1). In other words, the openness of the truth condition lets the speaker attach the modals to the proposition. In sum, as Palmer (1990:4) describes, even though the modal <u>can</u> shows the same syntactic behaviors as other modals, the former can indicate a different type of meaning from the latter. Thus, a from-meaning mismatch is observed here.[2]

Traditionally, the semantic analyses of the modals were/have been argued coming after the framework presented by modal logic (see von Wright (1951:1-2) and Allwood et al. (1977:Ch.6)) and therefore, the meaning of modals like ability that does not express modality has been put out of the scope of the analyses (cf. Lyons (1977:Ch.17)).

This tendency, however, has changed its course with the emergence of Generative Semantics (Hofmann (1967) and Ross (1969)). One characteristic of this approach is to newly present a binary semantic distinction to the modal semantics: epistemic vs. non-epistemic (root) in place of that between epistemic and deontic sense supposed in modal logic. This new classification intends to put the non-modal

meanings expressed by the modals like the sense of ability into the linguistic description, rather than bouncing out them from the scope of the analysis. Thus, by introducing this classification, they attempted to clarify the form-meaning pairings of the entire modals as possible as they can. Note that, following the convention in the analysis of modal auxiliaries, we employ the term "modal" ambiguously: (i) when the term is used as a noun, it refers to the formal category of modal auxiliaries. On the other hand, (ii) when used as adjective, it is intended as the adjective counterpart of the term modality.

While this new binary system of modal semantics has been widely accepted in the field of linguistics, however, it produced yet another problem to the form-meaning relationship of the modals: it puts seemingly unrelated senses together in the new category of non-epistemic (root) modality. For instance, the sense of obligation expressed by must is classified as non-epistemic as well as that of ability. Yet, the former indicates a speaker's desire (to the hearer), while the latter does not convey such a nuance, indicating an inherent property of the subject, as mentioned above. Consequently, the new classification results in producing a problem of what common feature all the entire non-epistemic senses show.[3]

In sum, (part of) the history of the analysis of modals

can be distilled to the point of how the sense of ability, or can, has theoretically been captured. Our aim of chapter two is to shed a new light on this long-puzzling problem in terms of Cognitive Grammar.

In chapter two, we shall demonstrate that the sense of ability that has been regarded as disturbance, in fact, plays a crucial role in forming a category of modals. To prove this, chapter two proceeds in the following order. First, we re-characterize the meanings expressed by can, may, and must in terms of the notion of (relative) subjectification. With this characterization, it will be shown that the sense of ability that has been regarded as extraneous to the category of modals serves as a prototype of the category.

Moreover, based on this argument, we shall extend our analysis to the issue of the interrelationship of modal senses: we attempt to clarify how the major meanings formulated by the notion of relative subjectification are interrelated within the category, having the benefit of a semantic network model that has been utilized in Cognitive Grammar (Langacker (1990:266-271)). In particular, in the course of the discussion, further two advantages of our analysis are shown. Firstly, beyond the synchronic analysis, our description on the form-meaning pairings of the modals is applicable to the existing descriptive

generalization about their historical development proposed by Ono (1969), Visser (1969) and Warner (1993). Beyond the semantic analysis, secondly, it is shown that our generalization is commensurable to a major phonological generalization proposed by Martinet (1952). These two advantages could be regarded as endorsing that our approach is surely on the right track.

1.2.2 A Form-Meaning Mismatch Observed in the English Tense: Why are Both the Temporal Combinations of "Past-past" and "Past-present" Expressed in the Same Past Tense Form?

The analyses of English tense have a long tradition, and many theories have already been proposed in the literature. One might wonder "Do we need yet another discussion or theory on this matter?" But the fact that many analyses have been proposed implies that English tense has difficult problems, which have not yet been solved.

One major reason why so many theories on English tense have been presented may be distilled as follows: one cannot theoretically account for the very simple fact that in English, the two temporal relationships of "past for the past" and "present for the past" can both be marked by the

past tense. Consider example (3) below, which reflects this phenomenon.

(3) John said that Mary was happy.

As pointed out by Enç (1987) among others, there are two temporal readings in a sentence like (3): One is called the simultaneous reading, which indicates that Mary's happiness was obtained at the time when the subject John uttered the content of the complement clause. The other is called the shifted reading, which indicates that when John uttered it, Mary's happiness was supposed to have already been over. With regard to the form-meaning relationship, we have to clarify why these two different temporal relationships are mapped onto the same past tense form.

One well-known solution to this is to introduce the syntactic rule called the sequence of tenses (e.g. Curme (1931), Comrie (1985), and Quirk et al. (1985)). This rule states, to put it simply, that when the main clause is marked by the past tense, the tense in the complement clause should also be marked by the past tense (the precise characterization of this rule is presented in chapter three).

As will be reviewed in chapter three, however, it has been pointed out that the rule shows empirical and theoretical problems. For instance, the application of the

rule is optional even though it is a formal rule. Or this approach implies that the English complement tense is semantically vacuous, which is strongly against the intuition of the language user.

Against this background, the research of English tense has moved to the analyses providing semantic account of the complement tense (e.g. Abusch (1988), Declerck (1995), Fauconnier (1997), and Wada (1998)). Especially, the notions of the absolute and relative tense or similar have widely been utilized for the English tense analyses.

The abandon of the formal rule, however, produces a new problem: these semantic theories cannot account for cases where the sequence of tenses rule provides a simple solution. Consider (4) below, paying attention to the past tense in the deepest embedded clause.

(4) John decided a week ago that in ten days at breakfast he would say to his mother that they were having their last meal together.

The situation of the deepest embedded clause is temporally located in the future with regard all to the speaker, the main-clause subject, and the second-clause subject. Thus, the theories employing the notions of absolute and relative tense have no way to provide a past-time relationship to the deepest embedded clause. This is currently the biggest

problem that the semantically oriented tense theories encounter.

Our aim of chapter three is to provide a motivation for the deepest past tense in (4), and argue that the semantic analyses that have difficulty in accounting for (4), in fact, do not provide a proper analysis to the case in (3) either. Hence, we make a claim that the failure to account for (4) is due to problems in the theoretical foundations on which previous analyses have been based, in analyzing (3). We newly present a framework that replaces the old relative-absolute tense system, the framework of which is called the conflated grounding model.

The new insight that the conflated grounding model reveals is that complement tense marking necessarily reflects the "process" by which the conceptualizer establishes the relationship between the complement situation and the time of utterance. Previous approaches relying on the relative and absolute tense have missed this point, by focusing too narrowly on the objective temporal relation per se, which is the "result" of the crucial act of conceptualization.

Moreover, we argue that it is our analysis based on the notion of conflated grounding that succeeds in providing a conceptual motivation for the morphological contrast between past and present tense, regardless of whether the

verb so-marked is instantiated in a complement or in an independent clause. For this purpose, we shall have the benefit of a genetic model from biology.

1.2.3 A Form-Meaning Mismatch Observed in the Temporal Connective Before: Why are the Contradictory Temporal Relationships Marked in the Before Clause?

In chapter four, we shall address an instance of form-meaning mismatches that has been overlooked in the literature: why the pluperfect construction can be employed in the before clause (henceforth the BC), event though their co-occurrence seems contradictory. Sentence (5) below exemplifies this.

(5) John came here before Bob had arrived.

With the normally supposed functions of before and the pluperfect, we might not determine what temporal relationship the entire sentence expresses: following the sense of the connective, we understand that the event of Bob's arrival happened after that of John's coming. In contrast, following the sense of the pluperfect, Bob's arrival should be temporally prior to the event of John's coming.

In order to shed further light on this issue, let us first consider the sentences (6) and (7) below.

(6) I saw him after he saw me.

(7) He said he had spilt some milk on the tablecloth.

In English, there are two major grammatical means to specify temporal order between two clauses. One is, as in example (6), to use such temporal connectives as when, after, or before. The other is to employ the pluperfect as in (7). In (6), the connective after specifies that the main clause happened posterior to the subordinate clause. In (7), due to the pluperfect in the complement clause, we infer that the complement event happened prior to that of the main clause.

As expected, further, if the temporal specifications assumed by these grammatical means are contradictory, we may anticipate that the entire sentence should be judged unacceptable. This is exemplified in example (8) below.

(8)*Bob had arrived here after John came.

Example (8) is unacceptable because the temporal relationship specified by the pluperfect is opposed to that by the connective after.

This violation is, however, allowed in the case of the BC. Let us go back to example (5), in which the opposite

temporal relationships are expressed by the pluperfect and the connective.

(5) John came here before Bob had arrived.

If before just specifies a temporal sequence of two clauses in opposition to after, (5) should be unacceptable for the same reason as in (8). However, (5) is in fact acceptable. Why can the pluperfect be employed in the BC, although seemingly indicating a paradoxical temporal relationship with the BC? The aim of chapter four is to clarify this form-meaning mismatch.

Regarding this problem, there are only a few previous studies (e.g. Declerck (1979) and Mastumura (1989)), and the approaches presented there not only lack uniformity, but they also have empirical problems, as will be shown in section two of chapter four. We shall point out that their failure to provide a motivation to the form-meaning pairings results from a lack of analysis on the inherent semantics of before and their confusion over factivity expressed by the BC.

In place of these analyses, we shall demonstrate that the seemingly paradoxical usage of the pluperfect plays a crucial role in cueing a certain status of factivity in the BC, which directly motivates the employment of the pluperfect in the BC. For this purpose, in addition to the

notion of grounding employed in chapter two and three, we exploit a Cognitive Grammar concept called partial compositionality, which puts emphasis on interaction among components in forming a composite structure (Langacker (1999:152-153)).

In chapter four, we first examine the inherent semantics of before in terms of Cognitive Grammar, and theoretically illuminate that unlike other temporal connectives such as after or when, the connective has an intrinsic characteristic of obscuring a factive status of the entire clause. Based on this characterization, we proceed to the problem of how the pluperfect semantically interacts with such an intrinsic sense of before, and finally show that the pluperfect in the BC serves as indicating a certain factive status of the entire clause.

1.2.4 A Form-Meaning Mismatch Observed in the Perfect Construction: Why is the Present Tense Morpheme Employed to Mark an (Indefinite) Past Event?

Our final issue of this dissertation concerns a form-meaning relationship observed in the English perfect construction. One major Problem with the previous studies of this construction is that they fail to provide a

derivation mechanism that bridges the gap between the notion of current relevance and a wide range of senses expressed by the English perfect. Let us consider what this issue means by using the example below.

(9) John has bought a new car.

As will be reviewed in chapter five, the English perfect has been regarded as indicating four senses of experience, result, perfect and continuity. Further, these senses are considered as indicating something about a past-time event. Notice that in (9), the event of buying itself happened in the past. The following extract from Leech (1987) may show this point well: "It is well known that English has two chief ways of indicating past time by means of the verb: the past tense (I worked, he wrote, etc.) and the Perfect aspect (I have worked, he has written, etc.)." (Leech (1987:35)). Thus, traditionally, the perfect is considered as a grammatical means to indicate a past-time event, and sometimes labeled as "perfect tense," or as a variant of the past tense (cf. Wood (1961:173)).

The problem with this traditional view lies in the fact that the perfect construction structurally contains the present tense morpheme: why is the present morpheme is employed even though the perfect indicates a past time event? One well-known approach to this dilemma is to assume

the notion of current relevance as an intrinsic sense of the perfect, which states that the past event is "somehow" construed with regard to the present time. Thereby, researchers have attempted to solve this form-meaning mismatch.

One question is, however, left to this assumption. That is that the previous research has not argued for how a wide range of meanings expressed by the perfect construction can be related to the umbrella term of current relevance. In other words, independently from the classification of usages of the perfect, the notion of current relevance is assumed. And few theories are proposed discussing their relationships. The important point, with regard to the form-meaning relationship, is that without precisely characterizing the relationship between them, it would follow that the current relevance were supposed just because the present tense is employed in the construction. This implies that the function of the present tense is substantially vacuous.

The aim of chapter five is to present a derivation mechanism that bridges this gap observed in the literature, the mechanism of which is called the Basic Schema for the perfect. With the postulation of this schema based on the notion of partial compositionality, we could not only motivate form-meaning pairings of the perfect, but we could

also show that a wide range of senses could be reduced as a matter of degree in the single scale that the Basic schema provides.

1.3 Factivity and Force Dynamics

This section provides a general introduction on the notions of factivity and force dynamics, and outlines how these notions are embraced in Cognitive Grammar. If a reader is familiar with the Cognitive-Grammar style analyses, he or she can skip 1.3.1 and 1.3.2, and may proceed to chapter two. Note that because we provide each subsequent chapter with a stripped-down introductory section on Cognitive Grammar notions needed to follow the local discussions, plus cross-references to the specific parts of 1.3.1 and 1.3.2, we do not have to worry if we might get lost because of technical jargons of Cognitive Grammar.

1.3.1 Factivity in Cognitive Grammar

This subsection shows how the semantic notion of factivity is embraced in Cognitive Grammar. In order to

grasp the notion properly, we start this subsection by reviewing a milestone article in factivity analysis by Kiparsky and Kiparsky (1970), which claims that the notion of factivity is produced from speaker's presupposition. While outlining the essence of the article, we attempt to clarify essential properties concerning the factivity, and then go on to the sketch of how Cognitive Grammar utilizes this concept.

Kiparsky and Kiparsky (1970) attract linguists' attention by pointing out that the semantic notion of factivity plays a crucial role in "surface" linguistic structures.[4] They focus, in particular, on the interrelationship between syntax and semantics of English complement clauses, and make it clear that English predicates may be divided into two types, depending on their factivity. Let us consider the examples below.

(10) a. Everyone ignored that Joan was completely drunk.

b. Everyone thought that Joan was completely drunk.

According to Kiparsky and Kiparsky (1970), the verb <u>ignore</u> in (10a) is classified as a factive predicate, whereas <u>think</u> in (10b) is grouped as a non-factive.[5] Though the two predicates both take <u>that</u> as a complementizer, the difference between factive and non-factive predicates is clarified under the following two parameters: (i) only

factive predicates can be paraphrased into the gerund as in (11) below; (ii) even when the factive predicates are negated, the scope of negation does not extend over the complement clause. Thus, in (12a) below, since the verb ignore is factive, the event subsumed in the complement is not semantically negated. On the other hand, the same event is semantically negated when it is situated in the complement of the non-factive verb of think as in (12b).

(11) a. Everyone ignored Joan's being completely drunk.

b.*Everyone thought Joan's being completely drunk.

(12) a. Everyone did not ignore that Joan was completely drunk.

b. Everyone did not think that Joan was completely drunk.

These grammatical facts help Kiparsky and Kiparsky to conclude that the that-complements in (10a) and (10b) above are derived through semantically different "deep" structures.

Kiparsky and Kiparsky suppose that the above difference between factive and non-factive predicates is motivated by the speaker's presupposition. Thus, when the factive verbs as in (10a) are employed, the speaker presupposes the complement event to be true, while the non-factive predicates as in (10b) leave the proposition open; the truth

of the complement events is not presupposed, but only asserted. Therefore, example (13a) gives rise to semantic anomaly, but (13b) does not.

(13) a.*Everyone ignored that Joan was completely drunk.
But she was not drunk at all, in fact.
b. Everyone thought that Joan was completely drunk.
But she was not drunk at all, in fact.

From this, we may find that factivity derives from other semantic notions of presupposition and truth of propositions. Furthermore, these notions may be subsumed under the semantic notion of modality as pointed by Lyons (1976:Ch.17). Based on this, now let us move to the Cognitive Grammar analysis of factivity.

Langacker (1991:240-249) assumes that modality, including aforementioned notions such as factivity, presupposition, and truth of proposition, is characterized with an Idealized Cognitive Model (henceforth ICM) concerning our conception of reality, the model of which is labeled the "Basic Epistemic Model". Cognitive Linguistics assumes that meaning is characterized relative to cognitive domains, in particular, to the fundamental domains that are referred to as ICMs. The notion of ICMs is first introduced by Lakoff (1987), and it is supposed as "indicating conceptual archetypes grounded in everyday

experience and fundamental to our conception of the world" (Langacker (1991:13)). The Basic Epistemic Model is diagramed as follows:

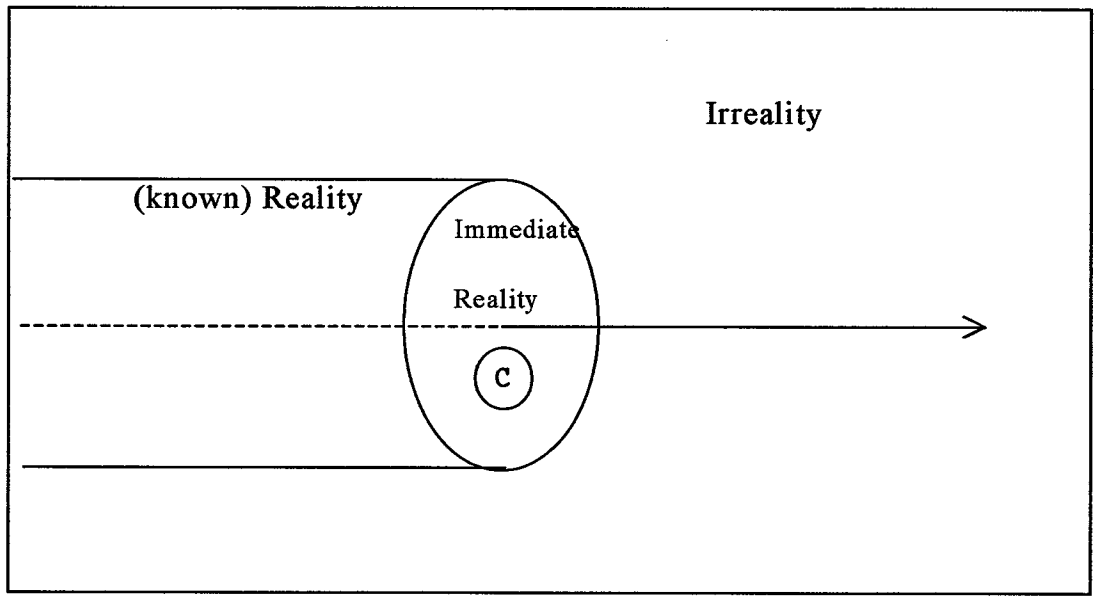


Fig. 1 (Langacker (1991:242))

Figure 1's essential point is that certain situations, or state of affairs, are accepted by a conceptualizer (C) as being real, while others are not. Collectively, the situations considered as factive or presupposed constitute conceptualizer's (known) reality, which is depicted as the cylinder. On the other hand, non-factive or un-presupposed situations are considered as belonging to irreality, outside the cylinder.

In addition, this model assumes that reality is neither

simple nor static, but an ever-lasting entity whose evolution continuously augments the complexity of the structure already defined by its previous history; the cylinder depicting it should thus be considered as "growing" along the axis indicated by the arrow, which corresponds to the progress of time. The leading edge of this expanding structure is termed immediate reality.[6] From this vantage point, conceptualizer views things or events, and he has direct perceptual access only to the portions of this region.[7]

As typical grammatical means, in English, tense and modal auxiliaries serve as locating events either in reality or irreality, (though Kiparsky and Kiparsky's case study discusses this problem in terms of the relationship between predicates and the complements). Langacker (1991, 1999) regards tense as a morpheme for situating processes in the reality domain of the knowledge (i.e. factive knowledge), whereas modals are employed for locating them in the domain of the conceptualizer's unreal or future knowledge (i.e. non-factive knowledge). Thus, he thinks of tense and modality as complementary distributed with regard to reality.[8]

Let us consider how each tense and modal function as epistemically locating processes in terms of the Basic Epistemic Model.

(14) a. Alex asked me for a date tonight.

b. Catherine saw him in her Latin class on the day the term began.

(15) a. "John is running over there!"

b. We are very sorry, but you are not our type.

(16) a. "I'll tell you about it tonight."

b. I must be wrong. Maybe, he's been promoted.

In examples (14) and (15), the past and present tenses are employed to indicate a factual status of the events. As shown in (14), the past tense is used when the conceptualizer regards the event as been actually realized (i.e. factive in his knowledge). Sentences (15) show that the event is construed not only as real, but it is also regarded as happening or true at the time of speaking (i.e. at the immediate reality). Therefore the present tense is used to indicate the semantic facets of (15). On the other hand, as in (16), modal auxiliaries are implemented in the case of the processes that indicate that events are neither actualized nor construed as true propositions by the conceptualizer.

In sum, we have to keep it in mind that not only modals, but also tense is also theoretically assumed as an epistemic category in Cognitive Grammar, both of which are comprehended in the single model. In the discussions that follow, we presuppose this ground.

1.3.2 Force Dynamics

Now let us go on to the semantic notion of force-dynamics. This idea was first introduced as a notion of linguistics by Talmy (1976), and since then, it has been regarded as one of the fundamental semantic notions not only in his own framework, but also in broad range of linguistic literature.[9] Cognitive Grammar (Langacker (1991: 283)) also subsumes the force dynamics in the comprehensive grammatical descriptions, in which the concept is characterized as energetic interactions functioning as an essential sub-component in the idealized cognitive model called the billiard-ball model.

According to Talmy, force dynamics is a fundamental semantic concept that concerns two entities exerting forces. One of these is the focus of attention and is called the Agonist, represented graphicallly with a circle; the other is known as the Antagoist, symbolized by a concave figure.

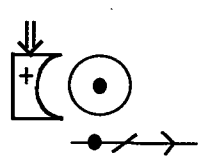


Fig. 2

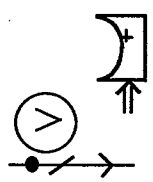


Fig. 3

The Agonist may tend either toward rest, in which case it is marked with a dot, or else toward action, in which case

an arrowhead replaces the dot. At issue is the question of whether the Agonist is able to manifest its force tendency or else is overcome by the resistance of the Antagonist. Two factors decide whether the Agonist or Antagonist prevails; one entity may be stronger and will consequently be marked with a plus, or else the Antagonist, even though stronger, may elect not to bring its resistant force to bear on the Agonist, in which case it is drawn in such a way as not to block the Agonist's horizontal path. Force-dynamic graphs also include a time line to convey the result of the interaction on the Agonist; sequentially is indicated with slashes, so, for instance, a dot followed by a slash and then an arrowhead indicates that the Agonist moves from a state of rest to one of action.

Let us consider how force dynamics may be applied to linguistic structures. One of the most typical linguistic encodings of force-dynamic relations involves causative constructions, such as those based on the verbs make and let, exemplified in (17):

(17) a. The ball's hitting it made the lamp topple from the table.

b. The plug's coming loose let the water flow from the tank.

(Talmy (1985:300))

In both sentences, the subject is Antagonist, and the object Agonist, but two different force-dynamic relations are invoked; (17a) is represented by Figure 2, wherein an Antagonist compels action by exerting a superior force on a resting Agonist, and (17b) may be modeled by Figure 3, in which a stronger Antagonist fails to obstruct an active Agonist.

This notion of force dynamics is incorporated as one of the fundamental semantic-grammatical notions in Cognitive Grammar. Langacker (1991, 1999) re-characterizes the force-dynamic relation as energetic interaction in the theory, and regards it as being captured with regard to the billiard-ball model, one of the ICMs (see Langacker (1991:282-283). Thus, he considers the force-dynamic relation is derived through our conception about the world: the conception of physical objects moving around in space and impacting other objects, which undergo some reaction due to the force thereby transmitted.[10]

The event described in (18), for instance, may be characterized as in Figure 4.

(18) Mary cut the sheet with a pair of scissors.

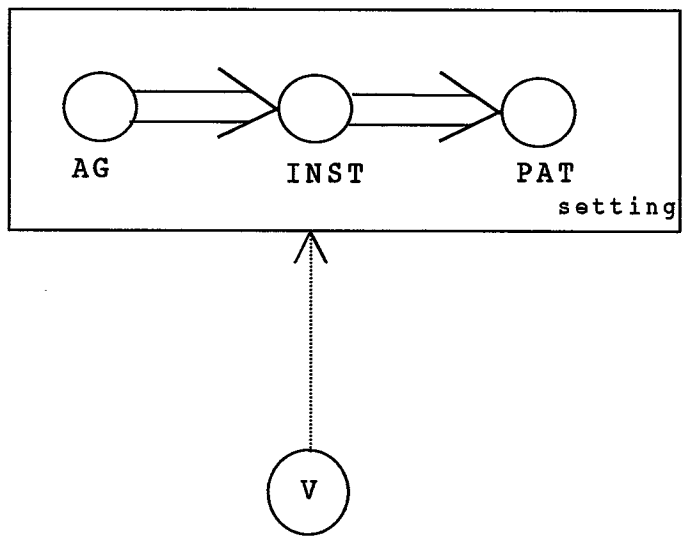


Fig.4: Canonical Event Model (Langacker (1991))
(with certain modifications)

Figure 4 depicts how we prototypically construe the event. (The circles indicate event participants, and V, AG, INST, and PAT attached to them stand for the viewer, the agent, the instrument, and the patient, respectively. The setting indicates the viewer's visual or conceptual scope.) The semantic aspects captured in terms of the billiard-ball model are depicted in the setting: the double arrows between the circles indicate interactions involving the transmissions of energy among the participants; the squiggly arrow in the patient indicates the internal change of the state. Thus, Figure 4 shows that the energy initiated by Mary (the agent) transmits the sheet (the patient)

through the scissors (the instrument) and because of the conveyed energy, the sheet changes the configuration.

1.4 Conclusion

This chapter has outlined the aim, issues, and structure of this dissertation with the general introductions of certain Cognitive Grammar concepts.

We first proclaimed in 1.1 that the aim of this dissertation was taken at clarifying certain form-meaning mismatches related to English modality and tense: the problem of how we can solve seemingly anomalous form-meaning relationships observed in these grammatical areas. It was shown that we would choose the four issues: (i) the problem with the interrelationships among modal meanings; (ii) that with the sequence of tenses phenomenon; (iii) that with the relationship between the connective before and the pluperfect construction; and finally, (iv) that of the perfect construction and the present tense.

The first and the second issues are, especially, to challenge the long-standing problems that have puzzled many English linguists, as shown in 1.2.1 and 1.2.2. The former concerns why the modal can, which bears the sense of ability,

can be grouped together with other modals, and what motivates this distribution. To this problem, we suggested that our concept of relative subjectification would provide a reasonable account, which is intensively discussed in the next chapter. In the latter, the problem lies in the question of why the two different temporal relationships of the "past-past" and "present-past" can both be expressed by the same past tense morpheme. We claimed that our analysis with the newly proposed notion of conflated grounding would be an explanation alternative to the classical and hydra-headed formal rule and to the accounts based on the notions of the relative and absolute tense. This topic is argued in Chapter three.

In the third and fourth issue, we extended our concerns on tense and modality to the cases of how they interact with other grammatical factors, having the benefit of the notion of partial compositionality. We suggested that it is by taking the interaction among the grammatical factors into account that we could shed a new insight to the analyses of the relationship between the temporal connective and tense and that of the perfect construction and the present tense. These issues are discussed in chapter four and five, respectively.

Finally, in 1.3, the two semantic notions of factivity and force dynamics were outlined, and then, it was shown

how they were embraced in Cognitive Grammar. These notions and their applications of Cognitive Grammar would serve as underlying assumptions of the discussions that follow.

Notes

[1] For these two problems, see Langacker (1990:75) and Langacker (1991:176-177)

[2] Palmer (1990:4) provides the following seven syntactic criteria that distinguish the modals from verbs and auxiliary verbs:

(i) Inversion with the subject, which is exemplified in Can you come here?

(ii) Negative form with -n't, which is exemplified in You can't do that!

(iii) Code, which is exemplified in John can swim and so can Mary.

(iv) Emphatic affirmation, which is exemplified in John CAN swim, in fact.

(v) No -s of the third person singular, which is exemplified in *John mays be here.

(vi) No non-finite forms (for instance, *maying,* mayed, *to may)

(vii) No co-occurrence, which is exemplified in *John will can play tennis.

[3] Palmer (1986, 1990) provides a tripartite system to the modal semantics: epistemic, deontic, and the new category of dynamic. The non-modal meanings expressed by the English

modals are bundled under the category of the dynamic modality (See Palmer (1990:83-112)).

[4] Note that the article by Kiparsky and Kiparsky is based on the framework called "Generative Semantics." The theory strongly claimed that the rules of the semantic component should be generative, rather than interpretive (for detail discussion on this point, see Chomsky (1977/1998:148-162) and Harris (1993:101-102)).

[5]The following two lists contain the representative factive and non-factive predicates:

(i) Factive: significant, odd, tragic, exciting, relevant, makes sense, suffices, amuses, bothers, forget, be aware (of), grasp, comprehend, ignore, make clear, deplore, resent, and care (about)

(ii) Non-factive: likely, sure, true, false, seem, appear, happen, chance, turn out, suppose, assert, assume, claim, charge, believe, conclude, intimate, maintain, deem, fancy, and figure

[6] The immediate reality subsumes another important concept of "ground," which is the schematic notions comprising the speech event, its participants, and its immediate circumstances.

[7] Note that the distinction between reality and irreality is neither distinctive nor categorical, but rather shows fuzzy boundary. For instance, the event construed as habitual may be situated around the boundary between reality and irreality. In fact, many languages employ irrealis markers for the habituality (see Givon (1984) for the discussion).

[8] Note that Langacker (1978, 1991, 1999) strongly claims that tense is a realization of epistemic notions. In other words, its function is subsumed under modality. This idea may seem to be peculiar to his theory, but this view is widely shared with other linguists such as Joos (1982:120-126), Wallance (1982:203), and Lyons (1976:819-823); though English grammar, generally, tends to separate tense from modality as independent grammatical notions. The following citation on the relationship between tense and modality from Lyons (1976) is worth mentioning to make this point clear:

> "It might even be argued that what is customarily treated as being primarily an opposition of tense---past vs. non-past---in English and other languages, should be more properly regarded as a particular case of the distinction, remote vs. non-remote ("then" vs. "now" being a particular case of "there" vs.

> "here"). Under this interpretation, tense would be a specific kind of modality; and modality would be more closely related to deixis. What is conventionally described as the present tense would be the product of non-remoteness ("now") and factivity; pastness and futurity would not be defined directly in terms of temporal indices (t0=ti>Tj and t0+ti<tj), but in terms of remoteness ("then") and either factivity or non-factivity, the so-called past tense being the product of remoteness and factivity, and so-called future-tense being product of non-remoteness and non-factivity; and contra-factivity would be the product of remoteness and non-factivity" (pp. 819-820).

[9] Besides Talmy (1976, 1985) and Langacker (1987, 1991), the following leading linguists and theories also employ force dynamics as fundamental semantic notions: Cognitive Semantics by G. Lakoff (1987), Johnson (1987), and Sweetser (1990); Conceptual Semantics by Jackendoff (1993); Cognitive-Functional Typology by Croft (1991).

[10] The billiard-ball model is assumed as follows: "A fundamental cognitive model that conceives the world as being populated by discrete physical objects that move about and interact energetically when they come into contact" (Langacker (1991:545).

CHAPTER 2

Relative Subjectification and a Semantic Network Model of English Modal Auxiliaries

2.1 Introduction

Within Cognitive Grammar, a grammatical category is assumed to display an underlying consistency in terms of correspondences of meaning among the lexical items that it groups together. In this chapter I shall argue that the category of modal auxiliaries is no exception to this general principle. One may observe a systematic

interrelation of meanings based on the independently motivated cognitive-grammatical notion of subjectification (Langacker (1990, 1991)). Moreover, this may be modeled with a semantic network based on prototype theory and categorization with schemas (Langacker (1987, 1990, 1991)). To illustrate the utility of this approach, I shall consider one coherent subgrouping of modal meanings comprising ability, (root) possibility, permission, and obligation; for convenience, I shall coin the term Appo modals from the initials of the foregoing semantic categories in order to describe the words lexicalizing these meanings, i.e. can, may, and must. The analysis will also cover the further modal meanings of epistemic possibility and necessity, which are extended from the former group by further subjectification and lexicalized by may and must.

The approach proposed here offers advantages over various previous analyses. Some frameworks have concentrated on providing core meanings for modals (Ehrman (1966)) or classifying such meanings (Leech (1987); Palmer (1990); Coates (1983, 1995); Declerck (1991)). Talmy (1985) and Sweetser (1990) offer a more ambitious approach that derives modal meanings from more fundamental semantic notions based on force-dynamics. Langacker (1998) provides an account that characterizes the class of modal meanings in terms of the broadly motivated notion of

subjectification. Building upon the last of these studies, we show that the interrelations among the meanings lexicalized by Appo modals may be explained by assuming a semantic configuration assembled from fundamental notions of force-dynamics for the most basic of the modal meanings and then positing extensions using subjectification.

Beyond the synchronic domain, the present analysis provides the theoretical basis for a perspicuous explanation of certain generalizations about the historical development of modals. Ono (1969), Visser (1969), and Warner (1993) all point out that the evolution of the English modals involves shifts of meaning that follow a distinctive, linear pattern. The present analysis provides a theoretical foundation that straightforwardly predicts the foregoing researchers' empirical generalizations. Differences in degrees of subjectification among the meanings of Appo modals provide the basis for a semantic cline, segments of which are associated with each of the relevant auxiliary verbs; historical changes among these modals take the form of promotion up this cline in conjunction with the recruitment of new verbs to fill in any slots left vacant.

This study assumes the following structure. Section 2 reviews previous studies of modals, pointing out certain problems that they encounter. In section 3, the

cognitive-grammatical notion of subjectification is explained, and then we overview Langacker's (1990, 1991, 1998) application of this concept to English modals, isolating certain points to be further expanded in this study. With this fundamental cognitive notion, section 4 discusses modal meanings and their interrelationships in their synchronic aspect, while section 5 considers some issues in the historical development of the English modal system. Finally, section 6 provides some concluding remarks.

2.2 Problems with Previous Studies

2.2.1 Modal Meanings as Primitives

One thread of research on modals assumes that their meanings are basic, i.e. not derived from any more fundamental semantic notions. Linguists who have followed this course have consequently concentrated on finding illuminating classifications of the various meanings that each modal expresses. Coates (1983) offers an insightful division of the studies that pursue this line of thinking, categorizing them as either monosemous or polysemous approaches. we shall assume the same grouping below.

2.2.1.1 The Monosemous Approach

The monosemous approach seeks to identify each modal with a core meaning that subsumes all of its various senses. For instance, Ehrman, the researcher most closely affiliated with this type of analysis, asserts that the core meaning of can is "[t]here is no obstruction to the action for the lexical verb of which can is auxiliary" (1966:12). However, she has difficulty assigning a core meaning to may, which exhibits senses of permission and epistemic possibility illustrated in (1).

(1) a. Yes, you may go swimming, but be home by four.

b. I may see you at the party later.

Ehrman is forced to resort to a convoluted core meaning, concluding "[i]nstead of having a unitary meaning, may is defined in terms of a continuum characterized by two dimensions of meaning" (1966:22).[1] Thus, the goal of a unitary meaning for each modal seems unrealizable.

2.2.1.2 The Polysemous Approach

The difficulties encountered by Ehrman led subsequent researchers to assume that a single modal may express two interrelated meanings; this gave rise to the polysemous approach. Palmer (1990), Leech (1987), Coates (1983) and Declerck (1991) all offer polysemous theories, which distinguish root and epistemic meanings.[2] This terminology was introduced by Hofmann (1966) and popularized in the linguistic literature by Ross (1969).[3] The difference is usually defined as follows:

> [Root modality] is concerned with the occurrence of situations (action, events, states, process) rather than with the truth of propositions. It is the expression of such notions as obligation, permission, ability, nonepistemic (im)possibility, nonepistemic necessity, volition, willingness, etc. (Declerck (1991:351-352))

> Epistemic modality is concerned with the speaker's assumptions or assessment of possibilities; in most cases it indicates the speaker's confidence or lack of confidence in the truth of the proposition expressed. (Coates (1995:55))

The foregoing distinction is illustrated in the following

examples:

(2) a. Tom can speak four languages.

b. You may have a cookie after dinner.

c. I must leave at seven today.

(3) a. He may have missed the train.

b. You must feel tired after your long walk.

Sentences (2a-c) display the root meanings of ability, permission, and obligation, while (3a,b) exemplify epistemic possibility and necessity, respectively.

This approach exhibits three problems. Firstly, it treats modal meanings as unanalyzable semantic atoms, ignoring the very interesting possibility of reducing these meanings to more fundamental notions. Secondly, while this approach recognizes certain relationships among these semantic atoms, such observations are limited to pairings of root and epistemic meanings associated with a common lexical item. This fails to capture the intuitively recognizable interrelations that exist even among modal meanings that are realized by distinct lexical items. Finally, even the treatment of the distinction between root and epistemic modalities is superficial and classificatory. Given the foregoing definitions, it is very difficult to see how root and epistemic meanings are interrelated; given the lack of any characterization of the consistent

differences that distinguish the two semantic domains, this approach appears to advocate something closer to homonymy than to polysemy.[4]

2.2.2 Deriving Modal Meanings

Next let us turn to theories that derive modal meanings from more primitive notions. Talmy argues that modal meanings should be treated in terms of the independent semantic notion of force-dynamics, which concerns the relations of exertion and resistance. Moreover, Sweetser develops Talmy's original insight and suggests that epistemic meanings should be considered as metaphorically extended from root meanings.

Talmy views force dynamics as a basic semantic concept concerning two entities exerting forces. One entity is the focus of attention and is called the Agonist; the other is known as the Antagonist. At issue is the question of whether the Agonist is able to manifest its force tendency or else is overcome by the resistance of the Antagonist. Two factors decide whether the Agonist or Antagonist prevails; one entity may be stronger than the other, or else the Antagonist, even though stronger, may elect not to bring its resistant force to bear on the Agonist.

Transparent linguistic encodings of force-dynamic relations are found in causative constructions, such as those based on the verbs make and let:

(4) a. The ball's hitting it made the lamp topple from the table.

b. The plug's coming loose let the water flow from the tank.

(Talmy (1985:300))

In both sentences, the subject is Antagonist, and the object Agonist, but two different force-dynamic relations are invoked. In (4a), the Antagonist compels action by exerting a superior force on the Agonist. In sentence (4b), however, the Antagonist fails to obstruct the force tendency of the Agonist.

According to Talmy, must codes roughly the same force-dynamic pattern that underlies make, while may lexicalizes the pattern found in let. With the modals, though, the subject is Agonist, and the Antagonist goes unexpressed:

(5) a. You must come here.

b. You may go there.

Significantly, there is no explicit relation between the force-dynamic patterns presumed to underlie the various

modals. Thus, in allocating discrete force-dynamic representations to each modal verb, Talmy's theory fails to articulate the interrelations that exist among the various modal meanings.

Sweetser (1990:Ch.3) adopts Talmy's original insight that modals may be analyzed in terms of force-dynamics and goes on to apply the concept of a metaphorical mapping (Lakoff and Johnson (1980) and G. Lakoff (1987)) to model the polysemous structure underlying the relation between the root and epistemic senses of modals. Sweetser's basic proposal is that when the force-dynamic values (the image-schematic structures in her terms) observed in the domain of social interaction are mapped onto the domain of reasoning/inference, an epistemic reading such as possibility or necessity is produced. The sentences in (6a) and (7a) map their force-dynamic patterns onto the domain of social interaction and therefore express root meanings, while the examples in (6b) and (7b) apply the same force-dynamic relations to the domain of reasoning, thereby yielding epistemic meanings.

(6) a. You must come home by ten.

'The direct force (of Mom's authority) compels you to come home by ten.'

b. You must have been home last night.

'The available (direct) evidence compels me to the conclusion that you were home.'

(7) a. John may go.

'John is not barred by (my or some other) authority from going.'

b. John may be there.

'I am not barred by my premises from the conclusion that he is there.'

(Sweetser (1990:61))

Sweetser also claims that her theory can apply to the diachronic development of the modals. She proposes that the root meanings of modals are historically prior, and that the corresponding epistemic meanings arose through application of the metaphorical mapping. However, this analysis focuses exclusively on the development of epistemic modal meanings, ignoring the historical evolution taking place in the lexical codings of the root senses. For example, Ono (1969) and Visser (1969) observe that may developed its present-day sense of permission as an extension of an earlier meaning of ability. However, Sweetser's analysis of ability, lexicalized in Modern English by can, relies on the make-type force-dynamic pattern, as suggested by the paraphrase in (8).

(8) I can lift fifty pounds.

'Some potency enables me [i.e. makes me able] to lift fifty pounds.'

(Sweetser (1990:61))

Thus, it is hard to see how may could go from a sense of ability based on the make-type force-dynamic pattern to a meaning of permission rooted in the distinct, let-type pattern. Consequently, Sweetser's theory fails to explain half of the historical development of the modal verbs, i.e. all of the facts concerning changes within the root domain.

The above problems encountered by the proposals of Talmy (1985) and Sweetser (1990) make it clear that some mechanism is needed to give a proper account both of the synchronic relationship that holds among root modals and of the diachronic development of these forms.

2.3 Subjectification and English Modals in Cognitive Grammar

2.3.1 Subjectification

Langacker (1991:215) defines subjectification as "a semantic shift or extension in which an entity originally

construed objectively comes to receive a more subjective construal". An entity is construed objectively when it functions as the 'content' or object of conception. In contrast, an entity is construed subjectively when it is related to semantic aspects of how a conceptualizer captures or apprehends the object of conception.[5] Significantly, the subjective component of construal tends to be obscured by the conceptualization of objective content (Langacker (1991:215, 1998:71-72)).

The nature of subjectification is illustrated in Fig. 1, where the left and right sides depict construals before and after subjectification, respectively.

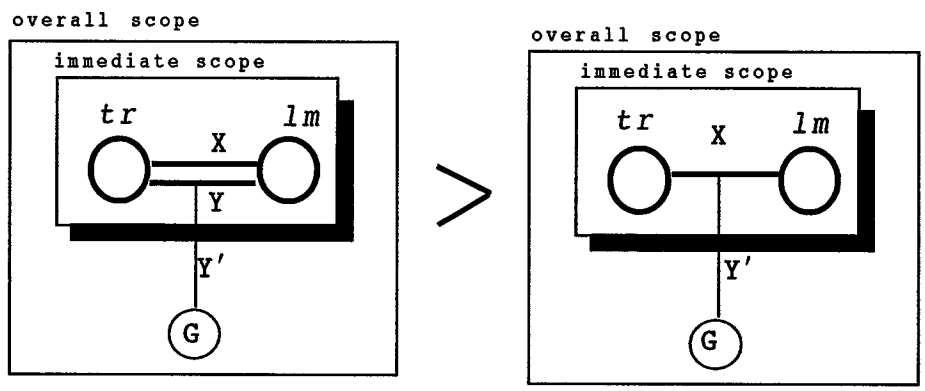


Figure 1 (Langacker (1998:76))

Each circle represents a participant. The abbreviations tr and lm stand for the trajector (the most prominent participant in the construed situation) and the landmark (the second most prominent participant), respectively. G

represents the ground, which is a complex concept subsuming several implicit elements of meaning which usually go uncoded in the utterance, including "the speech event, its participants, and immediate circumstances (such as the time and place of speaking)" (Langacker (1990:318)). An entity is grounded if it "bears some relationship to the ground in regard to such fundamental issues as reality, existence, and speaker/hearer knowledge" (1990:321). Lines express relations, which are differentiated according to orientation; the horizontal axis is for objective relations among participants in the described process, and the vertical axis is for so-called grounding relations that hold between the process and the components of the ground G. Let X, Y, and Y′ be semantic properties inherent in the construed process. Prior to subjectification, X and Y are construed objectively, and Y′ subjectively; moreover, Y′ is largely obscured by the presence of the objective element Y. However, after subjectification, Y disappears due to bleaching, and Y′ becomes apparent "when Y is no longer present to provide it with an objective basis" (Langacker (1998:75)).

Although Fig. 1 contrasts the extreme initial and final stages of subjectification, the process is in fact gradual. Thus, in subjectification, "[a]n objective relationship fades away, leaving behind a subjective relationship that

was originally immanent in it (i.e. inherent in its conceptualization)" (Langacker (1998:75)). This gradual process of attenuation progressively reveals 'hidden' subjective meanings through grammaticization.

2.3.2 English Modals

Langacker (1998) analyzes the gramaticization of the English modals as subjectification. These forms are historically derived from main verbs with meanings like 'know', 'want' or 'desire'. Such verbs have two crucial properties, both of which are retained in the grammaticized modals; they are force-dynamic in the above-described sense of Talmy (1985) and Sweetser (1990), and the target of the force, the complement process, remains potential rather than being actual. Since the force-dynamics involved in modals is potential, it will be called potency in the following discussion. Langacker claims that present-day modals are derived through a decrease in the specificity, i.e. objectivity, of potency.

The process of subjectification may be explained with the following two figures.

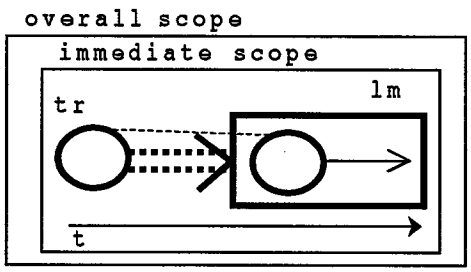


Figure 2

(Langacker (1998:83))

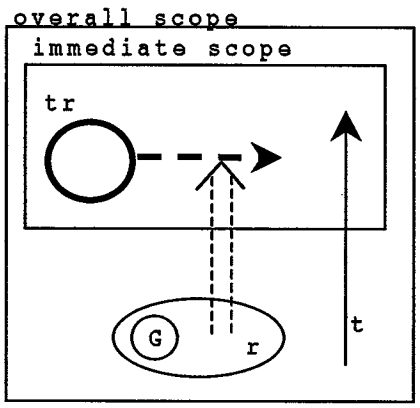


Figure 3

(Langacker (1998:84))

Fig. 2 depicts the presubjectification stage characteristic of the main-verb precursors of modal verbs and still visible in the semantic structure of present-day want, as in (9).

(9) Kelly wants to go to the dance tonight.

Potency is situated in the trajector, i.e. Kelly, and is oriented toward the landmark, i.e. the complement clause encoding the target event. The dashed double arrow in Fig. 2 indicates that the target event is potential, and the dotted line shows that the same individual functions as trajector of both the main verb and complement. Since the

potency to cause the target event emanates from the trajector, it is construed objectively. Fig. 3 illustrates the postsubjectification state of grammaticized modals, exemplified in (10).

(10)You must do your homework—your teacher demands it. (Langacker (1998:84))

Note that potency is associated not with the trajector, <u>you</u>, but with someone outside of the clause, subsequently identified as <u>your teacher</u>. Langacker observes, "No longer onstage, the source of potency is identified with either the ground itself or some facet of the ground's immediate circumstances, namely current reality (r) as assessed by the speaker" (1998:83). Since potency emanates from the ground, as indicated by the dashed double arrow in Fig. 3, it is regarded as subjectified.

To explain the distinction between root and epistemic senses, Langacker claims that the former "imply at least some localization of either the source or the target of potency" (1998:85), while the latter do not, as suggested the following sentences.

(11) You may have a cookie after dinner. (Mother said to her son.)

(12) This may turn out to be the comet of the century.

In (11), which conveys the root sense of permission, potency is localized in an individual in the ground, identified as Mother. On the other hand, in (12), which expresses likelihood, there is no indication who or what authority exerts potency to cause the associated process. Langacker (1990:336) claims that this epistemic sense is derived through further subjectification of the root meaning, since the shift from a specific to non-specific localization of potency may be regarded as further attenuating objective meaning.[6] Therefore, epistemic modals are regarded as the endpoint of the process of subjectification, because the source of potency is not specified even implicitly, unlike the case of root senses. Langacker (1991:275 ff.) supposes that when potency is fully subjectified, what remains in the subjective axis is the evolutionary momentum of reality itself, as assessed by the speaker; this is an aspect of how reality including the ground reaches the process itself.[7] He claims that this amounts to saying that "a conceptualizer carries a mental extrapolation of ongoing reality, projecting into the future" (Langacker (1998:85)). It is in this way that interpretations of 'likelihood' like epistemic possibility or necessity are derived. Moreover he supposes that this aspect of subjective meaning is present even in the main-verb stage, though it is obscured by the objective meaning.

Langacker's suggestive and insightful analysis of the English modals provides a foundation that I shall adopt in the following discussion. However, I shall expand upon this treatment in at least two points.

Firstly, the various modal senses are collectively modeled by a single (super-)schema, seen in Fig. 3. While this is a useful abstraction at a certain level, it does not explain the differences among the various modal meanings. To distinguish modal senses, Langacker relies on basically the same force-dynamic distinctions advanced by Talmy (1985) and Sweetser (1990). For instance, Langacker (1998:82ff) observes that may expresses potency in the form of a potential barrier or resistance, while must indicates potency in the form of a force that promotes the target event. Even if the force-dynamic characterization provides certain insights, it nonetheless is conceptually different from the mechanism illustrated in Fig. 3, with which Langacker defines the class of modals. In the next section, I shall show how each of the senses associated with the Appo modals may be individually modeled with a schema of its own, based on relative subjectification. Consequently, the characterization of the class of modals and the description of the members of that class share the same conceptual basis.

Additionally, Langacker's analysis fails to capture the internal relations that hold among the various modals. Of

course, Fig. 3 provides a characterization of the class of modals as a whole, but the force-dynamic description of the individual members of this class fosters a view of modal senses as being discrete and independent. I shall show below that an extension of Langacker's leading idea of viewing subjectification as the defining notion underlying the class of modals can lead to a characterization not only of the class as a whole but also of its internal organization. It will be shown that the subcategory of Appo modals forms a cline based on degrees of subjectification. Moreover, this idea will be supported by an examination of attested patterns in the historical development of these verbs.

2.3.3 The Semantic Network Model

While subjectification plays a crucial role in describing modal meanings, this analysis further requires the notion of a semantic network (Langacker (1987, 1990, 1991)) to explain how modal meanings are interrelated to form a category. This will allow us to explain modal semantics in terms of a higher ordered mechanism than the ad hoc classifications of modal semantics observed in previous work.

In the semantic network model, members in a category are linked by various sorts of categorizing relationships. One such relationship is extension from a prototype, and another concerns schematization.[8] To understand how the two concepts work in the model, consider the following diagram.

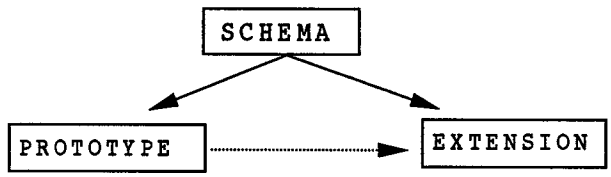


Figure 4
(Langacker (1990:271))

A prototypical value is extended to another value on the basis of some perceived similarity (dashed arrow), and then an overarching schema is extracted that covers both the prototypical and extended conceptions (solid arrows). This model may be exemplified with the semantic network for the lexical item dog (Langacker (1990:119)). Suppose that an individual takes a beagle as his or her conception of a prototypical dog and that this concept is established as [DOG]. When confronted with a dachshund, this individual will extend the original concept to dachshunds and will create a higher-order schema [DOG'], which reflects the shared characteristics of beagles and dachshunds.

Since English modals form a (grammatical) category, the

members of this category should show interrelationships of the sort predicted by the network model described above. In the case of the subcategory of the Appo modals, the focus of this paper, the type of extension to be employed will be that of subjectification. Recall, however, that I claim that subjectification should be regarded as a gradient phenomenon. The semantic network model provides a means of modeling this gradience by allowing the extension process to apply recursively to extracted schemas, yielding still higher-order schemas. For instance, if we call the prototype of modal meanings [Appo-1], subjectification will extend [Appo-1] to some value, which we may call [Ex-1] for convenience, and a schema, say [Appo-2] will result; then a further round of subjectification may extend [Appo-2] to yet another value, [Ex-2], and from [Appo-2] and [Ex-2] the still higher-order schema [Appo-3] may be extracted. Successive rounds of subjectification will of course yield even higher-order schematizations. This procedure defines an implicit ordering among modal meanings based on relative subjectification; the value [Ex-1] will be more subjectified than the prototype, and [Ex-2] will in turn be more subjectified than [Ex-1], etc. These notions will be employed in the discussion of the network of the Appo modals in 4.2.

2.4 Relative Subjectification, Extension, and the Relationship between Root and Epistemic Senses

2.4.1 Relative Subjectification among the Root Meanings of Appo Modals

Here, I shall describe the root meanings coded by the verbs can, may, and must, using the notion of relative subjectification. I treat epistemic meanings separately in section 4.3. I shall consider four root meanings, ability, root possibility, permission, and obligation; the first two are coded by can, the third is expressed with either can or may, and the last is lexicalized by must.

In the analysis of modal meanings, the degree of subjectification depends on the entity that controls the process described in the utterance. Here, I assume a basically force-dynamic decomposition of modal meanings; there is an Agonist, which is coded as the subject, as well as an Antagonist, which receives no explicit linguistic coding but is included in the ground, i.e. among the elements of the interpretation that are tacitly conceptualized by the speaker. In the least subjectified modal meanings, it will be the subject or Agonist that bears the heaviest responsibility for bringing about the profiled process. Conversely, the most subjectified meanings imply that control of the process is in the hands of the unexpressed Antagonist associated with the ground. It will be seen that

the differing degrees of subjectification exhibited by the various modal meanings give rise to a linear scale.

As a starting point, I suppose that among the root meanings, ability and obligation come at the extremes in the scale of subjectification, and the other meanings occupy the interval between them. Let us begin by considering representative examples of ability and obligation.

(13)You can play tennis.

(14)You must go to Paris right now.

Notice that in (13) the subject <u>you</u> has the potency to play tennis; on the ability reading, there is little implication that any other agency is responsible for causing the process of playing tennis to come about. Thus, the ability sense exhibits barely subjectified potency, since the control to cause the relevant process rests with the subject. On the other hand, in (14), the sentence displays a strong implication that the subject is forced by an unexpressed agency to cause the relevant process, regardless of his/her will. Since the agency responsible for the described process is not linguistically coded, though it is recognized by the speaker, one must assume that it is contained within the ground. Thus, the meaning of obligation seen in (14) is highly subjectified.

The distinctive characteristics of ability and

obligation are diagrammed in Fig. 5 and Fig. 6, respectively.

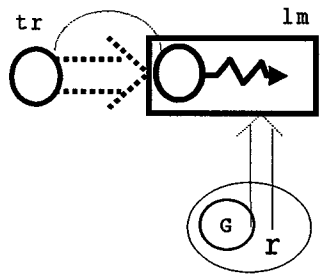


Figure 5

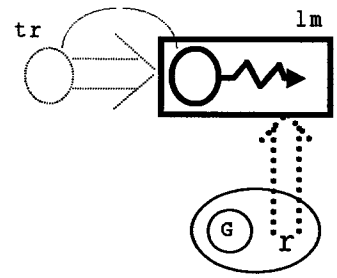


Figure 6

In Fig. 5, the force from the trajector is prominent and is depicted with bold lines. In contrast, in Fig. 6, the force from the ground is more salient, showing strong subjectification.[9]

Fig. 5 and Fig. 6 make it clear why <u>can</u> and <u>must</u> express different meanings, although they are both derived from the same force-dynamic concept of force. The difference between ability and obligation comes from the locus of potency; the force emanates from the trajector in the former, and from the ground in the latter. As observed in the last section, Langacker (1998) supposes that even when the objective meaning provides the concept of force with an objective basis, the subjective meaning is inherent in it. Therefore, it naturally follows that both <u>can</u> and <u>must</u> take the same semantic configuration.

Consider now an intermediate case, the sense of permission lexicalized by <u>may</u>. Let us observe example (15).

(15) Deliveries only. Patrons may use parking spaces in the basement.

The meaning of permission in (15) is intermediate between those of ability and obligation discussed above. Just as in the case of ability, the subject determines by his or her own will whether or not to initiate the process described in the complement, but at the same time, there is another source of agency, the ground, just as in the case of obligation. Without the force from the ground the event would not happen.

The meaning of permission is diagrammed in Fig. 7.

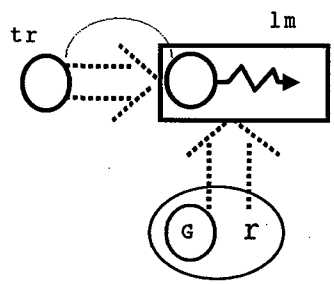


Figure 7

The point of this configuration is that the event is caused by two forces; one from the ground and the other from the subject. Both sources of force are represented as prominent,

although the force from the ground is superior to that from the subject. The cooperation of these two sources is the principal feature of the permission sense in this intermediate degree of subjectification.

Note that our analysis of permission shows a certain departure from Talmy's treatment based on force-dynamics. As observed in 2.2, Talmy considers that permission expresses a "potential" barrier; moreover, that barrier is actually realized when the speaker prevents the subject from causing an event, as in the following sentence.

(16)Students may not smoke in this lecture theatre.

Thus, one might suppose that the sense of permission contains an inherent negation, meaning something like 'non-exertion of a barrier'. On the other hand, in Fig. 7, permission is captured by appealing to the relative strengths of the objective and subjective forces, and no reference to an inherent negation is required. Our analysis is particularly appropriate for explaining the fact that not in (15) modifies may rather than eat. This fact indicates that the semantic function of may is negated. In our analysis, this semantic property is easily characterized as follows: negation of root modals means that the subjective force is not exerted from the ground. Thereby, the event in the landmark process will not be realized, since

the objective force from the trajector is insufficient to cause the event. Therefore, the trajector cannot initiate the process in the landmark.

Having sketched both ends and an intermediate point in the scale, we now turn to a more subtle degree of subjectification. The following examples show that can actually occupies a nontrivial range in the scale.

(17)A: Oh, I can't do anything!

B: That's not true. You can play tennis.

(18)A: What is there to do at this hotel?

B: You can play tennis.

(19) Go ahead. You can play tennis, if you wish.

Sentence (17) is an example of the ability reading, already discussed above; in contrast, (18) displays what Declerck (1991) calls root possibility, and (19) conveys a type of permission slightly different from that observed with may. The latter two senses of can may also be differentiated from the modal meanings considered above on the basis of relative subjectification.

Let us start with the permission sense of can in (19). To see how it differs from the permission sense of may, compare the following sentences.

(20) a. "You can stay here as long as you like," said John

to his guest.

b. "You may stay here as long as you like," said John to his guest.

In the situation described in (20), the use of *can* sounds more polite than that of *may*. R. Lakoff (1972) suggests that this is due to the fact that *can* allows the speaker to avoid imposing his/her authority by giving the hearer the option of exerting his/her will. In other words, the difference between permission expressed with *can* and that coded by *may* appears to stem from the fact that the former attributes more control over the described process to the subject. It therefore follows that the type of permission conveyed by *can* is less subjectified than that found in *may*. Consequently, I shall use the term *objective permission* for the variety associated with *can*, while the type seen in connection with *may* shall be called *subjective permission*.

Let us turn to the sense of root possibility illustrated in (18) above. To determine how this relates to other modal meanings in terms of subjectification, consider the following sentences.

(21) a. Smoking can cause lung cancer, bronchitis, and other chest diseases. (Kashino (1993:343))

b. Even expert drivers can make mistakes. (Leech (1987:73))

This sense, I contend, is intermediate between ability and objective permission in the subjectification scale. First, note that there is no implication that an uncoded agency influences the profiled process; e.g. smoking inherently causes cancer and does not depend on any external entity's intervention to do so. This fact certainly makes root possibility less subjectified than even objective permission, since the latter but not the former involves an agency associated with the ground. While root possibility does not involve any agency whose exertions help to bring about the profiled process, I nonetheless follow Bybee et al. (1994) in assuming that root possibility depends on something beyond the potency of the subject, "since the enabling conditions for an agent to perform an act do not lie entirely in the agent, but also depend on the external world" (p. 192). Thus, smoking's propensity for causing cancer stems from biochemical and physiological reactions that naturally occur in a smoker's body, and while the speaker often does not know about the details of the condition, he or she at least presumes the existence of some causal link embedded within the workings of the physical world. The meaning of ability does not invoke this kind of background assumption. This world knowledge, be it ever so vague, is of course associated with the ground, and the greater influence of the ground makes root possibility more

subjectified than ability. Consequently, one may conclude that root possibility lies between ability and objective permission in the scale of subjectification.

In sum, the foregoing discussion has established a cline of root modal meanings based on relative subjectification.[9] The least subjectified sense is that of ability, which is followed by root possibility. Next comes objective permission, expressed with <u>can</u>, and then the subjective variety, coded by <u>may</u>. Finally the most subjectified of the root modal meanings is obligation. By describing the semantic differences among the various Appo modal meanings in terms of relative subjectification, this analysis succeeds in deriving the various senses from more basic semantic notions. Thus the present proposal provides a theoretically more interesting explanation of the workings of modals than do the theories discussed in 2.1, which treat notions like ability, root possibility, permission, and obligation as semantic primitives. Moreover, this analysis has an advantage over Sweetser's (1990) treatment of modals, in that while she offers a proposal for distinguishing root and epistemic meanings, she ignores the interrelationships among root meanings that I have explained with the aid of relative subjectification.

2.4.2 Relative Subjectification as Semantic Extension of Appo Modals

Let us now consider how Appo modals are interrelated by employing the semantic network model introduced in 3.3. To apply this model, one must first select a prototype from among the modal meanings. The prototype should be the most objective meaning, so the obvious choice is the sense of ability, which I shall call Appo-1.[10] To the prototype is applied a semantic extension, which in this case shall take the form of subjectification.[11] Thus, the prototype sense of ability shall be extended by subjectification to the sense of root possibility, and from these two a schema is extracted, which I shall call Appo-2. This schema is subject to further extension by subjectification to the sense of objective permission, allowing extraction of a more abstract schema, Appo-3. This same process of extension and schema extraction continues, extending Appo-3 to the sense of subjective permission, whence the schema Appo-4 is extracted, and finally extending Appo-4 to the sense of obligation and giving rise to the most abstract in the series of schemas, Appo-5, i.e. the super-schema for this subcategory of modal auxiliaries. This process is illustrated in Fig. 8.

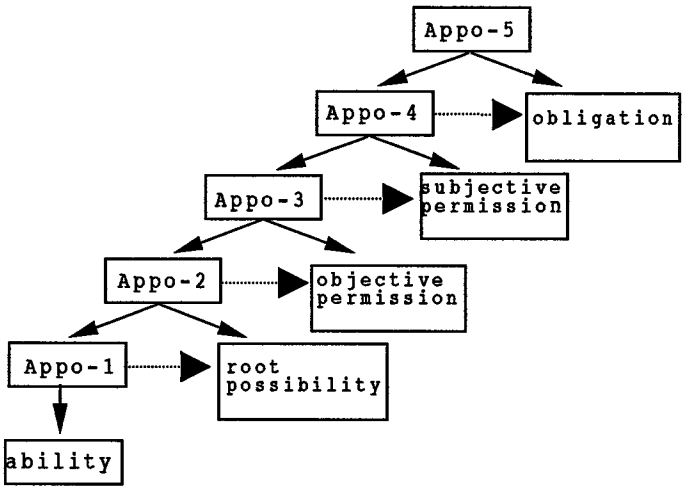


Figure 8

The foregoing application of the semantic network model achieves the goal of providing an explicit account of how the various meanings underlying the Appo modals are related to each other.

The model in Fig. 8 also establishes a grammatical model for the cline of subjectification discussed in 4.1, and this in turn provides a motivated account of the lexicalization of the Appo modals. The lexical item <u>can</u> covers ability, root possibility, and objective permission, while <u>may</u> codes subjective permission, and <u>must</u> lexicalizes obligation. Notice that the three senses coded by <u>can</u> form an uninterrupted sequence within the cline of subjectification. This suggests a hypothesis: lexicalization partitions

meanings into congruent classes according to the hierarchy of subjectification. For the present purpose, a class defined by lexicalization is the set of meanings coded by a single word; thus, the present-day English modals give rise to three classes, {ability, root possibility, objective permission}, {subjective permission}, and {obligation}, induced by <u>can</u>, <u>may</u>, and <u>must</u>, respectively. A class is congruent precisely when for all meanings X, Y and Z, if X and Z belong to the same class, and Y is intermediate in subjectification between X and Z, then Y also belongs to that same class. According to this hypothesis, it would be impossible to have a situation in which, for instance, <u>can</u> lexicalizes ability and objective permission, while the intermediate sense of root possibility is coded by some other verb. To test this hypothesis, and to determine if it has predictive power, it will be necessary to consider various stages in the historical development of the English modals; consequently, the continuation of this discussion will be postponed until the diachronic analysis in section 5.

2.4.3 On the relationship between Root and Epistemic Meanings

I shall end the synchronic analysis of Appo modals by considering how the root meanings discussed above are related to epistemic senses. I shall concentrate initially on *may* and *must*, which allow both root and epistemic readings, as illustrated by (22) and (23).

(22) a. Yes, you may go swimming, but be home by four.

b. I may see you at the party.

(23) a. You must finish this before dinner.

b. Apaches speak differently, so they must think differently.

Note that *may* expresses the root meaning of subjective permission, as in (22a), and the epistemic sense of possibility, illustrated in (22b); in contrast, *must* codes both root obligation, seen in (23a), and epistemic necessity, exemplified by (23b). In addition to *may* and *must*, *can* also demands attention here, since it is often observed that *can* is defective as an epistemic modal. These observations raise at least three significant questions: firstly, what is the nature of the relationship between root and epistemic meanings, secondly, why is it that subjective permission is strictly paired with epistemic possibility and

obligation with necessity, and thirdly why does can generally resist epistemic readings? I shall consider these issues in turn.

As for the relationship between root and epistemic meanings, there is a good deal of evidence from historical linguistics and language acquisition which suggests that the root senses are primary and that the epistemic meanings are derivative (Coates (1983), Sweetser (1990), Traugott (1989)). Thus, the cognitive-linguistic analysis should incorporate this directionality of derivation. On the nature of this derivation, Langacker observes "The historical evolution of modals—leading from main verbs, through root modals of various sorts, to epistemic modals—is revealingly described as a matter of locus of potency becoming progressively less salient and well-defined" (1991:272), as shown in 3.2. As a part of the obscuring of the locus of potency, the subjects of epistemic modals come to have no control over the process described by their complements. Thus, epistemic modals show full transparency, as (24) and (25) show.

(24) a. There may be a problem.

b. There must be a solution.

(25) a. It may be snowing outside; we can't hear any traffic noise.

b. It must be around six o'clock, because I'm so hungry.

To model the subject's lack of control over the process described by the modal's complement, I assume that epistemic modal meanings are created by bleaching away the objective force-dynamic relation that holds between the subject and the described process in the corresponding root senses. Thus, to say John may go swimming implies that John takes on a certain responsibility for bringing about the swimming process, but to say I may see you does not mean that the subject assumes any control over the process of seeing the hearer. The objective relation of control by the subject that is present in the root meaning is absent in the epistemic reading, due to the bleaching effect.

The next issue concerns predicting why semantic bleaching strictly maps subjective permission into epistemic possibility, and obligation into necessity; to put it another way, why is it that may is unable to take on the meaning of necessity and that must is unable to assume the sense of possibility? When semantic bleaching removes the objective relation of control between the subject of the modal and the process described by the modal's complement, only the subjective relation that holds between the ground and the process remains, and it is this grounding relation that holds the key to the problem. The ground

contains the speaker's assumptions about reality, and the grounding relation links the profiled process to this set of beliefs about the conditions that are presumed to obtain in the world. Recall now that the meanings of subjective permission and obligation differ in their respective degrees of subjectification; the former is less subjectified, meaning it has a weaker grounding relation. When semantic bleaching removes the objective relation between the subject and the described process, the subjective grounding relation that remains will possess the same strength that it had in the root meaning. Thus, after bleaching, epistemic <u>may</u> has a weaker grounding relation connecting it to the speaker's assumptions about reality than does epistemic <u>must</u>. The strength of the grounding relation then predicts whether a reading of possibility or necessity arises; a strong grounding relation tightly links the described process to the speaker's beliefs about the real world and thereby yields an assertion of necessity, whereas a weak grounding relation gives rise to a looser bond that implies only possibility.

The last problem I will address here concerns the fact, noted by Coates (1983) and Leech (1987) among others, that <u>can</u> generally lacks an epistemic reading, as suggested by the contrast in (26).

(26) There may/must/*can be a problem with this computer.

Recall that the root modal meanings lexicalized by <u>can</u>, i.e. ability, root possibility, and objective permission, are all less subjectified than the meanings coded with <u>may</u> and <u>must</u>; correspondingly, if the root meanings lexicalizable with <u>can</u> are semantically bleached, the resulting epistemic meanings will consist only of very weak grounding relations. The potency from the ground is regarded as having no "stable value" (Langacker (1998:76)). Thus, human cognition tends to impose certain standards on 'nameworthiness'; concepts that fail to meet a threshold of significance are not eligible for lexicalization. I hypothesize that the epistemic meanings that would result when ability, root possibility and objective permission are bleached fail to rise to the criterion of namewothiness; the weak grounding relations involved are eligible for lexicalization when combined with a relatively strong objective relation involving the subject in root meanings, but they are too insignificant when left on their own after that objective relation has been removed by semantic bleaching.

I next offer one argument that suggests that the foregoing explanation of the unavailability of an epistemic reading for <u>can</u> is on the right track. First, note that there are certain exceptions to this generalization, e.g.

when can occurs with markers of negation; for instance, (27b) is a natural rejoinder to (27a).

(27) a. He may be right.

b. No, he can't be.

Langacker suggests that negation in fact has an epistemic characteristic; he says that tense, modals, and negation all "situate the profiled process with respect to a mental space" (1991:134, n. 12). The mental space in question would be included in the ground, and therefore, negation contributes to the grounding relation. This fits nicely into the above explanation of the general lack of epistemic can. The meanings lexicalized by can generally have grounding relations that are too weak to stand on their own once semantic bleaching has taken place; however, when the grounding relation is made richer by the grounding effect of negation, even can is eligible for usage as an epistemic. In other words, the negation reinforces the grounding relation enough to make it usable even after bleaching.

2.5 Diachronic Evidence from Promotion and Recruitment in Appo Modals

In this section, I shall show that certain well-known facts about the historical development of the Appo modals strongly support the view offered in 4.2 regarding the lexicalization of the modal meanings of ability, root possibility, objective and subjective permission, and obligation. Recall that it was hypothesized that modal verbs can lexicalize only uniterrupted intervals within the cline of modal meanings induced by relative subjectification; for instance, since <u>can</u> codes ability and objective permission, the hypothesis predicts that it is obliged to lexicalize root possibility as well, since this meaning is intermediate in subjectification between the former two senses. In 4.2 it was shown that this hypothesis fits the lexicalization of modal meanings found in Present-Day English; however, synchronic examination does not afford an opportunity to construct a truly convincing argument, since a single stage of the language provides only one lexicalization pattern on which to test the hypothesis under consideration. For that reason I propose to consider four stages in the development of the English modal system; it will be shown that the facts from Old, Middle, Modern, and Present-Day English all conform to the lexicalization hypothesis. The fact that the hypothesis is applicable to modal systems

ranging over a millennium of historical change provides considerable motivation for the present approach.

Moreover, the cline of relative subjectification furnishes a useful vehicle for explaining a distinctive pattern in the development of the English modals. Such researchers as Ono (1969), Visser (1969), and Warner (1993) observe that the modal verbs have undergone a series of semantic shifts that proceed in a chain-like progression through what seems to be a predetermined sequence of modal senses. While the empirical generalization has been known for some time, a theoretical explanation capable of predicting the course of semantic shifts has been lacking. However, the analysis in section 4 fills this gap by positing a cline of modal senses based on relative subjectification that accurately models the course of semantic shifts attested in the development of the English modals.

Let us begin this discussion with summaries of the lexicalization patterns of modal meanings in the various periods to be considered.[81.2] The facts sketched below are based on descriptions by Ono (1969), Visser (1969), Nakao (1972:341-5), Araki and Ukaji (1984:408-27), and Warner (1993:Ch.7).

In the OE period, it was observed that mot, the precursor of must, indicated a broad range of modal meanings, excluding only ability; examples of OE codings for root

possibility or permission, and obligation may be seen in (28) and (29), respectively.[13]

(28) ȝif he us ȝeunnan wile, þæt we hine swa godne gretan mot.

'if he will grant us that we can speak with his gracious self.'

[Beowulf 347: OED, s.v. mote, v[1]]

(29) Londrihtes mot þære mæȝburȝe monna æȝhwylc idel hweorf.

'Each man of your family will have to wander, shorn of landed possessions.'

[Beowulf 2886: OED, s.v. mote, v[1], translation from Ono (1969:77)]

At the OE stage, mæg , the precursor of may, was used to code the meaning of ability, as illustrated in (30).

(30) God eaþe mæg / þone dolsceaðan dæda getwæfan!

'God can easily restrain the wild ravager from his deeds!'

[Beowulf 478: OED, s.v. may, v[1] , translation from Ono (1969:163)]

In the OE period, cann, the historical precursor of can, was not used as a modal auxiliary. If one examines the OE

pattern of lexicalization for modal meanings outlined here, it may be seen that the hypothesis advanced in 4.2 is borne out by the data. Mæg lexicalizes only the meaning of ability, so it satisfies the hypothesis vacuously, and the precursor of must covers all of the other senses, which form a continuous segment in the subjectification cline, as predicted.

During the ME period, the pattern of lexicalization had significantly changed. Mot was used to express permission and obligation, but apparently no longer coded root possibility.[14]

(31) þou most now ga / to paradis þat I com fra.
'You may now go to paradise, whence I came.'
[c1300 Cursor Mundi 1243: Nakao (1972:341)]

(32) Ac ðanne hit is þin wille ðat ic e loc ofrin mote.
'But if it is Thy will that I must offer Thee (a) sacrifice [= loc].'
[c1200 Vices and Virtues 85.5: Warner (1993:175)]

The range of may had also spread considerably during ME, continuing to lexicalize ability, while taking over root possibility and serving along with must to express permission.

(33) Swo muchel muriðe is in þe bureh of heuene, þat eie

ne maiȝ swo muchel biholden.

'such other hardships as the flesh of many can bear'

[1200 Trin. Coll. Hom. 185: OED, s.v. may, v[1], translation from Ono (1969:179)]

(34) Ye mowe, for me, right as yow liketh do

'As far as I am concerned, you may do just as it pleases you'

[c1395 Chaucer, Canterbury Tales IV. 1554: Warner (1993:176)]

Also, ME marks the beginning of the use of can in a limited range of ability meanings close to can's etymological sense of 'know how to'.

(35) Your aun bok yee can noght spell.

[c1300 Cursor Mundi 14692: OED, s.v. can, v[1]]

An examination of (31-35) shows that ME also adheres to the foregoing hypothesis. May lexicalizes an uninterrupted segment of the subjectification cline, as does must; additionally, can satisfies the hypothesis vacuously.

In the ModE period, excluding the twentieth century, the situation with modals closely resembles that of Present-Day English. Can codes ability, and must lexicalizes obligation; the principal difference is that may expresses not only permission but root possibility, as (36) suggests.

(36) This traverse may the poorest take/ without opress of tall.

[Emily Dickinson, There is no frigate like a book: Perrine and Arp (1956:38)]

Here the lexicalization hypothesis is vacuously satisfied by can and must; moreover, may covers a continuous interval in the subjectification cline, as predicted.

The foregoing summaries of the OE, ME, and ModE stages, along with the facts about Present-Day English already presented in section 4, demonstrate that the lexicalization hypothesis holds over all of the periods considered. This is immediately apparent from the visual renderings of the lexicalization patterns provided in Fig.'s 9-12.

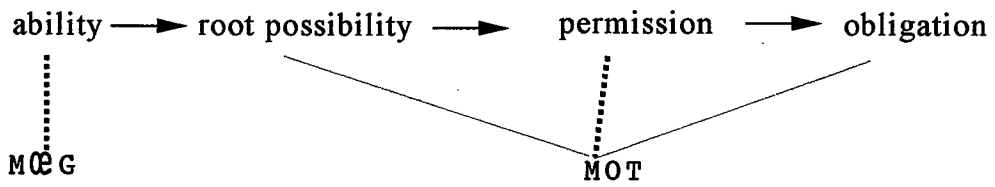


Figure 9 for OE

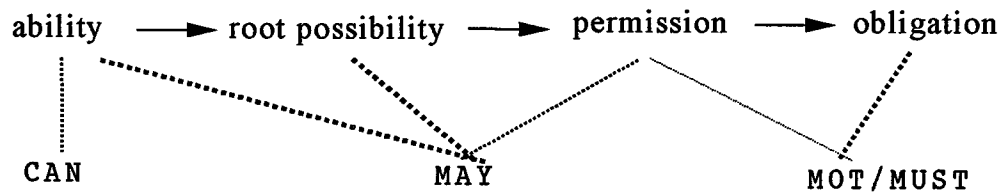


Figure 10 for ME

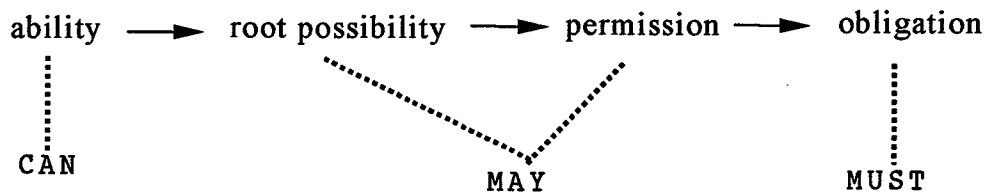


Figure 11 for ModE

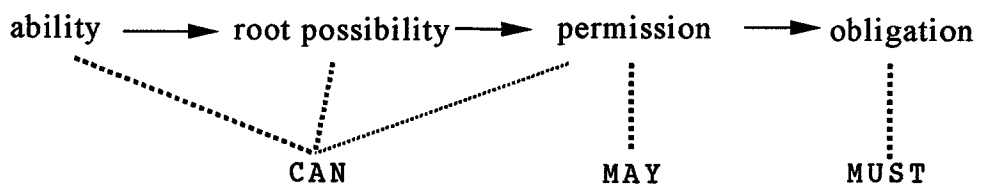


Figure 12 for PE

The bold dotted lines indicate prominent meanings at a given period.

An examination of Fig.'s 9-12 suggests that through the last millennium of development, the modal verbs have been engaged in what might be metaphorically described as a territorial struggle. This tendency was noticed by Ono (1969:188-194) and Visser (1969:§1663); moreover, Warner (1993:Ch.7) presumes that the great development of _may_'s sense in the ME period helped to cause the radical semantic changes of the other two modals. Because of _may_'s shift, _can_ could assume the sense of ability, whereas _must_ lost part of its original meaning. The observations furnished by the present study about relative subjectification among modal meanings provide what I believe to be a useful insight into this territorial dispute, since it has been shown that the domain over which the modals are struggling may be viewed as a linear continuum, i.e. the subjectification cline, and shifts in meaning always take the same form, tending toward greater subjectification.

The situation observed in the historical evolution of the English modals is analogous to the notions of _drag-chains_ and _push-chains_ introduced in historical phonology by Martinet (1952:11). The concept of a 'chain' assumed here refers to a notional continuum with regard to place of articulation among vowels; this runs from /i/ through

/a/ and finishes with /u/. Martinet notices that a shift in the position of one vowel along this continuum usually entails a corresponding reaction among neighboring vowels. When a vowel approaches its neighbor, the latter retreats; when a vowel moves away from its neighbor, the latter follows the former. This phenomenon leads to group movements, exemplified by the "Great Vowel Shift" in the history of English; "in the fifteenth century, all long vowels were raised by one degree (or unit) of tongue height and the high vowels /i:/ and /u:/ were dipthongized" (Byron (1977:82)). The principal difference between vowel shifts and the changes seen in the modal system stems from the fact that vowels constitute discrete points in their continuum, whereas modals lexicalize intervals in the subjectification cline.[15]

Notice how the changes in the lexicalization of modals depicted in Fig.'s 9-12 are consistently unidirectional, tending toward the right, i.e. toward greater subjectification. This pattern may be observed regardless of whether a verb's semantic range in the scale increases or decreases. When a verb comes to cover a greater interval of the cline, its right-hand boundary shifts rightward; when a verb's range decreases, it is due to a rightward shift of its left-hand boundary. Furthermore, when an additional lexical item was added to the system of models starting in

the ME period, the new arrival assumed a position at the far left in Fig. 10, which happens to be associated with the lowest degree of subjectification. To describe these phenomena, I propose to borrow the terms 'promotion' and 'recruitment' from the commercial realm; in a company, as existing employees are promoted up the ranks, new workers are recruited to fill the places left vacant at the bottom of the hierarchy. The fact that the hierarchy underlying the promotion and recruitment effects in the development of modals is defined by the subjectification cline provides compelling evidence in favor of the analysis laid out in section 4.

2.6 Conclusion

Though modal auxiliaries form a formal category, it has been a difficult task to show how the various meanings are interrelated. While looking back to the problems with previous work, we claimed that to clarify the internal characteristics of modals, fundamental cognitive notions such as subjectification and a semantic network model had to be employed. In 2.4.1, it was demonstrated that relative

subjectification could capture the subtle differences in meanings among Appo modals. Moreover, in 2.4.2, it was shown that the interrelationship among root meanings can be clearly comprehended in terms of a semantic network in which subjectification is the basis of semantic extension. Additionally, an analysis of epistemic modals as being derived by bleaching provided solutions to some outstanding problems. Finally, the synchronic analysis of the Appo modals elaborated in section 4 was shown to be applicable to the existing descriptive generalization about their historical development proposed by Ono (1969), Visser (1969) and Warner (1993). In sum, this study has hopefully demonstrated that the notion of relative subjectification provides useful insights into the internal organization of a coherent subpart of the category of modals. The task of extending this approach to the full range of modal auxiliaries will have to await further research.

Notes

[1] Moreover, Ehrman ended up acknowledging defeat with the analysis of should (1966:59).

[2] Palmer classifies the root meaning further into two subcategories: dynamic modality, which expresses ability or willingness, and deontic modality, which indicates permission or obligation.

[3] Ross (1969) first introduced the following semantic distinction between root and epistemic modals: The former is transitive verbs in the deep structure, whereas the latter is intransitive.

[4] Coates (1983) employs fuzzy set theory, proposed by Zedah (1965), and corpus-based data to motivate the relationship between the root and epistemic meanings. However, one of the problems in her collection of the data was the fact that she did so based on presumed categorizations of modal meanings, such as permission or ability. Therefore, her approach can be grouped with what Palmer and Leech have done.

[5] Note that the distinction between subjective and objective construal is not categorical but is rather a matter of

degree.

[6] Langacker (1998) suggests that this distinction is a matter of degree.

[7] This idea is fundamentally characterized with reference to the complex idealized cognitive model called the dynamic evolutionary model, which is grounded on the elaborated epistemic model on human construal of factivity. The two models are defined as follows, respectively.

(i) The elaborated epistemic model: "[t]he basic epistemic model augmented with the understanding that those facets of reality known to the conceptualizer are not exhaustive of the world and its evolutionary history" (Langacker (1991: 547)).

(ii) The dynamic evolutionary model: "A fundamental cognitive model which conceives the world being structured in a particular way, and reality as having a certain evolutionary momentum that constitutes its future development (certain future paths constituting potential reality, and others projected reality)" (Langacker (1991: 547)).

[8] Note that the concept of prototype may be technically characterized in Cognitive Grammar as follows: "[t]hat

unite in a schematic network which is naturally most salient, most often thought of, most likely to be chosen as representative of the category. In a generalized sense, the term is also adopted for the standard in a categorizing relationship based on extension rather than schematicity" (Langacker (1987: 492)).

[9] An anonymous reviewer of English Linguistics points out that the gradual process of subjectification between permission and obligation is not clear. Compare the sentences below.

(i) Subscribers to the library may borrow up to six books at any time.

(ii) "You may leave the room; another student is waiting," the principal said to the student.

In sentence (i), the subscribers have an option not to borrow any books, while in (ii), the subject you has little option but to leave the principal's room. Depending on contexts, the interpretation of may gets close to the sense of obligation.

[10] Note that a prototype functions as the standard for categorization of the target. The former tends to be more salient than the latter. Since the force of ability is observed most objectively among Appo modals, it is regarded

as a (global) prototype of this category.

[11] Furthermore, the following two points will support our analysis that can should be regarded as a prototype of the modal category.

(i) Akatuska (1998: 78) surveys the frequency of modal verbs among two-years-old children, and reports the fact that can shows the highest frequency, which other modals such as may and must are hardly used. To this result, she gives the following comment, "This result makes us consider that may and must play no major role in deontic modality (root modality in our term), contrary to the long tradition of modal logic. (my translation)" The highest frequency of can among modals will be a strong support evidence of our analysis that can should be regarded as a prototype of the modal category.

(ii) Wierzbicka (1996) assumes that CAN is one of the semantic primitive in her theory, while may and must are not. Though the theory employed in our analysis does not accept her primitives, her way of surveying of primitives should support that our conclusion that can is the prototype of the modal category. This is so because she investigates more than one hundred languages, and found that they all have a verb correspondent to English can in their lexicon. On the other hand, many of the languages have no verbs

corresponding to English may and must. Thus, this observation implies that the meaning expressed by can is more easily identified or learned than the other modals. This character leads us to the conclusion that can has a prototypical characteristic in the sense.

[12] Here, I only consider forms that take infinite complements.

[13] The modals cited here are in their present indicative third person singular forms: mot, sceal, mæg, and cann. Note that in this period, sceal (later shall) was mainly employed for obligation (Warner (1993:159-161), Nakao (1972:338-339)). In addition, Must owes its origin to the subjunctive preterit (OE moste) and second person singular present indicative (OE most) of mot. (Warner (1993:174))

[14] In late ME, "mot is replaced by must, mot hardly survive into the sixteenth century except in direct or a literary archaism" (Warner 1993:174-175).

[15] The testimony in this paragraph will help substantiate Taylor's (1989) following assumption for cognitive linguistics: "The structural analogy assumption states that a linguist will expect the same kind of structure to show

up at a different levels of linguistic description" (p. 222). He claims that the fruits of these decades of cognitive semantics should also contribute to the phonological analysis; with the contribution, the cognitive approach currently held in semantics can be full-fledged as a linguistic theory. In addition, Langacker (1987, 1999) assumes that phonemes should also be regarded as conceptual entities, and therefore the same principles as employed in semantic analysis should operate on the realm of phonology. The parallelism between semantic and phonological phenomena observed here partially demonstrates that their assumption is promising.

CHAPTER 3

Conflated Grounding and the Invariant Property of English Past Tense

3.1 Introduction

This chapter employs the conceptual tools of Cognitive Grammar (Langacker (1987, 1991)) to construct a unified view of the English past tense, clarifying the part of its meaning that remains invariant across the broad array of heterogeneous temporal contexts to which the past tense may be applied. Part of this issue is widely known under the rubric of the sequence-of-tenses (henceforth, the SoT) phenomenon. Previous studies have tended to subdivide

past-tense usages into categories of absolute and relative tenses or similar notions, while postulating auxiliary rules and generalizations for the usages that deviate from these categories. Though numerous approaches to this matter have been offered in the literature, researchers remain divided with regard to the essential commonalities shared by these various usages (Costa (1972), Comrie (1985, 1986), Enç (1987), Abusch (1988), Hornstein (1990), Declerck (1995), Wada (1998) among many others). Here we argue that the failure to isolate the invariant property of the past tense is due to problems in the theoretical foundations on which previous analyses have been based; in contrast, Cognitive Grammar provides the right notions to explain the issues.

Before sketching the proposal and structure of this article, let us take a brief look at a set of examples, which will help us to understand why the past tense has long been controversial in the literature.

(1) John said that Mary was pregnant.

(2) a. In the future, people will say that I was a great lawyer, though I am still a rookie here.

b. John decided a week ago that in ten days at breakfast he would say to his mother that they were having their last meal together.

(Abusch (1988:2))

First, the complement past tense in (1) is susceptible to two interpretations, which may be described as the shifted and simultaneous readings (Enç (1987:636)). In the former, the complement situation is construed as having an anterior relation to the time indicated by the matrix clause (TM), while the latter reading is regarded as showing a temporal coincidence of the complement situation with the TM.[1] Next, in (2), the past tenses of both of the underlined complement verbs indicate a situation in the future with respect to the time of utterance (TU), unlike that in (1). Incidentally, the time indicated by the matrix clause (TM) is in the future in (2a), and in the past in (2b).

For the purpose of elucidating the inherent semantic property of the English past tense in varied contexts such as those observed above, we shall propose the conflated grounding model, which incorporates the two independently attested Cognitive-Grammatical notions of conceptual reference-point (Langacker (1993)) and grounding (Langacker (1991)). It will be demonstrated that unlike previous approaches, which rely on notions of absolute and relative tenses or similar concepts, our theory will succeed in clarifying an invariant part of the form-meaning pairing of the past tense that is applicable whether the past tense is instantiated in an independent clause or in a complement clause. Moreover, our characterization of the past tense

will also provide a conceptual motivation for the morphological contrast of the past vs. present (non-past) tense.

This chapter is structured as follows. Previous studies are reviewed in section 2, where we argue that the analyses that are preoccupied with the idea of absolute and relative tenses or similar notions cannot illuminate the invariant part of the form-meaning relationship of the past tense. In section 3, while outlining the two notions of conceptual reference point and grounding, we propose the conflated grounding model, which is intended to replace the aforementioned classical notions. Section 4 demonstrates that our theory can explain the data introduced above in a unified manner and highlights advantages over previous studies. Section 5 presents our conclusions.

3.2 Problems with Previous Studies

Our aim here is to make it clear, by reviewing previous analyses, that a new framework is needed for the proper characterization of the English past tense. As mentioned above, previous studies, whatever their theoretical background, tend to hinge upon such notions as absolute and

relative tenses. In what follows, we shall examine four approaches that utilize these concepts: Hornstein (1990), Fauconnier (1997), Wada (1998), and Declerck (1995). Hornstein incorporates a (variant of the) famous SoT rule in his account. In contrast, Fauconnier, Wada, and Declerck all reject the validity of such a formal rule. However, they exhibit remarkable disagreement as to the degree to which the relative function of tense should be integrated into the "inherent" semantics of the English past tense; the second and the third approaches fall at the opposite ends of the spectrum, and the first in the middle. With regard to the assumption of absolute and relative tenses, I believe, other analyses will show a close affinity to at least one of the four approaches. Thus, reviewing the four selected approaches should suffice to show that a new framework is needed to characterize the past tense.

Let us begin with Hornstein (1990). He maintains that complement clauses spawn a relative tense system, wherein the deictic center of tense shifts from the TU to the TM. Consider (1) again, repeated here as (3).

(3) John said that Mary was pregnant. (= (1))

As noted above, the complement past tense in (3) is susceptible to both shifted and simultaneous readings. The idea that tense is interpreted relatively in the complement

clause may provide a straightforward explanation as to why the shifted reading of (3) can be expressed by the past tense: since the deictic center of the complement past tense is at the TM, it is employed to mark the temporally anterior relation of the complement situation to the TM. One advantage of this theory is that it can easily extend to the problem of the "future" past tense as in (2a), repeated as (4) below.

(4) In the future, people will say that I <u>was</u> a great lawyer, though I am still a rookie here.

(=(2a))

In (4), as in (3), the deictic center of the complement past tense has shifted to the TM, so that the use of the past tense for the future situation raises no problem as long as the situation is located in the past with regard to the TM.

This relative-tense analysis, however, wrongly predicts that the present tense, rather than the past, should be used in the complement clause in the simultaneous reading of (3), since the complement situation has a present-time relationship with the TM. In order to eliminate this mismatch between the "surface" tense morphology and the underling temporal relationship, a morphological rule must be postulated. This is in fact a

famous (variant of the) SoT rule: the complement past tense is morphologically derived under the condition that the matrix clause is marked with the past tense and that the complement situation has a present-time relationship with the TM.[2]

One problem that arises with this analysis is that the introduction of the SoT rule may be viewed as a palliative measure to overcome the failure to provide a semantic explanation for the simultaneous reading. Indeed, Hornstein (1990:131) views the application of the morphological change to the simultaneous reading as the only exception in the relative-tense system. However, we may legitimately demand some ontological motivation for the rule: why, among a number of temporal relationships that can obtain between the matrix and the complement situations, is such a morphological shift applied only in case of simultaneity between the "past" TM and the complement situation? This problem is indeed left open in Hornstein (1990).[3]

A further problem concerns the optional character of the SoT rule (Tanaka (1992:161)). In (5) below, the complement tense is marked with the present tense, while the matrix clause displays with the past tense.

(5) John said that Mary is pregnant.

Hornstein (1990:127) claims that any complement tense not affected by the SoT rule (e.g. *is* here) should have the character of absolute tense, making it possible for the time of the complement clause to be calculated from the TU (the *default rule* in his terms). However, the incorporation of the absolute tense system into the description of the complement tense creates a new problem. Consider example (6).

(6)* Two days ago, John said that we saw Mary at the court the next day.

If the complement tense can be directly anchored to the TU in the manner of an absolute tense, example (6) should be allowed, since the complement situation of (6) is located in the past with regard to the TU. However, this prediction is incorrect.[4]

Fauconnier (1997:Ch.3) maintains that by postulating a so-called Fact/Prediction Principle (see also Cutler 1994:358), we can not only resolve the problem with (6), but also succeed in semantically motivating the complement past tense in (3) without the SoT rule. Note in passing that in his approach, known as Mental Space Theory, Fauconnier (1997:ibid.) assumes that tense, modality, and aspect serve to connect *mental spaces* (rough equivalents of situations here) that are developed on discourse (See Fauconnier

(1985:16) for more precise characterizations of mental spaces). The function of the past tense as a connector between spaces is defined as indicating that the space so-accessed is epistemically factive and shows a temporally anterior relation to the original space.

As for the unacceptability of the past tense in (6), Fauconnier (1997:89) assumes the Fact/Prediction Principle, which prohibits the speaker from having direct access to a complement situation (i.e. in the manner of an absolute tense), if such access gives to the complement situation an epistemic status contradictory to that accorded by access from the matrix clause (i.e. in the manner of a relative tense). In (6), indeed, a clash between the epistemic statuses is observed: the complement situation is considered as non-factive (or as a Prediction in his terms) from the matrix subject's viewpoint, since it is located in the future with regard to the TM. On the other hand, the situation is regarded as factive (or as a Fact in his terms) when it is directly accessed from the TU, since it is situated in the past. This prevents the use of the absolute past tense in (6), even though the complement situation is located in the past with regard to the TU.

Fauconnier's (1997) semantic explanation of the complement tense, however, remains a problem when considering the simultaneous reading of (3), repeated as

(7): it cannot explicitly state why the tense in the complement clause "must" be past.

(7)John said that Mary <u>was</u> pregnant. (= (1) = (3))

To clarify the point, let us first consider the case of the shifted reading of (7). According to Fauconnier (1997:91), the complement past tense employed in that reading shows ambiguity as to whether it is regarded as the relative past tense (i.e. access from the <u>Speech Space</u> invoked by the matrix clause) or the absolute past tense (i.e. access from <u>Base Space</u>); unless a violation of the Fact/Prediction Principle is observed as in (6), his theory permits access to the complement situation either from the TM or from the TU to be marked. Hence, we can think of the complement past tense in the shifted reading of (7) as either relative or absolute tense. In that case, however, it would follow that the present tense, as well as the past tense, would be allowed in the complement clause in the simultaneous reading of (7). Fauconnier (1997:91) considers that the complement past tense in the simultaneous reading is motivated by the direct access from the TU, since the complement situation should be located in the past with regard to the TU. However, this assumption presupposes that there is no violation of the Fact/Prediction principle, as in the case of the shifted reading above. This implies that nothing prevents access

from the TM to the complement situation (i.e. the simultaneous relation) from being marked by is, the relative present tense. Thus, Fauconnier's theory, which admits the notions of absolute and relative tenses without the SoT rule, exhibits a deficiency in that it over-generates the present tense, which is disallowed in the simultaneous reading as in (7).

Wada (1998) attempts to overcome the drawback of over-generation by ruling out the relative tense through his tense semantics (the level of tense structure in his terms).[5] In other words, he maintains that every finite form should inherently show absolute-tense properties (the A-component) regardless of whether it is instantiated in an independent clause or in a complement clause (p.173). This assumption removes the potential for the simultaneous relation in (7) to be wrongly marked with the relative present tense, so that only the past tense with the absolute function is available to mark the complement situation, indicating a simultaneous relation with the TM. Note that concerning the unacceptability of (6), Wada (1998:Ch.3.2) postulates a semantic principle that essentially shares spirit of Fauconnier's Fact/Prediction Principle.

This strong assumption that rejects both the relative function of tense and the SoT rule, however, faces difficulty in providing a motivation for the past tense in

the deepest embedded clause in (2b), repeated as (8).[6]

(8) John decided a week ago that in ten days at breakfast he would say to his mother that they <u>were</u> having their last meal together. (=(2b))

In its default reading, the deepest embedded complement situation shows no "past" relation to any conceivable time in the sentence, including the TU: it shows a future relation to the TU and the TM, and a simultaneous relation with the second clause (i.e. the time of John's saying).[7] For this problem, Wada (2001:454-5) suggests that the past tense at issue (i.e. <u>were</u>) gains its absolute component by "copying" that of the matrix past tense (i.e. <u>decided</u>), and that this special function of copying is triggered by an intentional property invoked by the matrix verb <u>decide</u>.

However, the notion of intentionality does not provide a privilege to the complement past tense at issue in (8). This is because, regardless of its verbal type, a <u>that</u>-complement clause is essentially employed in order to invoke some kind of intentional context (see Frajzyngier and Jasperson (1991)). Thus, speech verbs such as <u>say</u> or <u>tell</u> also create intentional contexts, as in (9).

(9) John said that Mary was sunk in though at her desk, but that's not true. She was just sleeping, indeed.

Here, the speaker denies only the content of the complement clause in the first sentence, which implies that the complement clause creates a semantically independent domain from that of the matrix clause, which is construed extensionally. In other words, it is this presumption that has led many previous studies, including those outlined above, to assume the function of relative tense for the complement clause.

Finally, let us consider the problems with Declerck's (1995) tense theory. His idea stands out from those outlined above when one considers the following points. The past tense morphology is employed for different temporal relations between the absolute and relative tense systems. In the former, it indicates an anterior relation with regard to the TU, just as in the other approaches outlined above, whereas in the latter, he maintains, the past tense is utilized to indicate a simultaneous relationship with some past time invoked by other verbs (STOs in his terms). Thus, he assumes ambiguity in the past tense.

This assumption may provide a semantic motivation for the past tense in the deepest embedded clause of (2b=(8)), repeated as (10).

(10) John decided a week ago that in ten days at breakfast he would say to his mother that they were having their last meal together. (= (2b) = (8))

Since the time of the deepest embedded clause indicates a simultaneous relation with that invoked by the second clause (i.e. the time of John's saying), Declerck's characterization of the past tense in the relative tense satisfies this condition.

This approach, however, encounters an empirical problem, even if it changes the semantics of the relative past tense from the sense of anteriority to that of simultaneity. Consider (11) below.

(11) John decided a week ago that in ten days at breakfast he would say to his mother that they <u>were</u> having their last meal together <u>two days before</u>.

Example (11) shows a marked reading of (10), in which the time of the deepest embedded clause shows an anterior relation to that of the second clause (i.e. two days before). For Declerck (1995:7), the anterior relation construed in the manner of a relative tense needs to be marked by the pluperfect construction, but here, the simple past tense form is employed. Clearly, it cannot be the absolute tense, since the situation is still in the future with regard to the TU. In addition, since the adverbial is not an STO, this theory cannot make an evasive account that the past tense in question is regarded as relative tense, showing a simultaneous relationship with the time indicated by the

underlined adverbial.[8]

To summarize this section, none of the previous analyses that employ such notions as absolute and relative tenses succeeds in isolating an invariant aspect of the past tense. Now we have the following two tasks: (i) to set forth a new framework that takes the place of the classical ideas of absolute and relative tenses, and (ii) to clarify how the form-meaning relationship of the past tense is defined in that framework. These tasks will be discussed in sections three and four, in turn.

3.3 Conflated Grounding

In this section, we propose a new framework for characterizing the past tense, which is intended to supercede the classical notions of absolute and relative tense. This framework, which we call the conflated grounding model, incorporates the two Cognitive-Grammar notions of grounding (Langacker (1991)) and conceptual reference point (Langacker (1993)). It thereby provides a new insight into complement tense marking: the relationship between the TU and the complement situation that the model

creates internalizes the temporal relationship between the TU and the TM and that of the TM and the complement situation.

Let us begin with a brief introduction to the notion of grounding. Langacker (1991:Ch.3, Ch.6) maintains that every finite clause and every nominal should be grounded. The function of grounding is to indicate how each process or thing profiled by a finite clause or nominal relates to the speech event and its participants, known collectively as the ground. Tense and modals as well as articles and certain quantitifiers, all of which constitute the final step in the formation of a finite clause or nominal, are referred to as grounding predications. Any finite clause, regardless of its syntactic position, is assumed to reflect some epistemic status of the designated process vis-à-vis the ground: "Even when S employs a subordinate clause to describe the mental world of another individual S' (his thought, beliefs, statements, feelings, etc.), a grounding predication in that clause reflects the vantage point of S rather than S'" (p.255; S and S' designate the speaker and matrix subject, respectively).

The point we have to consider here is what kind of grounding information the relationship marked by the past tense bears. By regarding the past tense as a grounding predication, Langacker provides the following characterization: "PAST indicates the occurrence of a full

instantiation of the profiled process prior to the time of speaking" (1991:250) (see Langacker (1991:Ch.6.1) for fundamental epistemic characterizations of modals and tense). However, as one might suspect, this characterization, which is reminiscent of the absolute past tense, is not tenable for all the instances of the complement past tense examined in the previous section; in some of the examples, the complement situations marked by the past tense are located in the future with regard to the ground (the TU). Thus, we need a new characterization for the grounding relationship marked by the past tense, one which does not resort to the direct temporal relation between the ground and the complement situation.

We propose that the grounding function of (complement) tense be underpinned by the broader function of conceptual reference point, rather than the foregoing characterization reminiscent of absolute tense. Langacker (1993) supposes that as one of our fundamental cognitive abilities, we have the capacity "to invoke the conception of one entity as a cognitive reference point for purposes of establishing mental contact with another" (p.1), and he suggests that this ability is manifested in a broad variety of linguistic phenomena such as possessives, topic constructions and pronouns. Consider here John's cousin, which expresses a kinship relation.

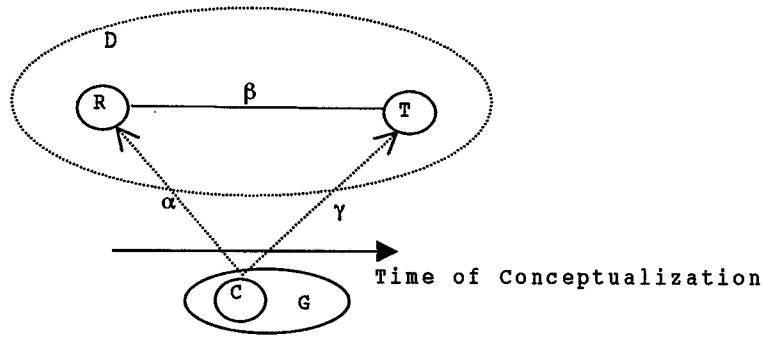


Figure 1

To identify a particular entity (T(arget)) that can be described as a cousin, the conceptualizer (C) in the ground (G) must first make mental contact with a reference point (R)—in this case John—as depicted by the arrow α in the diagram. The dominion (D) is an area of potential targets, and it is assumed to include information that facilitates the shift of the conceptualizer's access from R to T, as indicated by the line β in the figure, such as knowledge of John, including, in this case, his genealogy. Locating a certain cousin within the dominion of the reference point makes it possible to identify the target referred to as a cousin (the arrow γ).

Observe the following two points concerning this model. Firstly, this theory requires no shift of the deictic center. Secondly, while the conceptualizer eventually has a direct

relationship with the target (the arrow γ), this relationship presupposes two prior steps, α and the shift facilitated by β; without such experiences, the conceptualizer could never achieve final mental contact with the target.

Our proposal is that the grounding relationship of the complement clause is engendered by this dynamic function of reference point construction. In this case, we assume that the matrix situation serves as the reference point in order to access the complement situation. Langacker, indeed, thinks of the complement-clause construction as a linguistic manifestation of reference-point ability; "the complement is accessed via the main-clause process" (Langacker (1999:243)). In addition, Langacker (1999, 1991:442) implies that the matrix verb serves to help the conceptualizer in gaining access to the complement situation (β in Figure 1). It should be natural to presume that the relationship between the matrix and complement clauses is captured in terms of the function of reference point. For instance, given the complement clause of Engene believed/said that he was a great lawyer without the matrix clause, we could not tell to whom that proposition refers and when it was obtained. Our contention is that complement grounding should be correlated with this reference-point function instantiated in the complement-clause

construction. In other words, the complement grounding relationship is generated when the conceptualizer successively experiences the relationship between the ground and the matrix clause and, further, that between the matrix clause and the complement clause. Since we suppose that it is the prior steps that determine the final relationship (i.e. the complement grounding), we call this the conflated grounding model.

Given this approach, we have to reassess the form-meaning parings of the complement past tense as described by such notions as absolute and relative tenses. First, semantically, the relationship between the ground and the complement situation has to be comprehended as carrying with it how the conceptualizer has achieved that resultant relationship. For instance, in the simultaneous reading of (1) John said that Mary was pregnant the previous temporal experiences accessed by the conceptualizer are regarded as being involved in the formation of the conflated grounding: (i) the anteriority resulting from the access to the matrix situation from the ground, and (ii) the simultaneity resulting from the access to the complement situation from the matrix situation. (Henceforth, the former is called the matrix grounding, and the latter the surrogate grounding.) Second, we need to clarify how the past tense morphology (the phonological pole (Langacker (1987:Ch.2)) is linked

with such a conflated grounding relationship of the complement clause (the semantic pole (Langacker 1987:ibid.). This issue is discussed in the next section. We will find that with the idea of conflated grounding, the form-meaning relationship of the past tense can be captured in a unified perspective, regardless of whether it is employed in an independent clause or in a complement clause.

3.4 Analysis

3.4.1 Conflated Grounding and Past Tense in Complement Clause

We contend that the function of conflated grounding together with the observed facts elucidates the following invariant property of the past tense in the complement clause.

(A) If the past tense is realized in a complement clause, the conceptualizer has experienced at least one anterior relation in the process of achieving the complement grounding relationship.

In short, we are proposing that the past tense morphology

is sensitive to the "process," not the "result" of the formation of the grounding relationship. This characterization differs profoundly from the classical notion of the absolute past tense or the relative past tense, which only pays attention to how a local temporal relationship is linguistically marked between the ground and the complement situation or between the matrix situation and the complement situation. In what follows, we first ascertain that (A) does work for the problematic usages of the past tense examined in section 1. Further advantages and implications of (A) will be discussed in the next subsection.

Let us begin our analysis by considering the simultaneous and shifted readings of (1), repeated as (12).

(12) John said that Mary was pregnant.

(= (1) = (3) = (7))

Consider first the simultaneous reading. Based on the idea of conflated grounding, two temporal relations are conflated into the complement grounding relationship: the anterior access of the matrix grounding on the one hand, and the simultaneous access of the surrogate grounding on the other. Here, (A) allows for the use of the past tense in the complement clause, because the conceptualizer has gone through an anterior access (i.e. the matrix grounding)

in the process of achieving the complement grounding. The use of the complement past tense in the shifted reading of (12) is also captured in the same manner. In this reading, the conceptualizer passes through two anterior relations (i.e. the matrix and surrogate groundings) before arriving at the complement grounding relationship. This allows for the past tense marking of the complement grounding, as the process of achieving it incorporates an anterior access. Thus, our analysis does not have to resort to such an assumption that one reading is motivated by the absolute past tense and the other by the relative past tense. The next subsection provides further discussion as to why the same past tense morphology is realized in both the simultaneous and the shifted readings.

Next, we find that (A) can also be applied to the "future" past tense as in (2a), repeated as (13).

(13) In the future, people will say that I <u>was</u> a great lawyer, though I am still a rookie here.

(=(2a) = (4))

In this case, the matrix grounding is a future relation, which is coded by the modal <u>will</u>, and the surrogate grounding is construed as an anterior relation to the matrix situation. Thus, since the conceptualizer has experienced anteriority in the process of achieving the complement grounding, the

resultant grounding relationship can be marked by the past tense. All the previous studies outlined in section 2 has to resort to the function of relative past tense in dealing with the complement past tense of the future matrix clause (see note 7 for Wada's discussion on (13), and also Declerck (1995:10) and Fauconnier (1997:89)). However, our framework can explain the use of the past tense in (13) based on the same notion employed for explaining (12).

Now let us consider another type of a "future" past-tense realization, as in (2b), repeated as (14).

(14) John decided a week ago that in ten days at breakfast he would say to his mother that they <u>were</u> having their last meal together.

(=(2b) = (8) = (10))

Recall that in the default reading, the deepest embedded clause does not show any "past" relation to any conceivable time in the sentence (including the TU), which provides a serious problem for the previous treatments of the past tense that are predominantly concerned with local temporal relations. One difference between (14) and examples like (12) and (13) is that it contains two surrogate grounding relationships: between (i) the matrix clause and the rest of the sentence and (ii) the second clause and the deepest embedded clause. Since a reference point relationship can

be transitive (Langacker 1993:364), we can think of the second clause as serving as the reference point for the deepest embedded clause. Hence, the conflated grounding relationship of the deepest embedded clause is achieved based on the matrix grounding (anteriority), the first surrogate grounding (posteriority), and the second surrogate grounding (simultaneity). Since this history of the conceptualizer's grounding experience contains an anterior relation (i.e. the matrix grounding), the past tense can be employed to mark the grounding relationship of the deepest embedded clause. Not to be argued, the marked reading of (14) (cf. (11)) poses no problem to us, since anterior relations (the matrix and the second surrogate groundings) are conflated into the complement grounding there, too.

In sum, it has been shown that our theory, emphasizing the process of the formation of the complement grounding, can account for the complement past tense in various temporal contexts from a unified perspective. In the next subsection, we will present further empirical and theoretical justification of our approach.

3.4.2 Implications

With the idea of the conflated grounding and characterization (A) in 4.1, the approach can be extended as in (B) to cover a wider range of data:

> (B) Whether in an independent clause or in a complement clause, the past tense indicates that at least one anterior relation is conflated into the grounding relationship. On the other hand, the present tense indicates that no anterior relation is conflated into the grounding relationship.

Note the following two points here. First, (B) is an extension of the range of application of (A); no modification is made except that it applies now to independent clauses. Second, (B) treats all grounding relationships as conflated; the simplex grounding that may be observed in the independent clause is regarded as a limiting case of conflated grounding. In what follows, we first discuss the implications of (B), and then move on to the issue of why the idea of conflated grounding needs to be extended to the past tense in the independent clause.

What (B) suggests is that the past tense should be regarded as the "stronger" member of the pair of the past and present tenses. In other words, the present tense

should be understood as a negation of the past tense in terms of the conceptual parameter of anteriority experience. Many previous analyses including those discussed in section 2 have treated the present tense on a par with the past tense, in the sense that they are linked independently to distinct temporal relations, the present tense to simultaneity (or non-anteriority), and the past tense to anteriority. The problem with this approach was discussed in section 2; it was faced with a dilemma in treating the simultaneous relation observed in the simultaneous reading as in (12) John said that Mary was pregnant (recall our discussion on Hornstein's (1990) SoT rule, Declerck's (1995) ambiguity proposal and the problem of over-generation with Fauconnier (1997)). On the other hand, our characterization (B) does not maintain that the temporal relation of simultaneity per se is independently connected to the realization of the present tense, but we claim that the absence of anteriority experience in achieving the conflated grounding relationship triggers the present tense morphology. In other words, as long as a simultaneous relation is conflated with an anterior relation into a single conflated grounding, the present tense as the weaker member cannot be realized.

The following metaphor from genetics will help clarify our characterization of the form-meaning pairings of English tense. Realization of a particular genetic

phenotype, such as double-fold eyelids, does not necessarily imply the genetic homogeneity among individuals who share it. Since the gene for double-fold eyelids is of the dominant kind (call it "Y") and that for the single-edged eyelids is of the recessive kind ("y"), a baby with double-fold eyelids may have one of two possible genotypes, "YY" or "Yy". Here, the two different combinations of the relevant genes result in the identical phenotype. We contend that tense marking can be captured in a parallel way. If conflated grounding incorporates a heterogeneous temporal combination of [anteriority/non-anteriority (simultaneity)] as in the simultaneous reading of (12), the realized "phenotype" is the past tense, because anteriority corresponds to the "dominant gene". Likewise, if the conflated grounding has incorporated two anterior relations as in the shifted reading of (12), the same "phenotype", i.e. the past tense, is once again realized. In terms of this metaphor, the "phenotype" of the "present" tense comes from the combination with no dominant gene, that is, [non-anteriority/non-anteriority]. We characterized the past tense above as the stronger member of the pair of the past and present tenses. It should now be clear that what this indicates is that the past tense inherits the dominant factor, anteriority, and therefore the presence of anteriority in the conflated grounding leads to the use of

past-tense morphology.

This characterization concerning the form-meaning pairings of English tense straightforwardly provides a conceptual motivation for the morphological contrast between the past and present tenses. In the literature, whether the present tense morphology is called "present tense" or the "non-past tense" seems to have been a matter of "labeling" (see Crowley et al. 1995:213-214). However, in light of our characterization of tense in (B), the morphological opposition (i.e. <u>-ed</u> and <u>-ϕ</u>) is in fact shown to reflect the semantic contrast as to whether or not anteriority is experienced.[9] Let us emphasize this point: without the idea of conflated grounding, such simplified a characterization of English tense could never be achieved for both independent and complement clauses.

Now let us move on to the other issue in this subsection: why does the conflated grounding need to be supposed for the past tense in the independent clause? Having characterized the simplex grounding of an independent clause as a limiting case of conflated grounding, one may wonder how our theory is different from the absolute-tense analysis concerning the past tense in independent clauses. I shall show that in order to capture the invariant aspect of the past tense, the idea of conflated grounding is indispensable, even for independent-clause tense marking.

As a basis for discussion, let us first examine McCawley's (1971:269) analysis of the past tense semantics. He maintains that the past tense inherently shows an anaphoric and/or deictic character. Consider (15) below.

(15)* The farmer killed the duckling.

(McCawley 1971:269)

The asterisk that McCawley (1971:269) applies to (15) is meant to show that the past tense cannot be used unless a past-time antecedent is provided (cf. Partee 1972:602). This is parallel to Reichenbach's (1947:290) well-known definition of the past tense: E,R_S. (Here E, R and S are the points of the event, reference, and speech, respectively. The underline and comma indicate anterior and simultaneous relations, respectively.) It is assumed here that for the employment of the past tense, some linguistically or non-linguistically specified past time (R) should be available for the speaker and hearer.

Example (16) below, however, suggests that the temporal specificity of R should not necessarily be considered as an inherent property of every instance of the past tense.

(16) A: Helen Gamble is really a sharp thinker, isn't she?

B: Yeah, she <u>graduated</u> from Harvard Law School.

As pointed out by Ogihara (1996:21), by strictly following the aforementioned notation for the past tense, we face difficulty in explaining the acceptability of the past tense in (16). Here it does not matter "exactly when" Helen Gamble graduated from Harvard Law School; Speaker B merely cites her past experience in order to strengthen Speaker A's view of her. Although the specific time (R) of her graduation (E) is not designated in the context of (16), the use of the past tense is valid. Hence, as Comrie (1981:30) and Nakau (1994:Ch.14) suggest, the notion of R could be removed from the inherent semantics of the past tense, leaving the relationship E_S.

We contend, however, that assigning the fixed and absolute temporal relation E_S to the semantics of the past tense in the independent clause encounters a problem in handling examples like (17), as was the case for the complement past tense.

(17) Listen, this conversation never <u>took</u> place. Our client is broke, indeed.

In (17), transcribed from an American sitcom, the past tense is employed even though the conversation in question is about to unfold at the utterance time (S). If the fixed and absolute relation of E_S is assigned to the past tense, it fails to capture (17), because the situation marked by the

past tense is not anterior to the utterance time (S). The use of the past tense in (17) may be comprehended in the following way. The speaker of (17) envisages some indefinite future time, and he asks his interlocutor to regard this conversation as not having happened in the past from that supposed future time. Our approach can deal with this issue; even if some kind of subjective shift of our time reference to the future is experienced before achieving the grounding relationship, it does not prevent the past tense marking as long as an anterior relation is conflated as part of that grounding relationship. Thus, we find that characterization (B) incorporating the notion of the conflated grounding should be supposed not only for the past tense in complement clauses, but for that in independent clauses.

In sum, this subsection has argued that our characterization of the past tense proposed in 4.1 not only can extend to the analysis of the past tense in independent clauses, but can also provide a semantic motivation for its morphological contrast with the present tense.

3.4.3 Further Discussion

In the rest of this article, we shall have brief

discussions on the remaining examples examined in sections 1 and 2, i.e. (6) and (5), which concern the unacceptability of the simple past-tense form and the violation of the SoT rule, respectively. Let us start with the former issue.

The question that may arise in our approach concerns the appearance of a modal expression; our characterization (B) seems to allow for either would or was in (18) below (cf. (6)) because one anterior relation is conflated into the complement grounding and both of these show the past tense morphology.

(18) Two days ago, John said that we *saw/would see Mary at the court the next day.

The same reasoning may invite another question: in (19) below, why, conversely, the simple past tense form is favored over would (cf. 2a). One anterior relation is conflated into the grounding relation of the complement situation as is the case with (18).

(19) In the future, people will say that I {was/*would be} a great lawyer.

We have revealed what factors determine the instantiation of the past tense morphology thus far, but, given (18) and (19), we further need to state what determines whether a modal or non-modal marking should appear.

Before presenting how we treat this issue, let us briefly touch upon the general understanding as to the different characterizations of the modal and tense as grounding predications. Langacker (1991:Ch.6) distinguishes reality from non-reality as a fundamental epistemic distinction. To access an entity in speaker's non-reality, Langacker (2002) maintains that in grounding a process, the conceptualizer "asserts control intellectually, by trying to determine where the evolutionary momentum of reality is likely to lead it" (p.33, emphasis added). This sense of effort to gain control over the target entity is to be characterized with the force-dynamic semantics, which is suitably expressed by a modal (Talmy (1985)). By contrast, an entity in the realm of reality can be accessed without the help of modal because "it has already been accepted as part of the speaker's conception of reality" (Langacker (2002:33)). This explains why an entity in reality is to be grounded by the absence of modal, i.e. tense.

Now, let us turn our attention back to (18) and (19), and consider the difference in their access histories; in (18), the matrix and surrogate groundings are characterized by non-force-dynamic and by force-dynamic relations, respectively, while (19) exhibits an inverse combination, where the matrix grounding is force-dynamic and the

surrogate grounding non-force dynamic. Hence the comparison is to be made between [G-->M=>C] for (18) and [G=>M-->C] for (19), where G, M and C stand for the Ground, Matrix situation and Complement situation, respectively, while the single arrow designates non-force-dynamic relation and the double arrow a force-dynamic relation.

This observation leads us to suppose that what is at issue here is the local epistemic status (i.e. reality vs. non-reality) of the complement situation "currently being accessed", i.e. [M=>C] for (18) and [M-->C] for (19); what determines the modal vs. non-modal realization of the conflated grounding comes from the epistemic status of the leading-edge situation to be newly conflated in the developing chain of access. We conclude that this results in the contrast between (18) and (19). One significant advantage of this analysis may be found in characterizing more deeply embedded cases.

(20) John decided a week ago that in ten days at breakfast he would say to his mother that they were having their last meal together.

(=(2b)=(8)= (10)=(14))

Here, the conflated grounding of the deepest embedded situation is realized by the non-modal marking. This is because the local epistemic status of the deepest embedded

situation is in the realm of reality vis-à-vis its immediately preceding situation (i.e. John's saying). Now, our approach can not only capture why the past tense morphology is realized there, but also explicitly state why it should be the non-modal realization. Both Fauconnier's (1997) and Wada's (1998) analyses, based on Fact/Prediction Principle or similar, were not able to capture these two aspects at the same time.

Finally, (21) seems to pose another potential problem to our analysis.

(21) John said that Mary is pregnant. (= (5))

Our argument thus far would predict that the complement clause should be marked with the past tense, but the present tense is realized here. However, in this case Mary's pregnancy is supposed to be true not only at the TU, but at TM (Enç's (1987) "double-access reading"). Our proposal for this problem is an already familiar one, but, as will be shown shortly, when it is incorporated into the present framework, it rids itself of the drawback that previously afflicted it. We argue that, as a higher-order conceptualization, the complement situation in (21) is regrounded from the TU on the basis of the same conflated grounding configuration as in John said that Mary was pregnant. This guarantees the "double-access"

interpretation (cf. Langacker (1991:255)).

As discussed in section 2, one potential problem of this analysis, as is the case with Hornstein's (1990) absolute-tense analysis, may be that direct access from the TU would wrongly allow for the past tense in the complement clause of sentences like (6), repeated as (22), because the complement situation shows a past-time relationship with the TU.

(22) *Two days ago, John said that we saw Mary at the court the next day. (=(6))

However, as discussed at the outset of the subsection, our conflated grounding framework rules out (22) in favor of the modal expression as in (18). Since we are proposing that the relevant regrounding is made on the conflated grounding configuration, by definition, it is not able to access the temporal area that has been rendered unavailable in terms of the conflated grounding. Example (22), therefore, poses no problem to our approach.

3.5 Concluding Remarks

This chapter has attempted to clarify an invariant property of the past tense that is observed in various temporal contexts. We pointed out that the reason why the previous approaches have failed to do so was because they paid attention only to the local temporal relations based on such notions as absolute and relative tenses. This presupposition led many researchers to postulate a distorted form-meaning relationship for the past tense, thereby necessitating such palliative measures as the formal SoT rule or the ambiguity theory of tense. In place of these classical notions, we proposed the notion of conflated grounding; rather than the resultant temporal relation per se, we argued that the complement tense marking necessarily reflects the vestiges of successive grounding paths. With this idea, it was demonstrated that the instances of the past tense observed in heterogeneous temporal relations can be captured in unified fashion. Furthermore, section 4.2 argued that our characterization of the past tense proposed in 4.1 not only can extend to the analysis of the past tense in independent clauses, but can also provide a semantic motivation for its morphological contrast with the present tense. In addition, we showed

that other related problems are also handled in our approach in 4.3.

In sum, it is shown that the conflated grounding model provides a superior explanation of the usage of the English past tense, overcoming many problems encountered by previous approaches. This, in turn, underscores the fact that the overarching theory of Cognitive Grammar provides the right set of conceptual tools with which to tackle problem, giving the process of conceptualization an appropriately prominent role in linguistic analysis.

Notes

[1] The term 'situation' stands for any kind of eventuality indicated by a predicate.

[2] The following analyses also employ the formal SoT rule in their accounts of the complement past tense: Jespersen (1931), Curme (1931), Costa (1972), Comrie (1985, 1986), Quirk et al. (1985).

[3] In addition, this kind of formal rule, which works only for a very limited linguistic environment, seems unwelcome even among formal grammarians (Enç (1987:636)).

[4] In (6), a so-called scheduled future reading (from a perspective of the matrix subject) is not supposed.

[5] Our use of relative tense, which follows the traditional concept, differs from that in Wada (1998). Wada's idea of the relative tense component does not shift the deictic center. See Wada (1998:173-74) for his own characterization of the relative tense component.

[6] This example is indeed brought out by Abusch (1988) in order to reinforce the necessity of the SoT rule and to reject

Enç's (1987) semantic analysis of complement tense.

[7] Here, we may, at first, wonder how the "future" past tense as in (2a) discussed above would be dealt with by Wada's theory: (2a) In the future, people will say that I was a great lawyer, though I am still a rookie here. For this type of example, Wada (1998:191) assumes that the consciousness of the public self (the speaker) is considered as being at the TU, while the viewpoint of the public self is shifted to the TM, so that the absoluteness of the past tense is preserved while the past-time relation is created by the relationship between the shifted viewpoint and the complement situation. Wada thinks of this kind of shift as being applied only to the future TM.

[8] In contrast with Declerck (1995), Fauconnier's (1997) approach outlined above can deal with the marked reading, since the deepest embedded clause indicates a past-time relationship with the time indicated by the second clause. On the other hand, it cannot provide an explanation for the default reading, since the deepest embedded clause does not have an original space that anchors an anterior relationship with that situation.

[9] We regard the tense morpheme -s as an allomorph of -ϕ,

which specifies that the subject is third-person singular.

CHAPTER 4

A Form-Meaning Mismatch in Before Clauses

4.1 Introduction

This chapter discusses another kind of a form-meaning mismatch observed in temporal construal: the problem of why the pluperfect construction can be employed in the before clause, although it seems to provide temporal information contradictory to the semantics of that temporal connective, as sketched in 1.2.3. We shall illuminate here that the seemingly paradoxical usage of the pluperfect, in fact, plays a crucial role in cueing a status of factivity in the

before clause; since the inherent semantics of the connective before itself, unlike other temporal connectives such as after or when, has a characteristic of obscuring the information concerning factivity of the entire clause, as will be shown below.

While arguing that the pluperfect construction is employed for cueing a certain factive status of the before clause (henceforth BC), this chapter also pays attention to how various factors interact and get different types of factivity to be attributed to the interpretations of the BC. We will see that the events described in the BC may be understood as factual, non-factual, or counter-factual, and these different kinds of readings in factivity may be explained only by taking into account the mutual influences of such factors as tense, the connective, and subordination.

This chapter assumes the following structures. In the rest of this section, we make a small introductory sketch concerning the idea called partial compositionality (Langacker (1999)) and its importance for understanding the semantics of the BC, which, I believe, helps us to follow our discussion in the subsequent sections. Section 4.2 is allocated for clarifying the problems with previous studies on the BC semantics. In section 4.3, we shall make a brief review on Cognitive Grammar notions of reference-point ability and grounding, the notions of which play an

important role for demonstrating the function of the pluperfect in the BC. In section 4.4, our issue of why the "contradictory" pluperfect can be employed in the BC is intensively discussed. Concluding remarks will be given in section 4.5.

Our analysis here is grounded in one of the theoretical prerequisites of Cognitive Grammar: in describing the meaning of a complex linguistic structure (i.e. phrases and clauses), it is important to consider how its component meanings (i.e. morphemes or words) influence each other in the integrated expression (Langacker (1987, 1991, 1999)). This idea, called partial compositionality, results from the following assumption: "the actual meaning of a complex expression is more elaborate than anything regularly derivable from the meanings of its component elements" (Langacker (1999:262)). Different from the notion of "full" compositionality, which is normally embraced in linguistic literature, this notion gives an emphasis on the unit status of the composite structure (i.e. constructions in a more familiar term), and it has clarified many instances of long-standing grammatical problems observed such as in the relationship between nouns and prepositions and that between figurative expression and its meaning, which cannot adequately be explained from the perspective of full compositionality (see Langacker (1991:Ch. 1)).[1]

Our research here would be one of the case studies of this idea; we shall show that without considering the interaction between the functions of the temporal connective and pluperfect, or only with the idea that sentential meaning can all be analyzable into the component units, we cannot clarify our problem of why the pluperfect can be employed to indicate a certain type of factivity when it co-occurs with before.

In terms of the notion of partial compositionality, the BC shows an interesting linguistic phenomenon with regard to construal of events in factivity; it can cancel a factive status of the content of the clause. Consider sentences (1) and (2).

(1) John read the newspaper.

(2) a. Susan burned out the newspaper before John read it. ((i) ??And then, he informed her about the burglary in the newspaper; (ii) Therefore he could not get the information about the burglary last night.)

b. Susan finished breakfast before John read the newspaper. ((i) And then, he informed her about the burglary in the newspaper; (ii) ??Therefore he could not get the information about the burglary last night.)

As for the factivity, there is no doubt of sentence (1) expressing a factual event i.e., the event of John's reading the newspaper is considered to have actually been realized in the past.[2] However, when the clause is embedded in BCs, its factuality can be canceled. In (2a), for instance, the event described in the BC is inferred as unrealized, i.e. counter-factual, although its verb is marked with the same past tense as in (1). On the other hand, in (2b), such an implication as unrealized is hardly observed, and, instead, the event in BC may be understood as indicating the same factual event as in (1).

Interestingly enough, however, the factual construal implied in the BC in (2b) is withheld (or weakened) when the pluperfect construction is employed in the BC as in (3a), like when ever or any, so-called negative polarity items, are introduced in the clause as in (3a-b).

(3) a. Susan finished breakfast before John had read the newspaper. (And, eventually he didn't read it; or he did.)

b. Susan finished breakfast before John read any newspaper. (And, eventually he didn't read it; or he did.)

c. Susan finished breakfast before John ever read the newspaper. (And, eventually he didn't read it; or he did.)

Note that the term of "non-factual" interpretation is employed here when the event in BCs may or may not have happened in the past, i.e. when they are unspecified with regard to factivity (See 1.3.1 for general discussion on factivity).[3]

From this observation, it must be true that the pluperfect, when it is employed in the BC, influences the status of factivity of the BC. The problem lies in the question of why the pluperfect construction provides such an impact on the sentence interpretation only when it is employed in the BC. This is precisely the issue of this chapter. As will be demonstrated in section 4.4, we shall argue that the reference-point semantics inherent in the pluperfect construction is utilized for this function together with that of the inherent semantics of the temporal connective before. Thus, we shall show that only by taking the interaction between the two independent units of grammar into account, the form-meaning mismatch observed in the BC could be solved.

4.2 The Problems with Previous Studies

The semantics of the BC has hardly, if any, been focused

on in single articles, but (parts of) works by Hainämäki (1972, 1974), Declerck (1979) and Matsumura (1989) are worth touching on for our discussion that follows. This section first outlines Hainämäki's analysis of counter-factual interpretation of the BC in 4.2.1, and then, we move to Declerck's (1979) and Matsumura's (1989) analyses of the difference between factual and non-factual interpretation of the BC in 4.2.2.

4.2.1 Counter-factivity in Before Clauses

Hainämäki (1972, 1974) addresses the counter-factual interpretation of the BC, and she proposes that the counter-factual interpretation is produced when we observe some inherent semantic-pragmatic dependency based on our daily knowledge between the head and the subordinate clause. Otherwise, the factual reading is obtained.[4]

Now let us consider how her notion of pragmatic-semantic dependency is applied to the interpretation of the BC by examining sentences (4) and (5) below; the former exemplify the counter-factual construal, while the latter indicate the factual interpretation.

(4) Tom ate the ice-cream bar before it melted.
(i.e. before it melted outside his stomach).

(5) a. Pat brushed her teeth before the sun rose.

b. Tom's grandmother died before World War II broke out.

The counterfactual example (4) implies that since Tom ate the ice-cream bar, he could not eat it any time later. On the other hand, in (5), such an implication is not observed between the head and subordinate clauses; even if Pat in (5a) had not brushed her teeth, the sun would have risen, or, in (5b), the death of Tom's grandmother had nothing to do with the occurrence of the war. This, she claims, leads us to construe the BCs as factual. In the same way, the BC in (6a) is construed as counter-factual because we can infer that putting money in the parking meter is regarded as a means of avoiding the traffic violation, while blowing nose is not in (6b).

(6) a. Harry put money in the parking-meter before the policeman gave him a ticket.

b. Harry blew his nose before the policeman gave him a ticket.

In sum, Hainämäki claims that it is our general understanding of the semantic-pragmatic relation between the head and subordinate clauses that motivates the counter-factual reading of the BC.

As may be very clear from the above outline, Hainämäki's

(1972) notion of the "inherent semantic-pragmatic dependency" is too loose to be accepted as a direct motivation for the counter-factual reading of the BC to be produced, while we roughly agree to her essential insight. Consider the sentences below.

(7) a. "Before Tim became a member of this soccer team, he bought the insurance."

b. He walked all over the country before he finished drawing the first complete dialect map of the region.

Sentence (7a) may imply that buying the insurance is the precondition of joining the soccer team. This could be regarded as a semantic-pragmatic dependency, following Hainämäki's stipulation. However, the BC in (7a) is thought of as indicating a factual event, rather than the counter-factual. Sentence (7b) should be clearer. Its sentential implication is that his walking all over the country "resulted in" the success of the completion of the map. However, we have no difficulty in inferring that the BC event actually occurred, i.e. factual. The notion of semantic-pragmatic dependency may be too loose to characterize the counter-factual reading of BCs.

Clearly, we need more discussion on why the connective before can introduce the counterfactual interpretation. The

counter-factual reading seems to be related to the notion of negation, or the negative presupposition; since it indicates an event that has "not" happened (see Lakoff (1971)). Hainämäki (1972) does not attempt to discuss why the BC can bring about such a negative presupposition at all. Her analysis of the counter-factual BC starts without seriously considering this point, or the semantics of before itself, as a result of which, she had to provide the loose motivation of some semantic-pragmatic dependency to the counter-factual reading of the BC, as shown above.

Besides, as may be noticed, Hainämäki (1972, 1974) does not mention about the non-factive reading of the BC at all. In the account of the BC semantics in terms of factivity, she entirely ignores a possible non-factive construal of the BC. Therefore, no discussion is held on the difference between the past tense form (i.e. the preterite) and the pluperfect form in the BC. As noted in the previous section, the BC not only indicates the factive and counter-factive readings, but it also indicates a non-factive interpretation. In order to account for the semantics of BCs properly, we need to discuss all the types of factivity conveyed by the BC within a single perspective.

In section 4.4, we shall attempt to characterize why the BC can bring about a negative as well as positive presupposition by analyzing the semantics of before. And,

further, based on this lexical characterization of before, we shall tackle the issues of why the BC can express the three kinds of factivity, and the pluperfect can be employed to mark one of the senses.

4.2.2 Non-factivity in Before Clauses

Declerck (1979) claims that the non-factual interpretation of the BC observed as in (8a) below is derived by the modal (subjunctive) use of the (Plu)perfect construction.

(8) a. John dived into the swimming pool before Mary had put water in it.

b. John dived into the swimming pool before Mary put water in it.

(Declerck (1979:728))

Note that as noticed in 1.4 and elsewhere, when the pluperfect is employed, the event of the BC is usually regarded as being construed as non-factual, i.e. it implies that the speaker does not know whether or not the subordinate-clause event has happened. On the other hand, when the past tense form (i.e. the preterite) is used as in (8b), it is supposed that the speaker knows that the

subordinate-clause event has actually happened.

Declerck (1979) divides the perfect construction (the perfect tense in his term) into the two types: (i) non-modal use, which indicates "normal" perfect meaning such as result, completion and continuative, and (ii) modal use (or subjunctive tense), which is usually realized in counter-factual environments like the complement clauses of as if or wish. Based on this classification, he claims that the pluperfect observed in (8a) belongs to the latter category, and therefore, it can convey a nuance of non-factuality.

In sum, according to Declerck (1979), the reason why the pluperfect is allowed in the BC since it is not the indicative tense, but the subjunctive "tense." In other words, following Declerck, there is no form-meaning mismatch related to the BC pluperfect: since the subjunctive perfect tense does not express an anterior temporal relation inherently, unlike its counterpart of the normal perfect. Its primary sense lies in indicating that the event might NOT have occurred in the actual world. Note that as clear from his usage of subjunctive here, Declerck does not attempt to distinguish the non-factual from counterfactual construal.

This analysis, resorting to the distinction between subjunctive and indicative moods (tenses in his term),

however, is quite ad hoc characterization: because the counter-factual meaning (i.e. the subjunctive mood) can be expressed by the simple past tense, and, reversely, more important, the pluperfect can be used to indicate a factual statement of the BC (i.e. the indicative mood). Let us first confirm the former fact by considering (9) below:

(9) a. John died before he wrote a will.

b. The seeds rotted before they germinated.

Needless to say, in (9), John did not write a will and the seeds did not germinate. Without employing the pluperfect in the BC, sentences (9) may indicate the subjunctive meanings.

Let us go to the latter fact. Sentence (10) shows that the pluperfect may be employed to indicate a factual event.

(10) Kyoko Iwasaki won a gold medal at the Olympic Games before she had graduated from junior high school in 1993.

The point lies in the fact that sentence (10) can be used even by those who know that the swimmer has already graduated from junior high school after the Games.

From these facts, it is natural to consider that, contrary to Declerck's stipulation, the subjunctive pluperfect "tense" does not exclusively trigger a

subjunctive mood. Declerck's analysis that the (plu)perfect in the BC realizes the subjunctive mood would not be accepted; since it can also convey an indicative sense as in (10) and the subjunctive sense is not always conveyed by the pluperfect as shown in (9). We may consider that Declerck just labels one of the senses possibly expressed by the BC pluperfect and he does not provide any substantial discussion on the mechanism of how the construction of pluperfect plus the connective before brings about a non-factual reading.

Matsumura (1989) is, I believe, the only article that attempts to illuminate how the nuance of non-factual reading is produced by the BC with pluperfect. She claims that, without relying on the modal use of the pluperfect as Declerck (1979) does, the seemingly paradoxical usage of the pluperfect in the BC may be explained only by paying attention to a reference-time function, which is inherent in the semantics of the pluperfect. Thus, she takes a position that we need no special devices for accounting for the problem of the pluperfect in the BC. This approach to the mismatch between form and meaning of the BC sounds better than that of Declerck (1979) above in that the former does not resort to any special mechanism or ad hoc characterization.

Matsumura's approach to the pluperfect in BCs may be

summarized into Figures 1 and 2 below.

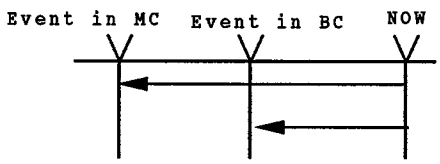


Fig. 1

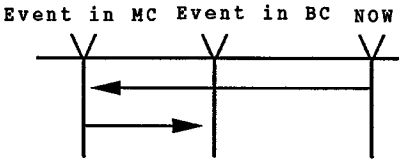


Fig. 2

(Matsumura (1989:127))

Figure 1 diagrams a function of the simple past tense in the BC. As shown in the diagram, the event expressed by the BC is anchored directly to the utterance time. On the other hand, Figure 2, the diagram for the pluperfect in BC, is different from Figure 1 in that the reference time, which the (plu)perfect inherently evokes, is located in the event time of the main clause, to which the event of the BC is anchored.

Matsumura claims this temporal function of the pluperfect make it possible for the BC with pluperfect to express vagueness with regard to factuality. Thus, unlike the past tense in Figure 1, vagueness arises since the event of the BC is not directly anchored to the time of utterance and since it is located posterior to the reference point (i.e. the event time of the main clause).

One problem with Matsumura (1989), however, is that if she assumed the "normal" function of reference time, as she

claims, the BC event in Figure 2 should be situated prior to the time of the main clause. Thus, her application of reference time of the pluperfect is quite diverse from that usually assumed in the tense literature. While the normal perfect or pluperfect takes the reference time anterior to the event time (Comrie (1976)), she supposes the reference time posterior to the event time as indicated in Figure 2. For instance, consider the following sentence.

(11) Yesterday, John had already gone to Paris.

Sentence (11) indicates that the time of John's leaving was "before" yesterday, rather than "after" yesterday. If the latter's construal was intended, the speaker would say something like "Yesterday, John was going to/would go to Paris."

The opposite temporal relation between the reference point and event time is assumed in her account, in which the temporal meaning of the (plu)perfect is assumed substantially as the same with that of be going to or would in complement clauses.

Moreover, contradicted to Matsumura's (1989:118) claim that her usage of the pluperfect for the BC does not affect normal senses of the perfect, if we provided the (plu)perfect with the temporal meaning that functions like be going to or would, we would produce the problem of how

the normal senses of the perfect like result or perfection are formulated. Thus, the reason why the perfect verbal form can express such senses results from its essential function that invites some "terminal" temporal point as the reference time. Without the terminal point, how can we judge whether or not an event is finished (i.e. perfection or result). In Matsumura's account that specifies some inchoative point, such senses are never expected to occur. Note that the semantic differences such as result or perfection produced by the perfect are discussed in the next chapter.

In sum, while Matsumura's claim that her theory does not postulate any special tool for capturing the fact that the pluperfect is employed in the BC, it, in fact, assumes an ad hoc solution for the pluperfect that is never observed in other linguistic phenomena.

4.3 Reference-Point Ability and Grounding

Langacker (1991:552) proposes reference-point ability is our capacity to invoke one conceived entity (a reference point) for the purpose of establishing mental contact with another (the target). This ability may be diagrammed as in

Figure 3. For illustration, let us look at the expression John's book. In this phrase, the conceptualizer (C) evokes John as a reference point (R), from which he accesses the book, which is the target (T).

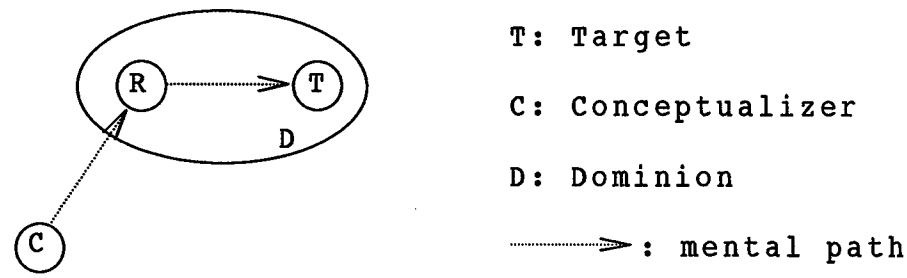


Fig. 3 (Langacker (1993:6))

In supposing that a temporal connective function as a reference point to locate the main clause in time, we recall the work of Talmy (1978), which claims that the temporal connective functions as a reference point (the ground for situating the figure (i.e. the main clause)).

Next, let us briefly outline the idea of grounding for tense. Langacker (1991) claims that clausal structures should be treated in a parallel way with nominal structures. Based on this idea, he proposes that the semantic functions of articles/determiners (in nominals) and those of tense/modals (in clauses) are both categorized in terms of a higher-order notion of grounding, which indicates epistemic

notions of how a conceptualizer captures described (i.e. profiled) entities. Thus, such semantic notions as definiteness, tense, and modality are analyzed in terms of this same notion. In 4.4, we will observe that the past tense and the pluperfect in the BC show different characteristics in the aspects of grounding.[5]

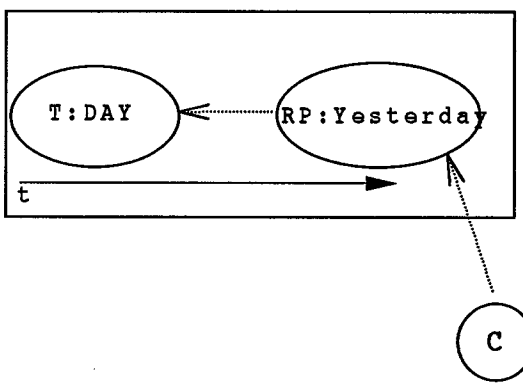
4.4 A Form-Meaning Mismatch in Before Clauses

4.4.1 The Basic Characteristics of the Connective Before

This section attempts to characterize essential characteristics of the temporal connective before in terms of reference-point ability outlined above. By utilizing the Cognitive -Grammar concept, we theoretically ascertain the fact that the temporal connective before does not always convey the same factive status with that of the main clause, unlike the connective after. We shall find that the connective before, coping with in a retrospective manner to the flow of time inherently has a characteristic of canceling the factivity of the clause, the property of which causes the three potential interpretations in factivity.

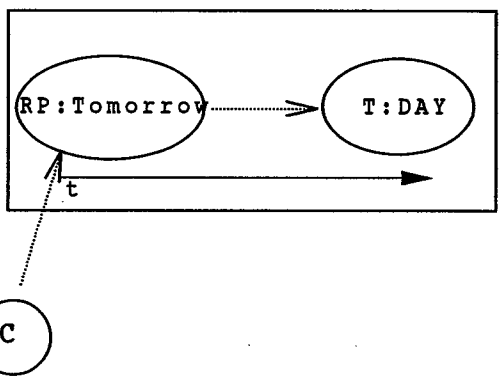
Let us start our discussion with the confirmation of the

fact that the connective before does not always convey an opposite or symmetrical configuration to the temporal connective after. Note that in order to make characteristics of the connective before clear, it is at this point necessary to introduce, and subsequently compare, the term after. Consider the diagrams below. The diagrams depicted under the concept of reference point get us to notice that the temporal connective before access the target in a retrospective way in reference to the time line, whereas after does so in a prospective way.



(the day before yesterday)

Fig. 4



(the day after tomorrow)

Fig. 5

Figures 4 and 5 diagram the conceptualization of the day before yesterday and the day after tomorrow, respectively, in terms of the reference-point model. These diagrams show that yesterday and tomorrow are evoked as the reference points to access the target of the day. As depicted, one of the remarkable differences between before and after lies

in the fact that the former accesses the target in a retrospective way in reference to the time line, whereas the latter does so in a prospective way.

These opposite functions of cognitive processing result in an "asymmetrical" relation between the two temporal connectives, although these two connectives are generally thought of expressing "symmetrical" temporal relationships.

(12) a. I ate the ice cream bar before it melted on the table.

b.* The ice cream bar melted on the table after I ate it.

In (12), the two events of eating ice cream and of its melting are temporally ordered in the same way. But the (un)grammaticality observed in (12) tells us that taking the former event as a reference point is not allowed in this case. Thus, every sentence described with the connective before cannot always be paraphrased to the sentence with after.

When extended to the clause-level structure, the opposite directionality of processing is considered as imposing the following constraints on the relation between the main clause and the subordinate clause: (i) in the prospective processing like after, as exemplified in (12b),

the resultative situation of the subordinate clause is required to be implied in the domain of the main clause. Thus, the event expressed by the subordinate clause must be necessarily construed as factual at the moment when the main clause is accessed.

On the other hand, (ii) in retrospective processing like before, as in (12a), the domain of the main clause does not have to evoke a factual event of the subordinate clause; since it is accessed first. Thereby, the BC can be inherently given a neutral interpretation in terms of factuality with respect to the main clause. This is the reason why it can situate the aforementioned events--factual, non-factual, and counter-factual--in the before clause.[6]

We have observed that before has a latent characteristic of producing the various interpretations of factivity because of the retrospective processing. In the following subsections, it is demonstrated how we correctly infer the factuality of the event in a BC.

4.4.2 The Counter-Factual Interpretations in Before Clauses

In this section, we extend Hainämäki's idea, and show

that the difference between the past tense and pluperfect does not affect the counterfactual reading of the BC. Let us start with the case of a counter-factual reading.

(13) a. The seeds rotted before they (had) germinated.
b. The progress is good, since the doctors removed the tumor before it (had) spread too far.
c. I managed to cover up the embezzlement before the accountants (had) discovered it.

The BCs in (13) may be interpreted as counter-factual by either employing the past tense or the pluperfect. In other words, the counter-factual reading has little to do with the temporal distinction between the past tense and the pluperfect.

We propose that the counter-factivity in the BC is produced when the actualization of the event in the main clause functions as a barrier for the realization of the event in the BC in terms of force dynamics. It functions as changing "the normal course of events" (Langacker (1991:264)).

Let us return to the example (13a): as indicated above, the BC is employed when the conceptualizer has some expectancy, and, in fact, he is surely considered to have the knowledge that the seeds will germinate in an appropriate situation and time. Therefore, the process of

the seeds' germination is situated in the complement of the BC. However, the head clause tells that they rotted. We also have the knowledge that rotten seeds will never germinate. Therefore, we can infer that the event in the BC was never realized. Thus, we find that this reading is reliant on the fact that the process in the subordinate is conceptually accessed as the expected event earlier than that in the head clause which actually occurs prior to the subordinate process. Consequently, we may conclude that the retrospective processing helps the earlier process in time to be construed as a barrier for the realization of the subsequent process. This is the reason why after cannot function as a concept of barrier is because it employs the prospective processing.

In sum, because of its retrospective processing, the connective before can express the three kinds of factivity unlike other connectives such as after. Contrary to Declerck (1979), we observed that among these readings, the counter-factual reading is produced by the causal relationship between the main and the subordinate clause; demonstrating that the difference between the pluperfect and preterite does not affect a factive status of the BC.

4.4.3 Factual and Non-Factual Interpretations in Before Clauses

Given our analysis in the last section that the counter-factual sense is predominantly determined by our knowledge of the causal relationship between the main and subordinate clauses, now then, we proceed to the problem of how the factivity of the BC is determined when that kind of information is not obtained from the sentence. We conclude that in that situation, the formal difference between the preterite and the pluperfect plays a crucial role in cueing a factive status of the BC.

Let us consider examples in which we are unable to judge factuality by the relation between the main and subordinate clauses, unlike (13) above.

(14) a. John dived into the swimming pool before Mary put water in it.

b. John dived into the swimming pool before Mary had put water in it.

(15) a. John finished his last novel before he died.

b. John finished his last novel before he had died.

(16) a. Tony bought a gardening tool before he built a house.

b. Tony bought a gardening tool before he had built a house.

In (16), for instance, the event in the main clause, buying gardening tools, does not prevent the event in the subordinate clause, building a house, from taking place. We suppose that, in cases as exemplified in (14)-(16), the difference between the past tense and pluperfect plays a crucial role in determining the factivity of the BC. As mentioned above, when the past tense is used in BCs, the clause is usually interpreted as factual, whereas the pluperfect in the BC is seen as indicating non-factual interpretation.

Now let us first discuss the reason why the past tense renders the interpretation of the BC factual. Langacker (1991) supposes that past tense morphemes prototypically function as situating a profiled process in non-immediate reality (i.e. situating it in a conceptualizer's factual knowledge; see chapter 1.3.1). In addition, McCawley (1971:269) claims that the past tense inherently retains an anaphoric function. Thus, the past tense should have a temporal antecedent specified by temporal adverbials or previous contexts; otherwise, the perfect is employed as a tense.

(17) a.* The farmer killed the duckling.
(this grammatical judgment from McCawley(1971:269))
b. The farmer killed the duckling <u>at seven</u>.
c. The farmer has killed the ducking.

Let us now proceed to the case of the pluperfect. One of the remarkable characteristics of this form is that it has two separated points that can be specified temporarily: the event time and the reference point. Consider the example below.

(18) I had taken a sleeping pill at seven.

Depending on which of the points is modified by the adverbial at seven, sentence (18) may have two interpretations called the "perfect-in-the-past," or the "past-in-the-past" as so calls Comrie (1985), among others. In the former interpretation, the adverbial specifies the reference point, and the event time is not clearly specified. On the other hand, the latter is evoked when the event time is modified by the adverbial, and the reference point is not specified. What is noticed here is that they may be either specified or left unspecified.

In addition to the observation above, we have to re-examine the problem of how sentences with the pluperfect are grounded. Langacker (1991) claims that in the perfect construction, the auxiliary have, but not the past participle that follows it, is the head of the clause, i.e. the grounded verb, and the reference point evoked in the pluperfect results from its latent semantic function. Nakau (1994) also makes a claim that in the perfect, the

head verb is have, and the "finite" tense is only assigned to the head. Thus, the speaker's epistemic attitude towards events is realized not in the past participle, but in the auxiliary.

Keeping in mind this characteristic of the pluperfect observed in independent clauses, let us return to the case of the BC with the pluperfect.

(19) Kyoko Iwasaki won a gold medal at the Olympic Games before she had graduated from junior high school {*by 1993 / in 1993}.

(20) John came here before Bob had arrived {*by six / at six}.

(21) #The seeds rotted before they had germinated in May.
(Note: the adverbial in May can only refer to the time of rotting.)

Sentences (19)-(21) show that the reference point of the pluperfect in the BC cannot be specified by temporal adverbials, though the event time can be. In (20), for instance, it is observed that the event time of John's arrival may be modified by the adverbial at six, while the reference point cannot be specified by the adverbial by six. Thus, the reference point in the BC is indefinitely construed by the conceptualizer, since it cannot be situated in a certain position in time.

From this observation, the following points can be made to explain why the pluperfect is employed for non-factual readings of the BC. As shown in 3.4.2, the past tense is prototypically definite, and it is therefore regarded as an indicator of factual statements. However, this also implies that the past tense is not suitable for preserving vagueness evoked by before, since the characteristic of vagueness is not compatible with the definite property. On the other hand, the reference point of the pluperfect may be grounded in an indefinite way. As a grammatical means to preserve vagueness evoked by before, the pluperfect with such a reference point is employed in order to create an easily-inferred and latently potential quality of vagueness.

The difference between the preterit form and the pluperfect in BCs as observed above may be diagrammed as follows:

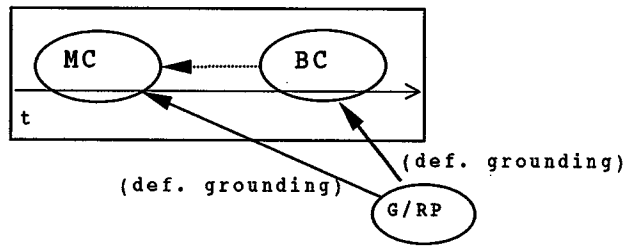


Fig. 6

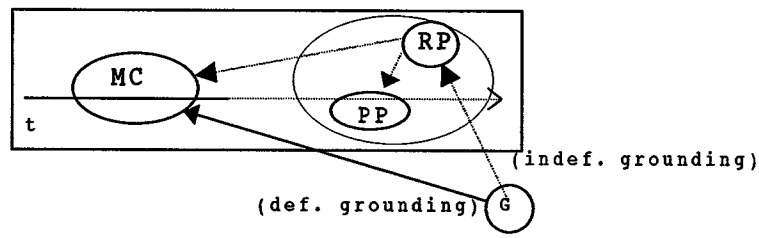


Fig. 7

Figures 6 and 7 are the diagrams for BCs with the preterit form and the pluperfect respectively. In the former, the BC is grounded in a definite manner, while the latter shows that the reference point is not situated in a certain position in time, and is therefore construed as being indefinitely grounded.

As seen in Figure 7, furthermore, the reference point shows dual functions: (i) in the inter-clausal relation, it is used to specify the temporal order between the main clause and the subordinate clause, and (ii) in the inner-clausal relation, it is employed to capture the terminal point of the event expressed by the past participle as observed in the normal usage of the pluperfect (and the

perfect).

The latter characteristic of the pluperfect becomes prominent especially when the BC is considered as a counter-factual reading. This is because the difference between the definite and indefinite grounding is neutralized in that interpretation. Consider the examples (19) again, cited as (23) below.

(23) a. The seeds rotted before they (had) germinated.
b. The progress is good, since the doctors removed the tumor before it (had) spread too far.
c. I managed to cover up the embezzlement before the accountants (had) discovered it.

It was observed in 3.4.1 that the counter-factual readings in (23) resulted from our knowledge of causality, but not from the function of tense. In this case, the difference between the past tense and the pluperfect is only sensitive to the semantic aspect of whether or not the event is construed holistically.

The same account may be provided to the non-factual readings indicated by the negative polarity items, which endorses our analysis.

(24) a. Susan finished breakfast before John ever read the newspaper. (And, eventually he didn't read it; or he did.)

b. Susan finished breakfast before John read any newspaper. (And, eventually he didn't read it; or he did.)

The items of any and ever function as helping the aspect of the process to be construed in an imperfective way. In other words, they are usually utilized to express that the described process is not a single instance, or is unspecified. This function of these items should be regarded to bring about the same effect as the indefinite reference point taken by the pluperfect of the BC.

4.5 Concluding Remarks

This chapter has discussed by what semantic properties the various interpretations of factivity in BCs are motivated. After we critically examined the problems with the previous studies, we demonstrated the following things. Firstly, the reason why the BC can be construed as counter-factual is because, in the relationship between the head and subordinate clauses, the former latently functions as a barrier for the realization of the process in the BC. In addition, we indicated that this barrier-hood results from the conceptualizer's retrospective processing over the

objective time.

Secondly, based on the basic characterization of before described in 4.4.1, we raised the question of why BCs with the pluperfect indicate a non-factual reading, while ones with the past tense are considered to express factual events. Regarding this question, we have claimed the following things. The reason why the past tense in BCs is employed as an indicator of factual statements is because of its inherent definite property. On the other hand, we pointed out that the reference point in the pluperfect may be construed in an indefinite way. This characteristic is utilized to indicate non-factual readings in BCs. Moreover, it was pointed out that this analysis on the definiteness may extend over the problem of why the negative polarity items also indicate the non-factual reading as in the case of the pluperfect.

Notes

[1] This spirit is shared with a fair instance of Construction Grammar (Croft (2001)). Cognitive Grammar and this branch of Construction Grammar do not accept the so-called "building block metaphor" for the analysis of the composite structures. Langacker (1999) claims that the composite (semantic) structures should be regarded as having a unit status like component structures. This indicates that a linguistic unit cannot be fully analyzable, or only partially analyzable. Therefore, in Cognitive-Grammar analysis, both of the aspects of the composite structures, holistic senses and componential (analytical) sense are always paid attention to.

[2] Givón (1973) claims the epistemic status of the past tense as follows: "All else being equal, past and present-progressive tenses commit the speaker to the belief that the act did take place.... These two modalities are thus factive,..." (p. 108). Moreover, Langacker (1991:245) also assumes that the prototypical function of the past tense situates a profiled event in the "known reality", i.e. in the factual knowledge for the conceptualizer.

[3] More generally, this term may be characterized as

referring to the situation whose factual status is unspecified. Therefore, all future events may be situated under this label.

[4] Hainämäki's assumption here develops the following observation of Lakoff (1971): the counter-factual reading is based on the negative presupposition, whereas the factual interpretation is motivated in the positive presupposition. However, Lakoff gives no specific conditions on how the difference is produced.

[5] I ask the reader to remember our discussion on grounding in Chapter two. But the following quote on grounding from Langacker (1991) may be helpful:

> "A grounding predication situates a profiled thing or process, which of course is centered on the speech act participants. I suggest that one should take quite seriously the notion of ground being—in some real sense—the vantage point from which a linguistically coded scene is viewed. In particular, the circumstances of the speech event, together with the nature of the grounding relationship can be thought of as defining a sort of viewing frame representing what is immediately accessible for focused observation…. The viewing frame serves as a window on the situation described by a finite clause, and the clause's processual profile is by definition the focal point within the immediate scope thus defined (Langacker (1991:441))".

[6] How is this discrepancy utilized for the linguistic purpose? The following examples help us to understand this matter.

(i) "How do you know that?" There was a slightly uncomfortable pause before Madame Doubtfire explained, "you will...."

(Mrs. Doubtfire p.57)

(ii) "Who's Andre?" Her breath caught as he asked and she took a moment before she answered, "Andre was his little boy."

(Vanished P.88)

(iii) She went upstairs to kiss him before she went out for the evening.

(Vanished P.91)

Discourse (i) and (ii) both start at the question. If you ask a question, you, of course, expect some answer from your interlocutor; and in fact the answers are given at the end of examples. The point here is that the expected events at the time of the previous sentences are described in the BCs of the subsequent sentences, and the events in the head clause are inserted into the midst in time. Based on this, the process in the BC is accessed by the conceptualizer prior to the head clause, i.e. it functions as a reference point,

as described in the previous paragraph, unlike the temporal connective after.

CHAPTER 5

A Form-Meaning Mismatch in the English Perfect

5.1 Introduction

This chapter addresses a form-meaning mismatch of another kind: the long-standing problem of why a construction containing the present tense morpheme can be employed for the linguistic coding of an (indefinite) past-time event in English. Given that the English perfect construction indicates a past-time event, the question is what semantic contribution the function of the present tense morpheme makes to the meaning of the entire construction. Is it semantically vacuous? We shall show that the

Cognitive-Grammar notion of partial compositionality, which has been utilized in this dissertation, also here, provides a new insight to the study of the form-meaning relationship in English perfect construction. Especially, by utilizing this notion for the description of English perfect, we shall demonstrate that the present tense morpheme not only makes a semantic contribution, but its relationship with the senses indicated by the perfect is also clarified.[1]

As introduced in 1.2.4, one major problem with the previous studies dealing with the perfect construction is that they have failed to propose a semantic derivation mechanism to capture how a wide range of senses expressed by that construction such as result, perfect, continuity, or experience are related to the present tense. The notion of "current relevance" may be one of the best-known terms for the researchers to refer to the invariant part of semantics of the perfect (cf. Leech (1987) and Palmer (1987)). However, as often pointed out and will be ascertained below, the term, which just admits that a past event is "somehow" construed with regard to the present time, can hardly be regarded as nailing down the semantically intrinsic characteristic of the perfect construction.

Here, we shall present a semantic derivation mechanism of the perfect that we call the Basic Schema. Our proposal

is that by postulating this schema, various meanings potentially indicated by the English perfect can be reduced to a matter of degree in the single scale that the Basic Schema provides, as well as providing a motivation for the use of the present tense in this construction. Needless to say, this approach goes past the conventional semantic classification represented by Declerck (1991a) and Kashino (1999) in that we not only attempt to solve the problem of the form-meaning mismatch in the English perfect, but we also seek for its inherent semantic property in terms of the single mechanism.

The notion of Basic Schema is derived from that of partial compositionality (Langacker (1999)). The latter notion has recently been developed by Fauconnier and Sweetser (1996) and Fauconnier (1997), and in some contexts, it has also been called conceptual blending, especially when a research is done under the contexts of Mental Space Theory, a branch of Cognitive Linguistics (see Fauconnier (1985) and chapter 3.2 of this dissertation for a small introductory note on this branch). In our discussion after section three of this chapter, we shall employ the term of conceptual blending, rather than that of partial compositionality, because our notion of the Basic Schema in part incorporates certain terms from Mental Space theory such as projections, as will be clarified below. But keep

it in mind that there is no substantial difference between these two terms.

This chapter proceeds in the following order. Section two is allocated for observing basic characteristics of the English perfect by reviewing Reichenbach's (1947) SRE theory and McCawley's (1971) semantic classification of the perfect. In section three, we make a sketch on the notions of conceptual blending, a mental-space theory counterpart of the notion of partial compositionality. In section four, we shall present the Basic Schema guaranteeing the semantic function of perfect construction, continuing on to explain the various differences and/or connections between them. Concluding remarks are provided in section five.

5.2 Essential Characteristics of the English Perfect

5.2.1 Differences Between the Perfect and Past Tense

In this subsection, we first confirm an essential difference between the usages of the past tense and the perfect, and then we proceed to the review of Reichenbach's (1947) schemata for these temporal expressions, which has long been considered as a milestone in the analysis of the

English perfect.

As in the extract from Leech (1987) below, it is generally thought that past tense and the perfect construction both represent past events: "It is well known that English has two chief ways of indicating past time by means of the verb: the past tense (I worked, he wrote, etc.) and the Perfect aspect (I have worked, he has written, etc.)." (Leech (1987:35)). This quote seems to very well show English speakers' intuition for the perfect, i.e. the perfect is an expression for past events, as the same kind of descriptions are observed in many English grammar books (e.g. McCawley (1971) Swan (1985), Wood (1961), Quirk et al. (1985) etc.). In other words, the perfect has been traditionally regarded as a variant of past tense.

Now then, the simple question to this view occurs as how the past tense and perfect, both of which can code the same past event, differ, and as why the present tense morpheme appears in the latter.

It was Reichenbach (1947) and his SRE theory that set a standard by which this could be measured. According to Reichenbach, it is the position of R (point of reference/reference time) that brings about the difference between past time and present perfect. Compare the two figures below.

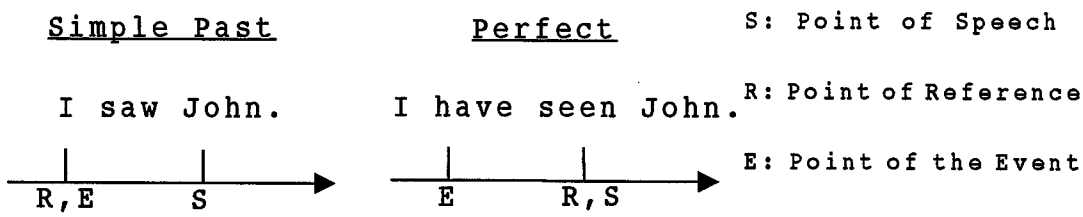


Figure 1 Figure 2

(Reichenbach (1947:290))

Reichenbach distinguished the past tense and perfect as in Figure 1 and 2, respectively. As can be seen here, the difference lies in whether R is temporally put together with E (in the case of the past tense) or it with S (in the case of the perfect). Though Reichenbach himself does not provide a definition of R clearly, if we understand it as a "speaker's time orientation," following Ogihara's (1997), we can get a generalization concerning the perfect use that the perfect construction certainly expresses a past-time event, but the speaker's time orientation remains at the speech moment, and therefore, the present tense, rather than the past, is employed in that expression.

Part of this characterization may be endorsed by the well-known fact that unlike the past tense, the perfect hardly co-occurs with temporal adverbials indicating some specific past time, as exemplified in (1) below.

(1) a. He {bought/*has bought} his mother some flowers

on 19th of May. It was her 56th birthday.

b. Ronald Reagan {graduated/*has graduated} from the movie world into politics in 1966.

c. They all {laughed/*have laughed} when she fell over.

d.*John has visited Fred's house yesterday/the other day/last night.

In sum, though both of the past tense and perfect can indicate a past-time event, the difference lies in the fact that the event marked by the former can temporally be specified, whereas that of the latter cannot, and this feature is brought about by that of the positioning of speaker's orientation of time (i.e. R): it is put in the past together with the past event in the former case, whereas the latter does not shift the time orientation to the past.

Now, we may face a problem of how this property is actually realized in each sense expressed by the perfect construction. Given that the speaker's time orientation (R) is directed to the speech situation, we have to clarify its relationship with various senses of the perfect construction. Otherwise, the feature that the R of the perfect remains at the speech time is just vacuously postulated so as to tell it from the past tense.

Besides, related to this, as pointed out by Dinsmore (1990) and Ogihara (1996), regarding the concept of R,

Reichenbach only goes so far as to say that R is decided by context, failing to define R in any real detail. Therefore, if we want to incorporate this concept into our theory, we must show how it is accomplished.

5.2.2 Current Relevance and Polysemy of the English Perfect

While various senses are discerned in the English perfect, researchers have attempted to capture its commonality (for instance, Inoue (1978), Michaelis (1993)). Especially, they seek for a semantic motivation for the speaker's time orientation considered as remaining at the speech time as in Figure 2 above; since, otherwise, the notion of R would be vacuous, as mentioned above.

Regarding this problem, the concept of current relevance is widely accepted. The notion of current relevance may be defined as follows: "The perfect tense represents a past activity, occurrence or situation as being some way connected with the present" (Wood (1961:173)).

However, the problem is that the notion of current relevance is too loose to be regarded as an invariant sense of the perfect and as grounding that the time orientation to the speech time is invariantly discerned when the perfect

is employed. We need a definite characterization of the notion of current relevance, rather than "somehow." In what follows, we will ascertain this criticism to be true by reviewing McCawley (1971), one of the most representative classifications of the perfect semantics.

McCawley (1971) divides the semantic function of the perfect into four general types: (i) stative, (ii) hot news, (iii) universal, and (iv) existential. Let us first consider how these senses are defined in turn.

McCawley (1971:103) provides the sense of stative with the definition of "to indicate that direct effect of a past event still continues," giving the following example.

(2) I can't come to the party-I've got the flue.

(McCawley (1971:103))

Note that this sense subsumes the meanings of result and perfect normally supposed in the perfect (cf. Leech (1987)). Since the result of a past event is considered as being left as a current state, this sense is called stative. This characteristic can be seen clearly in (3) below.[2]

(3) John has arrived here. (He is still here./*But he is not here anymore.)

When the sense of stative is intended, the utterance that cancels its effect at the present time is never produced.

Next, the second sense, hot news, is defined as "to report hot news" (ibid.103)), and examples (4) exemplify instances of this use.

(4) a. Malcilm X has just been assassinated.
(McCawley (1971:103))

b. "Congratulations, Catherine, you've just won a full scholarship to Northwestern University."

McCawley states that the sense of hot news conveys "to transmit recent events to the listener", giving it a separate classification to the sense of stative above.

McCawley defines the third sense of universal as indicating that "a state of affairs prevailed throughout some interval stretching from the past into the present" (McCawley (1971:103)), and provides (5a) as an example. (5b,c) are also considered as expressing this sense.

(5) a. I've know Max since 1960. (McCawley (1971:103))

b. She has been suspended for testing positive for steroids.

c. "I've always hated the policemen."

In this usage, it is considered that the continuation of a past event until the present is strongly implied. Note that this sense is also labeled as continuity elsewhere (Leech (1987)).

Lastly, to the case of the sense of existential, example (6) is offered. This sense is defined as indicating "the existence of past events" (McCawley(1971:103)).

(6) I have read Principia Mathematica 5 times.

(McCawley (1971:103))

In contrast to the senses of stative and hot news above, especially, it is pointed out that this usage is exploited just to represent the existence of past events, with no need for it to be a recent happening as seen in (4) above, and with no restriction on the amount of times an event occurred, as shown in examples (7) below.

(7) a. "I HAVE been here before; first with Sebastian more than twenty years ago."

b. Alberto Fujimori has been re-elected: once in 1995 and again in 2000.

We have looked over the four senses that are supposed to be assigned to the perfect semantics.

Here, we may encounter a simple question of what exactly the concept of current relevance means, which is assumed to be inherent in all the senses. It is clear that from the definitions of four senses observed above, each sense differs slightly in its "way of connecting with the present time", giving no unity to the concept itself. For instance, in senses of stative and universal, the relationship between

the past event and the present situation is overtly pointed out as part of their senses, whereas in the cases of hot news and existential, they are defined without touching on the relationship with the present situation, although the current relevance is presupposed as the invariant part of entire semantics of the perfect.

Besides, there is no principle presented that provides a universal explanation for the relationship between these different senses. If the four senses reflect a property of "how an event is connected with the present" (i.e. current relevance), then one must also show a derivation mechanism which bridges the gap between the notion of current relevance and the senses expressed by the perfect construction. Otherwise, we would have to regard the R as semantically vacuous, or it would be supposed just to tell it from the past tense.

5.3 Theoretical Preliminaries

5.3.1 Conceptual Blending

This subsection provides a theoretical basis to capture an inherent semantics of the English perfect construction. As mentioned in the introduction of this chapter, in chapter

four, we present the Basic Schema that makes it possible for a wide range of senses expressed by the English perfect to be measured on the single scale. In what follows, we outline Fauconnier's (1997) idea of conceptual blending, which has refined the notion of partial compositionality.

To the notion of conceptual blending, Fauconnier (1997:149) offers the following characterization:

> (A) It [Blending] operates on two input mental spaces to yield a third space, the blend. The blend inherits partial structure from the input spaces and has emergent structure of its own.
>
> (Fauconnier 1997:149))

Keeping this in mind, consider the sentence below.

> (8) At this point, Great America II is 4.5 days ahead of Northern Light. (Fauconnier (1997:149))

Fauconnier claims that the conceptual blending is one of our major cognitive activities, and in order to interpret a sentence like (8), the descriptive notion like this is indispensable.

Example (8), taken from a 1993 article reporting on the current status of a yacht race, states that the sailing ship Great America II has a 4.5 day lead on the Northern Light, a ship which sailed the same course in 1853. Following

Fauconnier, in order to properly understand what example (8) means, it is surely insufficient to process only either the base space (i.e. 1993 space) or past event space (i.e. 1853 space), which are regarded as being in reality (see 1.3.1 for the notion of reality here).

Fauconnier (1997) makes the analysis, as shown in figure 3 below, that it is blending the two spaces of the base space (Input 1) and the past event space (Input 2) to attain one situation, that makes possible the interpretation of two temporally different races.

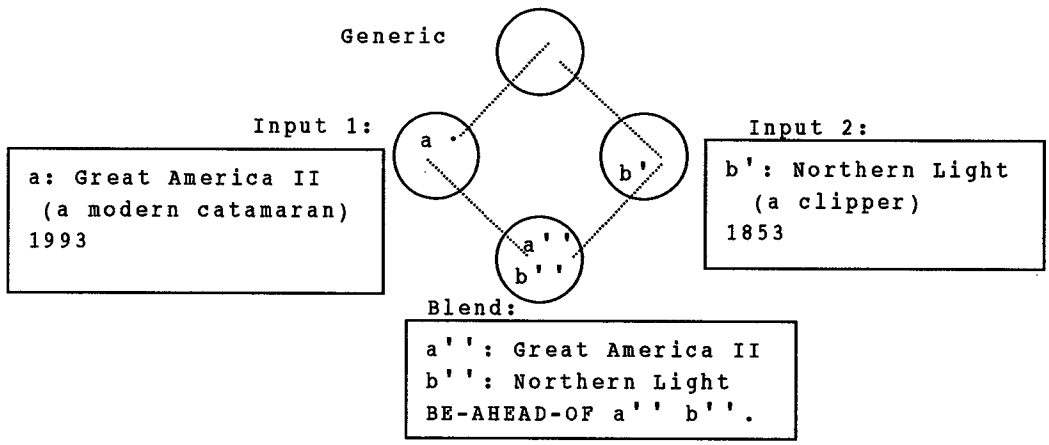


Figure 3

What Fauconnier intends here is that the object to be compared (i.e. Northern Light in 1853) should be supposed to be projected from the past event space to the base space serving as a denominator for the comparison, and as a result of this projection, a space emerges that only exists

virtually. This is the blend space, which can be an object of linguistic coding. Note that the situation (i.e. the blend space) where the two yachts are racing is never obtained in reality, or truth-functionally.[3]

5.3.2 The English Perfect in Terms of Conceptual Blending

We shall propose that the same interpretation process occurs in the case of the English perfect. Thus, we think of the perfect construction as triggering a blended situation consisting of the base space (i.e. the time of speech where the speaker/hearer are situated) and the past event space (i.e. where the event indicated by the past participle is situated). Further, we make a claim that the extent of projection from the two spaces to the blend space is reflected in the difference among the senses expressed by the perfect construction.

Let us first present how the blending of the perfect can be described in term of this notion. Consider example (9) and Figure 4 below:

(9) John has bought a new car.

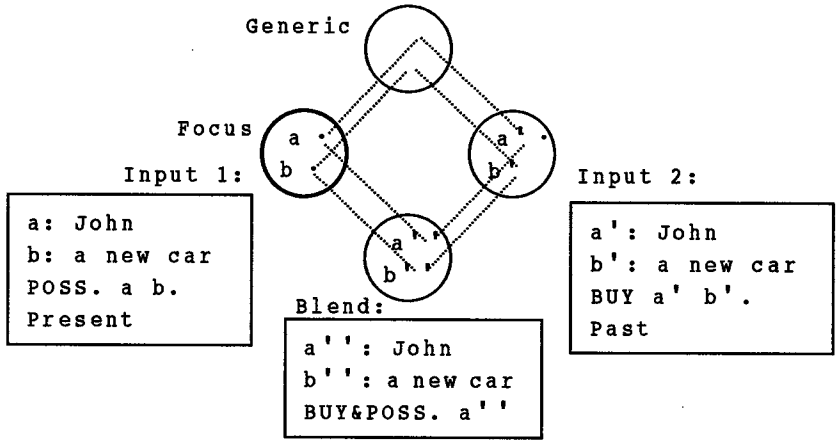


Figure 4

The point here is that the blend space is produced by the partial projections from the elements of the base space and the past space.

As might have been noticed, the focus is added to Figure 4. What is intended by this is that we regard the base space as serving as a denominator to form a blend space, like the case above. We suppose that this notion corresponds to that of R proposed by Reichenbach (1947) in 5.2. In other words, we propose that the perfect construction is employed to process the relationships between the elements observed in the base space (i.e. the present situation, or the ground), having the benefit of the past event space evoked by the past participle.

We may here encounter the problem of why the past event space could not be the space in focus. But this question can be put away with the following reasons. As Hofman and

Kageyama (1986:83) pointed out, the perfect is employed to indicate an indefinite past-time event, in contrast to the preterit prototypically referring to a definite past time. Thus, epistemically, the event evoked by the perfect is different from that by the preterit, while the previous approach considering the perfect as a variant of the past tense deals with them equivalently as indicating a past-time event. However, when we shift our point of view of their epistemic characters, it is not true. We find that the former be never treated like the latter. To put it differently, in terms of our analysis, its auxiliary status to a cognitive process never allows it to function as indicating a specific time like the preterit, since only necessary elements in that space are utilized for the cognitive processing.

The structural characteristic of the perfect endorses this assumption: simply, in the construction of the auxiliary <u>have</u> plus past participle, the head of the phrase is regarded as the former showing the present tense morpheme.

The reasons above allow us to suppose the base space as a denominator for the blend space produced by the perfect, and that construction is exploited to process the base space situation when the situation presented to the conceptualizer is not enough to process it by itself. Given

this, the problems left are how the individual senses are captured in this framework, which is shown in the next chapter with the introduction of the Basic Schema.

5.4 A Cognitive Grammar Approach to the English Perfect

5.4.1 The Basic Schema of the English Perfect

In light of the previous section, we make a proposal that it is indeed the difference in the extent of bilateral projection that causes that in the semantics of the perfect. Figure 5 below diagrams this feature. Note that the blend space is cut out from the diagram, but this is only for the expository purpose. So we have to understand that the blend space is created whenever the bilateral projections occur.

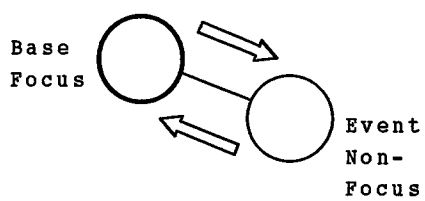


Figure 5: Basic Schema

In figure 5, one should observe that two bilaterally projected relationships shown by and exist between the two spaces. This is the essence of the immanently evoked

meaning of the perfect. In other words, we conclude that it is to what extent elements in the two spaces are inherited to the blend space by these projections that determines differences in the senses of stative, hot news, universal, and existential. In what follows, based on this Basic Schema, we discuss how the various meanings expressed by the perfect construction is produced.

5.4.2 Stative and Hot News

Given our Basic Schema for the perfect, the sense of stative can be paraphrased as when the extent of the bilateral projection is the highest, i.e. the most elements are projected from the past event space. Consider (10) and Figure 6 below.

(10) A: Do you know John has bought an expensive new car?

B: Wow! I didn't know that.

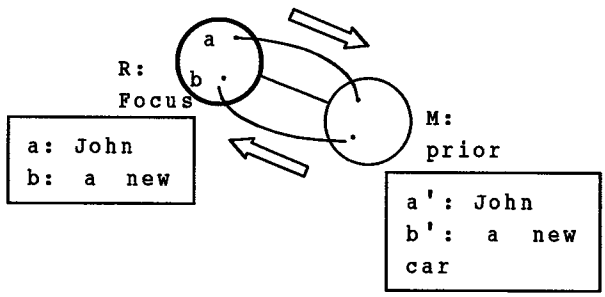


Figure 6 for Stative

With a typical process such as in (13), here at first, a: John and b: a new car are thought to exist as elements in the base space, which is the focus of cognitive processing. In order to appropriately process the relationship between John and the new car observed in this space, the conceptualizer evokes the past event space M, the function of which indicated by projection . By accessing the space M, the conceptualizer attains the situation where John (a') buys a car (b'), and, further, that relationship is re-projected back into the base space through projection . As a result of this procedure, the blend space that has a structure of a-a'-buy-b'-b is produced, so that the implication of "John not only bought a car in the past, he still owns that car now" is brought about. This is the interpretation process of what is conventionally called the "stative" usage.

Concerning the sense of stative, the following things should be noted. It is sometimes pointed out that a feature of the stative sense is "temporal proximity" (Palmer (1990)). However, the feature of temporal proximity is collateral with the high degree of bilateral-projections observed in the sense of stative. Consider example (14) below.

(11) Mother has kicked me out of the house long time ago.

In fact, this example can be read as showing a stative reading, when the speaker and hearer are on the spot when he/she utters (11), even though the evoked past event space and base space are not in temporally proximity, as the phrase of long time ago is attached at the end of the sentence. Thus, a feature of temporal proximity should not be considered as an inherent property of the sense of stative, let alone not of the perfect construction.

Finally, let us touch upon the semantic difference between the senses of stative and hot news. Consider examples (12) below. (12a) may be construed as the sense of hot news, while (12b) is read as that of stative.

(12) a. Look! John's eaten all the ice cream on the plate.

b. John's eaten all the ice cream on the plate.

As opposed to McCawley's classification, we suppose that the two senses of hot news and stative is not far from each

other.

As can be seen in (12a, b), the difference between them is determined merely by whether the speaker forces the same process seen in Figure 6 on the listener, or whether the speaker and listener carry out this process together. If one dares to point out the difference between the two, it would be that the degree of projection (especially that of) in the case of hot news only becomes weaker to the same extent as the listener is forced to reason about the elements within the base space.

5.4.3 Existential Sense

In this section we will examine a case in which the degree of bilateral projection is at its lowest in terms of basic schema. The bottom line is that the sense of existential is obtained in this case.

Consider example (13) and Figure 7 below.

(13) A: Do you know John has bought a NEW car but not a SECOND-hand before?

B: Really, he must have been rich then.

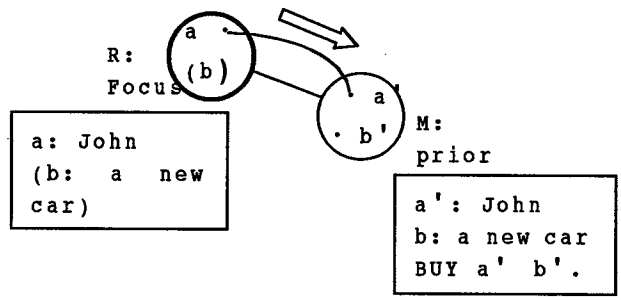


Figure 7

In a typical processing of (13), the focus is firstly set in the base space. To process this focus space, the element of a: John of the base space being identified as a' within event space M, the resulting a'-buy-b' relationship being processed, which is the same as the case of the stative sense.

In contrast to the sense of stative in Figure 6, what would happen here, if we couldn't (or didn't) identify b, the correspondent to b' within the base space due to projection being non existent (or extremely weak), it would be that we could not guarantee the formation of a relationship between a and b in the base space, since we are only able to process a-a'-buy-b'. In sum, a: John would finish with the process "purchased a car" in the past space M. When the degree of projection is low, the new car b' within the past event space is not re-projected back into

the base space. There is therefore no necessity for John to be in possession of a car at present, (or in base space). This is known as the conventional "Existential" usage, allowing appropriate explanation of the features seen in section 5.2.2.

One advantage of this analysis may be observed in the contrast in grammaticality in the following sentences.

(14) a. * John Lennon has been married twice.

b. I have been to a John Lennon's concert before.

It is pointed out by Leech (1987) that the perfect cannot be used to describe someone who in reality does not exist as in (14a). This is explained in terms of our theory as follows: the perfect processes the base space, and therefore, the fact that the central element (in this case John Lennon) of the base space, the object to be processed, does not exist thus produces an inconsistency.

However, what we really have to pay attention to is the grammatical fact of (14b). Many grammatical texts such as Wood (1967) have concluded any case, such as (14b), in which a non-existent object occurs in addition to the central element as inadmissible. But through the investigations of an informant, the sort of sentence seen in (14b) is in fact completely admissible. This is all of course foreseen and appropriately explained through the basic schema analysis.

If John Lennon (his concert) existed at some past point, and if one has been to see him, then in spite of whether he/it exists in the present or not, the sentence can be read as "existential" reading toward the subject is certainly guaranteed.

Moreover, with regard to the problem of the co-occurrence of the perfect with temporal adverbs, our theory shows an advantage over the previous studies in that the unmarked reading can be predicted. Let us first consider the examples (15) below.

(15) a. I've watched the movie.

b. I've watched the movie before.

According to Leech (1987:79), example (15a) is unmarkedly construed as stative, while (15b) is as experiential. When unaided by special context or adverbs, it is normal to interpret the sentence as stative. On the other hand, the need to attach before as in (15b) or read it putting emphasis on have is required to create an "existential" reading without a specific context provided. On the contrary, it is also pointed out that when have is emphasized, a stative reading is impossible.

When this fact is considered from the viewpoint of the Basic Schema, the temporal directionality of before, which agrees with projection , could be regarded as getting that

projection prominent. In other words, by getting projection prominent, projection is backgrounded, as a result, the reading of experiential is produced.

On the other hand, when a temporal adverbial agrees with projection , as expected, the stative reading is reinforced and the existential reading can be cancelled. Compare the sentences below.

(16)a. I have been to a John Lennon's concert before.
(=14b)

b.*I have just been to a John Lennon's concert.

Though (16a) is admissible in an existential sense as shown in (14b), the introduction of an adverb such as <u>just</u>, which implies that the projection is strong makes the existential reading impossible. This is because even if we carried out projection for example, as the correspondent John Lennon does not exist in real space, therefore, the reading of existential would be cancelled.

5.4.3 Universal Sense

In the sections leading up to this we have considered both the extremely strongly reflected "stative, hot news" usage and the weakly reflected "existential" usage in terms

of the basic schema. If we turn our attention to a medium of the two, we find a sense of universal to be obtained.

(17) a. Nepal has produced the world's greatest soldiers.
(Leech (1987: 40))

b. John has delivered lectures on the subject of Relativity.

When taking (17a) as a typical example, as a result of bilateral projection (especially in projection) being reflected comparatively strongly, it can be said that these "soldiers" are required to definitely exist. However, as the situation within the past event space is not necessarily strong enough to be completely projected, not all soldiers produced necessarily exist in real space. By switching to our point of view we see that these soldier's correspondents are allowed to exist in a past space separate to real space. On this point it can be said that the previously discussed "existential" reading is similar, but as at least one correspondent must be present in real space the latter undergoes more intense projection than the "existential" does. The same analysis is also viable with (17b).

Therefore, by analyzing from a viewpoint of bilateral projection degree based on basic schema, we can also capture the continuity of width in the meaning of the present perfect form.

5.5 Conclusion

In this chapter, by placing great importance on the conceptual blending, we have proposed a derivation mechanism of the perfect senses called the Basic Schema. This idea is intended as bridging the gap between the notion of current relevance and the senses expressed by the perfect construction, which has been puzzling English grammarians. Based on the schema, we argued that the meanings conveyed by the perfect can be reduced to as a matter of degree over the same scale: the extent of the projection in forming the blend space determines the difference among the perfect senses. The implication of our analysis here is that we could present a new method of analysis to a language phenomenon, which since Reichenbach (1947) has simply been discussed in terms of time order relationships.

Notes

[1] Parts of this work originated from my workshop presentation with Miyagi Sadamitsu at 25th Annual Conference of Kansai Linguistic Society held at Kobe University of Commerce. This research, of course, is based on my own analysis and developed of my own. But I thank Miyagi Sadamitsu for allowing me to develop the content of our presentation after the conference and to incorporate it into this chapter.

[2] In addition, in Leech (1987) and Palmer (1987) it is also seen that, as in (i) and (ii) below, "recently occurred events" are a feature of this usage.

(i) But Fujimori's government has had its successes. It effectively diminished the threat of terrorists, and it brought more propensity and economic stability to the nation.

[3] Fauconnier (1997), and Fauconnier and Sweetser (1996) are the books that attempt to demonstrate that a cognitive process like blending is not only at work at the heart of fundamental creative language principles such as metaphors, but also deeply related with the generation of grammatical constructions such as causative construction, and further

it is involved on various fronts, such as thinking in science, art and the like.

CHAPTER 6

Concluding Remarks

This dissertation has discussed the problems observed in English modality and tense. A common thread throughout this entire study was to attempt to clarify how meaning is mapped onto linguistic form, in particular, to find out a motivation for the form-meaning relationships that have been regarded as a "mismatch," or an extended instance of arbitrariness in the literature. We addressed the two major issues of this nature that have puzzled English linguists: the relationship between modals and modality, and that

between tense and temporal meaning. These issues were dealt with in chapter two and three, respectively. Moreover, we extended our research to the two case studies that a Cognitive Grammar perspective would provide a new insight to the previous studies: the relationship between the before clause and pluperfect, and that between the English perfect and the present tense. These topics were presented in chapter four and five, respectively. We hope that this dissertation provided some new ideas in the areas of tense and modality. In the rest of this chapter, we look back on what we claimed and demonstrated in this dissertation, and on what significance this research has.

After having introduced the issues of this dissertation in chapter one, chapter two discussed the form-meaning mismatches observed between the modals and their senses. While reviewing the previous work, I claimed that to clarify the internal characteristics of modals, fundamental cognitive notions such as relative subjectification and a semantic network model had to be employed. In 2.4.1, it was demonstrated that relative subjectification could capture the subtle differences in meanings among Appo modals. In particular, the sense of ability that has been regarded as disturbance indeed serves as a prototype for the category. Moreover, in 2.4.2, it was shown that the interrelationship among root meanings can be clearly comprehended in terms

of a semantic network in which relative subjectification is the basis of semantic extension. Additionally, an analysis of epistemic modals as being derived by bleaching provided solutions to certain outstanding problems. Finally, the synchronic analysis of the Appo modals elaborated in 2.4 was shown to be applicable to the existing descriptive generalization about their historical development proposed by Ono (1969), Visser (1969) and Warner (1993).

Chapter three attempted to clarify an invariant property of the past tense that is observed in various temporal contexts. We pointed out that the reason why the previous approaches have failed to do so because they paid attention only to the local temporal relations based on such notions as absolute and relative tenses. This presupposition led many researchers to postulate a distorted form-meaning relationship for the past tense, thereby necessitating such palliative measures as the formal SoT rule or the ambiguity theory of tense.

In place of these classical notions, we proposed the notion of conflated grounding; rather than the resultant temporal relation per se, we argued that the complement tense marking necessarily reflects the vestiges of successive grounding paths. With this idea, it was demonstrated that the instances of the past tense observed

in heterogeneous temporal relations could be captured in a unified fashion. Furthermore, section 3.4.2 argued that our characterization of the past tense proposed in 3.4.1 can not only extend to the analysis of the past, but can also provide a semantic motivation for its morphological contrast with the present tense.

In chaptersfour and five, we extended our concerns on tense and modality to the cases of how they interact with other grammatical factors. In the former chapter, the interaction between the connective before and tense (the past tense and pluperfect) was discussed, the latter chapter addressed what semantic contribution the present tense morpheme made to the entire construction of the perfect.

In chapter four, we first pointed out that the previous work's failure to provide a motivation for the form-meaning pairings results from a lack of analysis on the inherent semantics of before and their confusion over factivity expressed by the BC. We, then, in place of these analyses, proposed that the seemingly paradoxical usage of the pluperfect, in fact, played a crucial role in cueing a certain status of factivity in the BC, which directly motivated the employment of the pluperfect in the BC.

To demonstrate this, we exploited the notion of partial compositionality, which puts emphasis on interaction among components in forming a composite structure. After

examining the inherent semantics of before in terms of Cognitive Grammar in 4.4.1, we theoretically illuminated that unlike other temporal connectives such as after or when, before had an intrinsic characteristic of obscuring the factive status of the entire clause. Based on this characterization, we proceeded to the problem of how the pluperfect semantically interacts with such an intrinsic sense of before. Finally we showed that the pluperfect in the BC serves as indicating a non-factual status of the entire clause, which contrasts with the counter-factual and factual interpretations potentially indicated by that clause.

Chapter five addressed the relationship between the perfect and present tense. The long-overlooked problem of the English perfect lay in how the notion of current relevance can be linked with the various senses indicated by the perfect. While reviewing the previous study, we presented a semantic derivation mechanism called the Basic Schema that serves as bridging the gap between them. With the postulation of this schema based on the notion of partial compositionality, we could not only motivate form-meaning pairings of the perfect, but we could also show that a wide range of senses were able to be reduced as a matter of degree in the single scale that the Basic schema provides.

Now let us consider what contributions this

dissertation may have made to English linguistics research. At least two things may be taken out. Firstly, the two descriptive concepts of relative subjectification and conflated grounding were newly proposed in this dissertation. By utilizing the former notion, we not only showed that our analysis could capture the internal relationships among modal senses, but we also suggested that it is commensurable to the phonological analysis beyond the semantic domain, which implies that this descriptive tool potentially went far beyond just handling modals.

Further, the second notion of conflated grounding has its place by bringing an entirely new perspective into the form-meaning relationship of tense by employing a metaphor from a genetic model. We demonstrated that this new perspective could provide a natural motivation for the form-meaning relationship between tense and temporal relationships. But the task of whether or not this idea could extend to the cases of form-meaning mismatches observed in other areas of grammar would have to await further research.

Secondly, it was shown that the idea of partial compositionality, one of the Cognitive Grammar's fundamental notions in analyzing grammar of language could be applicable to the grammatical problems of tense and perfect. The idea of partial compositionality has mainly

been employed in the analysis of constructions in Cognitive Grammar, but this study clearly showed that the same notion could be useful for a "lower" level of linguistic analysis such as the perfect or within the clause. In this point, our approach could be regarded as fresh.

In sum, we do hope that this study has demonstrated that the analysis with a Cognitive Grammar perspective provides useful insights into the problems of tense and modality that have been puzzling English grammarians.

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