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Aspects of Linguistic Categorization:
Lexical, Relational, and Constructional Case Studies

A Dissertation Submitted to

The Faculty of Letters
Osaka University

In Partial Fulfillment of the Requirements
for the Degree of

Doctor of Philosophy

by

Hiroyuki Takagi

December, 2001

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CHAPTER ONE

INTRODUCTION

1.1. Overall Orientation

This dissertation considers some aspects of linguistic categorization from a cognitive perspective. We would like to show that the cognitivist assumptions, especially those pertaining to the process of categorization, can give motivated explanations to various linguistic phenomena in lexical, relational, and constructional levels. More specifically, we will be concerned with the problems that arise in connection with certain cases of nominal modifications, distribution of reflexive pronouns, and the referent selection of the phonologically zero subject of infinitive clauses.

One important cognitivist assumption to be examined in this dissertation is the way linguistic categorization is effected. We would like to show that many standard as well as problematic phenomena in the areas in which we are interested are given motivated explanations by taking into consideration the mechanisms of linguistic categorization.

Categorization, as assumed in Cognitive Grammar (Langacker 1987a,

1991, 1999b), is essentially the process of comparison between a standard structure, or a schema, and the target of categorization, or a novel expression. The former is stored in the cognitive/linguistic system of the speaker/conceptualizer at his/her disposal, and to the extent that the comparison between the standard and the target structures results in compatibility, the latter is to be judged well formed as an instance of the former. If such compatibility is not achieved, then the target structure would be judged ill formed as an instance of the target structure. We take this as a natural, reasonable assumption about our cognitive capacity in general. By so assuming we could integrate the investigation into linguistic phenomena and the knowledge of more general human cognitive capacity such as object recognition, automaticity, motor control, and etc.

Furthermore, we hope to show that the mechanism of linguistic categorization should not be very different in these three linguistic levels. The categorization of a "thing" conception by a nominal expression, that of a "relation" by a reflexive pronouns, and that of a "pattern of assembly of symbolic units (i.e. grammatical construction)" by a constructional schema are effected largely in the same way.

While the same mechanism of categorization is applicable in all these levels, the specific nature of categorizing and target structures brings about observed properties of specific linguistic phenomena. We hope to show that this overall designing of investigative strategy is indeed workable in explaining linguistic data by presenting the three case studies about which we will briefly overview in the next section.

In this introductory chapter, we shall overview in passing the areas of linguistic phenomena in which we are interested. We then discuss our theoretical orientation in 1.2.

1.1.1. On Certain Modified NPs

Certain nominal modifiers, as in (1), are known to yield apparently contradictory interpretations.

(1) a. He has a missing tooth.

b. He has an amputated leg.

(2) He has a missing hundred-dollar bill.

Here, (1a) and (1b) are interpretable in two distinct ways: one is that he, the possessor, possesses a physical object generally referred to as a tooth which is missing from, for example, someone else's mouth. But such "straightforward" interpretation is not easily obtained for these sentences (as we know the rarity of encountering such situations as possessing someone else's tooth or leg). Instead, the sentence is also interpretable as one that means that one of the teeth of this person is simply absent from where it is supposed to be; in this interpretation, he does not possess in any literal sense a physical object referred to as a tooth. The expression *a missing tooth* seems to designate a state of affairs that may be paraphrased as 'tooth-missingness' and the sentence as a whole is roughly equivalent to 'one of my teeth is missing.' We refer to the latter interpretation as an "SOA (State of Affaires)" reading

and the former as an "entity" reading.

What is intriguing about this phenomenon is found in the fact that the SOA reading is not available in sentences like (2). It is almost impossible to interpret (2) along the lines of (3) (SOA reading).

(3) 'His five-dollar bill is missing.'

The only possible reading of (2) is the entity interpretation shown in (4).

(4) 'He possess a five-dollar bill that is missing from where it is supposed to be.'

Our interest in Chapter Three is what factors give rise to SOA readings, and why it is that some cases allow for this interpretation and some do not. We shall show that the problem will be adequately handled by taking into consideration the process of nominal categorization.

1.1.2. Reflexives

Another area of our interest is the distribution of reflexive pronouns. Although there have been tremendous research efforts to reveal the principles that are responsible for the distributional properties of reflexives, both from syntactic and cognitive/pragmatic perspectives, we are still faced with many residual problems. The Binding Theory proposed in the Chomskian tradition are still overwhelmingly influential, but it

is also known that a lot of "exceptional" cases cannot be treated by this configurational restrictions in a principled manner.¹

For example, sentences like (5) are straightforwardly handled by the Binding Theory, but ones like (6) are problematic (without apparently undesirable modifications of the Binding Theory.²).

(5) a. John₁ loves *him₁/himself₁.

b. John₁ thought that Mary loves him₁/*himself₁.

(6) a. They₁ thought that the book about them₁/themselves₁ would be on sale.

b. John₁ heard stories about him₁/himself₁.

The Binding Theory, which was formulated based on the well-behaved examples like (5) and thus predict that reflexives and pronouns show complementary distribution, faces difficulties with non-complementary cases like (6) (see Note 2). One way to go from here is to take these cases out of the realm of investigation of the Binding Theory, and this approach was indeed taken by a number of researchers. One such approach distinguishes the reflexives like those in (6) from "syntactic" anaphors like those in (5), and categorize them as "logophors," which are defined as the type of pronouns that are involved in the "point of view" of the speaker or of one of the participants of the described event.³

I contend in Chapter Four that this logophor/anaphor distinction is only artificial, and that cognitive linguistic assumptions are able to describe the distribution of reflexive pronouns in a motivated, principled

manner, without regarding sentences like (6) as "exceptional." Furthermore, it will be shown that some cross-linguistic variation as to the locality and subject-orientation will be adequately captured in our framework.

1.1.3. Obligatory Control

The term "obligatory control" is used here to refer to a situation where the zero NP that typically appears in the subject position of a infinitival complement clause obligatorily refers to an argument of the main clause, as shown in (7). (Positions of the zero elements in question are indicated as \emptyset in this chapter).

- (7) a. John tries \emptyset to smile.
b. John persuaded Mary \emptyset to leave.
c. John promised Mary \emptyset to leave.

The referent of the subject of the complement infinitival clause is uniquely specified: *John*, the subject of the main clause in (7a) and (7c), and *Mary*, the object of the main clause in (7b). The referent is uniquely chosen in the sense that it is not possible for the zero subject to refer to *John* and *Mary* at the same time in (7a) and (7b),⁴ nor is it possible for the zero element to refer to some third-party entity outside the sentence.

The selection of the coreferent argument is said to be dependent on what verb is used in the main clause; the object in (7b), where the verb

is *persuade*, and the subject in (7c), where *promise* is used. We are interested in what mechanism underlies the difference in the choice of the coreferent argument.

Another point of interest is the fact that the coreferent argument is chosen from among the arguments in the next higher clause; for an argument in clauses higher than that to be interpreted as coreferent with the zero subject is impossible, as in (8) below. In (8) the underlined NPs are intended to be the controller.

(8) a.*John persuaded Mary to order Bill to leave.

b.*John persuaded Mary to order Bill to leave.

In (8a), *John*, the subject of the highest clause, cannot be understood as coreferential with the zero subject of the most deeply embedded infinitival complement, *to leave*. The possibility that this is not because *order* is a member of the set of verbs that require an object to be coreferential with the zero element is ruled out given the unacceptability of (8b), where an object of the highest clause is not allowed to be coreferential.

These and a number of other related problems have attracted linguists' attention for decades; syntactic, semantic, pragmatic solutions are abundant in the literature. However, many proposed solutions are still highly controversial, and no general agreement seems to have been reached even as to at which level of linguistic representation (i.e. syntax, pragmatics, etc.) mechanisms underlying control facts are to be sought

for. We will propose in Chapter Five that control phenomena are to be treated as a construction phenomenon, and that categorization process of grammatical construction provides motivated account for the problems.

1.2. Theoretical Notes

One of the major goals of the present study is to provide a natural explanation of various linguistic phenomena based on the ideas widely agreed upon by cognitively oriented theories of linguistics. In other words, we assume the tenets of cognitive linguistics that seem to have converged through a number of works in the past several decades. More specifically, our basic understanding of human linguistic capacity and how it is implemented have been adopted from the proposals in Langacker (1987a, 1990b, 1991, 1999b, 2000), Lakoff (1987), Lakoff and Johnson (1999), Goldberg (1995), Talmy (2000a, 2000b), Talyor (1987), Ariel (1990), among many others.⁵

Research efforts by those cited above share several important views about the nature of human linguistic ability and how linguistic investigations should proceed to model it. First, most importantly, human linguistic capacity is not seen as a self-contained algorithmic system as assumed in certain schools of generative linguistics, which, given a legitimate kind of input, can output all and only well formed sentences.⁶ Rather, in the cognitivist tradition, the linguistic capacity is viewed as an integral part of human cognitive capacity.

Secondly, this view of the nature of human linguistic capacity naturally imposes constraints on how linguistic investigations are supposed to be and what kind of explanation is needed in linguistic investigations.

Instead of supposing artifactual mechanisms for the sake of explanation, as practiced in many other theoretical camps, meaningful explanations of linguistic phenomena in the cognitivist sense are ones that are cognitively or psychologically motivated (cf. Langacker (1987a: Ch.1). Following Langacker (1987a, 1991, 1999b, 2000), I assume that only levels of linguistic representation allowed for the sake of description are phonological structure, semantic structure, and the symbolic relationship between the two. That is to say, we essentially accept the idea that language is symbolic in nature. General human cognitive capacity, including schematization, categorization, and entrenchment, plays an important role in describing the behaviors of linguistic signs.

Following this view, grammatical construction, i.e., the pattern of assembly of linguistic signs are regarded as symbolic in nature. In this study, we will show that the mechanisms of linguistic categorization in general assumed in the cognitive linguistic tradition provide adequate explanations to the problems pertaining to nominal modification, control and reflexives. More specifically, we would like to show that general mechanisms of categorization explains why the apparently peculiar interpretation emerges in certain cases of nominal modification, how the nature of construction (in Goldberg's (1995) sense) and the way a construction is categorized play an important role in control phenomena, and how distributional properties of reflexives can be described when we take into consideration the combination of the lexical-level categorization of reflexives and the cognitive characterization of each clausal relation.

1.3. Organization of this Dissertation

The discussion of this dissertation proceeds as follows. In Chapter Two, we will first introduce the basic tenets of cognitive linguistics. Our focus will be on how linguistic categorization is effected, and how grammatical constructions are viewed throughout this study. Chapter Three will be devoted to the discussion of nominal modification. Chapter Four will present our analyses of the distribution of reflexive pronouns. We contend that our analysis naturally captures the cross-linguistic variation too. Chapter Five will deal with the control phenomena. Our claim there will be that the manner of construction-level categorization plays an important role in isolating the possible controller of a zero NP in the structure under investigation.

NOTES TO CHAPTER ONE

¹ Recall the efforts to modify the Binding Theory advanced in the 1980s and early 1990s to accommodate cases that pose problems to it. Those cases include the non-complementary distribution of pronouns and reflexives in so-called "picture nouns" (e.g. Huang (1983), Chomsky (1986)), backward anaphora in "psychological predicates" (e.g. Giorgi (1984), Fujita (1993)) and long-distance anaphora of English picture-noun reflexives and of even argument reflexives in many other languages (e.g. Battistella (1989), Katada (1991), Cole, Hermon and Sung (1990)).

² For example, Huang (1983) attributed the non-complementary distribution of anaphors (reflexive and reciprocal pronouns) found in sentences like (6a) to the stipulated difference of the range of the domain in which their antecedents have to be found. His specific proposal to modify the Binding Theory (that only anaphors, not pronouns, require the "accessible SUBJECT" condition in determining the governing category (i.e. the domain in which an anaphor is to be bound)) cannot account for the non-complementary distribution observed in sentences like (6b). A solution of this kind is obviously not preferable on the grounds that the proposed revision is intended to handle only this specific problem posed by sentences like (6a).

³ The notion of "logophoricity" was first introduced by Clements (1975), in which his research of Western African languages revealed that certain pronouns are to refer to the internal reporter whose "speech, thoughts, feelings, or general state of consciousness are reported." (Clements (1975:

141).

⁴ Note that the referent is uniquely specified in the sense that it is impossible for more than one elements to be so interpreted at the same time, not that it is impossible for one to interpret the sentence in different ways with different referent for each.

⁵ Recent application of this cognitivist assumptions to language acquisition is seen in works by Tomaselo (1992, 1995, 2000a, 2000b, 2001).

⁶ To characterize human linguistic capacity this way seems to be misled in the sense that the nature of the input to the system must be arbitrarily predetermined. For example, the syntactic computational system proposed in the Minimalist Program (Chomsky (1995)) is designed to work to the extent that the input to the system, a "predetermined" set of the proper number of lexical items, each carrying with it the proper "feature" arrangement, is appropriately provided for the later "computation."

CHAPTER TWO

THEORETICAL ASSUMPTIONS

As briefly noted in Chapter One, the cognitivist view of human linguistic capacity is based on the idea that language is not independent from other cognitive ability. This chapter introduces basic assumptions advanced in cognitive linguistic investigations, especially those that appear in the Langackerian tradition of research. Of course, we cannot afford to provide a comprehensive coverage; we shall only focus on basic, indispensable ideas on which our discussions in the chapters depend. For further details of cognitivist assumptions on which we stand, refer to, for example, Langacker (1987a, 1990b, 1991, 1995b, 1995c, 1999b, 2000), Goldberg (1995), van Hoek (1997), and Taylor (1995). Further, for the philosophical background of our understanding of the nature of "meaning," refer to Lakoff and Johnson (1999).

2.1. Grammar

Instead of viewing the grammar of a language as a computational system, as assumed in the generative theories, we regard it as an inventory of

conventions stored at the speaker's disposal that is employed in the speaker's linguistic categorization. This position is especially explicit in Cognitive Grammar (CG), a branch of cognitive linguistics. In this section, we shall overview the cognitivist understanding of grammar basically as advanced in CG. Note that what we shall overview here is mostly based on such standard cognitivist assumptions as advanced in, for example, Langacker (1987a, 1990b, 1991, 1999b, 2000), Goldberg (1995, 1998), Taylor (1995) van Hoek (1997), unless mentioned otherwise.

2.1.1. Symbolic View of Language

Most fundamentally, CG views language as symbolic. In this sense, it basically adopts the Saussurean view of linguistic signs. Language is symbolic in nature in the sense that any linguistic expression is to be regarded as representing a symbolic relationship between the phonological and semantic representations, and these two are both psychological entities. To the extent that this symbolic connection of the two is highly conventionalized, evocation of either component automatically activates the other.¹

A linguistic sign that is well conventionalized, to the point where a speaker has mastered it thoroughly and its evocation is automatically processed, is said to have a *unit status*. To know a language, i.e., to know the grammar of a language, is, in this view, to have the inventory of these conventionalized linguistic units. The psychological mechanism that enables a linguistic sign to obtain a unit status is called *entrenchment*, a cognitive process that facilitates the recurrence of a repeatedly evoked

experience. The neurological/connectionist basis of this process is advanced in Langacker (2000).

The theoretical commitment to the symbolic nature of linguistic expressions as mentioned above is expressed in CG as a principle called the *content requirement*, which requires that only structures permitted in the grammar of a language are: (i) phonological, semantic, or symbolic structures that actually occur in linguistic expressions; (ii) schemas for such structures; and (iii) categorizing relationship involving the elements in (i) and (ii) (Langacker (1987a: 53-54)). (i) states that only the symbolic relation and its components are allowed for in a grammatical representation of a language. (ii) and (iii) will be discussed in some more detail in 2.1.3.

One example of the type of things ruled out by the content requirement, in connection with our discussion of control, is PRO, a special kind of NP assumed in the generative tradition to exist where a zero subject is located.

(1) John asked Mary [PRO to leave].

PRO lacks its phonological feature, and its "semantic content" is only theoretically stipulated as [+anaphoric, +pronominal].² Given this feature combination, generative linguists have taken pains to formulate principles to capture its distributional and anaphoric characteristics (e.g., the facts that the PRO appears only in a subject position of infinitival clause and that it refers only to the closest object NP.).

From a cognitivist standpoint, the zero subject would also be treated as a form-meaning symbolic pair; its semantic content is an unelaborated (i.e. being left unspecified) participant of the verbal relation and its phonological pole is zero. Significantly, if we assume the theory of accessibility (see 2.3 below), being phonologically zero is itself "meaningful." We will show in Chapter Five that this characterization of the zero subject in question will provide a motivated explanation of both its distributional and anaphoric facts.

Accepting the symbolic nature of language like this leads one to regard a grammatical construction, a pattern of assembly of linguistic signs, as also symbolic. That is, an established pattern, say, a ditransitive pattern, itself is paired with its own semantic content. That this view of grammatical constructions is appropriate has been extensively shown in many recent works, some of which are to be discussed in 2.2.

2.1.2. Semantic Pole

Given the emphasis on the form-meaning symbolic relation, the significance of the role played by the meaning in the characterization of linguistic phenomena is obvious. This subsection introduces the CG view of semantic structure.

2.1.2.1. Profile and Base

The semantics of an expression is not given objectively. The CG model equates meaning to *conceptualization*; thus it depends on how the speaker construes the world, rather than how a world is objectively supposed to

be in order to satisfy the truth condition of a proposition. Langacker's (1987a: 138-146) examples include (2) and (3).

(2) a. I will go to Chicago tomorrow.

b. I will come to Chicago tomorrow.

(3) a. The cat is under the blanket.

b. The blanket is over the cat.

The same objective situation is described both either (a) or (b) sentences in both (2) and (3). The difference depends on the speaker's *construal* of the objective situation. For example the difference between the two sentences is derived from the fact that in (a) "the speaker's actual location then serves as point of reference for *go*, whereas in (b) he must in some sense adopt the location of the listener to motivate the use of *come*." (Langacker (1987a: 141))

Having accepted that meaning is to be equated with conceptualization, i.e. mental experience, the CG semantics has to take general cognitive/psychological processes seriously, which the speaker/conceptualizer utilizes when he/she delineate the world. One of such psychological dispositions assumed in CG that we shall overview here is the distinction between *figure* and *ground*.

A substructure of a scene that is perceived as "standing out" is referred to as the *figure*, and the remainder, which recedes to the background, is the *ground*. Such figure/ground organization is not always automatically given; the same scene can be construed in terms of different

figure/ground organizations. But the general tendency is obvious; a relatively small object with clear boundary or a moving object has a tendency to be construed as the figure vis-à-vis its surrounding. (See Langacker (1987a: 120-122)).

One application of the Figure/ground organization is the distinction between *profile* and *base* in the meaning of linguistic expressions. The profile and base correspond to the Figure and background, respectively.

Taking Langacker's example, the base for the conceptualization/meaning evoked by the words *hypotenuse* and *uncle* are the profiled part on the base conceptualization of a right triangle and a family tree.

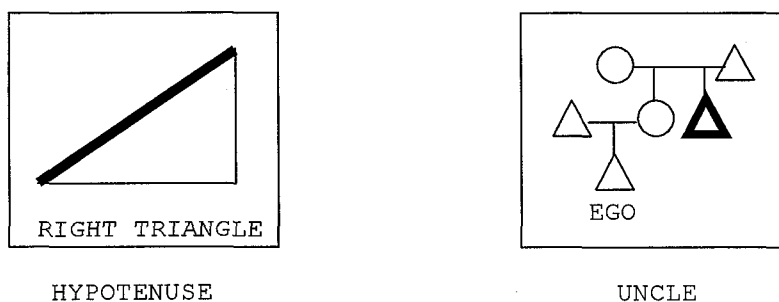


Fig.2-1 Profile and Base
(Langacker (1991: 6))

What an expression designates is the substructure of the base, the profile, which is elevated to a special level of prominence.³ Note that the conceptualization of *hypotenuse* and *uncle* is possible only with the concepts of the right triangle and the kinship network (i.e. the base concepts).

The idea that the meaning (the designatum, i.e. the profile) of a

linguistic expression is in fact supported by the tacit background information (i.e. the base) is exactly what the *frame semantics* claims. Especially noteworthy is Fillmore's (1975, 1982) claim that meaning of words are to be characterized vis-à-vis the speaker's frames. Obviously, what is generally referred to as encyclopedic knowledge is certainly characterized in the same vein.⁴

2.1.2.2. Things and Relations

CG claims that distinction of grammatical categories has semantic foundations. A nominal expression, whether concrete or abstract, designates a type of cognitive entity referred to as a *thing*, and a verb and a preposition designate a *relation*. The following characterization of these notions is a brief sketch of the argument in Langacker (1987a: Ch.5, Ch.6, 1987b).

A thing is defined as a "region in some domain." This definition obviously applies to a physical object, a clearly bounded region in the three-dimensional physical space. Such semantic characteristics motivate the countable/uncountable nouns. Lack of clear boundaries of a region underlies the semantic properties of uncountable nouns.

This semantic characterization of nominal expressions is also applicable to abstract nouns. For example, the deverbal noun *jump* is used as a countable noun because it designates a clearly bounded region; the *process* (verbal relation, see below) of one instance of jumping has an initial and final state, and the component states between them satisfies the characteristics of a region. On the other hand, *jumping* is used as

an uncountable noun, as in *Jumping is good of the leg muscles but very hard on the knees* (Langacker (1987a: 208)). It does not designate an instance of the process of jumping; what it actually represents is a type of process, hence is viewed as a homogeneous unity of instances of jumping, which is a region, though not clearly bounded.

A thing is defined as a region in some domain. Another basic notion assumed in CG is the entity called a *relation*. A relation holds between entities (e.g., between things), and in this sense it is a dependent notion. A relation is conventionally represented by a line (or an arrow to indicate the asymmetry between the participants) between things (a thing is shown by a circle) or other entities, as diagrammed in Figure. 2-2.

Fig.2-2 Things and Relations



A relation is an interconnection between two entities. And this characterization of a relation implies that it is inherently dependent; it presupposes the presence of the entities it interconnects.

Relations are divided into two categories: processes and atemporal relations. A process is a kind of relation that "evolves through conceived time," typically coded by a verb, while an atemporal relation is a kind that holds regardless of time, coded by a preposition, adjective, or adverb.

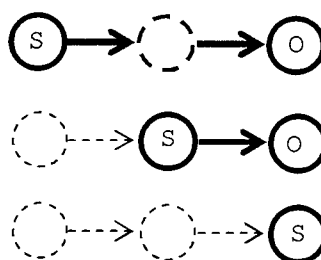
Relational participants are not equal in their salience, and the figure/ground arrangement applies here too. The most salient participant (i.e. the figure) and the other salient participant of the relational profile are called the *trajector* and *landmark* of the relation, respectively.

In a processual relation, it is the trajector and landmark that are canonically coded as the subject and object of a verb, respectively. Langacker (1990b: 332-334) illustrates this situation by (4), together with Figure 2-3, which shows how each sentence has chosen the profiled parts (modified for simplicity).

- (4) a. Sharon dried her hair with the blower.
 b. The blower dried her hair.
 c. Her hair dried.

(Langacker (1990b: 332))

Fig.2-3 Choice of Grammatical Relations



Langacker demonstrated the meaningful correlation between the "thematic role" of an NP and its grammatical relation in a sentence. Diagrammed in Figure 2-3 is a mode of conceptualization referred to as an action chain, wherein the arrows in represent the flow of energetic influence.

The source of energy, i.e. the agent, is the leftmost participant that exerts influence on the second participant, i.e. the instrument, which causes a change of state of the rightmost participant, i.e. the theme. What is significant here is the way the subject (S) is chosen; the leftmost participant of the profiled part is coded as the subject in all sentences in (4).⁵

2.1.2.3. Subjectivity

An event that is linguistically described is by definition observed/ conceptualized by the speaker (and the hearer, if any), and here the distinction between subjective and objective existence arises. In CG, the canonical mode of event conceptualization is captured in terms of the *stage model* of viewing arrangement.

Fig.2-4 Stage Model

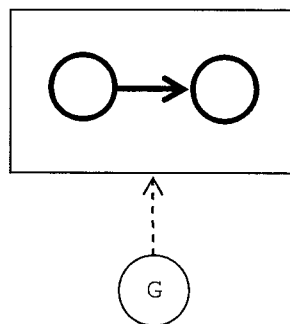


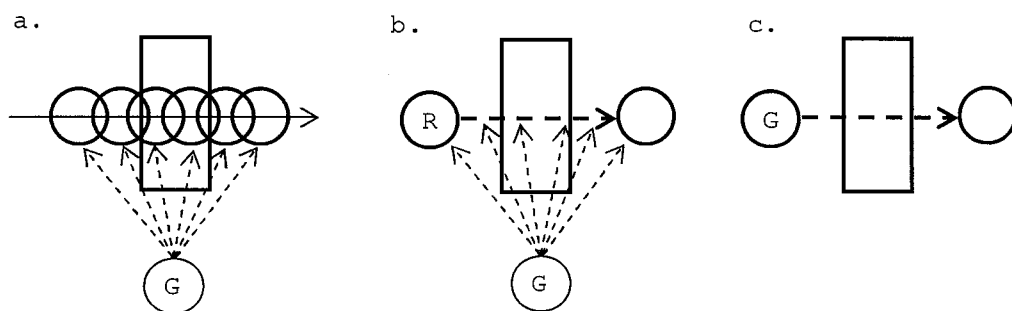
Figure 2-4 diagrams the model of canonical conceptualization, where G stands for the *ground*, an off-stage region where the speaker and hearer are located, and the box is an analogue of a theater stage on which the observed event proceeds. The dashed arrow represents the viewing relation

(*mental path*) of the conceptualizers in G. We will refer to the area in the box as the *on-stage region*.⁶

Note that the speaker in Figure 2-4, located in G, is maximally subjective, and the on-stage event maximally objective; the former is playing a role of the viewer and the latter is nothing but the target of the viewing. However, such simple dichotomy is not always obtained. Consider (5) and Figure 2-5, taken from Langacker (1990a).

- (5) a. Venessa jumped across the table.
- b. Venessa is sitting across the table from Veronica.
- c. Venessa is sitting across the table.

Fig.2-5 Subjectification of *across*



The directional relation coded by the preposition *across* in (5a) is present in the observed event, in which Venessa physically moves along the path that crosses the table, as in Figure 2-5 (a). The landmark of this relation is *the table*, and the trajector is Venessa. In this sense, the relation is *objectively construed*. However, this objectivity is attenuated in (b), which corresponds to (5b). Here, there is nothing that moves across

the table. Instead, it is the speaker's subjective attention that moves "across the table." The speaker uses *Veronica* as a reference point (see 2.1.4) for specifying the location of *Venessa*. The relation coded by *across* in (5b), then, has shifted to the subjective domain to the effect that it is the product of the construal on the part of the subjective observer (see Figure 2-5 (b)), and it still is objective in the sense that an on-stage participant is employed as a reference point. Further attenuation of objectivity is observed in (5c), diagrammed in Figure 2-5 (c), where it is entirely the path of the speaker's subjective attention that motivates the use of *across*. As we go from (a) to (c), the degree of objectivity tapers and that of subjectivity increases.

It is known that the shift of the semantic content of an expression from objective to subjective domains (i.e. the process called *subjectification*) is one of the motivations underlying the process of grammaticalization (the process in which content words come to be used to express grammatical functions) and the resultant diachronic language changes. One well-known example is the meaning of *be going to*, which inherently denotes an objective processual relation of *going* and at the same time is also used as a future marker.

Significantly, in many cases a grammaticalized expression tends to prefer a reduced form; *be going to*, for example, tend to be used in reduced forms when used as a future marker such as *be gonna* and even *gonna* alone (See, among others, Heine et al. (1991), Hopper and Taugott (1993), Ungerer and Schmid (1996)).

(6) a. Bill is going to go to college after all.

b. Bill's gonna go to college after all.

(7) a. Bill is going to college after all.

b.* Bill's gonna college after all.

(Hopper and Traugott (1993))

(8) You gonna like her. (non-standard)

(Ungerer and Schmid (1996))

The pairs in (6) and (7) show that *be going to* as a future marker does, but the same *be going to* as a verb of motion does not, allow for the reduced form. (8) shows further grammaticalization. The future sense of *be going to* is, as demonstrated in Langacker (1990a), thought of as having resulted through the process of subjectification.

One way to capture the correlation between subjectification (and the resultant grammaticalization) and the formal reduction may be found in how Accessibility Theory (Ariel (1990)) relates the accessibility and the formal properties. The main hypothesis presented in Ariel (1990) is the iconic correlation between how accessible the referent of an NP is and what type of formal appearance the NP bears: the more accessible the referent, the lighter its formal appearance. Hence, the zero NP is naturally ranked as most accessible.

Although the theory is mainly concerned with how accessible the referent of an NP is, its basic hypothesis may comfortably apply to other grammatical categories and subjectification in general. We could take subjectification as a process that makes the semantic content of an

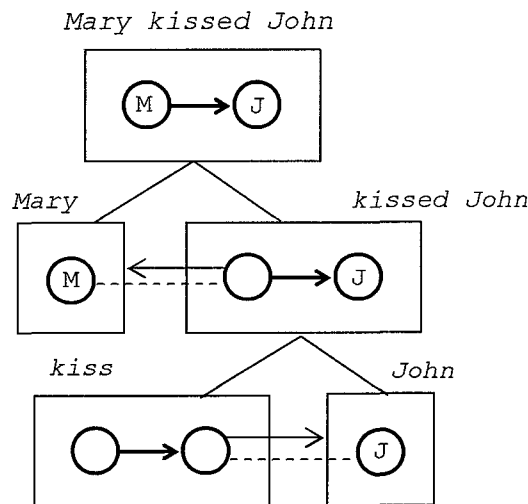
expression more accessible to the speaker/conceptualizer. This point seems plausible because the process of subjectification is a shift of the objective entities into subjective domain, and such subjectified entity is by definition more readily accessible than objective ones.

2.1.2.4. Compositionality

CG claims that the constituent structures observed in linguistic expressions at all levels have a semantic basis. The key concept in the CG modeling of the constituent structure may be its treatment of valence relations, which are regarded basically as a process of replacing an abstract, unspecified part of the semantics structure of an expression with more concrete, specific entity. Consider, for example, the expression *Mary kissed John*. Figure 2-6 below shows how the constituent structure is conceptualized.

Here, the process coded by the verb *kiss* has two schematic participants, one which is replaced (i.e. *elaborated*) by the thing entity with the nominal profile of *John*, and the other by that of *Mary*. Dashed lines and non-bold arrows show the correspondence and elaboration, respectively.

Fig.2-6 Constituent Structure



It is worthy of note here that this constituent structure does not in any sense indicate a process equivalent to the "derivation" as practiced in certain schools of generative linguistics; it simply shows how linguistic conceptualization is effected and how conceptual groupings of words emerge (Langacker (1997a)).^{7,8}

2.1.3. Usage-based Model

Cognitive Grammar contrasts with generative theories with respect to its emphasis on the active role of the speaker (and hearer) as a conceptualizer. The Chomskyan generative theory try to minimize the role of the speaker; for example, it regards the process of language acquisition as the process of "setting a limited number of innately equipped parameters (plus acquisition of lexicon)." In this sense, it is a "top-down" theory. Moreover, generativists presuppose several modular principles that

interact with each other, giving rise to various observed properties of linguistic expressions. In this sense, it is a reductive theory.

In contrast, CG claims itself to be a "bottom-up," "non-reductive" theory, to the effect that it presupposes the speaker's actual involvement in abstraction of commonality out of repeated actual experiences and categorization of new experiences based on the conceptual archetypes stored in the speaker's linguistic system. The Usage-based approach pursued in CG presupposes this two-way cognitive cycle. Let us overview the basic assumptions of this model in this subsection.

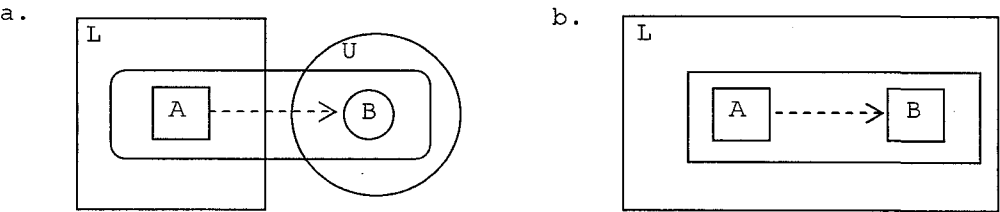
CG takes as granted the speaker's cognitive ability to extract commonality (i.e. *schema*) from experiences to which he/she is exposed, and such commonality is then stored at his/her disposal to be evoked for the purpose of categorizing new experiences. Significantly, repeated exposure to similar experiences and frequent evocations of a schema for categorizations progressively strengthen the neurological basis of the schema (cf. Langacker (2000)). This process, referred to as *entrenchment*, can continue to the point of enabling the schema to be activated in an automatic manner.

The schema-based categorization is basically a process of comparison between the target structure (new experience, i.e. *usage event*⁹) and the standard structure (schema). In this process, a target structure is categorized as an instance of the schema that is evoked for the purpose of comparison to the extent that both structures are judged compatible with each other (See Langacker (1987a: 99-105, 2000)). If the two structures are incompatible with each other, then the target structure

is to be judged ill formed. Note that the judgment of compatibility between the two structures is a matter of degree; the greater the disparity is, the more strained is the categorization. The prototype effect comes from such strained categorization (see Langacker (1987: 66-70)).

Another important assumption of CG is that this categorization process is in turn a possible target of entrenchment. Shown in Figure 2-7 (a) is a strained categorization, where there is some discrepancy between the categorizing structure A (the box indicates its unit status) in the linguistic system L and a facet B of a usage event U (circles show that they are not units).

Fig.2-7 Entrenchment of Categorization
(Langacker (2000: 10, 11))

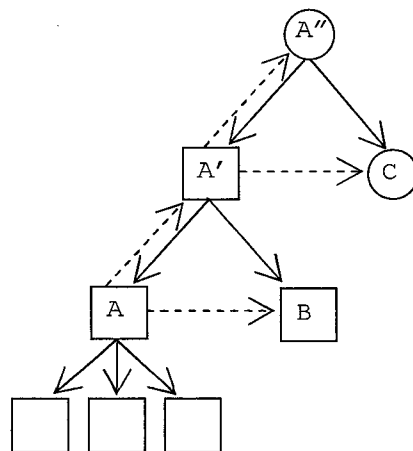


If the categorization $([A] \dashrightarrow [B])$ is evoked frequently, it progressively gets entrenched and eventually achieves a unit status, as shown in (b), where both B and the categorizing relationship $[A] \dashrightarrow [B]$ are conventional units in L. This is how a radial category as advanced in Lakoff (1987) arises.

One characteristic feature of Langackerian semantics, in contrast with

Lakoff's theory, is its emphasis on the upward growth that is made possible by the abstraction, in addition to the outward growth of a category as sketched in Figure 2-7 above. With the categorizing relation $[[A] \rightarrow [B]]$ included in L in Figure 2-7 (b), an abstraction that covers both A and B are created. This is a coarser grained, higher-level schema (A' in Figure 2-8 below), that is again to be used in a novel categorization. Figure 2-8 summarizes how a complex network of a linguistic category grows both horizontally and vertically.

Fig.2-8 Complex Category



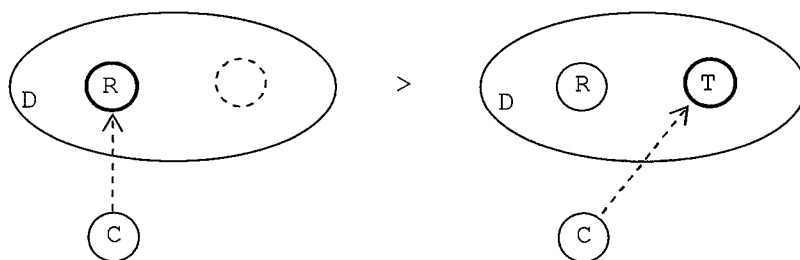
Here, a schema A is extracted from experiences, and repeated evocation of the categorization $((A) \rightarrow (B))$ makes the conception B part of the speaker's linguistic system, hence $[[A] \rightarrow [B]]$. It also enables the speaker to extract a higher-level schema A' , which in turn categorizes a novel experience C. A'' is a coarser-grained schema that covers both

A' and C. In this way, a category expands both horizontally and vertically.

2.1.4. Reference-Point Ability

CG assumes a cognitive ability by which the conceptualizer invokes an entity as a reference point for accessing (establishing *mental contact* with) another entity (see Langacker (1993)). For an entity R to be qualified as a reference point for a target T, (i) R has to have certain cognitive salience vis-à-vis T, and (ii) T has to be in R's vicinity (the area referred to as the *dominion*). Figure 2-9 sketches these features, where C and D represent the conceptualizer and dominion, and the dashed arrow shows the *mental contact*.

Fig.2-9 Reference-Point Structure
(Langacker (1993: 6))



The reference-point structure is ubiquitously found in linguistic structures. One such phenomenon is possessive expressions (Langacker (1993)).

(9) the boy's watch; the girl's uncle; the dog's tail; the cat's flea;
Lincoln's assassination

(10) *the watch's boy; *the uncle's girl (meaning 'his niece'); *the

tail's dog; *the fleas' cat; *the assassination's Lincoln

This striking asymmetry observed between (9) and (10) is no mystery at all if we assume that the reference-point structure underlies the possessive structure, with the reference point coded by the possessive element and the target by the possessum. If one entity is more qualified as the reference point than the other, then to reverse the order is expected to result in anomaly. See Langacker (1995c) for more detailed discussion of possessive expressions.

At the clausal level structure, CG assumes that the entity chosen as the subject functions as the reference point of the all other clausal elements. This characterization of the subject enabled van Hoek (1997) to construct a theory that captures the distributional properties of non-reflexive pronouns. We will overview her theory in 2.4.

2.2. Grammatical Constructions

Treatment of grammatical constructions has seen a significant improvement since Goldberg (1995) demonstrated that the construction is itself to be recognized as an full-fledged form-meaning pairing. Our discussion in Chapter Five is also an attempt to show how such treatment of grammatical constructions can indeed capture control phenomena.

2.2.1. Goldberg (1995)

Goldberg (1995) demonstrated that a grammatical construction has its own semantic content that cannot be reduced to the meaning of its component

lexical choices. For example, the sense of transfer in (11a) and that of movement in (11b) cannot be reduced to the semantic properties of the verb or other lexical elements.

(11) a. Sally baked her sister a cake.

b. He belched his way out of the restaurant.

(Goldberg (1995))

The only possible interpretation of (11a) is that Sally baked a cake intending to give it to her sister. The verb *bake* of course does not have this sense of intended transfer, and therefore it is reasonably thought of as having been provided by the ditransitive construction. Similarly, although *belch* in (11b) does not have the sense of motion, the sentence is only interpreted as having a sense of motion.¹⁰ Therefore, the sense of motion is only to be attributed to the semantic content of the way construction.

In addition to the characterization of constructional meaning, Goldberg also attempted to isolate the semantic principle by which a given verb is or is not allowed in a construction. First, a verb is adequately used in a construction if its semantics designates the event type that is thought of as an instance of what designated by the construction. In (12) the verb *hand* designates a specific event of transfer, thus is used in the ditransitive construction.

(12) She handed him the bell.

(Goldberg (1995: 60))

Another important principle put forth in Goldberg (1995) is the *Causal Relation Hypothesis*, which postulates that the verbal meaning and the constructional meaning be related by a causal relationship.

(13) a. The boat sailed into the cave.

b. *The boat burned into the cave.

(14) a. The fly buzzed out of the window.

b. *The rooster crowed out of the barn.

(Goldberg (1995: 61-62))

In (13), while 'sailing' is adequately thought of as a cause of the motion designated by the (caused-motion) construction, 'burning' cannot be recognized as such. In (14), the fly's 'buzzing' could be a result of the designated motion, but the rooster's 'crowing' is hard to be thought of as a result (or a cause) of the motion.

2.2.2. Constructions in Langackerian Perspective

Importantly, the treatment of grammatical constructions put forth by Goldberg can be comfortably accommodated in CG's theoretical framework. That is, Goldberg's characterization of the grammatical construction can be aptly translated into CG's strong commitment to the roles played by schemas and categorization based on it.

Indeed, Langacker (2000: 21-24) makes it clear that grammar consists of patterns for creating symbolic assemblies, and the templates for these

patterns are stored as *constructional schemas*. A constructional schema by definition serves as a categorizing structure to be used when categorizing a usage event, and the semantic/phonological compatibility between the two structures determines the acceptability of the usage event. This goes exactly parallel to how a type of event designated by a verb (i.e. a usage event) is accommodated by a construction (i.e. a constructional schema), as proposed in Goldberg (1995). Then the Causal Relation Hypothesis, which we overviewed in 2.2.1, is recognized as one of the factors that determine the compatibility between the categorizing and target structures.

One further parallelism between the constructional schemas in CG and Goldberg's notion of construction lies in the assumption that they both can form a complex network of related constructions/schemas. As we saw in 2.1.3, CG postulates a categorical network linked in extension and abstraction relationships, while Goldberg proposes a network of grammatical constructions connected in what she calls inheritance links.

Given these parallelisms, to ask whether our discussion is based on CG or on Goldberg's Construction Grammar does not have any theoretical significance. What we have to make clear is, instead, that a grammatical construction is a full-fledged linguistic unit with its own semantic content and its phonological pole designating a pattern for creating symbolic assemblies, and that it serves as a categorizing structure.

2.3. Accessibility Theory

As one of the basic leading ideas, this study assumes the theory of

accessibility as put forth by Ariel (1990), Gundel et al. (1993), and others. NP forms are said to be ranked in the hierarchy of accessibility, and hence the form of an NP is an indication to the speaker/hearer of how accessible the referent of the given NP is (i.e. very easily retrievable) at the time the reference is made. This form-function correlation is said to be iconic: the lighter the NP form is, the more accessible the referent is supposed to be. In the accessibility hierarchy proposed in Ariel (1990), the zero elements and reflexives, our topics in Chapter Four and Five respectively, are characterized as the types of NPs that code the most and second most accessible referent.

The theory of accessibility claims that the form of a noun phrase is the indication of how accessible the mental entity it refers to is supposed to be in the current discourse space. The speaker decides to use a particular form based on his/her assessment of the degree of accessibility in the addressee's memory. Thus the zero form is itself an indication that the referent of it is maximally accessible. In other words, the zero form, for example, can be regarded as a message that suggests that one should choose as its referent the entity that is most easily accessible from among those in his/her ongoing discourse space.

Further to the proposed correlation between the NP form and its accessibility status, in order to be a workable theoretical framework, the theory of accessibility is expected to be explicit about how a given NP with a given accessibility marking is licensed in its relationship with the potential antecedent (i.e. how the accessibility status of an NP is determined). In fact, Ariel (1990) proposes two criteria for this

assessment: "antecedent salience" and "unity". In the sentence-level anaphoric relations of the kinds in which we are interested in Chapter Four and Five, the latter criterion may play a greater role; the present study can be understood to be one that attempts to specify how this unity criterion is actually implemented in control and reflexive distribution.

This approach to referential properties of noun phrases leads us to expect that the zero element and reflexives in question are allowed only in an environment that somehow ensures that the referent of the antecedent is indeed accessible, and that in an environment where it is not, use of zeros and reflexives is predicted to be unacceptable. From this perspective, we could characterize the goal of the present study as specifying the factors that are responsible for ensuring the high degree of accessibility of the referent of zero subjects and reflexives when they are felicitously used.

2.4. Anaphora in van Hoek (1997)

Since our discussion of distributional properties of reflexives in Chapter Four presupposes the CG theory of pronoun distribution, this last section briefly overviews the outline of the proposals put forth in van Hoek (1992, 1995, 1997), a series of works that provides perhaps the most comprehensive coverage of the pronominal anaphora in the CG framework.

However, van Hoek's meticulous analysis of pronominal anaphora is primarily concerned with non-reflexive pronouns; her discussion of reflexives (1997: Ch.7), unfortunately, has mostly turned out to be merely proposing constructional schemas each of which corresponds to each major

distributional pattern.¹¹ I do not think this is a very productive methodological choice; an attempt to capture the distribution of elements such as reflexives that appear in a wide range of diverse structural environments in terms of conventionalized constructional schemas is doomed to be a theoretical paraphrase of factual taxonomy. Our investigation into the distribution of reflexive pronouns to be presented in Chapter Four does not necessarily presuppose van Hoek's treatment of reflexives, though we assume the relation-based characterization of reflexives as generally practiced in CG.

Our discussion in Chapter Four, however, will presuppose van Hoek's basic understanding about the distribution of non-reflexive pronouns; the constraints we will propose apply only to reflexive pronouns, and the conditions that allow non-reflexive pronouns and full NPs have to be separately postulated. I would assume van Hoek's proposal does this job. Here, let us overview the basic tenets of van Hoek's proposal about the distribution of non-reflexive pronouns.

In any attempt to formalize the distributional properties of pronouns, one would have to refer to the conditions on superiority and domain in which its antecedent has to be located. van Hoek (1997) attempts to capture these conditions in terms of the chain of reference point structures imposed on the event conceptualization. Her assumptions about the event conceptualization and those about the accessibility of noun phrases are summarized in (15) and (16), respectively.

(15) a. The subject of a clause (as the clausal trajector) is always the

reference point vis-à-vis the rest of the clausal participants, and the object is the secondary reference point for the rest of the clausal participants except the subject.

- b. Conceptualization of a clausal event is effected in such a way that the conceptualizer follows the path of the chain of reference-point structures, not necessarily the linear order.¹²

(16) a. The referent of a pronoun is more accessible than that of a full NP (non-pronominal, referring NP).

- b. An NP whose referent has already been conceptualized through the chain of reference-point structures is an accessible referent within its dominion.

(15) and (16) together require an NP to be coded by a pronoun, not by a full NP, when it refers to the same entity with the NP that functions as the reference point for it. Let us consider (17), (18) and (19) to see how her framework works.

(17) a. John₁ loves his₁ mother

- b. *He₁ loves John's₁ mother.

(18) *I gave him₁ Sam's₁ book.

(19) a. John₁ holds wild parties in his₁ apartment.

- b. *He₁ holds wild parties in John's₁ apartment.

(van Hoek (1995))

In (17a) *John* is the reference point for the rest of the clause (cf. (15a)),

so all other nominal expressions are within its dominion. If one of those is coreferent with the reference point *John*, then it has to be a pronoun (cf. (16a) and (16b)). (17a) is therefore acceptable and (17b) is not. In (18) it is the first object that functions as the primary landmark (the secondary clausal reference point) and the rest of the clause is within its dominion (except the subject). (18) is ruled out because a nominal (possessive NP) coreferent with the reference point is coded by a full NP. This argument is valid also for clausal modifiers, as seen in the contrast in (19).¹³

This framework works quite satisfactorily with these examples, in the sense that a set of cognitively natural assumptions correctly predicts the distributional facts. Her argument showed that notions of superiority and domain involved in anaphora of non-reflexive pronouns in general are to be found in the conceptual structure, not in the syntactic configurational structure.

NOTES TO CHAPTER TWO

¹ Saussure notes the psychological nature of both the concept and sound pattern of the linguistic sign, and the automatized relationship between the two that enables one to be triggered by the activation of the other. He writes that "... the two elements involved in the linguistic sign are psychological and are connected in the brain by an associative link." (the Cours: 98). Also, he points out that "a given concept triggers in the brain a corresponding sound pattern," and this process, i.e. the link between the two elements in a sign, is "entirely psychological phenomenon, followed in turn by a physiological process: the brain transmits to the organs of phonation an impulse corresponding to the pattern." (the Cours: 29)

² Since PRO is stipulated as both anaphoric and pronominal, it has to satisfy both Principle A and Principle B at the same time. Principle A requires it to be bound in its governing category, and Principle B requires it not to be bound in it. To satisfy this contradictory requirements within the principles-and-parameters framework, PRO must not have a governing category, thus it appears only in the subject position of an infinitive clause, which does not have a governor and hence no governing category. This argument certainly predicts the fact that PRO appears only in the subject position of an infinitival clause. For cross-linguistic counterevidence and theory-internal problems to this

approach, see Y. Huang (2000).

³ Note that the profiled portion is shown in bold lines in the figures throughout this study.

⁴ Lakoff's (1987) ICM (Idealized Cognitive Model) is also intended to achieve basically the same purpose as Fillmore's semantic frame. In the cognitive science, Minsky's (1975), Rumelhart's (1975), and Schank and Abelson's (1977) applications of the idea of frame (or *scripts*) to artificial intelligence are widely known.

⁵ As Langacker (1987: 333) points out, this argument is thought of as providing a motivation behind the thematic hierarchy in the choice of subject, AG>INST>TH, as proposed in Fillmore (1968). Significantly, it explains why the hierarchy is ordered as such on the grounds that an event is conceptualized in accordance with the order of energetic, force-dynamic interactions between the participants.

⁶ One may have thought of such notions as *overall scope* and *immediate scope* here, but we will not go into the recent technical details since the classic stage-model terminology suffices for our discussion in later chapters.

⁷ Figure.2-6 represents the structure [S [V O]], but the CG treatment of constituency also allows for the structure [[S V] O] emerges (see Langacker (1997: 8-9).

⁸ CG does not deny the constituent structure. What it denies is, according to Langacker (1997: 7), (i) it always emerges, (ii) that it exhausts the description of important grammatical relationships, (iii) that it represents and autonomous formal object.

⁹ A usage event is defined in Langacker (1987: 494) as "a symbolic expression assembled by a speaker in a particular circumstance for a particular purpose; the pairing of a detailed, context-dependent conceptualization and (in the case of speech) an actual vocalization." In short, it refers to any linguistic expression actually produced by a speaker.

¹⁰ It is also not the case that the lexical item *way* provides the sense of motion, as illustrated in Goldberg (1995: 199-200) with the following examples.

(i) Frank dug his way out of the prison.

(ii) Frank found a way to New York.

Here (ii) does not imply Frank's motion at all, while (i) clearly does. The contrast follows from the assumption that the motion sense is included in the constructional semantics of the *way* construction, and (i) is, but (ii) is not, an instance of the construction.

¹¹ van Hoek (1997: Ch.7) proposes that various reflexive schemas center around two prototypes: the emphatic schema and [NP+V+REF] schema.

¹² Note that the linear order is not entirely irrelevant to the reference-point structure. van Hoek (1997) demonstrates that the linear order counts as one of the factors that have some influence on the choice of a reference point.

¹³ van Hoek distinguishes *process-internal modifiers* and *process-external modifiers*, and shows that the difference affects the pronominal distribution. See van Hoek (1997: 85-93).

CHAPTER THREE

ON THE INTERPRETATION OF CERTAIN MODIFIED NPS

3.1. Introduction

This chapter deals with the interpretation of particular instances of modified NPs, exemplified by the contrast between (1) and (2), first cited by Fillmore (1968) in connection with the inalienability of the object NPs in relation to the possessor subject NPs.

(1) I have a missing tooth.

(2) I have a missing five-dollar bill.

What is intriguing here is the fact that (1), on the normal reading, expresses a situation in which the subject of the main verb *have*, does not "have" his tooth in his mouth, while (2) does not allow for this sort of interpretation; that is, there is no reading such that the subject *I* has lost a five-dollar bill and hence does not "have" it. Simply put, (1) is interpreted as roughly equivalent to (3), while (2) cannot be interpreted along the lines of (4).

(3) 'My tooth is missing.'

(4) 'One of my five-dollar bills is missing.'

Of course, both (1) and (2) allow for the interpretation in which the object NPs are understood as being actually possessed by the subject, for example, as paraphrased in (5) and (6).

(5) 'I have a tooth which is missing from someone else's mouth.'

(6) 'I have a five-dollar bill which is missing from someone else's wallet.'

Henceforth, we will refer to interpretations of the kind shown in (3)-(4) and (5)-(6) as *state of affairs* (SOA) and *entity* readings, respectively.¹ On the former reading, the object NP may be intuitively regarded as expressing a state of affairs, i.e. 'the tooth's being missing' in (1). In contrast, on the entity reading, the object NP denotes an individual, i.e. 'the tooth that is missing from someone else's mouth' in (1), and 'the five-dollar bill that is missing from someone else's wallet' in (2).² However, this terminological distinction is not intended to carry any theoretical significance.

Although Fillmore (1968) is concerned with this phenomenon in association with possessive constructions, cases where the SOA reading is stronger than the entity reading are actually very easy to find in a variety of grammatical environments.

(7) In an X-ray, a missing tooth leaves a tell-tale black gap in the jaw area.

(8) There are a lot of absent students in this class today.

(9) We noticed a missing hump on a Bactrian camel.

In these examples the modified NPs all receive the SOA reading; in fact, this is the only possible interpretation in these examples, because attempts to interpret these sentences on the entity reading would result in pragmatic contradiction.

The purpose of this chapter is to show that the availability of the SOA reading in the modified NPs under discussion is explained as a manifestation of our cognitive disposition in the subjective construal of the world; in other words, this phenomenon is deeply related to how we delineate the world for linguistic purposes. As the theoretical framework for this discussion, we assume the approach of cognitive grammar outlined in Langacker (1987a, 1990b, 1991, 1999b), as we sketched in Chapter Two, as this model provides a psychologically realistic foundation for linguistic investigation.

As a matter of notation, we shall refer to the [modifier+NP] as the *modified NP*, and to the subportion consisting of the NP bereft of its modifier simply as the NP. Also note that single quotation marks are used to show the intended interpretation of sentences under discussion, as in (3)-(6).

3.2. Some Background

Fillmore (1968) claims that the contrast in the interpretation of the two sentences in (1) is rooted in the inalienability of the NP in the possessive construction. However, Brugman (1988, 1995) takes a different tack and claims that the SOA reading is not directly related to possession per se, maintaining instead that it is the result of a generally observed mismatch between syntax and semantics in the modified NP structure itself. Consider (10) and (11).

(10) [I had to wait in line at the bank for half an hour because]

they had three sick tellers. (Brugman (1988: 65))

(11) I found a missing question mark on p.241. (ibid.: 67)

Since an SOA reading is available for *three sick tellers* in (10), even though *tellers* is not an inalienably possessed noun, Brugman claims that the contrast in question cannot be simply reduced to the difference between alienable and inalienable possession. Furthermore, in (11), the SOA reading of the modified NP *missing question mark* arises with the main verb *found*, which is not a verb of possession.

In light of these observations, Brugman postulates an interpretation rule whereby a modified NP may be interpreted not as an individual possessing the property conveyed by the modifier but rather as a proposition wherein the property described by the modifier is predicated of the individual denoted by the NP. This amounts to saying that what is expressed by a *missing tooth* in (1) under the SOA reading is roughly equivalent to

'tooth-missingness.'

With respect to examples like (10) and (11), we agree with Brugman's first claim that the SOA reading of the modified NPs is not directly associated with the inalienability of the NP in the HAVE construction; consequently we would have to seek a mechanism underlying the availability of SOA readings in the interpretation of the modified NPs, not in the possessive relations. However, one is faced with an immediate question about Brugman's "interpretation rule" and the resultant syntactico-semantic mismatch when taking the contrast shown between (1) and (2) into consideration, because the proposed syntactico-semantic mismatch does not by itself explain this contrast.³ Without appropriate conditioning on the application of this interpretation rule, it certainly lacks explanatory content.

We will argue in the following sections that the SOA readings of certain modified NPs under discussion can in fact be analyzed as special cases of the entity reading, given the nominal semantics assumed in cognitive theories of grammar, and assuming that some account may be furnished for the (un)availability of the SOA reading. First, as a prerequisite for the discussion to follow, let us overview the cognitive treatment of meaning, paying close attention to its consequences regarding the way we subjectively delineate the objective world.

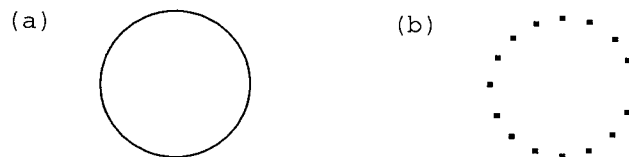
3.3. Schema-based Semantics and Virtual Boundaries

As we discussed in Chapter One, one important tenet of cognitive grammar is that meaning is not objectively given, but rather allocated to a novel

conception by the speaker in an act of comparison with an existing conception that is already well-conventionalized (Langacker (1987a)). The novel conception is thus given meaning to the extent that the speaker judges it to be an instance of the conventionalized conception; we shall refer to the latter as the *standard conception*, on which this categorical judgment is based.

In many cases, however, the standard conception is schematic and underspecifies the structure of a novel conception (henceforth the *target conception*). Therefore, the act of comparison in the categorical judgment does not necessarily rely on identical matches between the standard and target conceptions; rather, the target conception is judged based on its compatibility with the structure of the standard conception. This point is exemplified by Langacker (1987a: 194-195) in connection with the closure phenomenon. Consider Fig.3-1.

Fig.3-1 Closure Phenomenon



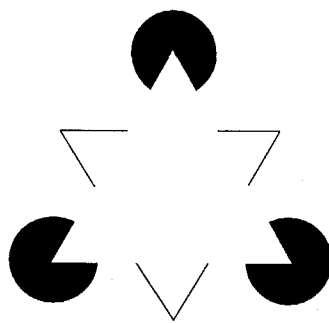
Although Fig.3-1 (b) is degraded objectively as a circle, being a set of separate dots, it is hard for one to fail to recognize the figure as a circle; the concept of a circle (i.e. Fig.3-1 (a)) is well-conventionalized, and is used as the standard conception in the

categorization of this target conception.

What is important here for our purpose is the fact that it is the property of this standard structure that is imposed on the structure of the target conception and that it is this imposed structure that gives rise to the continuity one perceives in the objectively discontinuous arrangement of dots in Fig.3-1 (b).

To demonstrate that we can actually "perceive" a structure that is not objectively given at all, provided that it exists in the standard conception of the categorical judgment, let us briefly review some of the recent discussion on the occurrence of what cognitive psychologists call *subjective contours*, exemplified in Fig. 3-2, which depicts the figure known as "Kanizsa's triangle."

Fig. 3-2 Kanizsa's Triangle



In Fig.3-2, we can actually perceive contour lines in the absence of any objective boundaries. In cognitive psychology the mechanism underlying

the occurrence of subjective contours (also referred to as illusory contours) has attracted considerable attention since Kanizsa first discussed the phenomenon, and various hypotheses are still under vigorous discussion.⁴

Interestingly, one of the most promising approaches to this phenomenon proposed in recent cognitive psychological research is consistent with the view on meaning advanced within cognitive grammar. For example, Wallach and Slaughter (1988) show in their experiments that whether or not the partially presented figure (i.e. the upright triangle made of the subjective contours in Fig.3-2 is previously established in "memory" is a crucial factor, and suggests that in fact the subjective contours result as a consequence of the manifestation of the established memorial representation.

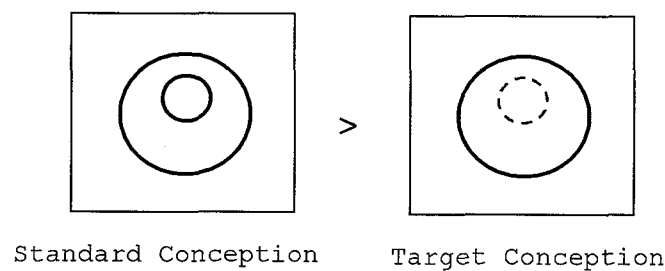
In their experiment, subjects were first familiarized with the shapes of various figures, and later shown patterns that could lead to the subjective-contour-based perception of the previously familiarized figures. This allowed the researchers to judge whether or not their subjects perceive subjective contours. A significant difference was observed between the familiarized group and the control group without previous familiarization. In other words, we do not understand this figure as it objectively is, but rather we recognize it through one of our stored mental archetypes to which we judge it belongs. As a consequence, the properties of this mental archetype are projected onto our cognitive process of shape recognition.

Needless to say, this is exactly what we have seen in the cognitive

grammar account of our perception of the continuity in the arrangement of dots in Fig.3-1 (b), i.e. the act of comparing the target conception with the previously established schematic standard conception.

The above described mechanism of the occurrence of the subjective contours will henceforth be schematically represented along the lines of Fig.3-3 below.

Fig. 3-3 Subjective Contour



The structure on the left is what we have characterized as the standard conception used in the categorical judgment of the target conception on the right. The standard conception here contains a well-conventionalized subpart, represented as a smaller solid circle, but it does not exist in the structure of the target conception. If the target conception is categorized as an instance of the standard conception, the subpart in the standard conception can then be conceptualized in the target conception, represented by a dashed circle.⁵

Our claim is that the SOA reading available in examples like (1) is in fact a special case of the entity reading, made possible by the subjective

cognition of the "object" by a process akin to the perception of subjective contours. If this is indeed the case, the cognitive mechanism that enables us to perceive subjective contours could be applicable also to the availability of what we have characterized as cases of the SOA reading.⁶ This is the hypothesis that we shall examine this in detail below. Note that we shall henceforth use the term *virtual boundaries* employed in Langacker (1987a: 195), in place of the equivalent cognitive psychological term of "subjective contours".

3.4. Analysis

We shall set about our examination on whether the linguistic data shown in 3.1 about the SOA reading can be accommodated by the same mechanism that gives rise to the subjective contours.

3.4.1. SOA Readings as VB-based Entity Readings

If a modified NP that receives an SOA reading like (1), repeated here as (12), is actually an entity reading based on the conceptualization of an objectively non-existent structure delineated by a virtual boundary (henceforth VB), then, according to the foregoing discussion, its acceptability depends on whether or not a standard conception that contains it is conceptually evoked. In (12), the conception of *I* plays this role.

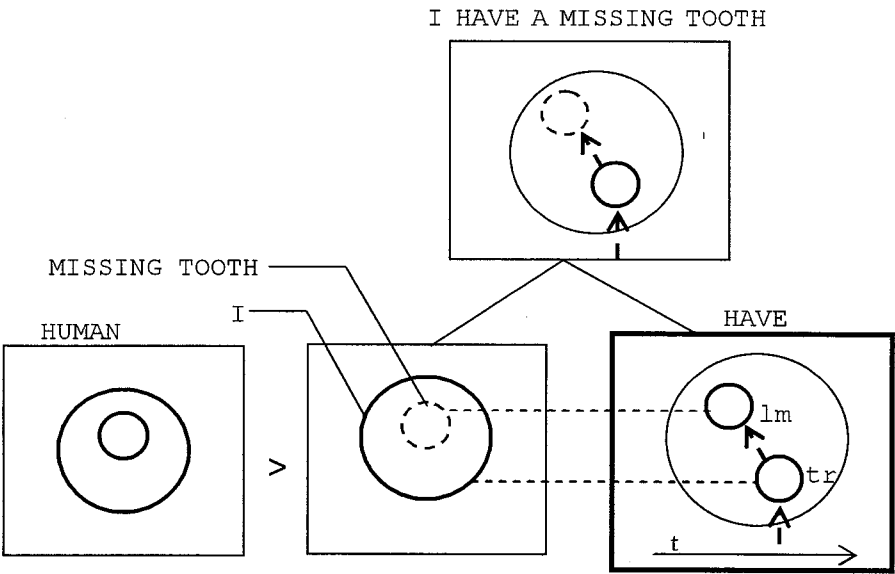
(12) I have a missing tooth. (= (1))

The conception of *I*, in the physical domain, is thought of as an instance

of a standard conception of the [HUMAN] schema with the conception of [TOOTH] as a substructure. If the target conception does not have that substructure, and if the target structure is categorized as an instance of the [HUMAN] schema, then it could be conceptualized as a VB-based entity. Here, the modifier *missing* serves to show that the realized conception is VB-based and not objectively present.

Fig.3-4 below schematically diagrams how the semantics of sentence (12) is integrated from the component structures, following the conventional representation of cognitive grammar.

Fig.3-4 *I have a missing tooth.*



The semantics of the verb *have* is represented as a reference-point structure,⁷ and its trajector (tr) and landmark (lm) are replaced (i.e. elaborated) by [I] and [MISSING TOOTH] respectively, making the composite

structure [I HAVE A MISSING TOOTH].⁸ Dashed lines indicate the correspondence. Putting the technical details aside, we must note here that the conception of [HUMAN] is evoked, as the subject *I* is thought of as an instance of this schematic conception, and the VB-based conceptualization of [MISSING TOOTH] is made possible by this standard conception, as it contains the subpart [TOOTH] in it. Here, the possession verb *have* merely codes the relationship between [I] and [MISSING TOOTH].

On the other hand, in (2), repeated here as (13) below, no standard conception that contains [FIVE-DOLLAR BILL] as a subpart is suggested because the conventionalized conception of [HUMAN] does not contain [FIVE-DOLLAR BILL] as a substructure. Hence the VB-based conceptualization of [MISSING FIVE-DOLLAR BILL] is not possible, since no standard conception is evoked that leads to the relevant VB-based conceptualization. Hence, an SOA reading of a *missing five-dollar bill* is very hard to be evoked in (13). Needless to say, it is impossible for the verb *have* to code what is not even conceptualized.

(13) I have a missing five-dollar bill. (= (2))

This analysis explains why and how the difference between alienability and inalienability affects the availability of the SOA reading on the basis of the nature of our categorical judgment. If *X* is inalienably possessed by *Y*, then the evocation of the schema of *Y* inherently gives rise to the conception of *X* as its subportion, hence provides the basis for the VB-based conceptualization of *X* if the target structure is

categorized as an instance of Y.

3.4.2. Explicit Suggestion of Standard Structure

As suggested by Brugman (1995), the possessive verb *have* does not play a role in making the SOA reading available. This is confirmed by examples like (8). (The examples shown without source citations are based on the sentences taken from the *British National Corpus* with appropriate modifications suggested by my informant.)

(14) His eyes were searching for the missing slates on the roof tops.

The sentences in (14) are all meant to be interpreted in "SOA" reading; it is the "missingness" of slates (of course the "entity" reading is possible). The verbs in these examples do not express a possessive relationship, but the SOA reading of the modified NP is dominant. Contrary to Brugman's claim, our analysis holds that these modified NPs actually yield a VB-based entity reading, which is made possible by the standard conception evoked by the prepositional object in these sentences. Examples like (15) and (16) are in fact very easily found.

(15) I found a missing button on his shirt.

(16) We thought about the missing jaw of the skull we had unearthed.

(15) and (16) are to be understood in the "SOA" reading; it is the "missingness" of a button and a jar that matters in these examples, not

the physical objects that are absent from where they are supposed to be.

Note that the standard conception that makes VB-based conceptualization possible is also explicitly suggested in these examples. The preposition present in examples in (14)–(16) codes the relation between the VB-based entity and the instance of the standard conception, which was coded by the possessive main verb *have* in examples like (1). In (14), for example, the conception of [ROOF-TOP] may well be thought of as containing as a substructure the conception of [SLATE]. Therefore the VB-based conceptualization is available. Similarly, in (15) and (16), [SHIRT] and [SKULL] contain [BUTTON] and [JAW] as substructures, respectively. Note that Brugman's example (11) *I found a missing question mark on p. 241* is also motivated in the same vein. Here, it is the prepositional phrase *on p. 241* that provides the standard conception whose semantic characterization naturally includes a "question mark" as an inherent subpart, which in our framework gives rise to the subjectively evoked VB-based conceptualization of a question mark. Note that sentences in (7)–(9) cited in 3.1 can be explained in a similar vein.

We have proposed that the necessary standard conceptions are provided by the prepositional object NP in examples like (14). This point is further confirmed by the fact that the SOA reading is extremely weak if the sentences in (14)–(16) lose the prepositional phrases which we claim provide standard conceptions for the VB-based conceptualization. (These sentences should be imagined without any preceding discourse to establish the relevant standard conceptions.)

(17) His eyes were searching for the missing slates.

(18) I found a missing button.

(19) We thought about the missing jaw.

Instead, the dominant interpretations of these sentences involve the entity reading where the modified NPs denote actual physical individuals.

(20)-(22) displays possible interpretations for the sentences in (17)-(19).

(20) 'His eyes were searching for the slates that were missing from their original positions.'

(21) 'I found a button which had been missing from my shirt.'

(22) 'We thought about the jaw that was missing from a skull we unearthed.'

3.4.3. The Nature of Nominal Expressions

The foregoing analysis sharply contrasts with Brugman's proposal that the modified NPs under discussion in fact denote propositions in which the condition syntactically manifested by the modifier is predicated of the NP. In contrast, we have claimed that these modified NPs actually denote "entities" delineated by VB-based boundaries, and it is worth noting that our analysis is consistent with the tenet of cognitive grammar that grammatical categories are semantically definable on the basis of the nature of what they *designate* (i.e. what is treated as the profile of a given expression).

Cognitive grammar holds that language is symbolic at every level,

with a semantic and a phonological pole paired as a sign, and furthermore that it is the nature of the semantic pole that determines the grammatical category of the expression. For example, verbs and prepositions are characterized as designating relations.⁹ What is important for our purpose here is that the defining property of a nominal expression is that it designates a *thing*; i.e., in the technical terminology of cognitive grammar, a *region in some domain*, or, for a countable noun, a *bounded region in some domain* (Langacker 1987a: Ch.5). In this light, what we have characterized as an entity delineated by virtual boundaries in our treatment of the relevant reading of the modified NP is fully consistent with the characterization of a thing, and it is therefore compatible with the formal characteristics of the whole [modifier NP] structure as a nominal expression.

The claim that what is designated by the "SOA" reading of the modified NP in question is actually a *thing*, rather than a proposition, seems to be supported by the following sentences.

(23) John has two missing front teeth, and they are very noticeable.

This example shows that the modified NPs that receive the interpretation under discussion may antecede the plural pronoun *they* in (23). Furthermore, they are described as being *located* in specific places in (24) (i.e. *in the first and second lines*).

(24) The missing question marks in this page are located in the first

and second lines.

These examples remain mysterious if one follows Brugman's analysis of "SOA" readings as merely cases of semantico-syntactic mismatch, saying that the modified NP is syntactically an NP but semantically a proposition. The referential property of the modified NP structure observed in (23) and (24) strongly suggests that the referents of these modified NPs are indeed conceptualized as things, i.e., bounded regions in some domain (in this case, in the physical domain).

Another piece of evidence may come from Japanese, a language that has explicit measure words for semantic types of nominal expressions. For example, *-hon*, *-nin*, and *-satu* attach to nouns denoting long, stick-like objects, human beings, and books, respectively, as in (25).

(25) *ha ni(2)-hon* 'two teeth'; *gakusei san(3)-nin* 'three students';
syosetu san(3)-satu 'three novels'

Now, consider (26)-(28).

(26) *Kare-wa nai ha-ga ni(2)-hon arimasu.*

he-Top missing tooth two-hon exist

'He has two missing teeth.'

(27) *Kyo-wa yasumi-no gakusei-ga san(3)-nin iru.*

today-Top absent students-Nom three-nin present

'(Lit.) Three absent students are present today.'

(28) Kono tosyokan-ni-wa nai hon-ga takusan aru.

this library-at-Top missing books-Nom many present

'(Lit.) In this library many missing books are present.'

What is significant in these examples is the fact that the quantified modified NPs under discussion are all accompanied by an appropriate measure word that inherently goes with that particular semantic classification of the modified NP. In other words, these modified NPs are conceptualized not as a state of affairs (if so, they could not have been with these particular measure words), but as a 'thing' recognized in its own semantic classification.

3.4.4. The Effect of the "Canonical Situation"

In the foregoing discussion, we have proposed that what we have called an SOA reading is in fact a VB-based entity reading which is made possible by the evocation of a standard conception; the crucial factor pertaining to the availability of an "SOA" reading, therefore, is whether or not the standard conception is actually evoked. However, there are cases of "SOA" readings where no suggestion of a standard conception is linguistically provided, as in the examples we have analyzed above. Consider the acceptable (30) in contrast to the unacceptable (29), cited by Brugman (1995: 20). Note that the acceptability judgment on this and the examples to follow pertains to the availability of an "SOA" reading.

(29) *I have a missing five-dollar bill. (= (1b))

(30) I have a missing Indian-head nickel.

Independently of her claim that the "SOA" reading results from a rule that allows for a syntactico-semantic mismatch, she points out a tendency whereby the SOA reading is more acceptable when the proposition (i.e. the 'missingness' of the referent of the NP) implies a disruption of a "canonical situation."¹⁰ The expression *Indian-head nickel*, she suggests, implies that it is part of a numismatist's collection; hence its being missing is thought of as a disruption of a "canonical situation" in which the items of a collection are expected to be where they are supposed to be.

Although no principled explanation can be deduced from Brugman's interpretation rule that merely allows for the syntactico-semantic mismatch such as the one that we saw 3.2, our analysis, which appeals to an evoked standard conception, can straightforwardly account for the suggested effect of the "canonical situation." The conception of [NUMINSMATIST'S COLLECTION] implied by the encyclopedic knowledge associated with the expression *Indian head nickel* naturally functions as the standard conception for the VB-based conceptualization of [MISSING INDIAN HEAD NICKEL]. This makes (30) acceptable, because an item of a collection is thought of as a substructure of that collection. To clarify this point, let us consider the following contrast between (31) and (32) below.

(31) A missing book was found.

(32) ??A missing cellular phone was found.

(31) allows for both entity and "SOA" readings, while it is considerably more difficult to give an SOA reading to (32) (i.e., the dominant interpretation is 'a cellular phone that had been lost was found'). This difference can be attributed to the different encyclopedic information associated with *book* and *cellular phone*; experience indicates that books are in many cases collected in one place, as in a library or a bookshelf, while cellular phones are not. For this reason, the conception of [COLLECTION OF BOOKS] functions easily as a standard conception for the VB-based conception of [MISSING BOOK], while in no physical domain is there any readily available conception that contains [CELLULAR PHONE] as a substructure. (Of course one might imagine a collector of cellular phones, or a store in which many cellular phones are displayed for sale. If such situations are evoked, (31) can also be interpreted in an "SOA" reading.)

What Brugman observes as the effect of a "canonical situation" therefore becomes explicable in our framework as the evocation of a standard structure. In our analysis, the "SOA" reading is possible only when the standard structure is conceptualized. The conceptualization of a standard structure is by definition based on one's experiential exposition and the resultant entrenchment. Hence the factual observation that the "SOA" reading becomes easier when a disruption of a canonical situation (i.e. a departure from the evoked standard conception in our analysis) is implied follows automatically from our characterization of the VB-based

conceptualization.

This point is further exemplified by the fact that the "SOA" reading of (33) is marginal but becomes fully acceptable when embedded in a suitable context, as in (34).

(33) ?I have a missing daughter.

(34) I came home tonight hoping to have a quiet evening for once, and
instead I have a missing daughter and a hysterical husband.

(Brugman 1995: 21)

The marginal status of (33) is attributed to the difficulty of evoking the standard conception [FAMILY] out of context; this conception is needed for [MISSING DAUGHTER] to be conceptualized as a VB-based entity. The context given in (34), however, provides the speaker's conception of [FAMILY], thereby making it easy to conceptualize the VB-based [MISSING DAUGHTER], because [DAUGHTER] is thought of as a substructure of speaker's conception of [FAMILY].¹¹

We have argued in 3.4 that the standard conception necessary for VB-based conceptualizations (i.e. "SOA" readings) can be suggested in different ways; encyclopedic lexical knowledge plays this role in (12) and (14)–(16) as does contextual priming in (34). Furthermore, the tendency observed with regard to the availability of "SOA" readings related to the "disruption of the canonical situation," unexplained in Brugman (1995), straightforwardly follows from our treatment of the SOA reading as a VB-based entity interpretation.

3.5. On the Apparent SOA Reading of Certain Examples

There are certain cases that appear to allow for the SOA reading even though the type of VB-based conception that we have argued for is not involved. For example, (35a) and (36a) are interpretable along the lines of (35b) and (36b), respectively.

(35) a. Please forgive my tardy reply.

b. 'Please forgive the tardiness of my reply.'

(Brugman 1995: 15)

(36) a. We want to see an improved Japanese economy soon.

b. 'We want to see an improvement in the Japanese economy soon.'

(35) was cited by Brugman to show that the proposed syntactico-semantic mismatch is in fact very widely observed. In (35a) it is not the reply, but the "tardiness" of the reply, that the speaker is asking to forgive. This sort of interpretation may indeed seem to share the same mechanism with that gives rise to the "SOA" interpretation under discussion, and, if so, our framework will not be able to motivate it.

We argue, however, that these examples are not to be treated on a par with the examples we have analyzed in association with the conceptualization based on virtual boundaries. To see this point, first recall the fact that the sentences we have analyzed in the preceding sections, such as (37), allow for an entity reading (38a) and an "SOA" reading (38b).

(37) I have a missing tooth. (= (1))

(38) a. 'I have a tooth which is missing from someone else's mouth.'

b. 'One of my tooth is missing.'

Here, notice that the "SOA" reading (38b) is not pragmatically related to the entity reading (38a): we cannot infer the interpretation of (38b) from that of (38a) by any conceivable means. However, this is not the case with sentences like (35a) and (36a). Consider (35a) again, for example, for which an entity reading and an apparent "SOA" interpretation are shown in (39) and (40).

(39) 'I am sorry for the reply which was tardy.'

(40) 'I am sorry for the tardiness of my reply.'

Contrary to (38a) and (38b), we notice that the interpretation in (40) is pragmatically inferable from (39); it seems to be a result of a pragmatic shift of focus, since to say that one is sorry for something can be interpreted as implying that one is sorry for the nature of that thing. (36) is also analyzable in the same way. We therefore contend that the apparent "SOA" readings in the sentences in (35a) and (36a) are actually consequences of pragmatic inference from entity readings, and that our argument that the "SOA" reading arises as the consequence of the process of categorization based on the standard conception remains valid.

3.6. Conclusion

In this chapter, we have argued that certain modified NPs that have been taken to yield SOA readings are in fact cases of entity interpretations based on the well attested cognitive-psychological phenomenon of subjective contours, or, in Langacker's terminology, virtual boundaries. The role played by the virtual boundary is also noted by Langacker (1987a: 194-197) in connection with the assignment of meaning to novel conceptions; a conventionalized standard conception provides the basis on which one of its subparts is conceptualized by means of virtual boundaries.

We have seen that this mechanism of virtual boundaries is applicable to SOA NPs, which Brugman (1995) analyzes as resulting from her interpretation rule, i.e., the rule that allows for modifiers to be interpreted as conditions predicated of the NP they modify. It has been argued in this chapter that there is evidence that these SOA NPs actually denote things (in the technical sense), and that the (un)availability of SOA readings is accounted for if we regard them as special cases of the entity reading based on virtual boundaries.¹²

We hope to have provided an analysis which establishes the fact that the framework of cognitive grammar, in which meaning is regarded as being given by *mental experience*, can provide significant insights by flexibly applying the mechanism of our subjective conceptualization of the objective world to the analysis of linguistic phenomena.

NOTES TO CHAPTER THREE

¹ The term "entity" is used in this chapter roughly in the same meaning as a "thing" in the technical sense. See 2.1.2.2 in Chapter Two.

² One may wonder, if the availability of SOA readings could be reduced to the meaning of the modifier (e.g. *missing* in (1)) which might mean something along the lines of 'should be there but is not.' It is obviously correct that modifiers of the SOA NPs must in one way or another convey the speaker's realization that the entity denoted by the NP is objectively absent from the described situation (and may or may not be somewhere else). However, the paradigm shown in (1) and various contrasts in the subsequent sections regarding differences in the availability of the SOA readings cannot be captured merely by appealing to the meaning of modifiers; to do so would compel us to make the stipulatory assumption that the *missing* in (1a) does have this assumed meaning, while that in (2) does not. In light of this, we will claim in the following sections that the adequate explanation is to found in the mechanism underlying the subjective conceptualization of the objective world, which, in our framework, will be treated in a schema-based semantics with virtual boundaries.

³ Brugman (1995: 19-22) herself states that the proposed interpretation rule does not account for the contrast in (1), and merely makes some possible suggestions, to which we will return later.

⁴ For example, some of the proposed factors that cause the subjective contours include a Gestalt tendency toward completion, the lightness effect,

or depth perception, in addition to the one discussed in the text. See Watanabe and Nagase (1989) for a summary of these and other factors under investigation. Rock and Anson's (1979) suggestion that the perception of subjective contours is to be attributed to the viewer's problem-solving process may also be included in the schema-based approaches to the phenomenon. See also Yamanashi (1995: 17-18) for the significance of Kanizsa's triangle.

⁵ The same mechanism is obviously applicable to a similar phenomenon called "amodal occlusion", wherein an object is partially occluded but the occluded contours are subjectively reconstructed, though there may well be other factors involved in it. See, for example, Shimojo and Nakayama (1990).

⁶ Note, however, that in cases of SOA readings, the conceptualizer is aware of the fact that the conceptualization of the entity is subjectively realized, and that it is objectively nonexistent; by uttering *I have a missing tooth*, the speaker does not intend to say that he or she perceives the tooth as being physically extant. In contrast, in the case of visual subjective contours like Fig. 1 the perceiver actually "views" the lines as if they were objectively present.

⁷ As is well known, the verb *have* can express a variety of relations between its subject and object; this may run the whole gamut from actual, physical possession to abstract, non-physical relations. What is extracted as an overarching schema of the meaning of *have*, Langacker (1995c) contends, is the *reference point structure*, i.e. a cognitive ability thereby

an (usually salient) entity is conceptually evoked as a reference point for the purpose of conceptualizing another entity, as schematically shown in the lower right diagram of Fig.3-4, in which tr (trajector) and lm (landmark) roughly correspond to the entities that are coded as the subject and object of *have*. The arrow t is to show that this reference-point relationship is conceptualized through its temporal evolution.

⁸ The schematic structures of trajector and landmark are replaced by the more specific structures [I] and [MISSING TOOTH], a process called *elaboration* that synthesizes these component structures into a composite structure shown in the higher level of Fig.3-4.

⁹ A relation is an interconnection between things. A verb designates a relation that evolves through conceived time (referred to as a process), and a preposition, adjective, and adverb designate a relation that is atemporal (i.e. without any temporal profile).

¹⁰ She credits this observation to a personal communication from Farrell Ackerman.

¹¹ As an reviewer of the journal *English Linguistics* pointed out to me, (i) is very unlikely to be used in an "SOA" reading (nor is it likely in an entity reading) when the relevant person in the family is dead rather than merely absent.

(i) *I have a missing parent/daughter. (cf. (33))

Knowledge that the family member is dead makes the speaker's

conventionalized conception of his or her family one without the relevant person, and therefore it does not serve as a standard conception for the VB-based conceptualization of [MISSING PARENT/DAUGHTER]. Consider (ii) in this connection.

(ii) I have a missing/amputated leg.

This sentence is most likely in a situation where the speaker tells the hearer about the condition of his or her leg for the first time, e.g. in a phone conversation with someone who do not know the speaker (Michael T. Wescoat, personal communication). This is because the speaker in this case can expect the hearer's default conception about the appearance of the speaker to be evoked to serve as a standard conception for the VB-based [MISSING LEG]. In fact, this is also the case with the SOA reading of (1) *I have a missing tooth*; (1) is most likely to be uttered when the speaker notices the absence of the tooth for the first time, or when he or she wants to tell it to someone else. In these cases, the default standard conception about the speaker's appearance can serve to make the VB-based conceptualization available. Unlike (ii) or (1), (i) is not used even when the hearer does not know the speaker's parent is dead. This is possibly because of the strong conventionalized usage of *missing* applied to a person, which describes unannounced, unexpected absences from one's habitual domicile. Thus the lexical property of the modifier naturally imposes restrictions on the use of the SOA NPs. Examples cited

above refer to particular physical appearances of people or the situations normally regarded as disagreeable, but note that those are cited for the explanatory necessity and are not intended to make readers feel unpleasant.

¹² One might think, as pointed out by a reviewer of the journal *English Linguistics*, that SOA NPs may be susceptible to the same treatment as is independently needed to explain the apparently similar expression *no NP*. However, given the fact that the occurrence of *no NP* is not restricted in the way SOA NPs are, this does not seem to be the case. Thus both (i) and (ii) are possible. (Negation here takes a wider scope, rendering the interpretation equivalent to 'do not have any NP.')

(i) I have no tooth. (cf. (1))

(ii) I have no five-dollar bill. (cf. (2))

In fact, Langacker (1991: 132-141) characterizes *no NP*, and negation in general, in terms of a background conception in which the negated entity occupies an evoked mental space, and the actual situation where that entity is absent is then conceived in relation to that mental space (Also see Fauconnier (1985: 96-98)). Even if we apply this analysis to the SOA NPs, the characteristics of SOA NPs discussed in this paper would still remain unexplained, because in this analysis the evocation of the background mental space is not constrained. On the other hand, note that if we adopt an analysis of subjective cognition along the lines discussed in this study, not only the existence of SOA interpretations but also the

restrictions of their occurrence become explicable in a cognitively natural way.

CHAPTER FOUR

ON THE DISTRIBUTION OF REFLEXIVE PRONOUNS

4.1. Introduction

Research on reflexive forms in cognitive linguistics (e.g. Langacker (1991: Ch.8)), Deane (1992), Kemmer (1993), van Hoek (1992, 1997)) has revealed that the distribution of reflexives can be treated in terms of their function, which is to mark the participants in a relation as identical. Most recently, van Hoek (1997) used the analytical tools of Cognitive Grammar (henceforth CG) (Langacker (1987a, 1991)) to claim that the acceptable patterns of reflexive usage should be captured by a network of reflexive constructional schemas, and that usage events are categorized by one of them.

However, we still face the task of characterizing cross-linguistic variation among long-distance reflexives and the properties associated with them. This chapter is an attempt to expand the explanatory domain of the CG treatment of reflexives by introducing a typology of reflexives in which the various types are distinguished according to the kind of relation reflexive schemas categorize. The empirical domain of this study will include the mechanisms underlying local and long-distance anaphora

observed in English *self*-reflexives, Japanese *zibun*, *zibun-zisin*, and *kare-zisin*, as well as Chinese *ziji* and *ta-ziji*. Especially, we would like to show that while the English *self*-form has one elastic schema applicable quite extensively, under certain conditions, Japanese and Chinese employ several related but independent schemas, each represented by its own phonological structure, to categorize different types of relations.

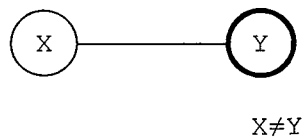
Our arguments will proceed as follows. After reviewing the CG treatment of English local reflexives in 4.2, we will observe in 4.3 some cross-linguistic problems to be handled in the present chapter. In 4.4, we propose a treatment based on CG mechanisms to handle cross-linguistic variation with regard to locality and long-distance effects as well as subject orientation. We will further discuss the status of logophoric effects in section 4.5, and problems concerning reflexives in the subject position in section 4.6. Some implication about the form and distributional facts will be discussed in 4.7.

4.2. A CG approach to Reflexives

Studies on anaphora in the cognitive framework are consistent in their characterization of the function of the reflexive; a reflexive is used to signal a departure from canonical expectations regarding the disjointness of participants in a relation. Langacker (1991), Kemmer (1995), van Hoek (1997) and other cognitivists assume that a prototypical relation holds of individuals that are distinct; therefore, if a relation

is established between identical participants, it goes against this expectation of disjointness. The function of the reflexive, then, is to show that this default-case expectation is overridden.¹ We postulate the default relational schema, as diagrammed in Figure 4-1.

Fig. 4-1 Default Relational Schema



In this section, we shall demonstrate our basic assumption as to the treatment of the reflexive pronoun. Our approach, naturally, is based on the same basic understanding about reflexives as other cognitivist works, especially, vanHoek's (1997). However, one significant difference may be found in that we do not refer to constructional schemas as does van Hoek. The reflexive pronoun is used in a variety of "constructional" environments; it felicitously appears as the object of a verb or a preposition, in picture nouns, or in main and complement clauses with the antecedents in either in the complement clause or in the main clause. To characterize those in constructional terms seems to end up in merely creating a taxonomic list.²

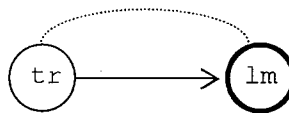
To take an example from her analysis, van Hoek (1997: 182 ff.) shows that picture noun reflexives (reflexives in expressions like *a picture of himself*, see 4.5) are logophors (sensitive to point of view) reflexives

(which itself seems to be correct, as many other researchers have demonstrated³), and regards the (picture noun) construction as an extension from the prototypical constructional schema, in which the reflexive appears as the direct object of a verb. To categorize the picture the noun reflexive as a POV reflexive, of course, explains distributional facts, but this does not explain why the picture noun reflexive is a logophor. We shall show that one needs to characterize reflexives in terms of the kind of relation in which they participate. And, as we will see in later sections, to do so will enable us to capture the facts pertaining to wider cross-linguistic behaviors of reflexives in an integrated manner.

4.2.1. Categorization by Reflexive Schema

According to Langacker (1991: 367-372) the semantic pole of a reflexive has the structure along the lines of Figure 4-2.

Fig.4-2 Reflexive Schema



This structure has a nominal profile and, as its unprofiled base, a relation in which it participates as the landmark. The landmark and the other participant of the relation, the trajector, are identical (shown by the dotted correspondence line). When this schema categorizes a verbal

processual relation, the profiled landmark of this schema elaborates the object, and its identity with the subject participant is ensured by the semantics of this categorizing structure. It is important to note that the identity of the participants is characterized in terms of a single relation. From the accessibility theoretical point of view, the reflexive, as a very high accessible marker, appears in the strongest "unity" with the antecedent.⁴

Now, let us now consider how categorization of a usage event is effected with the reflexive schema. (Note that the indices in the examples are used only to indicate the intended coreferent interpretation.)

(1) a. John₁ hit himself₁.

b. *John₁ hit himself₂.

(2) a. *John₁ hit him₁.

b. John₁ hit him₂.

Use of a reflexive pronoun in (1a) and (1b) evokes the reflexive schema (Figure 4-2), requiring the usage events to be categorized accordingly. Since the relation coded by the verb *hit* is established between two identical participants, (1a) is compatible with the semantic requirement of the reflexive schema, and therefore is judged well-formed. On the other hand, (1b) is judged ill-formed because the verbal relation here holds of two disjoint participants, which is not compatible with the semantic characterization of the reflexive schema. (2), where the non-reflexive

pronoun is used, evokes the default relational schema (Figure 4-1), whose participants are expected to be disjoint. (2a) is therefore unacceptable while (2b) is unproblematic.⁵

Notice the important role played by the default expectation that the participants of a relation are to be disjoint. Because of this expectation, our approach correctly predicts that the reflexive is used *if and only if* a relation holds of coreferential participants.⁶

4.2.2. Locality and Complementary Distribution

The foregoing characterization of the reflexive schema provides an immediate explanation of the oft-cited facts concerning the locality observed in the distribution of reflexives and the antecedent as well as the nearly complementary distribution of reflexives and non-reflexive pronouns. Consider (3)-(5).

(3) John₁ thought that Mary likes him₁/*himself₁.

(4) John thought that Mary₁ likes *her₁/herself₁.

(5) John's₁ mother criticized him₁/*himself₁.

The local nature of the reflexive-antecedent distribution observed in English is a natural outcome of the relation-based semantic characterization of the reflexive schema. In (3), the participant coded by *him/himself* is not coreferential with the trajector of the relation in which it participates; it is coreferential with the trajector of the

main clause processual relation, and is disjoint with the trajector of the complement clause relation, whose landmark it elaborates. To categorize this relation with the reflexive schema, therefore, results in incompatibility. In (4) the relation coded by the verb *like* holds of two coreferential participants. This is therefore to be aptly categorized by the reflexive schema, and to categorize it by the default (disjoint) relational schema results in anomaly. The participants of the relation coded by *criticize* in (5) are disjoint; it is between *John's mother* and *John*. To categorize it with the reflexive schema is impossible because of the incompatibility between the target and categorizing structures.

Note that this prominence-based approach to reflexive distribution provides a natural rendering of two important notions, namely, domain and superiority. With regard to the former, the foregoing analysis illustrates the fact that English reflexives must find their antecedents within a local domain usually corresponding to a simplex clause. This notion of domain is handled stipulatively in the generative tradition by defining a concept of governing category. In contrast, domain effects are automatically captured under the present approach, since reflexives categorize a single relation, so it affects the trajector and landmark of a single relation.

Superiority effects are treated by means of the configurational notion of c-command in generative studies.⁷ In our framework, however, superiority is rendered in terms of relationships of prominence; the

reflexive elaborates the landmark of a relation, indicating that it is identical to the trajector. Furthermore, the theory of argument alignment (Langacker (1991: Ch.7-8)) is sensitive to these same prominence relationships; the idea, then is that the grammatical coding of the trajector and landmark of a verbal relation is such that the fact that antecedents and reflexives (tend to) stand in the configurational relation of c-command falls out as an epiphenomenon. Furthermore, observe that the type of data like (5) above, which is often taken as evidence that antecedent-reflexive relationship needs to be defined in terms of c-commanding relationship, was also handled by our approach, without any other assumption than the characterization of the reflexive schema.

4.3. Problems Posed by Long-Distance Anaphora

Although our relation-based analysis introduced in the previous section can treat the major distributional patterns of English local reflexives, there is a conspicuous gap in the coverage of two other cross-linguistically well-represented classes of forms, namely long-distance reflexives (henceforth LDR) and subject-oriented reflexives. In this section, we will summarize the problems discussed in the literature about the Chinese reflexives *ziji* and *ta-ziji*, and the Japanese reflexives *zibun*, *zibun-zisin*, and *kare-zisin*, contrasting them with English *self*-reflexives.

4.3.1. LDR in Chinese

First, let us look at Chinese, which has two types of reflexives, *ziji*

and *ta-ziji*.⁸ As is often noted in the literature, *ziji* allows long-distance anaphora and *ta-ziji* is limited to taking local antecedents.

(6) Zhangsan₁ yiwei Lisi₂ ai $\left\{ \begin{array}{l} ziji_{1/2}. \\ ta-ziji_{*1/2}. \end{array} \right\}$

Zhangsan think Lisi love Refl

'Zhangsan thinks that Lisi loves Refl.'

As observed in the previous section, our analysis of reflexives predicts that the antecedent of a reflexive must be found within a local domain usually corresponding to a clause; thus, the behavior of the Chinese reflexive *ziji* cannot be handled in our framework as it has been elaborated up to this point.

Another well-known fact is that the LDR *ziji* is required to take a subject as its antecedent, the property known as *subject orientation*. Hence, in (7) *ziji* cannot corefer with the non-subject *Wangwu*, while *ta-ziji* can.

(7) Zhangsan₁ yiwei Lisi₂ gen Wangwu₃ shuo-qi $\left\{ \begin{array}{l} ziji_{1/2/*3}. \\ ta-ziji_{*1/2/3}. \end{array} \right\}$

Zhangsan think Lisi with Wangwu talk Refl

'Zhangsan thought that Lisi talked with Wangwu about Refl.'

Here, *ziji* allows for both long-distance and local anaphora, and the antecedent has to be a subject, hence *Zhangsan* and *Lisi* can be the antecedent. On the other hand, *ta-ziji* is limited to local anaphora, but it can take

a non-subject antecedent too; the main clause subject *Zhangsan* cannot antecede it, while the local subject *Lisi* and non-subject *Wangwu* can.

The subject orientation is not seen in English *self-reflexives*, as observed in (8).

(8) John₁ talked to Bill₂ about himself_{1/2}.

In (8), although the preferred interpretation is that *himself* goes with *John* (see Kuno (1987: Ch.4)), it is also possible for *himself* to be coreferential with the non-subject *Bill*, bringing about an obvious contrast with Chinese *ziji* observed in (7), which takes a subject antecedent only.

4.3.2. LDR in Japanese

The Japanese reflexives *zibun* and *kare-zisin* exhibit similar behavioral patterns, corresponding to the Chinese *ziji* and *ta-ziji* respectively. Note that the former allows long-distance anaphora, and the latter is limited to taking local antecedent.

(9) Taro₁ -ga Ziro₂-ga $\left\{ \begin{array}{l} \text{zibun}_{1/2} \\ \text{kare-zisin}_{1/2} \end{array} \right. -o \left. \right\}$ sukida to omotta.
 Taro-Nom Ziro-Nom Refl-Acc like Comp thought
 'Taro thought that Ziro likes Refl.'

Furthermore, the correlation between long-distance anaphora and subject orientation observed in Chinese is also observed with Japanese *zibun* and

kare-zisin.

- (10) Taro₁-ga Ziro₂-ga Saburo₃-ni $\left\{ \begin{array}{l} \text{zibun}_{1/2/*3} \\ \text{kare-zisin}_{? * 1/2/3} \end{array} \right\}$ nituite
Taro-Nom Ziro-Nom Saburo-Dat Refl about
talk Comp thought
hanasita to omotta.

'Taro thought that Ziro talked to Saburo about Refl.'

The facts shown in (10) reveal that the non-subject *Saburo* is a possible antecedent for the local reflexive *kare-zisin*, but not for *zibun*, which allows for long-distance anaphora. Obviously, these Japanese data pose the same problem as do the foregoing Chinese facts.

Another Japanese reflexive, *zibun-zisin*, shows still another set of properties. Consider (11).

- (11) Taro₁-ga Ziro₂-ga Saburo₃-ni *zibun-zisin*_{? * 1/2/*3} nituite
Taro-Nom Ziro-Nom Saburo-Dat Refl about
hanasita to omotta.
talk Comp thought

'Taro thought that Ziro talked to Saburo about Refl.'

Here, *zibun-zisin* disallows long-distance anaphora, as the main clause subject *Taro* cannot be its antecedent. However, unlike other local reflexives such as *ta-ziji*, *kare-zisin*, and English *self*-forms,

zibun-zisin is clearly subject-oriented, as it cannot corefer with the non-subject *Saburo*. Although our framework presented in the previous section is compatible with the local nature of *zibun-zisin*, the issue of subject orientation remains as a distinct problem. Furthermore, the existence of these data indicates an important generalization to be captured by an eventual analysis of the several types of reflexives reviewed here; it appears that all LDRs are subject oriented, but it is not the case that all subject-oriented reflexives allow long-distance anaphora.⁹

4.3.3. Characteristics of Reflexives

The observed properties of English, Chinese, and Japanese reflexives are summarized as in (12) below.

(12) Characteristics of Reflexives

I.	<i>ta-ziji</i>	}	local	no orientation
	<i>kare-zisin</i>			
	<i>himself</i>			
II.	<i>zibun-zisin</i>		local	subject orientation
III.	<i>ziji, zibun</i>		long-distance	subject orientation

Ta-ziji, kare-zisin, himself, and zibun-zisin must take local antecedents, which are participants in the same clausal relation; however, *ziji* and *zibun* are not subject to this restriction. Furthermore, *ziji, zibun, and zibun-zisin* require subject antecedents, while the remaining forms

do not. We shall employ the labels I, II, and III occurring at the beginning of each row to designate the three categories of reflexives.

One notable fact here is the apparent correlation of the possibility of long-distance anaphora and morphological complexity; aside from Type II, all reflexives of Type I (local anaphora only) are non-mono-morphemic (i.e. *him+self*, *ta+ziji*) and all reflexive of Type III (allowing long-distance anaphora) are mono-morphemic. This surprising correlation between morphological complexity and long-distance anaphora possibility has been noted in the literature, and some researchers in the generative tradition have attempted to derive the possibility of long-distance anaphora from the morphological complexity (see Pica (1987) and Katada (1991)).¹⁰ We will touch upon this issue in section 4.7.

4.4. Capturing Typological Variation

At this point we shall set about providing an analysis of reflexives that can handle the problems isolated in the previous section. We maintain that much of the basic outline of the approach advanced in 4.2 remains valid; in particular, we retain the notion that the reflexive schema profiles the landmark of a relation in order to indicate identity with that relation's trajector. To this analytic architecture we add two further claims. First, we propose that viewing relations that are somewhat vaguely employed in many previous proposals, including van Hoek (1997), can be more systematically defined in terms of the stage model. Second, the three categories of reflexives differ with regard to the kinds

of relations to which they are sensitive. From the type of relations affected, the three patterns of behavior summarized in table (12) may be seen to follow.

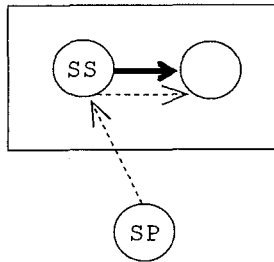
4.4.1. Conceptualization and Viewing Relations

Here we will introduce one of the theoretical assumptions on which our argument proceeds. This concerns the conceptualization of events and the relations that hold between the speaker and his/her perception of the entities being described. We assume that the speaker may choose two distinct viewpoints.¹¹ The first mode of conceptualization involves what we shall term the *internal viewpoint*, which utilizes one of the participants of the conceptualized event (generally the subject participant) as an event-internal vantage point and describes the event from that participant's perspective. Using Langacker's (1991: 554) terminology, that viewpoint participant functions as a *surrogate speaker*, whose conscious awareness of the content of the clause is being assumed by the actual speaker of the utterance. The surrogate speaker's awareness of the described situation constitutes a viewing relation more or less analogous to that between the speaker and the content of the sentence.

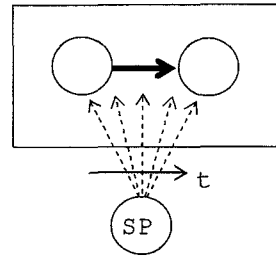
The other mode of conceptualization, which we shall term the *external viewpoint*, does not employ a surrogate speaker; the speaker of the utterance, who stands outside of the conceptualized event, mentally accesses each event participant directly; the event therefore is viewed from the speaker's external vantage point. Figure 4-3 below clarifies this distinction.

Fig.4-3 Viewpoint Representations

(a) Internal Viewpoint



(b) External Viewpoint



SP : speaker

SS : surrogate speaker

→ : verbal relation

-----> : mental path

The area delimited by a box is called the "on-stage region" where the conceptualized event takes place. The dotted arrows represent viewing relations, i.e. *mental paths*. As the visual rendering by means of arrows suggests, CG gives the viewing relations the status of relations, with participants and directionality just like the relations designated by verbs. Observe that these viewing relations have multiple participants, and the relation, from the viewer to the viewee, is necessarily unidirectional. Thus, the theory very clearly allows for the possibility of the reflexive schema categorizing the mental paths.

Note that the speaker's direct access to the event participants in Figure 4-3 (b) does not contradict the CG assumption that the subject is the clausal reference-point (Langacker (1993, 1995b)). To say that

the subject is the reference-point simply means that the conceptualizer's (direct) access to the subject participant provides an initial point of departure from which the *conceptualizer's attention* is subsequently drawn to other entities in the *dominion*. In the subsequent stages of this cognitive process, it is reasonable to say that the conceptualizer is directly accessing subject and non-subject participants.

4.4.2. Subjectivity and Objectivity

The viewpoint distinction discussed above relates to Langacker's (1991: 215) dichotomy between *subjectivity* and *objectivity*. An entity (i.e. an individual or relation) is said to be objectively construed when it plays the role of the object of conceptualization, while it is said to be subjectively construed to the extent that it is part of the conceptualizing process. Therefore, the extralinguistic speaker is maximally subjective, as he/she is not the object of the conceptualization at all, although he/she is an indispensable part of the process of conceptualization.¹²

Now, the viewing relations represented as mental paths in Figure 4-3 are obviously subjective in nature, in the sense that they are not the target of conceptualization but rather belong to the conceptualization process effected by the speaker. On the other hand, verbal relations linguistically coded by verbs are objectively construed, because they are the objects of the speaker's conceptualization.

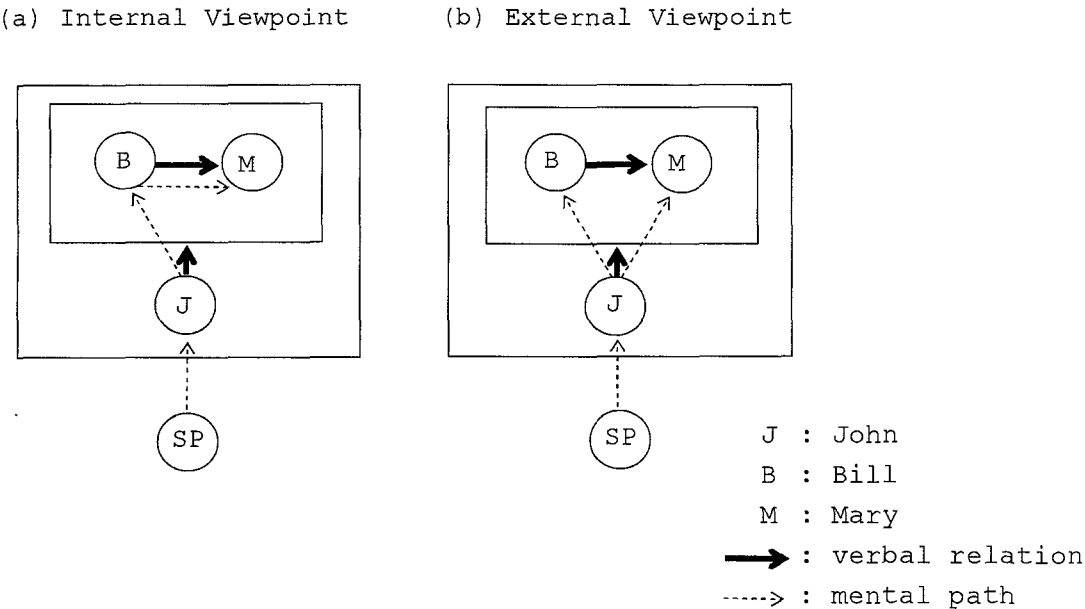
4.4.3. Conceptualization of Complement Clauses

We maintain that the relationship between the main clause event and the complement clause event can be understood as analogous to the one between the extralinguistic conceptualizer (i.e. the speaker) and the conceptualized event. Under this assumption, the main clause subject's role as a conceptualizer of the complement event is understood as comparable to the role of the speaker who conceptualizes the event expressed by the sentence he/she produces/comprehends (cf. Langacker (1991: 442)). Here, the main clause subject participant functions as a surrogate speaker, and the complement clause event is therefore characterized as one conceptualized by the main clause surrogate speaker. The difference between the two, the speaker and the main clause subject, however, is the fact that the former is located in the ground (i.e. the maximally subjective, extra-linguistic vantage point) and the latter is among the on-stage objective entities.

If this analogy is on the right track, we can hypothesize that the distinction between internal and external viewpoints introduced in 4.4.1 also pertains to conceptualization of a complement clause by the main clause conceptualizer, i.e. the subject of the superordinate clause. Figure 4-4 diagrams the two viewpoint options for the conceptualization of the complement of sentence (13).

(13) John thought that Bill likes Mary.

Fig.4-4 Viewpoint Representations of Embedded clauses



In Figure 4-4 (a), the main clause subject *John* conceptualizes the complement clause event through the viewpoint of *Bill*, the surrogate speaker in the complement clause, while in (b) *Bill* is not a surrogate speaker, and therefore *John* accesses each event participant directly.

For notational simplicity, we shall depict viewpoint arrangements in the conceptualization of the complement clause event like those in Figure 4-4 in the following linearized form.

(14) John → [Bill → Mary] (=Internal Viewpoint)

(15) John → [Bill → Mary] (=External Viewpoint)

Solid arrows represent objective relations that inherently exist in the conceptualized event, e.g. in the case of sentence (13), the verbal relations coded by the verbs *think* and *like*. Dotted arrows show the subjective, viewing relations; the complement clause subject *Bill* functions as the surrogate speaker in (14), while in (15) the complement participants are directly accessed by the main clause subject *John*. Note that in both (14) and (15) *John* is the surrogate speaker in the main clause, and of course it is also possible for the speaker not to use *John* as the surrogate speaker, but since those additional arrangements are not directly relevant to our immediate problem, we do not consider them until 4.6.¹³

4.4.4. Anaphoric Properties of Reflexives

In light of the viewpoint distinction we introduced in the previous section, we shall scrutinize the three types of reflexives, I, II, and III one by one and show that the variations in long-distance anaphora facts characteristic of each type are naturally attributable to the kind of relation each categorizes.

4.4.4.1. Type I and Type II Reflexives

Let us begin with Type I reflexives. As we observed in 4.3.3, reflexives of this category are limited to taking a local antecedent, as exemplified in (15).

(15) John₁ thinks that Bill₂ likes himself_{*1/2}

The linearized viewpoint representations of (15) is shown in (16) and (17).

(16) John → [Bill → himself] (=Internal Viewpoint)

(17) John → [Bill → himself] (=External Viewpoint)

Given these renderings, we shall consider which of the relations depicted in the representations actually undergo the categorization by the schema whose phonological pole is *himself*. By doing so, we hope to characterize the semantic pole of the Type I reflexive schema, i.e. what kind of relation it categorizes.

Let us first examine the hypothesis that *himself*, a Type I reflexive, categorizes viewing relations, i.e. the mental paths denoted by dotted arrows in (16) and (17). An examination of (17), the external viewpoint representation, proves this hypothesis untenable. There are two viewing relations here, [John-->Bill] and [John-->himself]. Since *himself* elaborates the landmark of the latter relation, this relation is to be categorized by the reflexive schema. Therefore, *John*, the subject of the main clause, is incorrectly predicted to be its antecedent. Thus, it is clearly not the viewing relations that undergo categorization by the schema of English *himself*, since, if they did, we would expect the external viewpoint reading illustrated in (17) to facilitate long-distance

anaphora, contrary to the empirical facts.

Notice that the internal viewpoint arrangement (16) does not provide a clue to which relation is at stake. In (16), both the objective verbal relation and the subjective viewing relation are confined within the complement clausal participants; whichever relation one may hypothesize the reflexive categorizes, it would predict local anaphora, correctly.

Suppose next that *himself* categorizes objective relations, i.e. those denoted by verbs and depicted with solid arrows in (16) and (17). There are two such relations, one from *John* to the content of the complement clause as a whole, and the other from *Bill* to *himself*. As the latter relation is categorized by the reflexive schema, then only *Bill*, the trajector of this relation, may be the antecedent. Furthermore, these observations hold regardless of whether the internal or the external viewpoint is adopted (i.e. in both (16) and (17)). Therefore, if we assume that *himself* must categorize an objective relation, we obtain the correct result that this form is limited to taking a local antecedent.

Moreover, this result can be unproblematically extended to the other local reflexives, *ta-ziji*, *kare-zisin*, and *zibun-zisin*. We shall assume that all of these must categorize objective relations and are therefore restricted to local anaphora, by the same reasoning as was just applied to the case of the English *himself*.

4.4.4.2. Type III Reflexives

Now, let us examine Type III reflexives, which, as shown in (18), can

corefer with either a local or a long-distance antecedent.

(18) Zhangsan₁ yiwei Lisi₂ ai ziji_{1/2}.

Zhangsan think Lisi love Refl

This fact is predicted only if we assume that the schema of *ziji* may categorize only viewing relations; if the internal viewpoint is taken, as in (19), then *Lisi* is predicted to be the antecedent, and if the external viewpoint is taken, as in (20), then it is *Zhangsan* that is predicted to the antecedent.

(19) Zhangsan → [Lisi → ziji] (=Internal Viewpoint)

(20) Zhangsan → [Lisi → ziji] (=External Viewpoint)

If, on the other hand, we assumed that *ziji* must categorize objective relations, it would be predicted that only *Lisi*, the subject of the complement clause, can antecede *ziji*, contrary to the facts. Therefore, we obtain the correct result only if we assume that *ziji* may categorize subjective relations.

To sum up, as far as the acceptability of long-distance anaphora is concerned, the correct predictions are provided by adopting (21).

(21) a. Reflexives of Type I and II must categorize objective, on-stage relations.

b. Reflexives of Type III may categorize subjective, viewing

relations.

These will be subject to further revision in section the next section.

4.4.5. Subject Orientation

Our next task is to tackle the subject-orientation effects seen in connection with reflexives of Types II and III, but not in Type I. We shall observe that, like domain effects, the presence or lack of subject orientation for a given type of reflexive can be predicted by considering whether the relations it categorizes are subjective viewing relations or objective relations.

4.4.5.1. Type I Reflexives

Let us start with a discussion of some preliminary notions, beginning with an examination of the cognitive representation of three-place speech-act predicates. Consider the English sentence type shown in (22), whose anaphoric properties are given in (23).

(22) X talked with Y about Z.

(23) a. John₁ talked with Mary about himself₁.

b. John talked with Mary₁ about herself₁.

The Type I reflexives in such sentence types are allowed to corefer with either the subject or the prepositional object (i.e., subject orientation

is not observed).

van Hoek (1997) analyzes the reflexive anaphora in sentences like (23b), where the reflexive corefers with *Mary*, in terms of the role as a cognizer of the direct object participant. She observes that the coreference with *Mary*, the prepositional object, depends on whether a viewing relation connecting *Mary* and the participant coded by the reflexive is recognized. That this observation is correct is shown by the unacceptable sentences in (24), where the intended antecedents are not perceived as a cognizer.

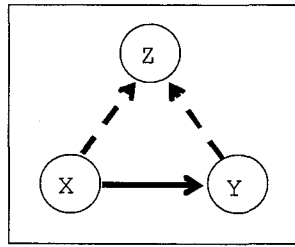
(24) a. **Mary* discussed *John*₁ with himself₁.

b. **Mary* talked about *John*₁ to himself₁.

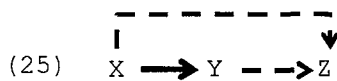
(van Hoek (1997: 180))

In our framework, this state of affairs is diagrammed along the lines of Figure 4-5 below, where the solid arrow represents the verbal relation, and the dotted arrows represent viewing relation. Note that the viewing relations are shown in bold lines, indicating that they are also part of the objective, on-stage semantics, not subjective viewing relations as those discussed in previous sections.

Fig.4-5 X talked with Y about Z



In Figure 4-5, the verbal semantics of *talk* inevitably requires Y to be a cognizer of what is talked about, Z. This state of affairs is shown in our linerized representation as below.



Again, note that the viewing relations shown in dotted arrows in (25) are not subjective relations as part of the speaker's conceptualization as in our previous examples, but rather, they are the *objects* of the conceptualization. The arrows are therefore rendered in bold lines. Also note that we have omitted the subjective viewing relations that are in fact present in conceptualizing (25), as those are not immediately relevant in the discussion because Type I reflexives, as we seen above, only categorize objective relations shown in (25).

Here X and Y stand in an obvious relation of communication coded by the verb (i.e. coded by *talk with* in (23)). What is of interest is the status of the remaining pair of relations, which start from X and Y and converge on Z. These relations seem to be coded by the preposition *about*.

The profiled viewing relation $[Y \rightarrow Z]$ is qualified to be categorized by the reflexive schema if Y and Z are coreferent. In that case, the reflexive has to elaborate Z (i.e. the landmark of the relation), resulting in (23b), *John talked with Mary₁ about herself₁*. If X and Z are coreferent in $[X \rightarrow Z]$, then (23a), *John₁ talked with Mary about himself₁* results.

In (24a), **Mary discussed John₁ with himself₁*, and (24b), **Mary talked about John₁ to himself₁*, the reflexive schema profiles the initiator Y, rather than the endpoint Z, of the profiled viewing relation, $[Y \rightarrow Z]$. This does not conform to the nature of the reflexive schema; hence the sentences are rejected.

4.4.5.2. Type III Reflexives

The foregoing analysis of the coreference with a non-subject participant, though obviously in the right direction, however, cannot account for the fact that the same coreference with a non-subject participant is not acceptable with Type III reflexives, which are subject oriented, as the following examples show. Note that we consider only Type III reflexives here. Another type of subject-oriented reflexives, Type II, will be taken up in 4.4.5.4.

(26) Taro₁-ga Saburo₂-ni zibun_{1/*2} nituite hanasita.

Taro-Nom Saburo-Dat Refl about talked

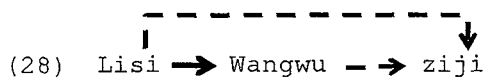
'Taro talked with Saburo about Refl.'

(27) Lisi₁ gen Wangwu₂ shuo-qi ziji_{1/*2}.

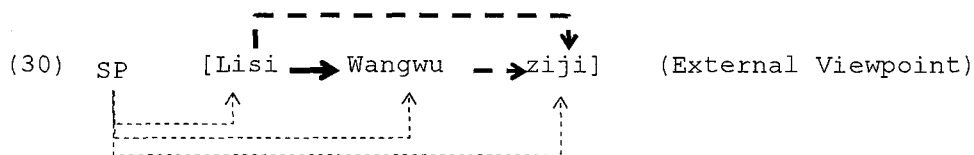
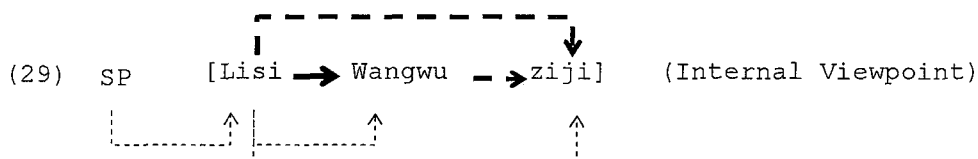
Lisi with Wangwu talk Refl

'Lisi talked with Wangwu about Refl.'

In our linearized representation, the objective relations involved in (27) are shown as in (28) (analogous to the structure diagrammed in Figure 4-5 and its linearized version (25)).



Let us now take into consideration how the speaker conceptualizes this on-stage event with the two viewpoint options. In the following representations, SP stands for the off-stage speaker and the brackets indicate the objective region. (29) and (30) are the internal and external viewing arrangements, where the subjective viewing relations are indicated in arrows shown underneath.



Following the characterization of the viewpoint distinction we observed

in 4.4.1 with Figure 4-3, in the internal viewpoint option (29), the subject *Lisi* functions as what we termed the surrogate speaker, an on-stage participant from whose viewpoint the off-stage speaker conceptualizes the on-stage event. On the other hand, in the external viewpoint (30), the speaker accesses each event participant directly.

Given this distinction, combined with our hypothesis that Type III reflexives categorize only subjective viewing relations, the subject orientation observed with type III reflexives is readily explicable. There is no subjective viewing relation that connects the non-subject participant *Wangwu* and *ziji* in either viewing arrangement (only an objective viewing relation between these two exists). On the other hand, there is a subjective viewing relation connecting the subject *Lisi* and the reflexive *ziji* in the internal viewpoint option (29). Type III reflexives can categorize this relation, hence subject orientation results.

One important prediction emerges from this analysis. First, note that in an external viewpoint arrangement like (30), subjective viewing relations exist between the extra-sentential speaker SP, maximally subjective entity located in the off-stage ground, and each on-stage participant. These relations naturally predict that Type III reflexives, which categorize relations of this kind, can refer to the extra-sentential speaker (and the hearer, another conceptualizer of the described event¹⁴). This prediction is indeed borne out. Let us consider use of *zibun* in Japanese. Note that SP indicates the speaker of the sentence in the following examples.

(31) Zibun_{SP}-ga yari-masi-ta.

Refl-Nom do-Past

'I did it.'

Here, *zibun* in the subject position refers to the speaker. Furthermore, when an appropriate context is imagined, *zibun* in the object position can also refer to the speaker, as in (32) (see Akiyama (1995) and Iida (1996) for different approaches to similar data).¹⁵

(32) Taro₁-ga Zibun_{SP/1}-o naguri-masi-ta.¹⁶

Taro-Nom Refl-Acc hit-Past.

'Taro helped me'

Moreover, it is widely known that the dialect of Japanese spoken in Kansai allows *zibun* to refer to the hearer.

(33) Zibun-ga yattan chau?

Refl-Nom did wrong

'You did it, right?'

Thus the observed possible reference to the extra-sentential speaker is naturally predicted in our analysis.¹⁷

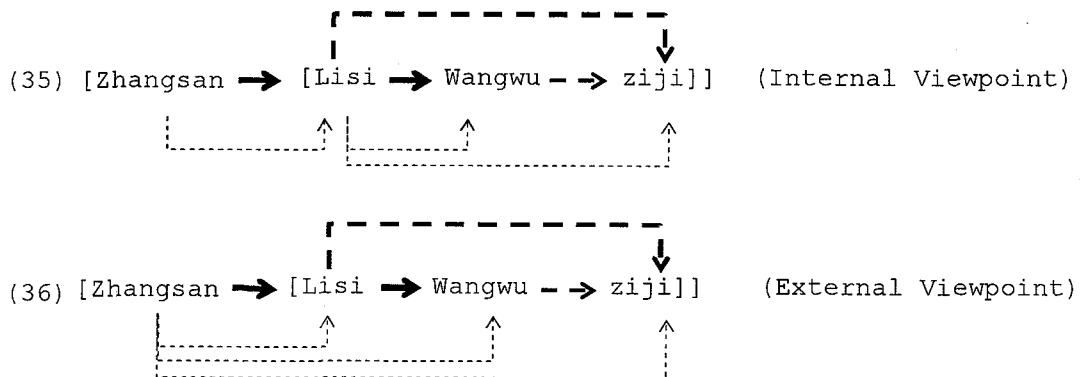
4.4.5.3. Further Extensions of Type III Reflexives

Viewpoint representations may be applied to a complex sentence with a comparable complement clause. One gets (35) and (36), two viewpoint options of (34), where *Zhangsan* is the conceptualizer in the main clause; *Zhangsan* takes the internal viewpoint in (35) and the external one in (36), respectively, vis-à-vis the conceptualization of the complement event.

(34) Zhangsan₁ yiwei Lisi₂ gen Wangwu₃ shuo-qi ziji_{1/2/*3}.

Zhangsan think Lisi with Wangwu talk Refl

'Zhangsan thought that Lisi talked with Wangwu about Refl.'



In (35), the subject of the complement clause, *Lisi*, is the surrogate speaker, hence its viewing access, indicated as dotted arrows shown underneath, reaches other participants of the complement clause event. In (36), the main clause conceptualizer *Zhangsan* directly accesses each participant in the complement clause event.

Bearing this much in mind, let us set about analyzing the

subject-orientation facts. Consider (34). Here the only NP that cannot antecede *ziji* is *Wangwu*. Let us consider the relations that connect *Wangwu* to *ziji*; under both the internal viewpoint in (35) and the external one in (36), there is only one relation connecting these two participants, and it happens to be one of the objective relations that we discussed above (note that it is rendered with a bold dotted arrow). Since, according to our hypothesis, *ziji*, a Type III reflexive, can only categorize subjective viewing relations, *Wangwu* can never antecede *ziji*, whichever viewpoint arrangement is taken.

As for the acceptable antecedents *Zhangsan* and *Lisi*, there are subjective relations that relate them to *ziji*. These observations suggest a simple solution: Type III reflexive *may* categorize a subjective relation; it now appears that this statement should be strengthened, so as to ensure that a Type III reflexive *must* categorize a subjective relation.

4.4.5.4. Type II Reflexive

Our discussion thus far has concentrated on how to capture the distributional facts by specifying what kind of relation, objective relations or subjective relations. Type I reflexives are hypothesized to categorize the former, and Type III reflexives are to categorize the latter, and we have seen that these characterizations handle the empirical facts adequately. Let us now attempt to characterize the Type II reflexive, *zibun-zisin* in a similar fashion. The Type II reflexive, *zibun-zisin*, as we observed in 4.3.3, is a local reflexive and at the same time subject-oriented. Let us consider (37), and its two viewpoint

arrangements (38) and (39).

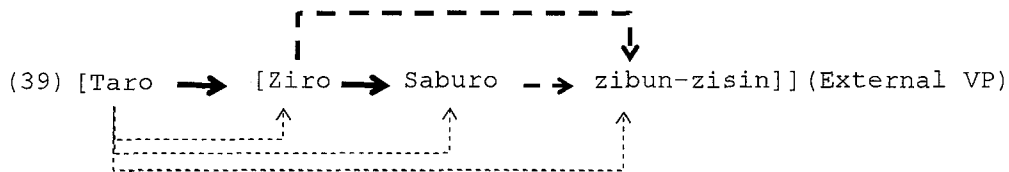
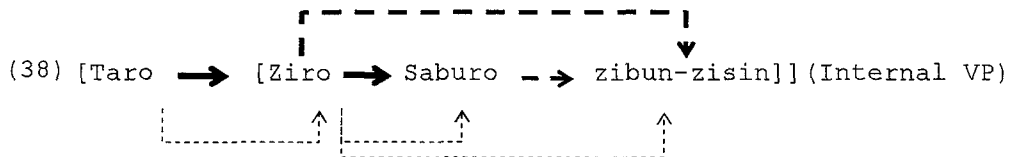
(37) Taro₁-ga Ziro₂-ga Saburo₃-ni zibun-zisin_{*1/2/*3}-nituite

Taro-Nom Ziro-Nom Saburo-Dat Refl about

hanasita to omotta.

talk Comp thought (= (11))

'Taro thought that Ziro talked to Saburo about Refl.'



If we assume only that *zibun-zisin* must categorize objective relations, as we did in (21a), the local nature of *zibun-zisin* is captured; the possible antecedents are *Ziro* and *Saburo*, but not *Taro*, the subject of the main clause. However, the subject orientation exhibited in (37) is yet to be explained, since assuming that *zibun-zisin* categorizes objective relations would allow the non-subject *Saburo* as a possible antecedent. Of course, we just saw in connection with Type III reflexives that the key to modeling subject orientation effects was to require the relevant reflexives to categorize subjective viewing relations; recall, however, that this did not give rise to locality effects. To capture locality

and subject orientation simultaneously, we need to impose both types of constraint; a reflexive of Type II must categorize both a subjective and an objective relation. We shall additionally hypothesize that these relations be *co-aligned*, in the sense that the initiators of the relations must be the same, and also their endpoints. Such a pair of relations may be seen only in the internal viewpoint (38), between the subject of the complement clause, *Ziro*, and the reflexive, correctly predicting locality and subject orientation at the same time.¹⁸

Having covered the subject-oriented types of reflexives, we may now summarize our results. Note that the observations from 4.4 about Type I reflexives stand without modification, as these exhibit no subject orientation. Thus, the three principles in (40) sum up our observations so far.

- (40) a. A reflexive of Type I must categorize an objective relation.
- b. A reflexive of Type II must categorize two co-aligned relations, one objective and the other subjective.
- c. A reflexive of Type III must categorize a subjective relation.

These principles will be subject to a further minor modification later.

4.4.5.5. More on Subject Orientation

Having put forth the basic details of our analysis of subject orientation, we shall next advance three arguments in favor of the present approach,

based on categorization of subjective relations, as opposed to theories that lexically stipulate that certain classes of reflexives must take antecedents bearing the grammatical relation of subject.

For the purpose of the present study, it is of no concern whether the notion of subject is posited as a grammatical primitive (Kameyama (1984)) or defined by constituent-structure geometry, e.g., as "NP of S". Furthermore, with respect to constituency-based approaches, our approach does not matter whether the subject position is picked out by stipulation, as in older generativist works, or designated indirectly, e.g. by proximity to INFL or AGR, the landing site of covert movement of reflexives (Battistella (1989), Cole et al. (1990), Katada (1991)). We shall show that grammatical subjecthood is not a necessary condition for antecedents of so-called subject-oriented reflexives, while subjective, viewing relations appear to be present in all cases of felicitous reflexive use.

Now, let us examine one well-known case in which *zibun* takes a non-subject antecedent, which concerns complements of the verb *kiku* 'hear'.

(41) ?Taro-ga Ziro₁-kara Saburo-ga zibun₁-o nagutta to kiita.

Taro-Nom Ziro-from Saburo-Nom Refl-Acc hit Comp heard.

'Taro heard from Ziro that Saburo hit Refl.'

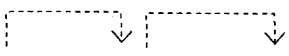
In (41), the source argument *Ziro* is a possible antecedent of *zibun* in the complement clause. Our characterization of Type III reflexives does not contradict this fact, because *Ziro* in this case is by definition aware

of the content of the complement clause (Kameyama (1984)). Our analysis, which regards subject orientation as a by-product of categorizing subjective viewing relations, allows a non-subject to antecede *zibun*, provided it qualifies as a surrogate speaker.¹⁹ In contrast, any analysis that made *zibun* anaphora contingent on subjecthood would be forced to treat (41) as an exception.

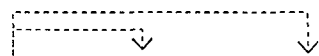
4.4.5.6. Constituent Structure and Reflexives

So far we have said nothing of the conceptual organization of a complement clause incorporated into a main clause structure. As in (42) and (43), we have given the elements in the main clause and those in the complement clause the same prominence status.

(42) John → [Bill → himself] (=Internal Viewpoint)



(43) John → [Bill → himself] (=External Viewpoint)

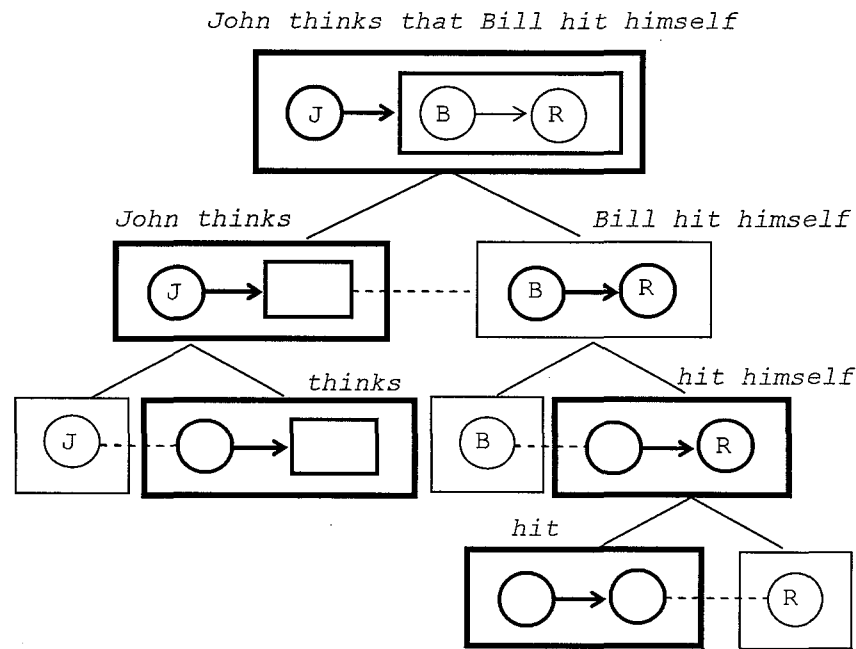


As in (42) and (43), our representations have shown the complement clausal relation in bold arrows as if it is profiled at the highest integrated level of the conceptual organization. However, we need to specifically state what our treatment of complement clause organization actually means in the overall constituency organization, and what it means in the constituency organization that a particular type of reflexives has a certain

preference for the relation it categorizes.

First, let us consider how constituents are conceptualized as supposed in Cognitive Grammar. Figure 4-6 diagrams how the constituent structure of *John thinks that Bill hit himself* is organized, where R represents the participant coded by the reflexive, J and B stand for *John* and *Bill*, respectively.

Fig.4-6 Constituent Structure

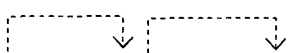


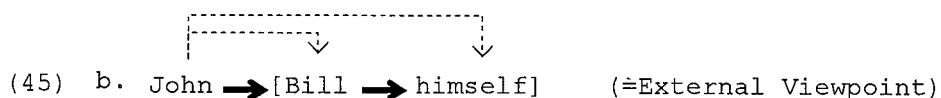
It is important to note that this kind of representation is not to show how a clause is "built up" bottom-up, as do tree diagrams used in the generative tradition. Instead, it shows how we capture the conceptual groupings in the integrated, composite structure. In other words, the

structures in all different component levels “coexist” with the integrated level structure.

Here, notice that the entities inside the complement clause are unprofiled at the highest integrated level, as assumed by Langacker (1991: 436) (See also van Hoek (1997: 67-69)).²⁰ This means that the complement clause as a whole [B→R] in Figure 4-6 is an integral part of the main clause, but each participant of the complement clause is not part of the profile of the main clause (thus [B→R] is not in bold lines). The complement clause relation and its participants, however, are given a profiled status at the component level (the second highest level). On the other hand, we assume that the decision on which viewpoint arrangement (i.e. internal vs. external options) is taken is made in the highest integrated level structure because the structure at this level is what the speaker/hearer actually observes the described event as a whole. The elements inside the complement clauses are accessible to the subjective viewing at this integrated level structure (See Langacker’s (1995b) treatment of how a complement clause is “viewed” by a main clause viewer), although they are not profiled at this level. (Note that the subjective viewing relations are not shown in Figure 4-6).

Given Figure 4-6, our simplified, linearized representation of complement structure like (44) and (45) are now to be understood in terms of the structured conceptualization of the constituency organization.

(44) a.  John → [Bill → himself] (=Internal Viewpoint)



Here, the participant elaborated by *himself*, involved in an objective complement relation shown by the bold arrow [Bill→himself], is in fact profiled at the component level, not at the integrated level, while the viewing relations indicated by the dotted arrows are effected at the integrated level.

We have hypothesized that Type I reflexives categorize objective relations only (i.e. the relation [Bill→himself] in (44) and (45)), which results in its being restricted to local anaphora. This relation should be now understood as being profiled not at the highest integrated level, but at a component level of the constituency organization. The participant coded by *himself* participates in a subjective viewing relation at the highest integrated structure, but, as a Type I reflexive, it cannot categorized such a relation, disallowing long distance anaphora. As such, our analysis of the distribution of reflexives effected on the linearized representations is valid with the details of organization of the constituent structure taken into consideration.

4.5. English *Self*-reflexives Revisited

We have seen that our relation-based reflexive characterizations can adequately capture the basic distributional facts of each type of reflexives. However, the problems concerning the distribution of reflexives are in

fact more complicated. One such problem concerns the fact that there are cases where Type I reflexives seem to categorize subjective viewing relations, contrary to our treatment of the Type I reflexives as categorizing only objective relations. We shall examine this problem here and propose a slight revision of the principle advanced in (40a).

4.5.1. Problems

The assumption that Type I reflexives must categorize only objective relations appears to be too strong, when non-argument reflexives are taken into consideration. Consider the following examples, where reflexives occur inside NPs; these are often referred to as *picture noun reflexives* (henceforth PNR).

(46) Lucie₁ saw a picture of herself₁/her₁.

(47) Max₁ likes jokes about himself₁/him₁.

(Reinhart & Reuland (1993: 661))

Here, *herself* and *her* in (46) and *himself* and *him* appear in (47) appear in the same position, the fact that contrasts strikingly with the complementary distribution observed between bare argument reflexives and non-reflexive pronouns, as is observed in sentences like those we observed in 4.2, some of which are repeated below.

(48) John₁ hit himself₁/*him₁.

(49) John₁ hit *himself₂/him₂

(50) John₁ thought that Mary likes him₁/*himself₁.

(51) John thought that Mary₁ likes *her₁/herself₁.

(52) John's₁ mother criticized him₁/*himself₁.

This fact poses a serious problem to most theories that are designed to cope with complementary distribution of reflexives and non-reflexive pronouns, like the principle-and-parameters framework.²¹ To cope with non-complementary cases like (46) and (47), many researchers have adopted in one way or another a distinction between "true" reflexives like those in (48)–(52) and a category of pronouns generally referred to as *logophors*. Research of this kind includes Cantrall (1974), Kuno (1987), Sells (1987), Zribi-Hertz (1989), Sigurðsson (1990), Pollard and Sag (1992), Dalrymple (1993), Reinhart and Reuland (1993), among many others.²² Details of the proposals put forth in these studies vary, but they seem to converge on the idea that such "reflexive forms" are sensitive "viewpoint" or "logophoricity".

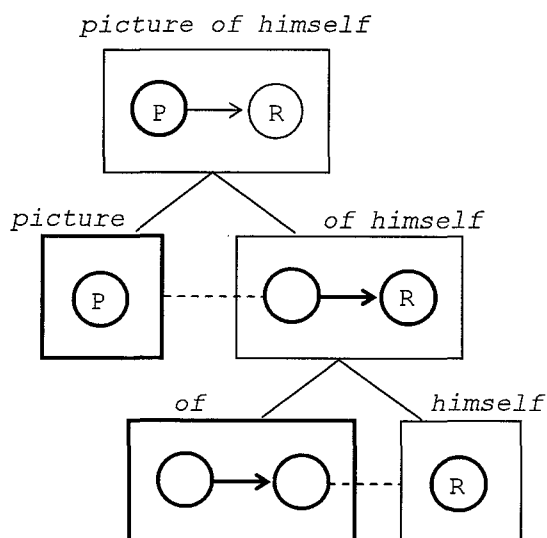
Although this seems to be a right direction, as we shall see shortly, one question to be asked is why these reflexives are sensitive to the viewpoint and how they are different from "well-behaved" reflexives. This is also the case with van Hoek (1997), which ends up postulating "constructional schemas" for each anaphoric type instead of presenting a systematic account of reflexive distribution.²³

We show that our approach, with a slight modification, provides a motivated answer to this question.

4.5.2. Constituency Organization of Picture Nouns

Let us first examine how the constituent structure of a picture noun structure (i.e. [NP+P+NP]) is organized. Consider Figure 4-7, which diagrams a simple picture noun structure like *a picture of himself*.²⁴ R and P represent *himself* and *picture*, respectively.

Fig.4-7 Picture Noun Structure



In Figure 4-7, the Type I reflexive *himself* elaborates the landmark of the relation coded by *of*. At the next higher level, the profiled prepositional relation *of himself* functions as the modifier of the nominal profile of *picture*, the profile determinant. Then at the top-level structure the profiled entity is that of *picture*, and the relation coded by *of himself* is its unprofiled base.

4.5.3. Anaphora Facts of PNR

Having observed the constituent structure of picture nouns, let us now examine the anaphora facts of PNRs including those observed in 4.5.1.

4.5.3.1. Limiting Cases

First, our hypothesis that *himself*, a Type I reflexive, exclusively categorizes an objective relation predicts that in the picture noun structure [NP P REFL], the reflexive (REFL) can corefer with the head NP, because it can categorize the profiled objective relation coded by the preposition *of*. Such cases may include expressions like (53) and italicized part of (54).

(53) a. the book₁ about itself₁

b. the picture₁ within itself₁

(54) Clearly this bare volcanic archipelago was proving to be, as Darwin later described it, 'a little world₁ within itself₁.'

(*British National Corpus*, HRB 375)

These expressions are in fact very hard to find, possibly because our world simply does not contain such a relation in normal situations. For example, the situation that (53) denotes is very hard to imagine; it is normally very unlikely that a book's topic is that book itself. (53b) is only possible when, for example, a speaker is describing a TV monitor that shows a picture of itself taken by a camera that is shooting that

monitor (an image of infinite regress). (54) is only possible when one imagines the metaphor that allows us to regard the (Galapagos) archipelago as an evolutionarily self-contained body like the world in which it is contained. However, it is important to note that our framework does predict that such expressions are theoretically possible.

4.5.3.2. PNRs Categorizing Viewing Relations

The cases that have been more problematic, as we saw in 4.5.1, are expressions like (55), which in some cases do not show complementary distribution with non-reflexive pronouns as in (56).

(55) a story about himself.

(56) a. Lucie₁ saw a picture of herself₁/her₁.

b. Max₁ likes jokes about himself₁/him₁.

(=(46), (47))

As many researchers have pointed out, we contend that such PNRs are in fact "viewpoint" reflexives. However, although previous works in the literature seem to have failed to present motivated mechanism as to why PNRs are sensitive to "viewpoint", we shall claim that our approach is able to provide a reasonable hypothesis that accounts for the fact that the usually "well-behaved" self-reflexives become so "exceptional" in the picture noun structure.

Now, let us examine how our approach can accommodate the distribution of PNRs. Our working hypothesis thus far is that *himself* is a Type I reflexive, which exclusively categorizes an objective relation (i.e.,

its semantics is most compatible with such a relation). However, in PNR cases like *a picture of himself*, the reflexive cannot categorize the prepositional relation because of its gender designation in this case, or, even if the prepositional object was elaborated by *itself*, world knowledge would tell us that such a relation is extremely rare.

This leads us to hypothesize that a Type I reflexive actually can categorize a subjective viewing relation under certain circumstances. We shall propose that a Type I reflexive must categorize an objective relation if one is available, i.e., if there is a profiled objective relation in the constituent organization. Otherwise a Type I reflexive may categorize a subjective relation. Thus, (40a) in 4.4.5.4 may be revised as (57).

- (57) A Type I reflexive must categorize an objective relation whenever one is available; if not, it may categorize an available subjective viewing relation.

Here, a relation is available if and only if a participant coded by the reflexive is the landmark of a relation of a kind that is potentially categorized by the schema of the given reflexive. Thus, (57) amounts to saying that if a participant is coded by a Type I reflexive, it is first understood that the reflexive categorizes the objective relation whose landmark it elaborates. If there is no such available relation, then it can instead be understood as categorizing a subjective viewing relation whose landmark is elaborated by that reflexive, if there is one.

Notice that this modification does not affect our analysis of the local nature of Type I reflexives in argument positions that have been presented thus far, because in the argument positions an objective verbal relation is always available.

Now, let us consider empirical consequences of the revision and then examine its theoretical implications. The revision in (57) has welcome consequences, the first of which is that it predicts that, as we saw in above, English reflexives in picture nouns may in some cases be replaced with non-reflexive pronouns. Let us consider the non-complementary distribution cases in (56), repeated here as (58).

(58) a. Lucie₁ saw a picture of herself₁/her₁.

b. Max₁ likes jokes about himself₁/him₁.

Such non-complementary distribution is correctly predicted by our revised characterization of Type I reflexives (57). Let us consider (58a) for example. Here, we contend that there is no available objective relation that the reflexive *himself* can categorize; the prepositional relation is thought of as *not being available* because world knowledge tells us that such a relation is extremely rare (recall our argument in 4.5.3.1). It is therefore not a kind of relation it can potentially categorize. This allows *himself* to categorize a subjective viewing relation. If the internal viewpoint option is chosen, a subjective viewing relation connects the subject *Lucie*, the surrogate speaker, and the rest of the participants of the clause. (Recall that we assume that modifiers are not profiled

at the integrated level, but visible to the subjective viewing access.) This relation, which holds of two identical participants, is adequately categorized by the reflexive schema of *himself*. On the other hand, if the external viewpoint option is chosen, there is no such relation; therefore, the default categorization by the non-reflexive relational schema is effected. Hence, the non-complementary distribution follows as the result of the external/internal viewpoint distinction.

Note here that our treatment of PNRs predicts that they behave like bare Type III reflexives, because PNRs categorize subjective viewing relations as Type III reflexives do. This prediction seems to be empirically confirmed. Recall that we observed in 4.4.5.2 that *zibun* can refer to the extra-sentential speaker or hearer as in (59) below, and that our approach correctly predicted it because when the external viewpoint option is chosen, there exists such a relation between the extra-sentential speaker/hearer and each on-stage participant. Indeed, this is also the case with English PNRs, as shown in (60).

(59) *Zibun_{SP}-ga yari-masi-ta.*

Refl-Nom do-Past

'I did it.'

(60) a. This picture of myself will make John happy.

b. This picture of yourself will make John happy.

(Cantrall 1977: 22)

Similar examples are in fact very easily found. (61) and (62) were taken from *British National Corpus*.

(61) The growth of consciousness about myself proceeds simultaneously with an awareness of guilt. (CDC 442)

(62) Unfortunately, you have a tendency to allow your obviously muddled, rather juvenile feelings about myself to cloud your judgement. (JXX 1368)

4.5.3.3. Further Consequences

Consider (63) and (64) below, where both reflexives and non-reflexive pronouns are allowed in the prepositional phrases.

(63) a. John₁ pulled the blanket over himself₁/him₁.

b. John₁ hid the book behind himself₁/him₁.

(Kuno (1987: 153))

(64) Sue₁ wrapped a blanket around her₁/herself₁.

Our revised characterization of Type I reflexives (57) predicts that the Type I reflexive in verb-modifying prepositional phrases as in (63) and (64) exhibit the same distributional property as PNRs; these expressions do not designate a relation that can be categorized by the reflexive schema, hence no available objective relation is present for the reflexive. This is because the reflexive schema requires a relation whose participants

are nominal profiles (i.e. things) (see Figure 4-2 in 4.2), but these verb-modifying relations have a *process* as the trajector (the verbal relation as a whole is the trajector of the relation denoted by the preposition) (See Langacker (1987a: 217-220)). Thus, no objective relation is available for the reflexive, which, according to (57), allows the reflexive to be understood as categorizing a subjective viewing relation. The observed non-complementary distribution with the non-reflexive pronouns follows, as the result of the internal/external viewpoint distinction.

We have motivated the parallelism between Type I and Type III reflexives in terms of the possible reference to the extra-sentential speaker and the non-complementary distribution with non-reflexive pronouns.

Yet another sort of parallelism is found between the two types of reflexives in the possibility of long-distance anaphora. Consider (65).

- (65) a. ? Bill₁ remembered that *the Times* had printed a picture of himself₁
in the Sunday edition.
- b. Bill₁ suspected that *the silence* meant that a picture of himself₁
would be soon be on the post office.
- c. Bill₁ thought that nothing could make a picture of himself₁ in
the *Times* acceptable to Sandy.

(Pollard and Sag (1994: 268))

The long-distance anaphora seen in these examples is no mystery, provided

that the preference of Type I reflexives for objective relations may be overridden when none is available. Since the lack of an available objective relation essentially affords the instances of *himself* in (65) a dispensation to categorize subjective viewing relations, it immediately follows from our treatment of Type III reflexives that when the external viewpoint is taken, the viewing relation from the main clause subject to the PNR licenses these three reflexives.

However, we should note that in long-distance PNR anaphora, the intervening subject needs to be an inanimate entity, as seen in (65). This contrasts with long-distance anaphora of Type I reflexives, where an animate intervening subject does not keep the reflexive from being anteceded by a main clause surrogate speaker. This question is certainly subject to future investigations.

4.5.3.4. Backward Anaphora

It has been known in the literature that PNRs allow for backward anaphora in sentences with psychological predicates (e.g. Belletti and Rizzi (1988), Grimshaw (1990)) or causative sentences (e.g. Pesetsky (1995)) as in examples in (66)-(68) below.

(66) Pictures of himself worry John. (Kuno and Takami (1993))

(67) Stories about herself generally please Mary. (Grimshaw (1990))

(68) Those rumors about himself made John behave more carefully.

(Pesetsky (1995))

This phenomenon is straightforwardly accommodated in our framework, in which PNRs are motivated to categorize subjective viewing relations, simply with an assumption that these predicates semantically require the object participant to play a role of the surrogate speaker of the described event. This assumption gives rise to the situation where the subjective and objective relations go in the opposite directions in these predicates: the former goes from the object to the subject, and the latter from the subject to the object. Figure 4-8 below shows this situation, where the S stands for the subject participant and O the object participant. The verbal relation codes the influence exerted by the theme upon the experiencer (it is therefore coded as the subject as the head of the action chain), and the subjective viewing relation follow the experiencer's attention path. In other words, these predicates have the word order reflect the objective, force-dynamic relation, and at the same time impose a viewing relation that goes in the opposite direction.²⁵

Fig.4-8 Psychological Predicate



If so, the PNR in the subject position, which in our framework categorizes the subjective relation, can naturally categorize the subjective viewing

relation from the surrogate speaker (object participant), because it elaborates the endpoint of this relation. Hence, the backward anaphora results.²⁶

Naturally, such backward anaphora is not observed in other predicates because it is the subject that functions as the surrogate speaker in general.

(69) *Pictures of himself don't portray John well.

(Kuno and Takami (1993))

(70) *Stories about herself generally describe Mary accurately.

(Grimshaw (1990))

At a glance, however, our framework seems to make a wrong prediction as to the acceptability of sentences like (55), where the bare reflexive is the subject of a psychological predicate.

(71) *Himself in the mirror surprised John.

In (71), technically speaking, *himself* does not code the landmark but the trajector of the objective relation coded by *surprise*, hence the objective relation in which it participates is not available for being categorized by the reflexive. Therefore, our framework would allow it to categorize the subjective relation the landmark of which *himself* codes (i.e., the subjective relation is available.). Categorizing such a relation should be legitimate because no objective relation competes here,

and therefore (71) is predicted to be acceptable, contrary to the fact.

However, I would like to suggest that this is due to a reason specific to English. English *self*-reflexives are morphologically accusative, and cannot appear where a nominative NP is required.

Indeed, *kare-zisin*, a Type I reflexive in Japanese, appears to be much better as the main clause subject. Compare (72) below with (71) above, both of which have the subject elaborated by a Type I reflexive, *himself* and *kare-zisin*.

(72) ?Kagami-no-naka-no kare-zisin₁-ga Taro₁-o odorok-ase-ta.

mirror-Gen-inside-Gen Refl-Nom Taro-Acc surprise-Past

'Refl in the mirror surprised Taro.'

Furthermore, the Type III reflexive, which exclusively categorizes the subjective viewing relation, is of course predicted to be allowed as the bare subject, and this seems to be borne out.²⁷

(73) ?Kagami-no-naka-no zibun₁-ga Taro₁-o odorok-ase-ta.

mirror-Gen-inside-Gen Refl-Nom Taro-Acc surprise-Past

'Refl in the mirror surprised Taro.'

We contend that these facts strongly indicate that *himself* in (73) is ruled out for the case problem.

From this reasoning it naturally follows that use of Type I reflexive

as the object of a psychological predicate should be felicitous. The object is the landmark of the objective force-dynamic relation, and this is a kind of relation that is to be appropriately categorized by the Type I reflexive schema. Indeed, such examples exhibit only "fairly weak ungrammaticality" (Grimshaw (1990: 158), see also Postal (1970: 71), Jackendoff (1972: 146) and Belletti and Rizzi (1988)).²⁸

(74) ?They concern/perturb themselves. (Grimshaw (1990))

And the following examples are from *British National Corpus*.

(75) You need worry yourself no further in that regard, Director.

(GUG 316)

(76) It was the feeling she had had as a child when she frightened herself
with a detective story. (FB9 1963)

(77) There was no foreman to watch over him and he could please himself
when he made his walk around the yard. (EA5 1088)

In this subsection we have claimed that our approach to reflexives can accommodate the facts about backward anaphora of PNRs only by assuming that the psychological predicate requires its object participant to be the surrogate speaker. Moreover, we saw that our approach correctly predicts that backward anaphora is impossible with a bare argument Type I reflexive

4.5.3.5. Anaphora within an NP

Given the foregoing argument of PNRs and other reflexives in a modifying position, one question might have arisen. We claimed that PNRs categorize subjective viewing relations if there is no objective relation available for categorization. However, there is a potential problem to this approach. When a picture noun has a possessor element, only that possessor antecedes the reflexive in the PP, and nothing beyond the NP can antecede it. Compare (78) with (79).

(78) John₁ heard Bill's₂ story about himself_{1/2}.

(79) John₁ heard a story about himself₁

The problem with which we would be faced stems from the parallelism of the conceptual structure of (78) and the complement clause structure that has been considered thus far. To account for (78), we would have to assume two things; first, that there is no available objective relation so the reflexive can categorize a subjective viewing relation, and, secondly, that the possessor *Bill* is always the surrogate speaker vis-à-vis the possessum in this structure. The former assumption is consistent with our claim made in 4.5.3.2 with regard to (58), where it was assumed that the prepositional relation with identical participants is so rare that it can be regarded as *unavailable* for reflexive categorization. The latter amounts to saying that, in terms of the conceptualization of this NP, only the internal viewpoint option is allowed so that the existence of

the NP-internal [Bill-->himself] relation ensures the felicitous use of the reflexive anteceded only by *Bill*, the possessor NP.

However, this latter assumption seems to contradict what we have assumed as to the complement clause conceptualization, where the complement subject may or may not be the surrogate speaker--the distinction from which the internal/external viewpoint distinction results from this difference, as is shown below in now familiar (80) and (81).

(80) Zhangsan → [Lisi → ziji] (=Internal Viewpoint)

(81) Zhangsan → [Lisi → ziji] (=External Viewpoint)

That the possessor element is always the surrogate speaker (NP-internal cognizer) is also assumed in van Hoek (1997: 184). She does not consider why sentences like (78) do not allow anaphora beyond the NP boundary, but, having examined (82), observes that "possessive constructions imply a viewing relation between the possessor and the possessum, . . ."

(82) Sally's₁ story about herself₁

Assuming that this much is indeed the case, one question to be asked now is what makes difference between the possessor of an NP and the subject of a complement clause in that the former is obligatorily the surrogate speaker (as van Hoek's theory also predicts) and the latter's being one is optional. Why is it that the possessor element always functions as

the surrogate speaker vis-à-vis the content of the NP?

I would make a suggestion here, rather than trying to be conclusive. The difference could have been derived from the nature of the possessor in the possessive relation and that of the subject in the clausal relation. When an animate participant possesses an entity, the relation naturally requires the possessor to be a cognizer (since perhaps this is part of the definition of the possessive relation²⁹). In contrast, the nature of a relation in which the subject of a clause participates varies significantly.

This reasoning may remind us of the fact that the non-complementary distribution of PNRs and non-reflexive pronouns is not always observed; it depends on what verb is used, as shown by the contrast in (83).

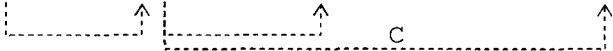
- (83) a. Lucie₁ saw a picture of herself₁/her₁. (=46a)
b. John took a picture of himself₁/*him₁.

This is conceivably because certain predicates allow the speaker to take only the internal viewpoint option; (83b) may be one of these predicates, as its semantics requires *John* to be aware of the object of what he is shooting, and thus it only has the interpretation where *John* is a surrogate speaker.

Now, recall that we postulated that the possessive relation inevitably requires the viewing relation, and that this is the reason why only the possessor is allowed to antecede the reflexive in the NP. This reasoning would predict that if a verb of possession, like *have*, is used in a sentence

patternlike (83) only the reflexive is allowed, because possessive relation requires only the internal viewpoint option. Indeed, this seems to be the case; the judgment in (84) is expected from the internal viewpoint option shown in (85), but not from the external viewpoint option (which would motivate use of *him* here, as did previous PNR examples that show non-complementary distribution.).

(84) John₁ has a lot of pictures of himself₁/*him₁.

(85) SP [John \xrightarrow{A} [pictures \xrightarrow{B} himself /*him]]


In (85), A and B are the possessive verbal relation and the prepositional relation respectively, and the presence of the subjective viewing relation C allows only *himself* in the picture noun.

4.6. Reflexives in the Subject Position

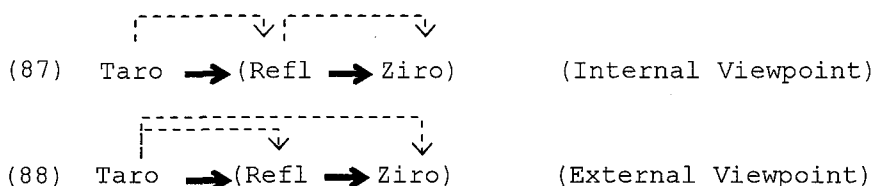
Our characterization of the three types of reflexives, however, seems to encounter potential problems when these forms occupy the subject position. Consider (86) below, which shows that *zibun*, *kare-zisin*, and even the non-reflexive *kare* are possible in the subject position of the complement clause.

(86) Taro₁-ga $\left\{ \begin{array}{l} \text{zibun}_1 \\ \text{kare-zisin}_1 \\ \text{kare}_1 \end{array} \right\} \text{-ga Ziro-o nagutta to i-ta.}$

Taro-Nom Refl/Pron-Nom Ziro-Acc hit Comp say-Past

'Taro said that Refl hit Ziro.'

As is apparent in (87) and (88) below, which shows the relations involved in (86) in the two viewpoint arrangements, *zibun* does not pose any problem here simply because there exists a subjective viewing relation from the main clause subject to the complement clause subject in both viewpoint arrangements, and *zibun*, a Type III reflexive, can categorize this relation.



The acceptable *kare-zisin* in this position is also what our framework expects. Under our treatment of Type I reflexives, it can be understood as categorizing a subjective viewing relation if no objective relation is available. As is apparent in (87) and (88), the objective relation (main clause verbal relation) holds of *Taro* and the complement clause as a whole, but it does not involve internal elements of the complement clause. Therefore, *kare-zisin* is felicitously interpreted as categorizing the subjective viewing relation [Taro-->Refl(*kare-zisin*)], with *Taro* anteceding the reflexive in either viewpoint option.

Then what about the acceptability of *kare*, a non-reflexive pronoun, in this position? For it to be used felicitously in this position, it has to be in a situation where it is not involved in any relation that is to be categorized by the reflexive schema (of course other conditions have to be satisfied; see van Hoek's (1997) analysis of pronominal anaphora). But, as is clear in (87) and (88), it is connected with the antecedent *Taro* by a single relation in either the internal or external viewpoint options. This would lead us to expect that the landmark of the relation is required to be a reflexive, not a non-reflexive *kare*, in either viewpoint option.

However, our framework in fact can motivate such felicitous use of *kare* in the complement subject position anteceded by the main clause subject. According to our viewpoint assumption that the conceptualization of a clause can be effected either through the perspective of the subject participant or by the direct access by the external conceptualizer, the two viewpoint arrangements in (87) and (88) do not exhaust all possible viewing modes of embedded clause conceptualization.

Notice that in both viewpoint arrangements (87) and (88), the main clause subject is the surrogate speaker; the external/internal viewpoints are simply distinguished with regard to how the complement clause event is conceptualized. In the same vein, it logically follows that there also are two possibilities with regard to how the speaker/conceptualizer conceptualizes the main clause event. One option is to use the main clause subject as a surrogate speaker, as in (87) and (88), and the other is

for the speaker/conceptualizer to access the main clause event directly, without using the subject participant as a surrogate speaker.

The latter option has not been taken up in our arguments thus far (see Note 13) for simplicity. If we allow the main clause event to be directly accessed by the speaker without employing the surrogate speaker, then it will give rise to two additional viewing options shown below.

(89) SP [Taro → [Refl → Ziro]]

(90) SP [Taro → [Refl → Ziro]]

In both (89) and (90), SP is the extra-sentential speaker/ conceptualizer that conceptualizes the whole event without using the main clause speaker as a surrogate speaker. (89) has the complement clause conceptualized in the internal viewpoint arrangement (i.e. the complement subject is the surrogate speaker), and (90) has the complement clause too conceptualized directly by the extra-sentential speaker/ conceptualizer.

Notice that neither of these modes of conceptualization allows a reflexive to appear in the subject position of the complement clause, because the main clause subject and the complement clause subject is not connected by any relation at all. Therefore, when one of these two viewpoint arrangements are taken, then the complement subject cannot be coded by the reflexive, motivating the use of a non-reflexive pronoun. This

accounts for the felicitous use of *kare* in (86) anteceded by the main clause subject *Taro*.³⁰

As we observed in (66), the Japanese Type I reflexive *kare-zisin* is acceptable in the complement subject position, and our framework adequately captures this fact. But *himself*, which exhibits the same distributional properties with *kare-zisin* with regard to locality, and is thus categorized as a Type I reflexive, is not allowed for in the subject position at all.

(91) *John₁ thought that himself₁ hit Bill.

In much work throughout the history of generativist linguistics, the unacceptability of the pattern in (91) was taken as prototypical for local anaphora systems. This notwithstanding, we shall take a different tack and assume that the pattern of judgments seen in (91) is the more basic. Note in this connection that in addition to the Japanese data in (91), we find parallel facts for Chinese in (92).

(92) Zhangsan₁ shuo Lisi₂ yiwei ta-ziji_{1/2} xihuan Wangwu.

Zhangsan say Lisi think Refl like Wangwu

'Zhangsan said that Lisi thought Refl liked Wangwu.'

Flanked by the Japanese and Chinese data in (86) and (92), the English finite complement construction in (91) begins to look somewhat exceptional. We claim therefore that subject reflexives generally are allowed to take

antecedents in the next higher clause; the fact that this fails to take place in (91) must then be attributable to some other factor.

Probably the simplest explanation for the unacceptability of the English finite-clause datum in (91) is offered by Brame (1977) and Pollard and Sag (1994). They attribute the unacceptability of examples like (91) to a case conflict, as we ourselves suggested in our analysis of backward anaphora facts in 4.5.3.4. In contrast to Japanese, which marks case uniformly with case particles, or Chinese, which lacks overt case-marking entirely, English pronouns have lexically encoded case. *Himself*, it is argued, is inherently accusative; hence, it cannot occur in the subject position in the first place, and one need not even consider patterns of anaphora to rule out (91). In this connection, note that *himself* is perfectly acceptable as the subject, where the accusative case is structurally required.

(93) John₁ thought himself₁ to be the best.

Other analyses of the infelicity of (91) may be possible, but none of which we are aware is as simple and consistent with the cross-linguistic analysis.

One problem that has not yet given a solution thus far is the fact that even *zibun-zisin*, which in our framework is categorized as a Type II reflexive and thus requires both subjective and objective relations, also seems to be allowed in the subject position, as in (94).

(94) Taro₁-ga zibun-zisin₁ -ga Ziro-o nagutta to i-ta.

Taro-Nom Refl/Pron-Nom Ziro-Acc hit Comp say-Past

'Taro said that Refl hit Ziro.'

The acceptability of (94) is not straightforwardly accommodated in our framework, unless we suppose some exceptional, unmotivated stipulation. Rather than attempting to do so, we shall leave the question open for future investigations.

4.7. Morphological Complexity and LDRs

We have thus far proposed that the distributional properties of various reflexive forms can be adequately motivated by hypothesizing that each reflexive has its preference for the kind of relation it categorizes. We also proposed that the "kind of relation" relevant to the reflexive categorization is distinguished in terms of the subjective/objective nature of the relation; the subjective relation pertains to the process of the speaker's/hearer's conceptualization, and the objective relation exists inherently in the target of the conceptualization. We hope to have shown that such arrangement provides adequate empirical consequences.

This subjective/objective preferences of each reflexive form seem to motivate yet another well-known generalization: the correlation between the distributional property of reflexives and their morphological complexity. This correlation is said to hold between morphological

complexity and long-distance anaphora possibility: mono-morphemic reflexives (e.g. *zibun* or *ziji*) tend to be LDRs and subject-oriented, and the non-mono-morphemic reflexives (e.g. *kare-zisin* and *himself*) are likely to be local, non-subject-oriented reflexives. It is known that this correlation is observed also in many other languages, as shown in (95)–(97), part of the survey reported in Reuland and Koster (1991), which leads us to expect that there are certain factors underlying this striking parallelism.

(95) Icelendic

- a. Local only: *hann sjalfur* 'him self'
- b. LD possible: *sig/sin* 'himself/his'

(96) Dutch

- a. Local only: *zichzelf* 'him self', '*mzelf* 'him self'
- b. LD possible: *zich* 'himself'

(97) Latin

- a. Local only: none
- b. LD possible: *se* 'himself'

Now, recall first the mechanism of grammaticalization through subjectification discussed in 2.1.2.3 (Chapter Two). Subjectification is a shift of an expression's semantic value from a relatively objective construal to a more subjective one (Langacker (1999b: Ch.10)). What is significant here for our purpose is the observed tendency in which in many cases the subjectified semantics allows reduced forms. For example,

going to has reduced to *be gonna*, or, even *gonna*, when it denotes a subjectified meaning as a future marker, but such reduction is not seen when it retains the objective verbal processual meaning of motion. This contrast is shown between (98) and (99), and a further formal reduction is seen in (100) ((6), (7), (8) in Chapter Two reproduced, respectively).

(98) a. Bill is going to go to college after all.

b. Bill's gonna go to college after all.

(99) a. Bill is going to college after all.

b.* Bill's gonna college after all.

(Hopper and Traugott (1993))

(100) You gonna like her. (non-standard) (Ungerer and Schmid (1996))

We certainly need more careful discussions to be conclusive about the proposed correlation, but it seems to be obvious that this general tendency seen in the parallelism of subjectification and the possible formal reduction is at least in conformity with what we saw in the correlation between morphological complexity and the subjective/ objective preferences of reflexive forms. Reflexives that prefer an objective relation (hence restricted to local anaphora) tend to have richer morphological structures (e.g. *himself* and *kare-zisin*) than those that prefer a subjective relation (hence LDRs) and therefore allow for long-distance anaphora tend to be morphologically simplex (e.g. *zibun* and *ziji*). In this sense, what we observe in general in the correlation between the morphological complexity and the distributional property of

reflexive forms does seem to be motivated by the general tendency observed in subjectified expressions. Of course, this proposal shall be subject to future research.

4.8. Conclusion of Chapter Four

We have shown in this chapter that cross-linguistic variation in patterns of reflexive anaphora may be captured by classifying reflexives according to the kind of relations they most appropriately categorize. This analysis is based on the assumption that linguistic forms are representable with patterns of subjective and objective relations that are determined according to the viewpoint by which the described event is conceptualized. We have also seen that the property of subject orientation is an epiphenomenon that stems from the kind of relation which is categorized by a reflexive schema; subjective relations originate in the surrogate speaker, which is most naturally coded as the subject, whence the subject-orientation effect.

Our approach also shows that the syntactic/logophoric categorization imposed on English *self-reflexives* is in fact artificial; the non-complementary distribution characteristic of the latter is analyzable as the result of the viewpoint distinction, and strict complementarity, when it is found, is a consequence of the fact that objective relations are preferred when they are available.

Furthermore, we have argued that reflexives in the subject position of complement clauses are predicted to be acceptable as a natural

consequence of our analysis of the nature of objective relations. When an objective relation holds between a complement clause and some entity in the next higher clause, we proposed that the subject of the complement clause is metonymically reinterpreted as representing the clause, and that it therefore may participate in that objective relation in place of the complement itself. Reflexives that require objective relations are able to categorize this relation. English *self*-forms, which are not allowed in this position, are explained by a case conflict, as proposed by prior studies.

We hope to have shown that the distributional patterns not only of English reflexives, but also of Chinese and Japanese reflexives, as well as the systematically observed properties seen in these forms can be attributed to the very function of reflexives and the general cognitive mechanism of event conceptualization.

NOTES TO CHAPTER FOUR

¹ To motivate the function of the reflexive along these lines enables us to capture its correlation with emphatic uses of reflexive forms, which are historically earlier. As Kemmer (1995) claims, emphatic reflexives are used in situations where other entities than the referent of the reflexive would normally be expected. Therefore, reflexive and emphatic uses share the function of showing that the default expectation is overridden. See also Faltz (1985).

² Of course I do not deny the import of postulating various constructional schemas, and probably such a network of schemas may indeed exist. However, I believe that we need to take one step further to isolate the parameters that differentiate one constructional schema from another. I hope that the present study will contribute to it.

³ See, for example, Cantrall (1974), Kuno (1987), Zribi-Hertz (1989), Reinhart and Reuland (1991), Deane (1992), Dalrymple (1993), van Hoek (1997).

⁴ Ariel's (1990) accessibility hierarchy ranks the reflexive form in the second next to the zero form. Unity is one of the factors that affect the accessibility of (the referent of) the antecedent.

⁵ Of course, the distribution of non-reflexive pronouns has to be separately motivated. See van Hoek (1997) for an analysis of non-reflexive pronouns based on reference-point structure.

⁶ We may be able to claim that the relation is expected to be disjoint because such relations are much more frequently experienced than the

relations among identical participants are. Recall that the entrenchment is strengthened by repeated comparable experiences.

⁷ C-command is a particular configurational relationship that holds of α and β if and only if all the node dominating α dominates β . The subject NP c-commands the object NP.

⁸ Studies on these properties of Chinese reflexives are numerous, mainly in the generative tradition. Some of the more important works include J. Huang (1982), Battistella (1989), Tang (1989), Cole, Hermon and Sung (1990), Progovac (1992, 1993). For a pragmatic account, see Y. Huang (1991).

⁹ The acceptability judgment shown in the Japanese and Chinese sentences in this section was provided by my Japanese and Chinese informants combined with my own intuition (for Japanese). Although the judgments are mostly consistent with those presented in the literature (e.g. Katada (1991), Nakamura (1989), Sportiche (1986), Battistella and Xu (1990), Cole and Wang (1996), among many others), some of my Japanese informants allowed long-distance anaphora for *zibun-zisin* and *kare-zisin*.

¹⁰ Katada (1991), for example, proposes that *zibun*, as a lexical anaphor, is an operator that "moves in LF" to the main clause, but the "phrasal" reflexive *zibun-zisin* and *kare-zisin* cannot, hence are locally bound.

¹¹ The viewpoint distinction discussed here is not at all new. Previous studies of anaphora, including Kuroda (1971), Cantrall (1974), Kuno (1987), Zribi-Hertz (1989), among others, in one way or another adopted, though rather intuitively, the comparable viewpoint distinction.

¹² Borrowing a metaphor from Langacker (1991: 215), one may say that

a pair glasses the perceiver wears is subjective in the sense that the perceiver is not aware of it at all. But when the perceiver takes it off and looks at them, they are now objectively construed.

¹³ Both in (14) and (15) *John* is the surrogate speaker in the main clause. But it is also possible that the speaker does not take a surrogate speaker at all in the main clause. Logically, there are still two options: one with a surrogate speaker in the complement clause and the other without a surrogate speaker in the complement clause. These additional viewing options will be taken up in 4.6.

¹⁴ CG characterizes the speaker and hearer, two participants of the speech act event, as the co-conceptualizers of the event unfolding on the stage (see Langacker (1991: 89-95)).

¹⁵ In comparison, Iida (1996) is forced to posit separate, homophonous pronouns to handle the data of this kind.

¹⁶ Without *masi-ta* (which adds politeness) as in (i) below, the preferred reading is that *zibun* refers to the subject *Taro*.

(i) *Taro*₁-ga *zibun*_{1/??SP}-o *nagu-ta*.

Taro-Nom Refl-Acc hit-Past

The presence of *-masi-ta* easily evokes a situation where the speaker is reporting to the hearer. Details are certainly subject to further research, but in the reporting situation, the speaker's salience may be higher, and this seems to be why the reference to the speaker is facilitated in (P) in the text. Another factor that facilitates the reference to the

speaker is the verbal suffix *-kure* 'give', with which the speaker (coded by *zibun*) is understood to be a beneficiary of the described event. In (ii), *zibun* almost obligatorily refers to the speaker.

(ii) Taro-ga₁ zibun?₁/SP-o homete-kure-masi-ta.

Taro-Nom Refl-Acc

¹⁷ This analysis would make an apparently incorrect prediction that Type I reflexives, which in our analysis categorize only relations, cannot refer to the extra-sentential speaker. But, given examples like (i), this seems to be incorrect.

(i) Watasi-zisin_{SP}-ga yari-masi-ta.

Refl-Nom do-Past

'I did it.'

However, I would suggest that this *watasi-zisin*, 'myself' is used as an emphatic pronoun, equivalent to *I myself* in English. Indeed, *watasi-zisin* in (i) gives rise to a sense of contrast: "it is I, not others, who did it." A parallelism between *I myself* and *watasi-zisin* referring to the extra-sentential speaker may be found in the fact that they both do not seem to be allowed as the object of a verb as in (ii) and (iii), while *zibun* as an object is possible as we saw in (32) in the text.

(ii) Taro₁-ga watasi-zisin_{SP}-o naguri-masi-ta.

Taro-Nom Refl-Acc hit-Past.

'Taro helped me'

(iii) *He hit me myself.

¹⁸ This hypothesis predicts that *zibun-zisin* cannot refer to the extra-sentential speaker. Here, the empirical situation seems to be quite similar to *watasi-zisin* referring to extra-sentential speaker, as shown in note 17 above, as observed in (i) and (ii) below, corresponding to (i) and (ii) in note 14.

(i)? *Zibun-zisin*_{SP}-ga *yari-masi-ta*.

Refl-Nom do-Past

'I did it.'

(ii) *Taro*₁-ga *zibun-zisin*_{SP/1}-o *naguri-masi-ta*.

Taro-Nom Refl-Acc hit-Past.

'Taro helped me'

¹⁹ Note that our framework explains (28) in a manner similar to Kameyama's (1984) analysis based on logophoricity. For a different approach to the 'hearer predicate', see Iida (1996: 145-159).

²⁰ Langacker (1991: 436) states that the profile of a subordinate clause is overridden by that of a main clause.

²¹ Most theorists working on the syntactic binding theory seem to have

ignored this non-complementary distribution of picture noun reflexives in the object position. This reluctance seems puzzling to me when I recall the highly elaborated explanation of the non-complementary distribution of picture noun reflexives that appear as the subject of the complement clause like one in *John thought that pictures of himself/him would be good on the wall*. One such analysis depends on a number of assumptions referring to such notions as *accessibility*, *SUBJECT*, *i-within-i condition*, together with the hypothesis that only reflexives, not non-reflexive pronouns, require an *accessible SUBJECT* (Huang (1983)).

²² The pronouns roughly categorized here as *logophors* are called in many different names and are treated in largely similar ways. Kuno (1987) analyze them in his theory of empathy, Zribi-Hertz's (1991) analysis calls for a minimal SC (subject of consciousness), Sells (1987) adopts the notion of *logophoricity* (Clements (1975)), and so on and so forth.

²³ van Hoek proposes that there are two prototypes in the network of reflexive constructional schemas: the emphatic schema and [NP+V+REF] schema. She proposed various reflexive constructional schemas situated around the prototypes, but unfortunately it ended up postulating constructional schemas each of which corresponds to one observed distributional pattern.

²⁴ According to Langacker (1995c), *of* represents an intrinsic relation between its participants. The directionality indicated by an arrow in Figure 4-7 comes from the trajector/landmark asymmetry.

²⁵ This characterization of psychological predicates may remind us of the fact that these predicates are very frequently used in passive

voice, like *be surprised at* or *be worried about*. The word order required by the passive construction co-aligns the direction of the two relations. Possibly this co-alignment facilitates the passivization of psychological predicates. There is another set of "psychological" predicates; these verbs take an experiencer subject and a theme object, like *fear*, *love*, or *hate*. It is very likely that these are the verbs that in turn code the viewing relation directed in the opposite relation.

²⁶ One may wonder if the viewing relation [O-->S] supposed here in a psychological predicate should be characterized as an objective relation (because the object participant's perception of the theme subject is part of the meaning of the described scene). I would assume, however, that the speaker's subjective viewing path in fact overlaps with the experiencer's objective viewing path. It has been pointed out in CG that "there is a tendency for natural paths to "harmonize"

²⁷ Iida (1996: 98) claims that *zibun* as the subject cannot be coreferential with the object NP, citing (i) below. (Notational modifications have been made.)

(i) **Zibun₁-ga Tao₁-o kurusimeteiru*.

Refl-Nom Taro-Acc annoy

'Refl annoys Taro'

(i) is indeed unacceptable, but, given fairly acceptable (73) in the text, this judgment seems to be affected by some other reason. One possibility is that English psychological predicates and their Japanese counterparts

cannot be treated on a par. The latter might also allow the subject to be a viewer, since the following (ii), with *zibun* in the object position, sounds much more natural.

(ii) Taro₁-ga (-wa) zibun₁-o kurusimeteiru.

Taro-Nom (-Top) Refl-Acc annoy

'Taro annoys Refl.'

The existence of well-conventionalized usage (ii) might be a reason why Iida's example (i) is very bad. However, our example (73) in the text shows that the subject *zibun* is in principle possible.

²⁸ Judgment of examples like (74) is not consistent among researchers as shown below.

- | | |
|----------------------------------------|--------------------------|
| (i) *Max disgusted himself. | (Postal (1970: 65)) |
| (ii) *I please myself. | (Postal (1971: 47)) |
| (iii) ?I please myself. | (Jackendoff (1972: 146)) |
| (iv) ?They concern/perturb themselves. | (Grimshaw (1990: 158)) |
| | (=(58)) |

However, since finding such examples in a corpus is very easy, we could reasonably conclude that such sentences are in general very felicitously used.

²⁹ Quirk et al. (1985: 321-331; 1275-1282) demonstrates that the possessive form is favored for nouns denoting human beings and higher

animals. One such example is the contrast between *someone's shadow* and **something's shadow*. It is also suggested that "we think of 'possession' chiefly in terms of our own species (ibid.: 323). Contrasts like (i) support this view.

- (i) a. Mary's car; *the car of Mary
- b. *the book's part; the part of the book

³⁰ The additional viewpoint arrangements shown in (89) and (90) would lead us to predict that the first person *zibun* is possible even in the complement clause; in (90) the speaker directly accesses all elements and thus *zibun* in any position, even in the complement clause, can categorize the relation [SP-->*zibun*]. Such cases are marginal, but not impossible.

- (i) Taro-wa *zibun*_{SP}-ga yatta to iimasita (ga watasi-wa yatte imasen).

Taro-Top Refl-Nom did Comp said (but I-Top did not)

'Taro said I did it but I didn't do it.'

CHAPTER FIVE

ON OBLIGATORY CONTROL AND RELATED PHENOMENA

5.1. Introduction

This chapter considers some problems that arise in connection with what has been generally termed "obligatory control." As we sketched in Chapter One, the phenomenon with which we are concerned is the fact that obligatory coreference is imposed on the zero subject of an infinitival complement and an argument of the main clause.¹ Following the conventional practice, we shall refer to the NP that is required to be coreferent with the zero subject of the infinitive clause as the *controller*.

We are especially interested in how we might unravel the factors that underlie the distinction between "object control" and "subject control" verbs, and the shift in the choice of controller that has been reported to take place in certain environments. We will show that in order to adequately account for the control problems we have to take into consideration how construction-level categorization is effected to categorize usage events.

The phenomena in which we are interested have been repeatedly invoked in the literature of various theoretical camps by drawing attention to the representative contrast between (1) and (2).²

(1) John persuaded Mary to leave.

(2) John promised Mary to leave.

The referent of the zero subject of the infinitival complement to leave is understood to be coreferential with the main clause object *Mary* in (1), and with the main clause subject *John* in (2). For lack of an appropriate cognitivist terminology, we borrow from the existing generativist nomenclature; "object control" verbs, like *persuade* in (1), require their object to be coreferential with the zero subject of the infinitival complement, while "subject control" verbs require their subject to be so interpreted. We also follow the convention of calling the argument in the main clause that receives the relevant coreferential interpretation the "controller." Of course, these terminological choices do not bear any theoretical significance.

The problems of control have been attracted many linguists attention, especially those practicing in the Chomskyan framework. In the rest of this introductory section, then, let us take a brief look at how syntactic configurational approaches have treated the control problems, and show that the control facts cannot be easily accommodated by such approaches.

5.1.1. Minimal Distance Principle

Although the facts with which we are concerned have been substantially documented in the literature, the solutions proposed so far are still highly controversial. One well known syntactic proposal is Rosenbaum's (1967) Minimal Distance Principle (MDP).³ The standard version (in the principles and parameters framework) of the MDP states that PRO (the zero NP assumed to be present in the infinitival complement clause (see our discussion in 2.1.1)) selects as its controller the syntactically closest main clause argument that c-commands the infinitival complement.

But this seems to be unable to explain in a principled manner the behavior of subject control verbs or the facts pertaining to the shift in the choice of controller. The MDP captures sentences like (3) and (4).

(3) John tried PRO to leave.

(4) John persuaded Mary PRO to leave.

Here, since in these cases the controllers of PRO, *John* in (3) and *Mary* in (4), are the next higher NP from PRO, and therefore the MDP makes a correct prediction. However, it is known that the MDP cannot straightforwardly accommodate subject control cases like (5), where the controller is the main clause subject *John*, not the NP closest to PRO, *Mary*.

(5) John promised Mary PRO to leave.

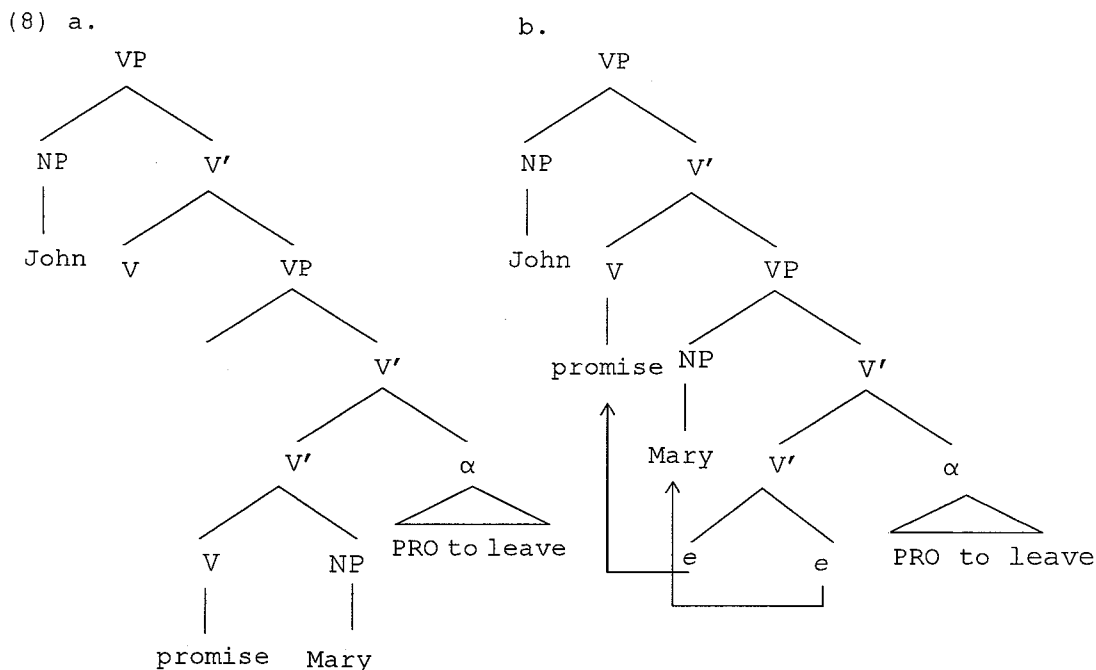
To put subject control sentences with *promise* under the MDP paradigm, Larson (1991) attempted to demonstrate that the subject *John* is in fact the closest c-commanding NP in the D-structure. Larson, assuming that *promise*-sentences like (5), but not object control sentences like (1), have in fact the ditransitive structure like (6).⁴

(6) John promised [Mary] [to leave]

This assumption is based on the observation that *promise* is widely used in the ditransitive sentence pattern, as in (7).

(7) John promised Mary a new car.

Larson then proposes that the derivation of sentences like (6) (henceforth, let us refer to this sentence type as the *promise*-sentence) are similar to that of ditransitive sentences. Following the layered VP analysis (often referred to as the Larsonian Shell), he proposes that the D-structure and S-structure representations of *promise*-sentences be along the lines of (8a) and (8b), respectively.



Given this derivation, the MDP captures the control property of *promise*-sentences. Since Larson (1991) supposes that the MDP is applied to the D-structure (8a), *Mary* cannot c-command the PRO in the complement clause α ; it is the subject *John* that is the closest c-commanding NP, and since the MDP is stated in terms of the c-command relation, it correctly predicts that it is the matrix subject *John*, not object *Mary*, that is understood as the controller of PRO in this case.

5.1.2. Problems of Larson's Analysis

However, there are three problems in this analysis. First, it cannot account for the shift in the choice of controller that most typically

takes place when the complement clause is passive (cf. (9)). Second, it cannot capture the fact that the shift is observed with even non-passive complement clause, given a sufficient pragmatic support (cf. (10)). Third, there are verbs that appear both in the double object construction and the construction under discussion ([NP1+V+NP2+INF]) like *promise* but do not allow for the subject control interpretation as does *promise* (cf. (11)).

(9) John promised Mary to be allowed to leave.

(10) The pupil asked the teacher to leave early.

(Farkas (1988))

(11) John told Mary to leave.

There are many speakers who prefer the (shifted) object control interpretation in sentences like (9), and Larson's proposal is not able to handle this fact. What is at stake here is that the complement's being passive does not affect the choice of the "closest c-commanding NP" in Larson's derivational pattern; the matrix subject NP is the closest c-commanding NP anyway, whether or not the PRO is a subject of a passive or active clause.

The shifted interpretation that some speakers allow for (10), where pragmatic factors come in, may be much more problematic to Larson (1991) since one could not ascribe the shift to any structural difference of the complement clause. Even though one would say that the pragmatic

strengthening could override Larson's configurational requirement in (10), then it would have to be made clear how the proposed syntactic condition yields to pragmatics. Furthermore, (11) poses another problem to Larson's analysis. Here, *tell* does not allow for the shifted interpretation even though this is a verb that appears in the ditransitive construction like *promise*, like (12). Larson's dependence on the derivation of the ditransitive structure would have to treat such cases as exceptional to the syntactic conditions of the controller choice.⁵

(12) John told Mary an interesting story.

More essentially, our cognitivist approach cannot take the MDP as a valid course of explanation. The principle itself is not motivated in the cognitivist sense; it is not based on any cognitively or functionally verifiable principle.⁶ We will further examine some of the conspicuous pragmatic/semantic proposals in 5.2, and show that they also appear to be unsuccessful in providing a satisfactory level of explanation of the control facts.

5.1.3. Organization of Chapter Five

Our discussion in this chapter proceeds as follows. In 5.2 we will briefly overview some of the studies on control phenomena after clarifying what problems need to be solved. In 5.3 we will review basic theoretical assumptions of cognitive/constructional grammar, and how object control

and subject control are explained in our framework in 5.4 and 5.5. 5.6 will deal with the shifts in the choice of controller; it will be demonstrated that our analysis of control facts can capture the shifts without major theoretical modification. Finally, in 5.7, we will claim that the phenomenon known as Bach's generalization is a natural outcome of our construction-based analysis. In this section, control facts in some other structures shall be considered.

5.2. Overview

In this section we shall first overview the problems with which we are concerned and examine two major previous proposals. The purpose of this section is to situate our analysis in later sections in the adequate investigative context.

5.2.1. Problems

One of the most important, outstanding problems in the analysis of control phenomena is the well documented fact that all verbs that enter into the construction in question are, with the single exception of *promise*, object control verbs.⁷ Given this obvious disproportion, it seems somewhat puzzling that many highly elaborated theoretical proposals, such as those of Ružička (1999), Farkas (1988), or Sag and Pollard (1991), do not attempt to account for this peculiar fact. Indeed, the proposals that have been put forth in the literature mainly confine their solutions in one way or another to the problem of deriving the distinction between subject

and object control, leaving the stunningly exceptional nature of *promise* unexplained.

A second problem concerns the fact that the choice of controller has been reported to shift in certain environments. Two oft-cited examples may be seen in (13) and (14).

(13) John promised Mary to be allowed to leave.

(14) John asked Mary to be allowed to leave.

(15) John asked Mary to leave.

Here, despite the presence of the subject control verb *promise* in the main clause in (13), for many speakers it is the object *Mary* that is interpreted as the controller. Furthermore, in (14) it is the subject *John* that is construed as the controller for many speakers, despite the fact that the verb *ask* generally exhibits object control, as demonstrated by (15), where only *Mary* can be interpreted as subject of the infinitival complement.⁸ Hence *promise* and *ask* show shifts in opposite directions, one from subject to object, and the other from object to subject. We will present in later sections an analysis that explains both why the choice of controller shifts and why these two verbs allow shifts in opposite directions.

A third problem concerns the paucity of verbs allowing a shift in the choice of controller; the phenomenon is limited virtually to the two verbs observed above, namely, *promise* and *ask*. Other verbs that appear

in the control structure usually do not allow for the shift, as suggested by (16).

(16) John persuaded/ordered Mary to be allowed to leave.

Note that the infinitival complement in (16) is the same one that gave rise to the shifted interpretation in (13) and (14); despite this, no comparable reading is available when verbs other than *promise* and *ask* are employed, as in (16).⁹

In sum, concerning control phenomena, we are faced with the following empirical problems:

- (17) a. What factors cause a main clause verb to exhibit subject or object control?
- b. What makes *promise* so exceptional in being the sole subject control verb?
- c. What causes the choice of controller to shift, and can the shifts in opposite directions observed with *promise* and *ask* be reduced to the same mechanism?
- d. Why is it that most verbs do not allow for a shift in the choice of controller even in an environment where the shift could occur for verbs like *promise* and *ask*?

We claim in the sections to follow that these problems are in fact

interrelated and can be accounted for in a motivated manner in terms of a schema-based approach to the form and meaning of grammatical constructions. But before that, we shall look at some previous proposals to clarify our course of investigation.

5.2.2. Some Previous Approaches

Here we shall overview in passing the prevalent "semantico-pragmatic" approaches to control, so that we will be able to situate our analysis in later sections in the relevant investigative context. We shall also show that these approaches do not achieve a satisfactory level of explanation.

Note that there are numerous syntactic analyses of this topic, but we will not touch upon them here since they are not immediately relevant to the proposal put forth in this chapter.

5.2.2.1. Jackendoff (1972)

Jackendoff (1972) is to my knowledge the first in the literature that attributed the control property of verbs to thematic roles. He proposes that which matrix NP is to be the controller is "defined on thematic relations rather than grammatical relations" (p.215). That is, the thematic role that is required for the controller is determined for each matrix verb.

(18) John got Bill to leave.

(19) George forced Bill to sell his car.

(20) John promised Bill to go straight.

(Jackendoff (1972))

Jackendoff's specific claim is that *get* and *force* are verbs that require its theme arguments to be the controller of the complement clause, and, on the contrary, *promise* requires its source argument to be the controller. Under the assumption that the object NP of *get* and *force* are both themes, and that the subject of *promise* is source, then his theory captures that *Bill* is the controller in (18) and (19) and *John* in (20).

Jackendoff claims that his thematic-role-based approach can capture the contrast like (21) and (22), where the controller shifts in (21) (from *Bill* in (21a) to *John* in (21b)), but *John* is the controller in both (22a) and (22b).

(21) a. John got Bill to leave.

b. John got to leave.

(22) a. John promised Bill to leave.

b. John promised to leave.

According to Jackendoff, the theme argument of *get* switches its position from object in (23) to subject when there is only one argument, as in (24).

(23) Frank got Joe to Philadelphia.

(24) Joe got to Philadelphia.

(Jackendoff (1972: 215))

This explains why (21a) is object control and (21b) is subject control. On the other hand, thematic roles assigned to the arguments of *promise* do not change positions when the number of the arguments changed, hence *John* is the source argument both in (22a) and (22b). This explains why the switch of controller does not occur in (22).

One of the advantages of Jackendoff's analysis, and possibly of other thematic-role-based approaches, is that its coverage is not structurally limited.

(25) a. Mary gave Alex permission to go.

b. Mary received permission to go from Alex.

(26) a. Mary gave Alex a promise to go.

b. Mary received from Alex a promise to go.

(Jackendoff (1972))

Alex in (25a) and Mary in (25b) are understood as the controller, respectively. Since Jackendoff assumes that the verb *permit* designates its goal argument to be the controller, his theory predicts the observed facts, as it is Alex in (25a) and Mary in (25b) that are the goal argument of *give*. On the contrary, in (26), *promise* requires its source argument as the controller, and hence Mary is chosen in (26a) and Alex in (26b).¹⁰

However, one inevitable question that arises in connection with the thematic-role-based theory of control is, as in the case with Růžička's (1983) analysis, why a certain thematic role is relevant to the choice of controller. The analysis we shall present in later sections can be regarded as providing a solution to this question. Furthermore, problems that Růžička's proposal are faced with shown in 5.2.2.2 also apply to Jackendoff's theory.

5.2.2.2. Růžička (1983)

Of the previous proposals that rest on the semantic characteristics of the verb in the main clause, Růžička's (1983) analysis is perhaps one of the most explicit in positing conditions on verbs of the object and subject control types.¹¹ He proposes that verbs of the former kind abide by a constraint that he calls the *Thematic Distinctness Condition* (TDC), which requires that the thematic roles of the controller and the zero subject of the infinitival complement be different from each other. In contrast, subject control verbs must obey the *Thematic Identity Condition* (TIC), which requires that the thematic roles of the controller and the zero subject be identical. If *ask* and *promise* are subject to the TDC and TIC respectively, it is predicted that the argument selected as the controller is the object, *Mary*, in (27) and the subject, *John*, in (28). In (27), *ask*, a TDC verb, requires the controller to bear a thematic role other than *agent*, the thematic role of the zero subject. In contrast, *promise*, a TIC verb, in (28) requires the controller to be an agent. *John*

is therefore chosen as the controller.

(27) John asked Mary to leave.

(28) John promised Mary to leave.

An advantage of this theory is that it captures the shift in the choice of controller that takes place when the infinitival complement is passivized.

(29) John promised Mary to be allowed to leave.

(30) John asked Mary to be allowed to leave.

The fact that (29) and (30) allow for (shifted) object and subject control interpretations, respectively, automatically follows from the TDC/TIC distinction. The subject of the passivized infinitival complement is assumed to bear the same thematic role as the main-clause object *Mary*; thus, the object is unavailable as the controller for the TDC verb *ask* in (30), although it is eligible to be the controller for the TIC verb *promise* in (29).¹²

Růžička's predictions about the choice of controller are, however, excessively rigid in two ways. One problem is that his theory requires a shift in choice of controller in places where it is empirically optional or even infelicitous. Many speakers I have consulted allow non-shifted readings in which the controller is the object *Mary* in (29) and the subject

John in (30) (also see note 8). This is problematic to Růžička's theory because the TDC/TIC distinction inherently does not allow for such flexibility in the role combination.¹³

Sag and Pollard (1991) provide even more striking counterevidence with passivized infinitival complements that not only allow but virtually demand non-shifted interpretations.

(31) Dana asked Pat to be hassled by the police.

(32) Kim promised Sandy to be hassled by the police.

(Sag and Pollard (1991))

The preferred controller is the object *Pat* in (31) and the subject *Kim* in (32). Such readings contradict the TDC in the case of *ask*, and the TIC in the case of *promise*.

The second problem is that Růžička's analysis disallows shift in places where it is empirically possible. For instance, the choice of controller can shift even when the complement is not passivized, as long as sufficient "pragmatic strengthening" is provided, as in (33).

(33) The pupil asked the teacher to leave early. (Farkas (1988))

Besides these empirical difficulties, we should point out the arbitrariness of the TDC/TIC distinction attributed to the main clause verbs. Since Růžička fails to derive these conditions from independently

motivated underlying mechanisms, one would have to say that the theory does not have strong explanatory content. Furthermore, the arbitrary nature of this distinction prevents the theory from providing a convincing account of the extreme disproportion in number between TDC and TIC verbs.

The thematic-role-based analyses like Jackendoff's and Růžička's theories have these inherent empirical and theoretical problems. Nonetheless, we agree with their basic standpoint that it is not configurational principle but semantic property inherent in the main clause verb that comes into play in the choice of controller. Our proposal, however, further claims that we should also take constructional semantics into consideration to widen the empirical coverage.

But before that, let us take a look at yet another semantic proposal based on so-called "responsibility relations" in the following subsection.

5.2.2.3. Farkas (1988)

Compared with Růžička's theory, the proposal made by Farkas (1988) could be conceived as better motivated in the cognitivist sense. She puts forth a theory that postulates what she calls the RESP (responsibility) relation, which holds between an individual and a situation when the situation is construed as being brought about by the actions of the individual. Her proposal is in essence that the controller is the main clause argument whose referent is in the RESP relation with the situation denoted by the infinitival complement. Indeed, this proposal describes the basic facts; for object control verbs like *persuade* or *convince* it is the object that

participates in the RESP-relation, while for *promise* it is the subject that enters into this relation.

We must nonetheless point out, as in the case of Růžička's proposal, that in this theory too an unmotivated dichotomy is imposed on the verbs as to which argument enters into the RESP relation. The theory would need to show why the subject, not the object, is interpreted as being involved in the RESP relation in sentences with *promise*, and vice versa in those with *persuade* and other object control verbs. As long as this point remains unmotivated, Farkas cannot explain why *promise* is so exceptional in being the sole subject control verb.

In section 5.4, we shall present an analysis of the control facts based on fundamental cognitivist assumptions about categorization and grammatical constructions. Our goal there is to show that the problems stated in (17) may be explained without making unmotivated distinctions like those on which the two foregoing proposals depend.

5.3. Constructional Schema

As discussed in Chapter Two, we assume the basic tenets of Cognitive Grammar (CG) put forth by Langacker (1987a, 1991, 1999b), though with regard to the treatment of grammatical constructions one might feel that we have taken a position closer to that of Goldberg (1995). Recall that CG adopts a schema-based approach to categorization; a novel expression (i.e. usage event) is categorized and thus allocated a meaning, based on comparison with an existing schema in the speaker's linguistic knowledge. Schemas

of linguistic expressions are stored as symbolic pairings of phonological and semantic values. Likewise, as argued in Chapter Two, I maintain that a grammatical construction (i.e. an established pattern of assembly of symbolic units) is captured as an entrenched schematic pattern with its own semantic and phonological values in a symbolic relationship. A schema employed to this effect is referred to as a *constructional schema* (Langacker (2000)).

To the degree that a grammatical construction itself is a symbolic pairing of form and meaning evoked to categorize (i.e. categorize) usage events, it seems safe to say that the CG approach to constructions is basically parallel to that of Construction Grammar (Goldberg (1995)), wherein grammatical constructions are characterized as established patterns with their own semantic values. Our basic theoretical assumption, largely in conformity with Langacker's and Goldberg's, is that the chosen constructional schema serves as a categorizing structure in form and meaning, on the basis of which the felicity of a given usage event is assessed. To the degree that the two structures are compatible, the usage event is categorized as an instance of that construction type.

Significantly, it has been proposed that when a categorical judgment is effected, properties of the categorizing structure may be imposed on the target structure. Recall that in Chapter Two that this was demonstrated in the categorization of a thing entity. As we showed in that discussion, Langacker (1987a: 194-197) demonstrated how the "closure phenomenon," where the conceptualizer recognizes an objectively absent continuation

of a set of separately arranged dots, was straightforwardly explained as the effect of the categorizing schema; the continuation is imposed on the target structure by the categorizing structure.

We contend that the same cognitive process is at work in Goldberg's (1995) extensive demonstration that a significant portion of the meaning of an actual sentence can be provided by the "construction" (i.e. the constructional schema, in Langackerian terminology).

In the next section, we will claim that the structure under investigation is categorized by a certain constructional schema, and the semantic requirements of that schema result in object control. We will also show that this approach solves various problems. After that, in section 5.5, it will be claimed that this approach also provides a natural account of subject control and the related problems in a motivated manner.

5.4. Unmarked Object Control

In this section we postulate a constructional schema for the structure we are interested in, i.e. [NP1+V+NP2+INF], which is henceforth referred to as the *control structure*. We then show how the schema brings about the property of object control for this construction. We shall claim that object control is to be ascribed to the causative semantics of this construction.

5.4.1. Control structure and Manipulative Semantics

We begin this section by emphasizing the resemblance in both form and

meaning between the control structure we are interested in and the causative construction. Obviously, the two constructions actually share identical formal characteristics (except, of course, that some causative verbs take bare infinitives rather than *to* infinitives), and, as we shall see shortly, the semantic difference between these can be reduced to a difference in a single parametric value. As Givón (1990) points out, these sentences both involve some sort of *manipulation* by the subject participant of the object participant and the resultant event performed or to be performed by the latter. Let us consider (34)-(36).

(34) John made/had/let Mary leave.

(35) John got/caused Mary to leave.

(36) John asked/ordered Mary to leave.

What distinguishes these, as suggested by Givón, lies in the degree of strength of the connection between the main and complement clauses. (34) and (35) are both generally categorized as causative sentences, but the latter has a weaker connection between the main and complement clauses in the sense that a causal relationship of a great temporal disparity is not sustained in (37), while it is in (38).

(37) *Two years ago John made Mary quit her job finally yesterday.

(38) John's behavior two years ago caused Mary to finally quite her job yesterday.

Further attenuation of the main/complement clause relationship results in what we call the control structure, exemplified by (36) above. (36), unlike (34) and (35), does not even guarantee the successful completion of the complement event (i.e., it does not matter whether or not *Mary* has actually undertaken the act of leaving). It implies only that the main clause manipulation is intended to cause the complement event. Therefore, (39) is unacceptable but (40) is unproblematic.

(39) *John had Mary leave, but actually she didn't.

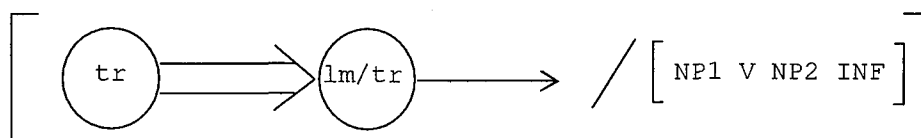
(40) John ordered Mary to leave, but actually she didn't.

These observations seem to support the claim that the causative construction and the control structure are in fact related to each other along the parameter of the strength of the relationship between the main clause manipulation and the complement clause event (Givón (1990)). But (34)-(36) share an inherent semantic structure: the subject participant exerts some manipulative force upon the object participant, and the latter, as a result of this manipulation, performs some act.

Following the CG tradition of characterizing this sort of relationship in terms of force dynamic conceptualization,¹⁴ I maintain that these constructions are based on the force dynamic constructional schema, along the lines of Figure 5-1, where the semantic value is shown on the left

of the slash and the phonological structure on the right, and the slash represents a symbolic relationship between them. The circles and arrows in the figure are to be understood as the participants, the directional energy transfer (the double arrow), and the resultant change of states (the single arrow). The square brackets show the unit status of this schema. Henceforth, we shall refer to this as the *manipulative schema*.

Fig.5-1 Manipulative Schema



Here, the main clause trajector is coded by NP1, the main clause force-dynamic, manipulative relation by V (shown by the double arrow). NP2 codes the participant that is both the landmark of the verbal relation coded by the main clause (shown by the double arrow). The resultant change of state is coded by the infinitival complement.

That the force dynamic semantics is actually provided by the construction is supported by the fact that even if we use some meaningless verb in the main clause of this construction, native speakers of English naturally suppose that the intended meaning should be of a manipulative kind. I informally tested the following sentence with five native speakers of

English (two American and three British).

(41) John *gooped* Mary to do so.

Despite the meaningless verb *goop* in the main clause, all those who were asked actually came up with some meaning that was in one way or another manipulative.¹⁵ We may conclude that this is because the manipulative semantics is present in the construction, even if it is not specified by the particular word occupying the verb slot.

Given this constructional semantics, object control observed in sentences that instantiate this schema naturally follows: the force is exerted by the first participant, coded phonologically as NP1 (subject), upon the second participant, coded as NP2 (object). The second participant is by definition affected by this force and undergoes a change of state, the event coded by the infinitival complement. Thus, in this semantics there is no possibility for the subject participant to be involved in the resultant event at all, so only object control arises.¹⁶

Of course, as we shall consider in the next subsection, one might wonder if it is necessary to take constructional semantics into account at all, as most verbs that enter into this construction are of manipulative semantics anyway, and it is this manipulative semantics, whether it is constructional or verbal, that brings about object control interpretation. We will see in our discussion of subject control facts later that the constructional semantics in fact plays an important role. In the present

analysis of object control, however, it suffices to observe that the construction under discussion has such manipulative semantics, and only the verbs that fit in with this semantics are allowed there. And even the imaginary verb like *goop* in (41) is understood to be manipulative in this construction, resulting in object control interpretation.

5.4.2. Usage-based Model and Constructional Schema

The constructional meaning outlined above motivates the overwhelming use of force-dynamic, manipulative verbs in the control structure. Note that in the Usage-based approach taken in CG, a new experience is categorized according to an assessment of its compatibility with an established categorizing structure (schema), the new experience being categorized as an instance of the schema.

Now, the choice of a schema to be activated for the categorization of a usage event is crucially important. Given that the manipulative schema, the form-meaning pairing shown in Figure 5-1, is highly entrenched, novel exposure to a usage event with the form [NP+V+NP+INF] will result in the activation of this pervasive schema. The usage event is judged as well formed to the extent that it is compatible with the schema, so use of a verb whose semantics is incompatible with the manipulative schema is ruled out. This results in the overwhelming use in this construction of verbs whose semantics is in one way or another manipulative, and this in turn further strengthens the entrenchment of the schema. Thus the characteristics of this proposed schema motivate the dominance of

manipulative verbs in this construction.¹⁷

Furthermore, positing the constructional schematic meaning outlined above will enable us, as we shall soon see, to link the mechanism of object control with that of subject control, giving at the same time a motivated account for the fact that many speakers in fact do not accept the subject control interpretation of even the most prototypical examples.

5.5. Unmarked Subject Control

In this section, we shall propose an analysis to account for the exceptionality of *promise* in that it is the sole subject control verb. Our proposal links the mechanism that brings about subject control with the fact that many speakers of English in fact reject this construction with the verb *promise*.

5.5.1. Acceptability of the *Promise*-Sentence

It has been claimed that the acceptability of even the basic type of subject control sentence seen in (42) below, which has attracted linguists' attention for decades, is not as stable as had once been thought.

(42) John promised Mary to leave.

For example, Takami (1998a) reports the result of a survey conducted on the *Linguist List*, a linguistic mailing list on the Internet, in which he found that as many as 62 percent of those who responded to his inquiry

(52 out of 84 respondents) would not use this sentence at all.¹⁸ Takami's findings echo observations by other researchers. Dixon (1990: 257) notes that *promise* with an object and an infinitival clause is permitted in "only some dialects." Also, Mair (1990: 172) states that "infinitival complementation is normal only if no object intervenes between the subject of the matrix clause and the infinitival clause," and when an object is present after the verb, "the normal form seems to be the finite-clause complement. . . ."

Takami's finding that *promise*-sentences are not acceptable to so many speakers but are also acceptable to many is striking enough to require us to reconsider the standard assessment of this sentence type and to provide a theoretical account for its significantly split acceptability status. This goal is in fact very hard to achieve in a theory that simply classifies in one way or another the verbs that appear in this syntactic frame.¹⁹

We shall see in the next subsection how this can be handled in our framework, which makes use of schema-based categorization and the notion of constructional schemas. By doing so, we will show that our analysis of this split acceptability naturally leads to an explanation of the subject control interpretation of this sentence type.

5.5.2. Choice of Categorizing Schema

As indicated in 5.3, our discussion is based on schema-based categorization, wherein a given usage event is understood to be categorized by some already

established (entrenched) categorizing structure (schema). To the extent that the categorizing and the target structures are compatible, the usage event is assessed as well formed. If the structures are judged to be incompatible, then the usage event is rejected.²⁰

An inevitable question that arises in connection with this approach to categorization is how a particular categorizing structure (what Langacker (2000: 14-17) calls the *active structure*) is chosen from among many other potential established units at the speaker's disposal for the purpose of judging a given target structure. A target structure is judged as well formed or ill formed based on a certain categorizing structure, and for such a judgment to be effected, one categorizing structure has to be selected.

Langacker (2000: 14-17) takes up this problem, and claims that three factors come into play, the *level of entrenchment*, *contextual priming*, and the *amount of overlap between the target and a potential categorizing structure*. Setting the second factor aside (as we do not take contextual information into consideration for the purpose of our immediate problem), we propose that what is going on in the choice of a categorizing structure for *promise-sentences* is a competition among the potential categorizing schemas based on the two remaining factors. In so doing, we hope to show that the aforementioned very unstable acceptability judgments will yield to explanation.

If the discussion in the previous subsection is on the right track, then the most likely potential active structure for the categorization

of a usage event (target structure) like *John promised Mary to leave* is the Manipulative Schema mentioned above. This conclusion follows from the level of entrenchment of the schema and the phonological overlap between the categorizing and target structures. However, this categorical judgment is doomed to fail; the semantics of the Manipulative Schema is characterized by a force-dynamic relation between two participants, but this is simply absent at least between the two participants of the event coded by the verb *promise*. The kind of relation coded by this verb is one of "commitment" (see Comrie (1988) and Sag and Pollard (1991)), hence it lacks force-dynamic relationship between the subject and object participants. Consequently, the activated categorizing structure, i.e. the Manipulative Schema, fails to achieve compatibility with the target structure, whence it follows that this usage event cannot be categorized by this schema. If there is no categorizing structure to license it, a usage event will be deemed ill formed, and this is actually what happens to the 62 percent of Takami's respondents who simply reject *promise*-sentences with an object and an infinitival complement.

Simply put, speakers attempt to categorize a *promise*-sentence with a manipulative schema, the activated structure selected because of its high level of entrenchment and exact phonological overlap with the target structure. However, employing this structure to categorize this usage event inevitably leads to incompatibility and thus is judged as unacceptable.

However, we contend that this usage event may be salvageable; its

viability depends entirely on whether or not the speaker can activate another potential categorizing structure that is compatible with the inherent semantics of the verb *promise*. We claim that the 38 percent of Takami's respondents who accept *promise* with an object and an infinitival complement are able to activate a suitable, alternative categorizing structure. In the next subsection we shall offer a proposal about the identity of this other schema that can categorize *promise*-sentences, and we shall show that its activation as a categorizing structure leads to the subject control interpretation of this sentence type.

5.5.3. *Promise*-sentences as Ditransitive Constructions

We claim that the solution to the problem outlined above is to be found in an examination of other uses of the verb *promise*. We believe it is particularly significant that *promise* is used in the ditransitive construction, as in (44) and (45) below.²¹

(44) Charlie promised Madge a new car.

(45) Hurley had promised him a visa, too.

(44) is roughly paraphrased as "Charlie promised Mary that he will give Madge a car." Examples like this are found so widely that one may safely assume that this is part of the conventionalized usage of the verb *promise*. In this usage, *promise* is to be classified as a verb of giving, or, more precisely, a verb of future giving, wherein the subject participant *intends*

to transfer what is coded as the second object to the recipient, which is coded as the first object.²² Here, the object to be transferred is something the recipient is willing to receive.

Especially noteworthy here is the fact that the sense of transfer observed in this usage does not seem to be a part of the inherent verbal semantics of *promise*. In our approach, this poses no problem at all, since the sense of transfer is present in the constructional schema that is activated for the purpose of categorizing ditransitive sentences. Recall Langacker's illustration of "closure phenomenon" to show how a structure in a well entrenched categorizing schema may be imposed on a target structure, even if the former is not inherently present in the latter (1987: 194-195). Apparently the same mechanism underlies Goldberg's account of that portion of a sentence's meaning that is provided by the constructional semantics. The "sense of transfer" present in ditransitive instances with *promise* is obtained through the same mechanism (i.e. given by the construction) though it is not present in the semantics of this particular verb *promise*.

5.5.4. Characterization of Ditransitive Construction

Having assumed that the verb *promise* can be used in the ditransitive construction type, let us now characterize the semantic properties which this construction inherently has.

Goldberg (1995: Ch.6) provides an extensive examination of the semantics of the ditransitive construction, which motivates certain

constraints on the agent and recipient participants. First, this construction requires the agent (subject participant) to be volitional, not only with regard to the action he/she undertakes, but also with regard to the target of the transfer. Goldberg's (1995: 143) examples include the sentences in (46) and (47).

(46) Bob told Joe a story.

(47) *Joe threw the right fielder the ball he had intended the first baseman to catch.

(46) cannot be interpreted as "Bob told the story for someone else and Joe just happened to overhear." For a similar reason, (47) is unacceptable because the actual recipient of the ball is not the intended one. Secondly, the construction imposes a constraint that requires the recipient to be a beneficiary, i.e. a *willing recipient*. Again, (48) and (49) are from among Goldberg's (1995: 146) examples.

(48) *Bill told Mary a story, but she wasn't listening.

(49) *Bill threw the coma victim a blanket.

Another characteristic of the ditransitive construction to be noted here is the possible metonymical construal of what is transferred (Shibatani (1995: 179)). In sentences like (50) and (51), what is transferred is not the physical book or the dance of rumba, but the content of the book

and the performance of (or perhaps the enjoyment felt as a result of looking at) the rumba.

(50) I read him a book.

(51) I danced him a rumba.

(Shibatani (1995))

In sum, we have observed the following constraints and characteristics of the ditransitive construction, which shall be henceforth referred to as the *ditransitive schema*:

(52) Ditransitive Schema:

(i) Form: [NP1+V+NP2+NP3]

(ii) Semantics:

- a. The agent (NP1) must be intentional both with regard to the action he/she performs (coded by the verb) and with regard to the transfer of the object (NP3) to the recipient (NP2).
(Intentionality Requirement)
- b. The recipient (NP2) has to be a beneficiary (a willing recipient). (Beneficiary Requirement)
- c. The object transferred (NP3) can be metonymically construed.

5.5.5. *Promise-sentences* as Ditransitive Construction

Now, we would like to propose that *promise-sentences* with an object and

an infinitival clause, like (53), are, for those speakers who accept them, categorized by the constructional schema of the ditransitive construction, in parallel with examples like (54).^{23,24}

(53) John promised Mary [to leave].

(54) John promised Mary [a new car].

Note that, in fact, the interpretation of (53) is in conformity with the ditransitive constructional meaning. First, John is the agent who volitionally performs the speech act of promising. Secondly, John volitionally ensures that the transfer is made to Mary, who in turn is a willing recipient.²⁵ Thus, (55) is semantically anomalous, unless one imagines an unusual scenario in which Bill wishes to be displeased and thereby becomes a beneficiary; moreover, assuming that some third party is the intended beneficiary of John's displeasing Bill does nothing to alleviate the sentence's oddity.

(55) ??John promised Bill to displease him [=Bill].

Thirdly, what is transferred in (53) is to be construed metonymically; the object of transfer is not the event of leaving, but rather a certain benefit (whatever Mary perceives as being to her advantage) obtained as a result of the event expressed in the infinitival complement. Notice that this metonymical interpretation is based on a cause-effect relation.

The "benefit" to be transferred is an "effect" of the event expressed by the complement clause.

Furthermore, there is syntactic evidence that *promise*-sentences are in fact ditransitive. The contrast between (56) and (57) is pointed out in Larson (1991).²⁶

(56) a. John promised Mary to go.

b. ?John promised to leave to Mary.

(57) a. John persuaded Mary to go.

b. *John persuaded to go to Mary

(Larson (1991))

The rough paraphrase of (56a) into a *caused-motion* construction ("dative shift") (56b) is possible, but the same paraphrase is impossible for a *persuade*-sentence, as in (57). This contrast is of course expected from our hypothesis that *promise*-sentences are categorized by the ditransitive constructional schema, since the comparable paraphrase is typically obtained between ditransitive and caused-motion sentences.²⁷

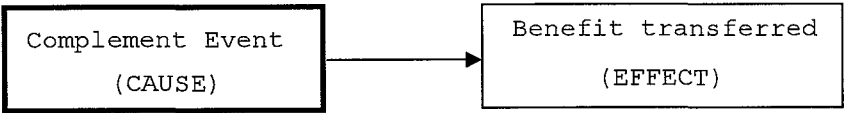
(58) a. John gave/sent/ordered Mary a book.

b. John gave/sent/ordered a book to Mary.

Now, the subject control interpretation follows from these semantic requirements. The volitional agent (main clause subject, NP1) is

responsible for the transfer of whatever benefit comes from the complement event to the recipient. Here, to realize the transfer, the former must see to it that the complement event actually takes place, because this metonymical interpretation of what is transferred is based on a cause-effect relation, as in Figure 5-2, and it is therefore necessary for the event (cause) to actually take place to bring about the effect (the benefit that is transferred).

Fig.5-2 Metonymical Interpretation
of Transferred Entity



In order for the agent (NP1) to ensure the occurrence of the complement event, the most straightforward course is for the agent to take upon him- or herself an active role in that event, rather than leaving responsibility to the recipient or a third party, hence only subject control interpretation results. Note that this reasoning has been straightforwardly obtained from the well documented constructional semantics of the ditransitive construction type which we advocated in the previous subsection.

Recall, as we overviewed in 5.2.2, that the proposal put forth by Farkas (1988) was based on what she calls the "responsibility relation," and it might appear that our account of subject control proposed above

is also based on the same intuitive ground. However, it should be emphasized that in our account, the subject participant's responsibility for the occurrence of the complement event is derived from the semantic requirement of the ditransitive construction. This contrasts with Farkas's approach, where she simply stipulates that *promise* is a verb that requires its subject to be involved in the RESP (responsibility) relation without plausible motivation.

5.5.6. Split Acceptability of *Promise*-sentences

With the foregoing details in place, we can now see that the present analysis does indeed achieve the above-stated goal of explaining the facts set forth in 5.5.1 regarding the radical split in acceptability status of subject control *promise*-sentences.

In the categorization of this usage event, the speaker/conceptualizer faces a potential dilemma; *promise*-sentences exhibit maximal phonological overlap with the well-entrenched Manipulative Schema, yet the verb *promise* is semantically incompatible with this structure. Those who reject this sentence simply follow the general strategy of categorization wherein a target structure that cannot be categorized by the active categorizing structure is to be judged as ill-formed. The speakers who accept it, in our framework, are those who can alternatively evoke the ditransitive constructional schema as the active structure, which, as we have just observed, can adequately categorize this usage event semantically.

Phonologically, however, for a *promise*-sentence to be categorized

by the ditransitive schema should be strained to some extent; the target usage event has a *to*-infinitival complement in place of the nominal NP3 of the prototypical ditransitive form. We could infer that this strain could constitute another reason why *promise*-sentences are not acceptable by a number of speakers.

To summarize, *promise*, as the sole subject control verb, is highly exceptional in having a conventionalized usage which is compatible with the Manipulative Schema phonologically, but incompatible with it semantically, being instead well-entrenched as a verb used in the ditransitive construction. This unusual coincidence of characteristics gives rise to the behaviors that mark this verb as unique. Speakers who reject the structure [NP1+*promise*+NP2+INF] do so based on the Manipulative Schema, and those who accept the subject control interpretation categorize the usage event based on the ditransitive schema, despite the fact that the manipulative schema is phonologically better suited.

Our analysis of subject control in *promise*-sentences is advantageous in that it naturally models the mechanism underlying the subject control interpretation, accounts for the radical split in acceptability judgments among native speakers, and explains why *promise* is so exceptional. In the next section, we will further examine how our approach can motivate the shift in the choice of controller, which was discussed in 5.2.1.

5.6. Shift in Choice of Controller

Having proposed the mechanism of object and subject control, we now turn

our attention to the shift in the choice of controller that are reported to take place in certain environment, as we overviewed in 5.2.1. We contend that the phenomenon is captured as a natural consequence of our characterization of controller assignment.

5.6.1. Shifted Object Control

In this section, let us first show how our framework explains the shift from subject to object control. There are two kinds of shift; one is said to take place typically with passive complement clause, and the other with strong pragmatic interpretation. We discuss the former in 5.6.1.1 and the latter in 5.6.1.2.

5.6.1.1. With Passive/Stative Complement

Recall that many speakers prefer shifted, object control interpretations in both (59) and (60) below, although the judgements about these sentences are not as consistent among speakers as are those regarding the non-shifted readings discussed in the previous section.

(59) John promised Mary to be allowed to leave.

(60) John promised Mary to be able to leave.

Shifts in the choice of controller like those illustrated in (59) and (60) are straightforwardly motivated under the analysis presented in the previous section.

First we can explain why for some speakers, sentences like (59) and (60) do not receive a subject control reading. Recall that in 5.5.3 we derived subject control from the semantics of the ditransitive construction, which, as set forth in (52iia) and (52iib), requires an intentional main clause subject participant that is responsible for the transfer to the beneficiary and therefore for the occurrence of the complement event. To interpret the main clause subject as the subject of the complement clause is the most straightforward way for him/her to ensure that the complement event actually takes place.

However, this reasoning is legitimate only if the complement clause denotes an event that can be caused by an intentional act of the complement subject participant. Now, in (59) and (60), the main clause subject cannot ensure the occurrence of the complement event even if he/she is interpreted as the subject of the complement clause. This is so simply because the complement event cannot be caused by the intentional action of its subject—this state of affairs is typical for subjects of passives and clauses describing unintentional states. Thus, the motivation for subject control derived from (52iia) is not present here.

With the influence of the intentionality requirement (52iia) neutralized, it is the beneficiary requirement (52iib) that is solely responsible for determining whether the main clause subject or object is to be chosen as the controller. Consequently, the issue turns on whether or not the NP2 participant can be appropriately construed as a beneficiary. In (59) and (60), *to be allowed to* and *to be able to* mean that the complement

subject has permission to do something that he/she wants to do and that he/she has the capacity to do, respectively. Thus it is reasonable to think, as many speakers do, that the recipient/beneficiary NP2 gets more benefit from the complement event if he/she is understood to be the subject of the complement clause, as opposed to a reading in which the main clause subject is interpreted as the controller. However, this assessment naturally leaves a certain margin of subjective judgment, and thus the choice of the controller in (59) and (60) is in fact not consistent among speakers.²⁸

This point is further confirmed by the fact that passivization does not always induce a shift in the choice of the controller, a fact that cannot be easily accommodated in a principled manner by existing theories (see Sag and Pollard (1991)).

(61) Kim promised Sandy to be hassled by the police.

(Sag and Pollard (1991))

(62) John promised Mary to be discouraged to do it.

Many speakers prefer the (non-shifted) subject control interpretation for (61), despite the passivized complement clauses, because in these examples the object control interpretation cannot be understood as providing NP2 with what he/she wants to receive. In other words, NP2 cannot be interpreted as a beneficiary as the constructional semantics requires it to be. For instance, in (62), many speakers feel that Mary's

being discouraged is not something she would want, but it might be possible to think of a situation wherein John's being discouraged could be considered to be to Mary's benefit, which more trivially satisfies the benefactive requirement (52iib).

Note here that even with the sort of shifted object control interpretation seen in (59) and (60) above, it is implied that the main clause subject undertakes to do something to ensure that the complement event will take place. Our analysis naturally captures this point, since the intentionality of the main clause subject is ensured, in so far as the sentence is categorized by the ditransitive constructional schema, since this is part of the constructional semantics. What is at stake is simply that this intentionality is not relevant to the motivation for the main clause subject's being understood to be the referent of the zero subject of the complement clause.²⁹

5.6.1.2. With Pragmatic Strengthening

Furthermore, our analysis naturally explains controller shift due to "pragmatic" factors, as in (63) and (64).

(63) The mother promised the children to stay up.

(64) The teacher promised the pupil to leave early.

(Farkas (1988))

Here, although the complement clause is not a state or passive, as in

(59) and (60), some speakers accept shifted object control. In fact, speakers vary in intuitions about (63) and (64). Farkas (1988) states that this sentence is ambiguous between subject and object control, but three informants I asked (two American and one Australian) all replied that the object control interpretation is impossible.³⁰ Note, by way of comparison, that all three answered that (59) and (60), repeated here as (65) and (66), allow for the (shifted) object control interpretation.

(65) John promised Mary to be allowed to leave. (= (59))

(66) John promised Mary to be able to leave. (= (60))

From this observation, it might be reasonable to conclude that the shift in the choice of controller that takes place in (63) and (64) is in fact harder than that in cases where the complement clause is a stative or passive, like (65) and (66).

In our framework, the fact that controller shift is possible for some but difficult for others in examples like (63) and (64) is naturally expected. Since the zero subject of the complement clause is an agent position, the intentionality requirement of the ditransitive constructional semantics (52iia) demands the main clause subject to be the controller, as it does in the basic subject control examples like *John promised Mary to leave*. At the same time, the benefactive requirement (52iib), which requires NP2 to be a beneficiary, favors the object control interpretation, because under usual conditions, it is pragmatically inferred that this

interpretation would give NP2 more benefit in examples like (63) and (64).

Here, the conflict between the two has to be resolved.

That many speakers prefer the (unmarked) subject control interpretation in (63) and (64) is, we contend, a natural consequence of the difference in the nature of the two semantic requirements (52iia) and (52iib). Recall that the intentionality requirement (52iia) results in subject control because being the agent of the complement event is the optimal way for the volitional main clause subject to ensure the occurrence of that event. On the other hand, the NP2 participant's receiving benefit allows a variety of situational interpretations. For example, in *The mother promised the children to stay up* (= (63)), although world knowledge might first lead us to think that staying up is what the children (NP2) want, it is also possible to think of a situation wherein the children benefit from their mother's staying up (for example, she could tell them a bedtime story). Thus, speakers prefer the subject control interpretation, which satisfies both the intentionality requirement and the benefactive requirement rather than the object control reading that goes against the former for the sake of an easily cancelable reading that satisfies only the latter.

This reasoning naturally captures the fact that the shifted interpretation of sentences that induce "pragmatic shift" like (63) and (64) is harder to obtain than sentences with passive or stative complements like (65) and (66), which we examined in 5.6.1.1. This is so because of the conflict between (52iia) and (52iib), and the effort made to adjust the interpretation so that the NP2 participant can be interpreted to receive

more benefit in this interpretation than in the non-shifted subject control reading.

The analysis of the shift in the choice of controller based on the constructional semantics proposed above is advantageous in three ways. First, it explains the mechanism underlying the shift without employing any collateral condition for the shifted interpretation. Second, it motivates the fact that the shifted control interpretation is not as consistent as the non-shifted cases. Third, it captures the difference in acceptability of the shift in sentences like (65) and (66) on the one hand and those like (63) and (64) on the other.

5.6.1.3. Shift with Other "Subject Control" Verbs

Interestingly, other subject control verbs than *promise*, such as *vow* and *pledge*, which take prepositional objects rather than bare indirect objects as *promise* does, do not allow for a comparable shift in the choice of controller.³¹ Thus only *John* is interpreted as the controller in (67) and (68), despite the presence of a complement type that could have initiated a shift if the main clause verb had been *promise*.

(67) John vowed to/pledged to Mary to be allowed to leave.

(68) John vowed to/pledged to Mary to be able to leave.

That the shift is not observed in the above examples can be understood as supporting the validity of our construction-based analysis. Given

the comparability of the semantics of these verbs with that of *promise*, the fact that the shift does not occur in (67) and (68) indicates that it is not the verbal semantics alone that is at stake in brining about the shift. Further to this observation, the comparable shift does not occur in sentences like (69) and (70), whose meaning could have caused a "pragmatic shift" if the main clause verb had been *promise*.

(69) The mother vowed to/pledged to the children to stay up.

(70) The teacher vowed to/pledged to the pupil to leave early.

Thus, we contend that it could be reasonably inferred that the ditransitive constructional semantics is involved in determining the shift, as we have argued.³²

5.6.2. Shifted Subject Control

Recall that another type of controller shift is observed in sentences with *ask*. In this case, as we saw in 5.2.1, the direction of the shift is the opposite of that examined above, i.e. from the unmarked object control to the shifted subject control, as illustrated in (71) and (72).

(71) John asked Mary to leave.

(72) John asked Mary to be allowed/able to leave.

Only object control is possible in (71), but in (72), which has a complement

clause of the kind that caused shifts in *promise*-sentences, either object or (shifted) subject control is possible. A further similarity with *promise*-sentences is that "pragmatic" shifts may take place in examples like (73), which for some speakers allows for the subject to be the controller.

(73) The pupil asked the teacher to leave early.

These observations lead us to expect that the conditions in which the shift takes place are analogous to those for subject-to-object controller shift; only the direction of the shift differs. We contend that this is in fact the case.

First, note that *ask* is widely used in the double object structure, as in the following examples.

(74) John asked Mary her name/age/address.

(75) John asked Mary a favor.

These sentences imply some transfer, and, unlike the ditransitive sentences we have observed, the direction of the transfer is from the first object to the subject participant. In (74) it is implied that Mary is to transfer the information about her name/age/address to John, and in (75) Mary is to give John some benefit by acting for his sake.

We would like to suggest that sentences of the structure [NP1+ask+

NP2+INF] are categorized by a constructional schema whose semantics requires the NP2 participant to be the volitional agent of the act of transfer, the NP1 participant to be the willing recipient, and the infinitival event to be understood metonymically as the object of the transfer.³³ Presumably this schema specifies that its V slot be filled with *ask*, since it appears to be specific to this verb.³⁴

This assumption naturally derives the control properties of *ask* that were observed above. First, that *ask* is an unmarked object control verb follows directly from this schema in the same way that the unmarked subject control of *promise*-sentences is derived from the ditransitive constructional schema. Here, the only difference is that it is NP2, not NP1, that is the volitional agent of the transfer.³⁵

Secondly, the shift in choice of controller seen in examples like (72) is explained in the same way as the shift seen in *promise*-sentences. The intentionality motivation for unmarked object control is removed in cases with passive or stative complement clauses, so the choice of controller depends on the NP1 (subject) participant's likelihood of being plausibly interpreted as a willing recipient.

Finally, the facts concerning the "pragmatic" shift observed in connection with (73) also follow from our analysis. As was the case with the "pragmatic" shift in *promise*-sentences, the (shifted) subject control interpretation of (73) is possible but harder than the shift in sentences like (72), where the complement clause is passive or stative. Here, the same explanation that was advanced for the *promise*-sentences may be

reapplied. The intentionality motivation requires the NP2 participant, *the teacher*, to be the controller. But world knowledge tells us that the NP1 participant, the willing recipient, would receive greater benefit if he/she were chosen as the controller. Although both subject control and object control have their own motivations, many speakers prefer object control. As we saw in the similar cases with *promise* in (63) and (64) in 5.6.1, this is because the intentionality motivation, which favors object control, is given priority over the beneficiary motivation, which allows for flexible subjective assessment.

Having examined how the shift of controller choice takes place, we can now clearly perceive why the verbs with force dynamic semantics do not allow for any shift in the choice of controller, even in environments that would facilitate the shift with other verbs. For instance, only object control is possible in (76).

(76) John persuaded/ordered Mary to be allowed to leave.

The force dynamic semantics of these verbs permits this usage event to be categorized only by the Manipulative Schema; therefore only object control arises. Accordingly, the natural interpretation of (76) is that *Mary*, upon receiving the force, initiates some action in order to get permission to leave; this is of course the interpretation naturally imposed by the Manipulative Schema.

5.7. Some Remaining Problems

In this section we first show that a puzzle that has been discussed in the generative tradition as Bach's generalization naturally results from our analysis of control. Next, we examine whether existence of certain verbs that appear in both [NP1+V+NP2+NP3] and [NP1+V+NP2+INF] poses a problem to our analysis. We further consider "control" cases in other structures than [NP1+V+NP2+INF].

5.7.1. Bach's Generalization

Our hypothesis that *promise*-sentences are in fact categorized by the ditransitive constructional schema naturally brings about a solution to a well known fact generally referred to as Bach's Generalization. Let us examine how our approach explains this generalization.

As first noted by Bach (1979), detransitivization is possible with subject control verbs, but is not allowed with object control verbs, as shown below.

(77) John promised to leave.

(78)*John encouraged/persuaded to leave.

One advantage of our construction-based cognitive analysis is that this generalization is accounted for as a natural consequence of the nature of each construction. Recall that we have treated sentences like *John promised Mary to leave* as instances of the ditransitive construction with

Mary and to leave as its arguments, and that we have analyzed object control verbs as being categorized by the force dynamic semantics of the Manipulative Schema. If this is on the right track, the contrast between (77) and (78) naturally follows. Consider (79) and (80) below.

(79) I went to the post office and sent a letter.

(80) A: John didn't give that charitable organization any land.

B: Yes. He just gave cash, didn't he?

(79) and (80) show that the first object of the ditransitive construction can be covert provided that sufficient contextual support is given. On the other hand, causative verbs, which constitute a prototypical instance of the Manipulative Schema, always need an object NP, and omission makes the sentence incomprehensible.

(81) *John got/caused to leave the school.

(82) A: What did John cause Mary to do?

B: *John caused to leave.

What causes the contrast between (79) and (80) on the one hand and (81) and (82) on the other is not immediately relevant here. For our purpose it suffices to point out that the detransitivized use of *promise* is allowed for the same reason that absence of the first object is felicitous in (79) and (80). Similarly, object control verbs do not admit

detransitivization for the same reason that the causative verbs always need an object as demonstrated in (81) and (82).

The same reasoning further predicts that the verb *ask* also allows for detransitivized use because our assumption is that *ask* is also categorized by the ditransitive schema. Indeed, *ask* is felicitously used in a sentence with the first object omitted as in (83).

(83) A: What did John do to them, then?

B: He asked a question.

That this is in fact the case is seen in acceptable examples like (84) below. Here, the controller is understood as arbitrary or contextually provided, as in the case of (77) above.

(84) John asked to leave.

Note that sentences like (84) has been taken as a counterexample of Bach's generalization, as *ask* behaves as an object control verb (see Y. Huang (2000: 42-43)). Our approach naturally predicts that such ditransitive use of *ask* is possible, and that other object control verbs do not allow for detransitivization.

Thus, Bach's generalization is a natural consequence of our approach, which is based on the assumption that *promise* sentences are categorized by the ditransitive schema. Furthermore, it also predicts the

ditransitive use of *ask*, a fact that is thought to be a counterexample of the generalization.^{36,37}

5.7.2. Other Ditransitive Verbs

Given our analysis of subject control cases with *promise*, one might wonder why, then, certain verbs that appear in both [NP1+V+NP2+NP3] and [NP1+V+NP2+INF] such as *order* and *teach* do not allow for the subject control interpretation as *promise* does. These verbs are used in the ditransitive frame as in (85)-(87).

(85) John ordered Mary a new computer.

(86) John taught Mary a new theory of linguistics.

(87) John told Mary a new story.

Therefore, if we assumed that (88)-(90) below are to be categorized by the ditransitive schema like the sentences in (85)-(87), as we argued about subject control *promise*-sentences, then it would be predicted that they exhibit subject control too. However, this is not the case; the sentences (88)-(90) all give object control interpretation only.

(88) John ordered Mary to leave.

(89) John taught Mary to play the piano.

(90) John told Mary to leave.

These examples are problematic to Larson's (1991) configurational approach to subject control *promise*-sentences, which heavily depends on regarding *promise*-sentences as ditransitive. Recall that in his analysis *promise*-sentences are hypothesized to have ditransitive derivational pattern, based on the observation that this particular verb has such obvious ditransitive usage as *John promised Mary a new car*. For this reasoning, however, existence of the verbs that have ditransitive usage like (85)-(87) and at the same time exhibit object control property as in (88)-(90) poses a serious problem. In fact, Larson is left with only one possible solution: to say that sentences like those in (85)-(87) are in fact not ditransitive, and hence (88)-(90) do not follow the Larsonian ditransitive derivational pattern we saw in 5.1, hence subject control is not possible. But to say that (88)-(90) are not ditransitive is intuitively, and, as we will shortly see, empirically unlikely.

This kind of problem that Larson's theory is faced with does not arise in our analysis, because in our usage-based approach, to say that one usage event structure is categorized by the ditransitive schema does not theoretically prohibit other structures with the same verb by the manipulative schema. All that is at stake here is whether or not a usage event is assessed as compatible, both phonologically and semantically, with the active categorizing schema.

First, for usage events of the form [NP1+order/teach/tell+NP2+NP3] to be categorized by the ditransitive schema stated in (52) is, given its phonological and semantic compatibility with the constructional schema,

very likely; these verbs obviously have the sense of "transfer," which is part of the ditransitive constructional semantics. Contrary to Larson's claim, there is evidence that sentences like (85)–(87) are indeed ditransitive. Observe (90), a sentence taken from Goldberg (1995).

(90) *John told Mary a story, but she wasn't listening.

Here, *tell* is one of the verbs in question that appear both in ditransitive and control structures. The fact that (90) is unacceptable can be reasonably attributed to the ditransitive constructional semantics, which requires the first object *Mary* to be a willing recipient.

Furthermore, sentences like those in (91) and (92) below are known to have different semantic content from each other; (91) implies that Bill indeed gets knowledge of English grammar, but such implication is not necessarily seen in (92), again as the ditransitive constructional semantics predicts.

(91) John taught Bill English grammar.

(92) John taught English grammar to Bill.

These observations strongly indicate that the [NP1+tell/teach/order+NP2+NP3] structure is indeed ditransitive as the appearance suggests, contrary to Larson's claim that the sentences under discussion are not ditransitive.

On the other hand, for usage events of the form [NP1+order/teach/tell+NP2+INF] to be categorized by the manipulative schema, not by the ditransitive schema, would also be possible if we assume these verbs have sufficient "force dynamic" sense that the constructional semantics requires. Indeed, that such sentences are not ditransitive sentences is supported, though indirectly, by the contrast in (93), where, just as a manipulative sentence like (94a) cannot be paraphrased into a "dative shift" structure (94b), (93b) is not acceptable.

(93) a. John told/taught Mary to leave.

b. *John told/taught to leave to Mary.

(94) a. John persuaded Mary to go.

b. *John persuaded to go to Mary

Furthermore, omission of the first object is infelicitous in these sentences, showing the same characteristic as the manipulative sentences, as we examined in the previous subsection (i.e. Bach's generalization).

(95) *John told to leave.

(96) *John taught to play the piano.

Being categorized by the manipulative constructional schema of course results in object control. This does not happen to *promise*-sentences; as we saw in 5.5.5, categorization by the manipulative schema is not

successful for *promise*-sentences, and for those speakers who can salvage them with the alternatively evoked ditransitive schema, *promise*-sentences are interpreted as subject-control.

To summarize, verbs that can be used both in ditransitive and control structures and behave as object control verbs in the latter construction might at first seem to pose a problem to our analysis. But, unlike Larson's ditransitive analysis, this is not problematic at all to our analysis, because our Usage-based constructional approach naturally allows the same verbs to appear either in the ditransitive or manipulative construction types, as far as the categorization is successfully effected.

5.7.3. Distribution of the Zero NP

We have so far concentrated on obligatory control observed in [NP1+V+NP2+INF] structure, hence it is whether the controller is NP1 or NP2 that has been the focus of our attention. However, the problem pertaining to how a zero NP picks up its referent comes up wherever a zero NP exists. In this section we will examine two such cases: sentences of the [NP1+V+INF] structure and ones of [NP1+V+WH-INF] pattern, and see how our view of control capture such cases. To do so, however, let us first examine what implications our approach bears from the accessibility theory perspective.

5.7.3.1. Accessibility Theoretical Implications

Accessibility theory (henceforth AT), as developed in Ariel (1990), Gundel

et al. (1993) and others, supposes that an NP form suggests the accessibility of its referent. In this view, zero forms like the covert subject of infinitival clauses in which we are interested, indicates that the referent is "most accessible" among all the NP forms presented in Ariel's accessibility hierarchy (Ariel (1996: 21)).³⁸ This is to say that the referent of a zero NP is stored in the speaker's current discourse space as the entity that is most easily retrievable at the time when the reference is made.

We think that such a view is in conformity with our approach to control; our analysis of control can be understood as a proposal as to how a usage event's semantic property contributes to ensuring this high accessibility of the entity that the zero subject refers to. In our analysis, it is the semantics of the usage event that the speaker obtains, i.e. the manipulative and ditransitive meaning, that contributes to the high accessibility status of the zero NP under discussion. More specifically, the semantic relation that holds between the antecedent and the zero NP ensures that the entity to which the antecedent refers to is highly accessible.

In more general terms, Ariel (1990: 28) suggests four factors that "contribute to the accessibility status of the antecedent [i.e. the referent of an NP in question]."

(97) Factors that contribute to the accessibility (Ariel (1990))

a. Distance: The distance between the antecedent and the anaphor

(relevant to the subsequent mention only).

b. Competition: The number of competitors on the role of antecedent.

c. Saliency: The antecedent being a salient referent, mainly whether it is a topic or a non-topic.

d. Unity: The antecedent being within vs. without the same frame/world/point of view/segment or paragraph as the anaphor.

Of course, these suggested factors should be taken as very broad theoretical guiding assumptions, and specific implementations should be subject to future research. However, it should be at least obvious by now that referential properties of the zero NP in a complement clause are relevant to the Unity factor (97d). Specifically, the nature of the relationship between main and complement clauses is a factor that falls under Unity, and, as Ariel suggests (1990: 137) and as we have discussed thus far, how the complement clause is semantically related to the main clause seems to be a relevant factor that contributes to the controller choice in the structures we have examined. The analysis of control we have developed thus far, therefore, can be understood as an implementation of this broader AT theoretical concept of Unity.

We suggest, however, that accessibility status can be ensured by other factors than "grammatically" provided semantic properties as our analysis thus far claimed. One such case may pertain to the interpretation of the covert subject of *wh*-infinitive clauses.

5.7.3.2. Wh+Infinitive

The perspective discussed above leads us to expect that if the referent of an NP is uniquely identifiable (i.e. accessible) even by "extra-grammatical" factors, it will be allowed to bear a high accessibility marking, possibly zero. I contend that one such case is a zero subject of wh-infinitival complement clauses. Observe (98) and (99) below.

(98) John asked Mary how \emptyset to dress himself/*herself.

(99) John told Mary how to \emptyset dress *himself/herself.

It is known that the choice of the referent of the zero subject of wh-infinitive complements as those in (98) and (99) is not consistent. In (98) the main clause subject *John* is understood to be the controller, while in (99) *Mary*, the main clause object, is so understood.

We argue that the referent of the zero subject in (98) and (99) is uniquely identifiable, given the verbal semantics and world knowledge, thus it is qualified to be zero, a high accessibility marker. This is so because world knowledge tells us that someone who wants to do something has to learn how it is to be done. Such knowledge naturally leads us to expect that it is that person who newly learns (or will learn) how something is to be done, not someone else, that actually wants to do it. This implication results in subject control in (98), where the verb *ask* requires its subject participant, not its object participant or any third party, to be the one who newly learns how to dress herself. Similar

reasoning accounts for why (99) is object control. In this case, the semantics of the main clause verb *tell* requires its object participant, not the subject participant or any extra sentential third party, to be the one who newly learns how to dress him/herself. Then, world knowledge supposed above leads us to expect the object participant to be the controller. In short, the inherent semantics of the verb combined with the expectation based on world knowledge inevitably leads the conceptualizer to allocate an appropriate controller.

The foregoing analysis further makes us expect that when there is no semantic, pragmatic, or even world knowledge available that ensures the high accessibility status, the zero form under discussion can refer arbitrarily (i.e., it can refer to anybody).

(100) How \emptyset to solve this problem is not clear.

How this referentially arbitrary zero form is sustained in (100) might also be motivated by the AT assumptions about the factors that contribute to accessibility status. In sentences like (100), the zero NP has no other choice than being referentially arbitrary, since there is no verbal or constructional semantics that requires any particular participant to be a controller. Although details are obviously subject to future research, for it to be zero, an extremely high accessibility marking, seems to be at least motivated by the competition factor cited above in (97b): less the number of competing antecedents, more accessible the understood

antecedent becomes. Since in such cases the referent of the zero NP is uniquely identifiable (as being arbitrary) in absence of any other competitors, I contend that its being zero may be expected from an AT point of view.

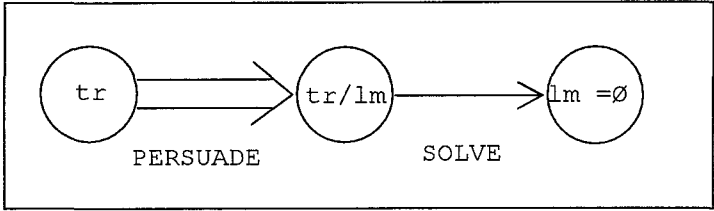
5.7.3.3. Unacceptable Zero NP in Object Position

Looking at our semantic analysis of control from the AT perspective gives us an insight as to why it is that the zero NP appears only in the subject position of an infinitival complement clause and why it does not appear, for example, in the object position. The unexpressed element in question here is indicated as \emptyset .

(101) *John persuaded Mary to solve \emptyset .

The possible referent of the zero subject of the infinitival complement is, given the manipulative semantics, naturally limited to only one candidate, *Mary*, as the trajector of the complement verbal relation is identical with the landmark of the main clause verbal relation, as in Figure 5-3. Here, *persuade* and *solve* share the participant coded by *Mary* as the trajector and landmark, respectively. But this manipulative semantics has nothing to suggest as to the identity of the object zero NP.

Fig.5-3 John persuade Mary to solve \emptyset



Being zero means that its referent is highly identifiable, but, in contrast with the subject zero NP of the complement clause, the semantic structure of this usage event does not give any clue as to the identification of the object participant of the complement clausal relation; logically, there are infinite possible choices. The contradiction between the form as a high accessibility marking and its actual extremely low accessibility status certainly rules out the presence of a zero NP in such a position.³⁹

5.7.3.4. Nontransitive Sentences

The AT perspective of control allows us further to motivate the obligatory nature of controller choice in mono-transitive sentences like (102).

(102) John tried/wants/plans to play this piano.

That the zero subject of the complement clause *to plan this piano* is uniquely identified with *John*, rather than having an arbitrary referent, seems to be motivated from two perspectives. First, from the AT point of view,

based on the accessibility criteria in (97) above, *John* is obviously (i) the nearest potential antecedent, (ii) the sole potential antecedent in the sentence, and (iii) salient as the topic. This leads to its high accessibility status as the reference is made for the zero NP in question.

Secondly, we could take into consideration the intention or desire of the subject participant that the verbs in this construction require. In fact, we could further regard this semantic characteristic as constructionally provided, when we consider the fact that verbs that enter into this [NP+V+INF] structure are indeed more or less express modality (see Givón (1990: Ch.13)). If this argument is on the right track, subject control monotransitive sentences like (102) are captured in the same way we explained the subject control *promise*-sentences based on the ditransitive constructional semantics. Let us refer to the construction [NP+V+INF] as the *modality construction*.

Yet, of course, these constructions have semantic structures distinct from each other. One obvious difference is that the modality construction does not have a beneficiary participant. One natural consequence, we argue, manifests itself when the complement clause is passivized. Observe the contrast between (103) and (104), where (103) exhibits the controller shift but (104) still requires the subject *John* to be the controller.

(103) *John* promised *Mary* to be allowed to leave.

(104) *John* plans to be allowed to leave.

Recall in 5.6.2 we argued that the shift in the choice of controller takes place as a result of the ditransitive constructional semantics; the intentionality requirement of the ditransitive construction is made irrelevant to the choice of controller with a passive complement. This makes the beneficiary requirement the sole determinant of controller selection in sentences like (103). In the same vein, the intentionality requirement of the modality construction is also irrelevant to the choice of controller in (104). But, unlike ditransitive (103), as an instance of the modality construction, (104) has no other semantic constraint that would allow for some different controller, such as the beneficiary constraint in the ditransitive construction. Therefore, the subject *John* remains to be the controller, as the accessibility factors in (97), especially Distance, Salience, and Competition, expect it to be.

If, as we suggested in 5.7.3.1, our analysis of controller choice based on the semantic characterization can be viewed as an elaboration of the concept of Unity (63d), then our analysis of the contrast between (103) and (104) presented above would lead us to suggest that Unity requirement is stronger among the accessibility factors in (97).

5.7.4. Kristoffersen (2001)

After I finished most part of this chapter, I learned that Kristoffersen (2001) has independently presented a construction-based analysis of control phenomena in Norwegian. Since Kristoffersen takes a view of control closer to the present study than many other analyses in the

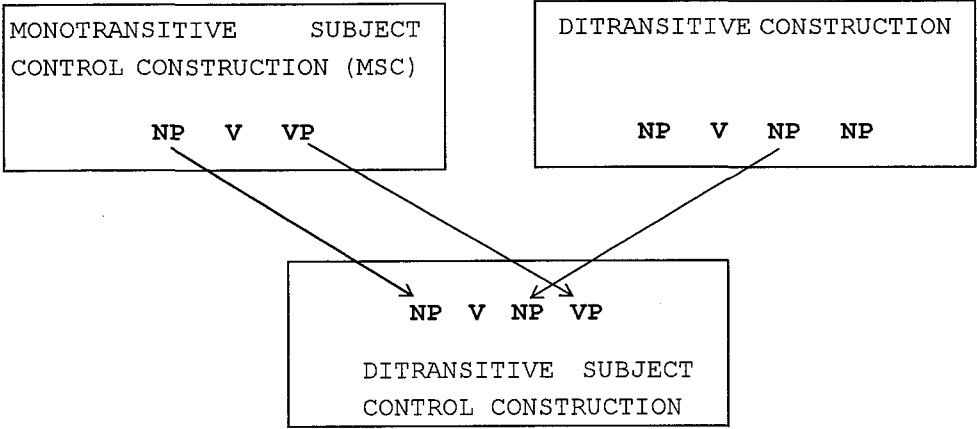
literature to the best of my knowledge, I feel it necessary for me to briefly examine his analysis here in comparison with mine.

Kristoffersen appeals to the constructional semantics to motivate subject/object control contrast. As for the object control structure, Kristoffersen, like analyses proposed by Van Valin and LaPolla (1997), Givón (1990) as well as myself, appeals to the force-dynamic, causative semantics. He attributes the force-dynamic sense to the construction, basically in the same way we have done. What is unique in Kristoffersen's analysis is his treatment of subject control *promise*-sentences. He proposes that the subject control [NP1+V+NP2+INF] structure is realized as a multiple inheritance (see Goldberg (1995: 97)) from two distinct constructions, which are referred to as the *monotransitive subject control construction* (henceforth MSC, whose description is cited below in (105)) and the *ditransitive construction* (he does not give a semantic description of the ditransitive construction). Figure 5-4 shows how arguments in the ditransitive subject control construction are licensed.⁴⁰

(105) Monotransitive Subject Control Construction

- (i) is a polysemous linking construction comprising two meanings,
 "desire" and "intention", which are metonymically related;
 and
- (ii) licences two arguments, experiencer/committor and soa-arg,
 and
- (iii) has the subject as the controller.

Fig.5-4 Kristoffersen's Analysis
(Kristoffersen (2001: 271))



Subject control of the MSC [NP+V+INF(VP)] construction comes from the intentionality of its subject NP, basically parallel to our proposal about intentionality in the ditransitive construtional semantics presented in 5.7.3.4. He claims that this property is inherited in the [NP+V+NP+INF(VP)] construction, making the latter subject control too.

Although this proposal is very interesting, and can be mutually complementary to mine, several questions inevitably arise, both empirically and theoretically. One empirical question pertains to the controller shift, about which Kristoffersen does not mention at all. In his analysis, subject control of [NP+V+NP+INF(VP)] construction is a result of the construction's inheritance of the subject control property from the monotransitive construction [NP+V+INF(VP)], whose subject control is in turn derived from the intentionality of the subject NP. But this does not explain anything about the shift that takes place when the INF

is passive or stative, because the monotransitive sentence is subject control even when its complement is passive or stative. To capture the shift, Kristoffersen would have to resort to the ditransitive nature of the [NP+V+NP+INF(VP)] construction (especially by appealing to the second NP's role of beneficiary), as we did. For that purpose, he would then have to describe the semantic structure of the [NP+V+NP+INF(VP)] construction in detail; he merely postulates how the argument structure of the latter construction is realized, in which the INF(VP) is inherited from the monotransitive construction and the first NP from the ditransitive construction. However, in what semantic relationship those two arguments stand would have to be described to explain the controller shift. And, to do so would eventually result in an analysis exactly identical with mine.

Furthermore, Kristffersen's theory would not be able to motivate the highly unstable acceptability status of *promise*-sentences. As we argued in 5.5.6, the fact that many speakers totally reject the [NP1+*promise*+NP2+INF] sentence pattern while many accept it without any problem hinges on our view that grammatical constructions serve as categorizing structures. Since his analysis does not appeal to categorization, the split acceptability status of this sentence type would not be explicable.

In this connection, Kristoffersen attempts to account for why subject control *love* 'promise' is used in the [NP+V+INF] pattern more frequently than in the [NP+V+NP+INF] pattern. In short, he attributes this to the difference in the number of verbs that can be used in each construction;

while many different verbs are allowed in the former pattern in Norwegian (and in English too), verbs that appear in the latter pattern are limited to three, one of which is *love*. He argues, then, having more verbs (i.e. having more type frequency) results in being used more productively (cf. Bybee (1985, 1995)). However, he fails to motivate why in the first place there are so few verbs that appear in the latter construction. Recall that this point was explained in our analysis by appealing to the exceptional nature of *promise* in that it lacks force dynamics in its semantics and at the same time has a conventionalized ditransitive use.

Kristoffersen's analysis obviously needs further elaboration to be able to cover a wider range of facts in connection with control phenomena. However, the attempt to derive the control facts from semantic, especially constructional properties, is in conformity with our approach. The inherent difference, however, lies in the constructional characterization of *promise*-sentences; Kristoffersen's analysis treats it as an "amalgam" of the ditransitive and monotransitive constructions, and our analysis views it as realized as a strained categorization of the ditransitive construction. Which is preferable should be an empirical decision.

5.8. Conclusion of Chapter Five

In this chapter, we have argued that the properties of control are adequately explained in a framework employing schema-based constructional categorization. Our main claims have been that object and subject control sentences are categorized by categorizing structures that we call the

manipulative and the ditransitive constructional Schema, respectively. Based on the semantics inherent in these constructional schemas, our approach provides an account not only of unmarked control properties but also of the shift in choice of controller. We have also shown that our analysis additionally explains "pragmatic" shift, even predicting its lower degree of acceptability in comparison with the shift that takes place with passive or stative complement clauses. Moreover, we have seen that our framework explains why subject control verbs are so rare, why many speakers reject subject control sentences altogether, and why most object control verbs do not allow for shift in the choice of controller.

Furthermore, we suggested that our analysis be integrated into a broader perspective of noun phrase accessibility. As a zero form, the zero subject of infinitival clauses can be regarded in AT as the form whose referent (i.e. antecedent) is very highly accessible at the time when the reference is made. We argued that this would allow us to regard our analysis based on the constructional and verbal semantics as an elaboration of one of the factors that contributes to the accessibility, Unity. We claimed that this AT perspective further allow us to motivate control facts of the WH-infinitive structure and monotransitive structure.

There has been for some time a controversy as to whether control phenomena are derived on the basis of syntactic configuration or with respect to the semantics of the main clause verb. We hope to have shown that it is the latter, together with constructional semantics and the nature of categorization of usage events, that provides an answer to this

long-standing question.

NOTES TO CHAPTER FIVE

¹ Of course by "zero subject" we do not mean anything equivalent to the PRO assumed in the generative tradition, as Cognitive Grammar's *Content Requirement* does not allow for a theoretical construct of this kind, as we discussed in Chapter Two. Instead, we are simply concerned with the naturally obtained referent of the trajector of the complement's clausal relation.

² We omit from our discussion an apparently similar structure broadly analyzed as "raising." This is illustrated by *John believes Mary to be innocent*, where the object *Mary* is considered to be an element of the complement clause. Langacker (1995a) proposed that in the "raising" sentences like this the object, *Mary*, semantically belongs to the complement clause, but is chosen as the active zone (that metonymically represents the complement clause event) and participates in the main clause relation as such.

³ The Minimal Distance Principle was first proposed in Rosenbaum (1967) and adopted in Chomsky (1981). Larson (1991) is a proposal in defense of the Minimal Distance Principle, and Nakajima (1998) attempts to capture the unstable acceptability status of *promise*-sentences basically in conformity with the spirit of MDP.

⁴ In later sections, we shall also hypothesize that *promise*-sentences are ditransitive, although of course our approach will not resort to syntactic configuration. We will contend that it is the semantics, not

the syntactic structure, of this construction that is relevant to control phenomena.

⁵ Larson (1991) proposes that sentences like (12) are in fact not ditransitive sentences, and therefore do not exhibit the derivational pattern shown in (8). Instead, he claims that the referential property of sentences like (11), *John told Mary to go*, come from semantic entailment. However, there is evidence that (12) is indeed ditransitive, as we shall discuss in 5.7.2.

⁶ Chomsky (1981) proposes the property of licensing a particular argument as controller be stipulated in the lexical entry with a feature like [+SC] (subject control), but of course this does not provide any explanatory content.

⁷ There are other oft-cited subject control verbs such as *vow* and *pledge*. Note, however, that these verbs take a prepositional object. (See the discussion in 5.6.1.2).

(i) John vowed to Mary to leave.

(ii) John pledged to Mary to leave.

⁸ The shifted interpretation (object control reading) of sentences like (13) and (14) is in fact not as consistent as has been suggested in many works. For example, Farkas's (1988) theory predicts that only the shifted interpretation is possible for sentences like (13) and (i) below. In this regard, Comrie (1985: 53) states that his intuition favors

a subject control reading for (i), even though "pragmatic information" tends to promote an object control interpretation.

(i) Penelope promised her son to be allowed to leave. (Comrie (1985))

However, Farkas herself says (personal communication) that she does not agree with Comrie's judgment; indeed, we also have received significantly varied responses from our informants as to the acceptability of the shifted interpretation for sentences like (i). It is important, though, to emphasize that even for informants who find the shifted interpretation of (i) very bad, a clear contrast of acceptability is felt between (i) and sentences like (2), *John promised Mary to leave*, where a comparable shift is absolutely impossible.

⁹ However, the shift in the choice of controller does not seem entirely impossible with verbs other than *promise* and *ask*. One of my informants (American) said that *The pupils persuaded their teacher to be allowed to leave* can be given a subject control reading, when he imagines a very strong situational context.

¹⁰ Sag and Pollard (1991) also presents a similar argument.

¹¹ I of course do not deny the role of the semantic property of the main clause verb; my major claim in this paper is that the role played by the constructional semantics is also crucial in treating the whole range of control phenomena in a principled manner. Readers may also refer to Jackendoff (1990: 68-70), where he touches upon some cases of shift

in the choice of controller.

¹² The TDC and TIC are revised in Růžička's more recent work (1999) to the effect that particular combinations of the feature <±Intentional Action (±Inact)> replace the reliance on theta roles. That is, *promise* is designated as a verb that requires the combination of <+Intact>^{CON} & <+Intact>^{PRO} or <-Intact>^{CON} & <-Intact>^{PRO}, the same values for both the controller NP and PRO, and object control verbs like *persuade* require <+Intact>^{CON} & <-Intact>^{PRO} or <-Intact>^{CON} & <+Intact>^{PRO}, the opposite values.

¹³ To handle the fact that *promise* and *ask*, even with a passive complement or a pragmatic strengthening, also allow for the non-shifted reading, and that *persuade* in any case does not allow for the comparable shift, Růžička (1999) takes pains to show how pragmatics overrides the requirements of "grammar". But the combination of feature values and the manner in which pragmatic factors come into play remain largely arbitrary.

¹⁴ Here, I have in mind Talmy's (1988) innovative refinement of how to capture the causative meaning in terms of force dynamics.

¹⁵ Among the meanings that my informants inferred for *goop* were "order," "let," and "allow," all of which obviously represent some sort of force dynamic sense and a resultant action that follows it. This result supports the claim made here that the construction has as its inherent, central meaning some "manipulation" made by the NP1 participant to the NP2 participant and the resultant action. See Goldberg (1995: 35-36) for a similar experiment.

¹⁶ The idea that object control is derived from the causative semantics

does not seem to have received much attention but is not entirely new. Van Valin and LaPolla (1997), for example, claim that object control is to be attributed to the causative semantics of the main clause verb. By definition of the semantics of the causative verb, it is the "undergoer" participant of the causal verb, rather than the "actor" participant that carries out the caused event. My analysis of object control basically parallels theirs, but since Van Valin and LaPolla do not take constructional semantics into consideration, their proposal can be thought of as another version of verbal classification. The reason why object control verbs so radically outnumber subject control verbs in this construction and the way that the shift in the choice of controller takes place thus is not treated in a principled manner in their theory.

¹⁷ Since a schema is by definition extracted as the result of repeatedly invoked comparable experiences, the account for the dominance of manipulative verbs by referring to a schema like the one proposed here could be considered to be circular (as the schema itself is the result of the dominance of the comparable verbs in the conceptualizer's experience). I would say, however, that the significance of this usage-based (and connectionist) approach is that it provides a mechanism of how the repeated experiences facilitate the occurrence of comparable experiences and thus restrict the course of our novel experiences. In this sense, I maintain that positing the schema is relevant for the purpose of explaining the strong tendency of using manipulative verbs in this construction type.

¹⁸ The survey reported by Takami (1998a) was conducted by his friend,

Karen Courtenay (Ph.D. in linguistics), who found sentences like *John promised Mary to leave* unacceptable in her dialect. Takami notes, taking into consideration the way the questions were actually worded, that the ratio of those who would accept the sentence to those who would not could be inferred to be "fifty-fifty." He also reports that he found no geographical variation in the acceptability/unacceptability ratio of this sentence type. He further notes that 2 of 52 respondents who reject this sentence type said that it would be acceptable when the complement clause is negated, like *I promised him never to do it again*.

¹⁹ Nakajima (1998) offers a syntactic proposal to account for the varied acceptability of *promise*-sentences, which basically amounts to a defense of the Minimal Distance Principle.

²⁰ Note that we are rather simplifying the whole picture of entrenchment and of categorizing judgments for the purpose of the present discussion. The entrenchment of a given structure is a matter of degree, and it need not be a well-entrenched structure that categorizes a given target structure. Also, categorization judgments are not necessarily black and white. For a detailed discussion see Langacker (1987a, 1991, 1999b).

²¹ One might wonder why a sentence with *promise*, a verb that does not inherently have a meaning of transfer, can be categorized by (in Goldberg's terminology, *fused* with) the ditransitive constructional schema. But if we take into consideration the Causal Chain Hypothesis proposed by Goldberg (1995), this is no mystery at all, because the act of promising can easily be considered as being involved in the causal relationship

of the transfer, the constructional meaning.

²² Goldberg (1995: 32) observes that *Bill promised his son a car* "does not imply ... even that Bill intended to give his son a car." I suppose this observation is affected by the implication of "obligation" inherently imposed on the subject of this verb (see Wierzbicka (1987: 205-207)), and that the sense of intention, though through obligation, is retained in this usage.

²³ Since *promise*-sentences have *to*-infinitives instead of NP, categorization of this usage event by the ditransitive construction may be to some extent strained. However, there is evidence from Japanese that the argument expressed here by an infinitive in fact denotes a nominalized event. Also, Japanese case marking pattern makes it clear that this is a ditransitive sentence. Observe (i) and (ii) below.

(i) Taro-ga Hanako-ni benkyosuru-koto-o yakusokushi-ta.

Taro-Nom Hanako-Dat study-koto-Acc promise-Past

'Taro promised Hanako to study.'

(ii) Taro-ga Hanako-o benkyosuru-yoo-ni settokushi-ta.

Taro-Nom Hanako-Acc study-yoo-ni persuade-Past

'Taro persuaded Hanako to study.'

Note that the first object is dative and the second object is accusative in (i), the obvious ditransitive case-marking pattern in Japanese. This contrasts with the accusative first object in (ii). To mark the first object accusative in (i) would be ungrammatical. Further, the suffix

-*koto*, an event nominalizer used in (i), cannot be used in (ii).

²⁴ As we sketched in 5.1, the idea that *promise*-sentences are related to the ditransitive construction is pursued by Larson (1991) in the generative framework. His proposal is basically to defend the Minimal Distance Principle by referring to the derivation of the ditransitive structure.

²⁵ The characterization of the NP2 participant as the beneficiary (willing recipient) is supported by Wierzbicka's (1987: 206) observation that *promise* implies that the "addressee [coded by NP2] wants the act [coded by the infinitival complement] to take place."

²⁶ Larson (1991) cited this contrast to show that *promise*-sentences are in fact ditransitive. However, this reasoning encounters a problem that verbs like *teach* and *order*, which appear both in ditransitive and caused-motion construction types, and these verbs are object control. As we shall discuss in 5.7.2.

²⁷ Of course, we do not advocate any derivational relationship between the ditransitive and the caused-motion (dative-shift) sentences. Each usage event of each type is categorized by the corresponding constructional schema, and the roughly parallel meaning is the result of the constructional semantics of those schemas. Of course, each with its own constructional schema, these two constructions have distinct semantics. See Langacker (1991: 321-329) and Goldberg (1995).

²⁸ One may wonder, then, why sentences like *John promised Mary to be happy* only allow for the subject control interpretation (for many speakers). Presumably, in such a case, *be happy* is interpreted to be quasi-intentional.

This point is shown by the fact that it may be used in an imperative like *Be happy!* This contrasts with **Be allowed to leave!* and **Be able to leave!*

²⁹ This may be the intuition Sag and Pollard (1991) intends to capture by the mechanism of *coercion*. They maintain that, when the content of the complement clause is a state, rather than an action, it is coerced into causative semantics. Thus, (i) is interpreted roughly along the lines with (ii).

(i) John promised Mary to be allowed to leave.

(ii) John promised Mary [to cause Mary to be allowed to leave].

In this latter interpretation, *promise* remains to be subject control (in that *John* is understood to be the subject of *to cause*, and *Mary* is the controller of *to be allowed to leave* as expected of the causative (thus object control) verb *cause*. See Sag and Pollard (1991) and Pollard and Sag (1995: Ch.7).

³⁰ Also Comrie (1985: 63) observes that the pragmatically natural (shifted) object control is excluded in the sentence *Gladys promised Hubert to experience victory once again*.

³¹ This fact was confirmed with three American English speakers.

³² In this connection, notice that *pledge* and *vow* do not appear in the ditransitive [V+NP+NP] construction and at the same time do not allow for the [V+NP+INF] structure. This observation seems to support the proposed parallelism between the [*promise*+NP+NP] and [*promise*+NP+INF] structures. This point was suggested to me by an anonymous referee of

English Linguistics upon my submission of the draft of Takagi (2001).

³³ This schematic characterization represents only the relevant portion of the semantics of *ask*-sentences. For the NP2 participant to be the volitional agent of the act of transfer is contingent on the request of the NP1 participant. In other words, we could say that the proposed act of transfer exists in the possible world of the NP1 participant's anticipation. Hence, *John asked him a question, but he completely ignored it*, a sentence furnished by an anonymous reviewer of a journal, is possible, even though the NP2 participant's intentionality is denied in actuality.

³⁴ One may wonder if a constructional schema with a specified verb is plausible at all. Langacker (2000) proposes that constructional schemas can be different in level of schematicity. To take his example, *[[send][NP][NP]]* is less schematic than *[[V][NP][NP]]*, but the theory allows for the coexistence of these two. A constructional schema with *ask* specified for the verb is therefore no problem.

³⁵ Of course, one could account for the object control of *ask* by saying that sentences like *John asked Mary to leave* are categorized by the Manipulative Schema. In this line of explanation, however, one would have to take a polysemous analysis of *ask*, whereby the unmarked cases are categorized by the Manipulative Schema and the shifted cases are categorized by the schema outlined in the text.

³⁶ Given the analysis proposed here, one may wonder why it is that sentences like (i) seem to have a more basic status than sentences like (ii), in the sense that even those who reject (ii) accept (i) without

any problem, as a reviewer of a journal pointed out.

(i) John promised to leave

(ii) John promised Mary to leave

To deal with this potential problem, first note that our analysis is not to postulate that (i) is in any way derived from (ii). In our usage-based approach, the ditransitive schema with the missing recipient argument is considered to be stored in a network of constructional schemas (see Langacker (2000)) as a sub-schema of the full ditransitive type, and actual categorization of the usage event in (i) is effected based on that sub-schema. Recall that the categorization of a sentence like (ii) by means of the ditransitive schema is highly strained; it competes with the well entrenched manipulative schema, whose semantic disparity with the ditransitive schema is significant, despite its formal compatibility. Thus, it follows that many speakers reject (ii). On the other hand, if we assume that the categorization of (i) by the aforementioned sub-schema is not strained, as was the categorization of (ii), then the fact that even speakers who reject (ii) accept (i) is not a mystery. Specific characterization of this sub-schema awaits further investigation.

³⁷ Visser's generalization, which rather resembles the pattern of facts discussed in this section, states that passivization is impossible with subject control verbs but is allowed with object control (Visser (1973)).

It is worth pointing out that our framework is not immediately relevant to this particular phenomenon. Interested readers may consult Takami (1998b), who provides a functionally motivated analysis of Visser's generalization.

³⁸ The scale of accessibility marking proposed by Ariel (1990) is as follows. Note the extremely high ranking of the zero form.

zero < reflexives < agreement markers < cliticized pronouns < unstressed pronouns < stressed pronouns < stressed pronouns+gesture < proximal demonstrative (+NP) < distal demonstrative (+NP) < proximal demonstrative (+NP)+modifier < distal demonstrative (+NP)+modifier < first name < last name < short definite description < long definite description < full name < full name+modifier.

³⁹ In the generative tradition, the distribution of PRO (covert NP) and how it selects its controller has been treated separately. The former is dealt with by the "PRO theorem (PRO must be ungoverned), and the latter by the "control theory (minimal distance principle)." Note that our approach takes distribution and interpretation as inherently related with each other; it characterizes the controller distribution as dependent on whether or not it is interpretable as a highly accessible NP form.

⁴⁰ In Kristoffersen's original figure, the arrow to the second NP of the ditransitive subject control construction comes from the third NP of the ditransitive construction above. Since this is obviously incorrect, I connected the second NP of the former construction and the *second* NP in Figure 5-4 here.

CHAPTER SIX

CONCLUSION

We have examined how our usage-based approach, especially the schema-based categorization, can accommodate various linguistic phenomena associated with particular interpretations of modifiers, distributional properties of reflexives, and obligatory coreference of the zero subject. In this final chapter, let us review the main points of our discussions and examine what theoretical implication our approaches bear.

6.1. VB-based Categorization and SOA Modification

Our approach to the occurrence of SOA interpretations in sentences like (1) and (2) below pertains to the way human object recognition in general is effected in the schema-based categorization.

(1) I have a missing tooth.

(2) Kono tosyokan-ni-wa nai hon-ga takusan aru.

this library-at-Top missing books-Nom many present

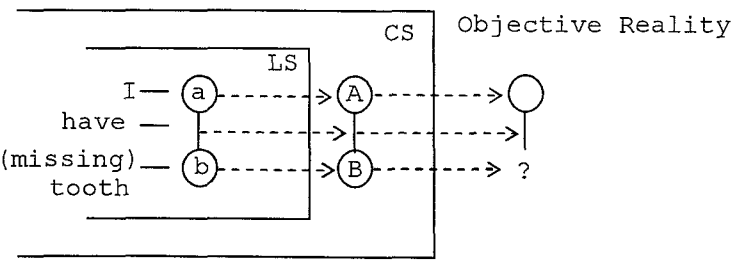
'(Lit.) In this library many missing books are present.'

In other words, the SOA interpretation is not relevant to "linguistic" categorization per se, but with human categorization in general with which we delineate the world.

We showed with evidence that *missing tooth* in (1) and *nai hon* 'missing books' in (2) represent an entity of the 'thing' category, just as does any other nominal expression, though it is an instance of the 'thing' category delineated by VB-based contours.

Given that this much is indeed the case, then that the possessive and existential verbs are felicitously used in (1) and (2) is not problematic at all; this is a usual case of linguistic categorization of the comparable relation. Thus, what gives rise to so-called SOA interpretations in these cases is relevant to the manner of categorization of objective reality by the categorizing structure in the conceptualizer's non-linguistic cognitive system (CS) (concerning object recognition, in this case). As shown in Fig.6-1, categorization by the structure [A-B] make it possible for the speaker to "perceives" an instance of B where it is absent in reality. The linguistic system (LS) then does a usual job and categorizes the relation in CS with an expression *I have a missing tooth*.

Fig.6-1 Levels of Categorization



One question that might have been raised here, however, is what enables the speaker to use the modifier *missing*, while in our analysis he/she actually perceives the VB-based entity. I wrote in note 6 of Chapter Three that the conceptualizer knows that the entity is only subjectively construed, and it is in fact absent from where it is supposed to be in reality. In the visual perception of the illusionary contours in Kanizsa's Triangle (Figure 3-2), the conceptualizer actually perceives the contours while at the same time he/she is aware of the fact that the contours are not present in reality. It seems that the use of the adjective *missing* is made possible by this awareness of the absence in reality.

This argument may remind one of the discussions in Langacker (1999c) about the nature of *virtual reality*. He argues that the conceptual characteristics of sentences like (3) and (4) (cited by Langacker from Talmy (1996)) have both *actual* and *virtual* components.

(3) The mountain range goes from Mexico to Canada.

(4) I sat in the car and watched the scenery rush past me.

For example, in (3), the motion denoted by the verb *go* takes place in the virtual component while the speaker/conceptualizer is aware of the fact that the motion is not present in the actual component.

6.2. Reflexives

While the SOA modification was relevant to the non-linguistic schema-based

categorization of the outside world, distributional properties of reflexives and control facts are relevant to how linguistic schema categorize the conceptual structures (the LS→CS categorization in Figure 6-1 above).

In Chapter Four, we showed the reflexive schema is sensitive to the kind of the target relation in the conceptual structure, in addition to the identity of the participants of the relation. Given the CG distinction of subjective and objective conceptualization, our argument centered upon spelling out how languages could accommodate the heterogeneity on the part of the target structures.

Our proposal in Chapter Four is that English *self*-reflexives stick to the objective relation and are elastic enough to categorize a subjective relation when no objective relation is available. On the other hand, Chinese and Japanese have each different strategy; morphologically distinct reflexive schemas are employed depending on the kind of the target relation. It was also shown that the distributional facts of each reflexive form are derived from these individual properties of reflexive schemas.

6.3. On Control and Constructional Schemas

Our construction-based discussion on control facts in Chapter Five was in a sense a case study of how one schema is chosen out of many for the purpose of categorizing a given target structure. We showed that a pattern of assembly of symbolic units (i.e. a constructional schema) serves as a full-fledged categorizing structure, and that the observed semantic characterizations of constructional schemas provide adequate explanation

of the control facts.

Object control cases were straightforwardly captured by the action-chan-based categorizing structure (manipulative schema), and the subject control cases followed from the properties of the ditransitive constructional schema.

One theoretically interesting point here is the cause of the sharply split acceptability status of the subject control *promise*-sentence. We contended that this is the result of the competition of constructional schemas. Our proposal was that those who reject this sentence type do so because they stick to the manipulative constructional schema. The *promise*-sentence is ruled out because of the semantic mismatch. Those who accept this sentence type do so because they can activate the ditransitive schema that can categorize the target structure.

This argument supports the view of categorization advanced in CG, especially in Langacker (2000b), where how one categorizing structure is chosen out of potential categorizing structures is stressed. To say that a linguistic expression is ill formed because of the mismatch between it and the categorizing structure (schema) presupposes a judgment based on one chosen categorizing structure. Therefore, it follows that a target structure rejected by one categorizing structure could be salvaged when judged based on another categorizing structure, if it turned out to be compatible with the target structure. We hope to have shown that this is exactly what is going on in the split acceptability status of *promise*-sentences.

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