

Syntax, Semantics, and Pragmatics of TE-Linkage in Japanese

by

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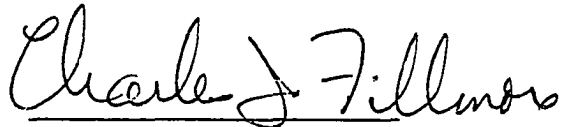
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Abstract

This thesis attempts to describe, and to some extent account for, the syntactic, semantic, and pragmatic properties of a diverse set of constructions in Japanese in which the verbal suffix TE appears as a linking device. TE is the most frequent and the most versatile connective in Japanese, for it can link constituents at three different juncture levels. Because the semantic relations which can obtain between the conjuncts are heterogeneous, the prevailing view is that TE-linkage is a purely syntactic device without any semantic content, and that the interpreter must infer the intended semantic relation on the basis of extralinguistic knowledge. However, close examination of TE-linkage reveals clear correlations between its syntax and semantics, with the semantics in large part determined by the syntactic type of the conjuncts and the nexus type of the linkage. Such correlations have been obscured in previous studies because they did not investigate TE-constructions as pairings of form and meaning. Although TE-constructions can theoretically be ambiguous as to which units are conjoined, actual ambiguities rarely emerge because native listeners, when encountering a TE-construction, can detect subtle cues for identifying which type of juncture is intended by the speaker. In this thesis such cues are discussed, among them phonological phrasing, argument structure, scope of potential operators, and agentivity of the predicates. It is demonstrated that although the possible semantic relations between the conjuncts are inferrable from the meaning of the conjuncts themselves, the grammar must state all such TE-compatible relations as part of the meaning of TE-linkage, for two reasons. First, conjuncts typically hold multiple possibilities of semantic relation. These possibilities are narrowed down, and possibly reduced to a single option, when they appear in a TE-construction. Even analysts who

consider such semantic relations to be implicatures find it necessary to state which particular implicature is borne out in the TE-linkage. Second, while one may accurately *interpret* sentences without knowing the semantics of TE-linkage, one still could not *use* TE correctly without such knowledge because of its idiosyncratic constraints.

A handwritten signature in cursive script that reads "Charles J. Fillmore". The signature is written in black ink and is positioned above a thin horizontal line.

Charles J. Fillmore, Chair

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NOTES ON TRANSCRIPTIONS

I utilize phonemic transcription, which is similar to the *kunree-siki* Romanization, for Japanese words as linguistic objects or linguistic terms. Author names, titles of books and articles, and publisher names are provided in the Hepburn system, which is closer to phonetic transcription. Some differences between these two systems of Romanization are as follows (the first item in each pair is in the phonemic system, and the second in the Hepburn system): *hulfu*, *tilchi*, *tultsu*, *silshi*, *zilji*, *tyalcha*, *syalsha*, *zyalja*, and so forth. In some foreign loan words, /t/ is not palatalized: '[t]' is used to indicate such an alveolo-dental plosive.

The label in square brackets following many of the examples indicates the abbreviated name of the text from which the sentence is drawn. Some sentences have been slightly modified to clarify the point under discussion.

Tensee-Jingo 'Vox Populi, Vox Dei' articles, a series of essays appearing in *Asahi Shinbun* (Asahi Newspaper) were translated by the Asahi Evening News. When the original translation obscures the issue at hand, I have added a more literal translation. *Tensee-Jingo* is abbreviated as *TJ* in the following list of texts.

The symbol * is used only when the anomaly of the sentence is clearly due to some syntactic constraint; # is used otherwise.

LIST OF TEXTS

Ame: Ame no megumi (Indispensable rain), TJ 6/21/83.

Amerika: Shiba, Ryotaroo. 1986. *Amerika sobyoo* (Sketches of America). Tokyo: Yomiuri Shinbun.

Beni-san: Beni-san kikin (Mother of the forest), TJ 5/16/83.

Boran[t]jia: Kokusai boran[t]jia no chichi (Father of international volunteers), TJ 5/9/83.

Hakubutsukan: Rekishi minzoku hakubutsukan 'Historical ethnology museum', TJ 4/18/83.

Hogochoo: Hogochoo no unmee 'Ibises and albatrosses', TJ 4/15/83.

Izu: Izu no haru 'Spring walk', TJ 4/13/83.

Kiken: Kiken 43% '43% abstention rate', TJ 6/28/83.

Meegaramai: Meegaramai shinkoo 'How to cook tasty rice', TJ 5/28/83.

Nisshoku: Kaiki nisshoku 'Total solar eclipse', TJ 6/12/83.

Rika: *Chuugakkoo rika*, 1-Bunya Joo 'High-school science, subject 1, volume 1'. Tokyo: Gakkoo-Tosho.

Tsushimamaru: Sokaisen tsushimamaru 'The tsushima maru case', TJ 6/23/83.

ABBREVIATIONS

ABL	Ablative	PERIPH	Periphery
ACC	Accusative	PFV	Perfective
ADV	Adverb	POL	Polite Form
ALL	Allative	POT	Potential
ARG	Argument	PP	Prepositional Phrase
ASP	Aspect	PRED	Predicate
CAUS	Causative	PROV	Provisional
COM	Comitative	PRT	Particle
CMPL	Complementizer	PST	Past Tense
CONJ	Conjunction	Q	Interrogative
COP	Copula	QUOT	Quotative
CS	Connective Suffix	STAT	Status
DAT	Dative	TNS	Tense
DES	Desiderative	TOP	Topic
DIR	Directional		
EVID	Evidential		
GEN	Genitive		
HON	Honorific		
HORT	Hortative		
IF	Illocutionary Force		
IMP	Imperative		
LDP	Left Detached Position		
LOC	Locative		
LS	Logical Structure		
MOD	Modal		
NEG	Negative		
NMLZ	Nominalizer		
NOM	Nominative		
NP	Noun Phrase		
NPST	Nonpast Tense		
NUC	Nucleus		
PASS	Passive		
PCS	Precore Slot		

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CHAPTER 1

INTRODUCTION

1.1. OBJECTIVES AND OUTLINE OF THE THESIS

This thesis investigates the syntactic, semantic, and pragmatic properties of the diverse sets of constructions in Japanese in which the verbal suffix *-te* appears as a linking device. Henceforth, the suffix itself will be represented as *TE*, and the constructions will be referred to as *TE-constructions* or, collectively, as *TE-linkage*. A detailed analysis of *TE-linkage* is of special significance to linguistic theory because it inevitably involves a search for an adequate descriptive framework for representing various properties of connectives in general, which are inherently relational linguistic objects.

A minimum requirement for such a framework is the provision of sufficient vocabulary and concepts to describe the following concerns:

- A. Grammatical categories of the linked constituents: e.g. verb-verb, clause-clause, noun-clause, verb-clause.
- B. Syntactic relationship obtaining between the linked constituents: e.g. coordination, subordination.
- C. Presence or absence of obligatory control: e.g. identity of subject between the linked constituents.
- D. Presence or absence of dependency between the linked constituents regarding grammatical operators: e.g. negation, tense, mood.
- E. Semantic constraints, if any, on the linked constituents: e.g. agentivity, telicity, negative/positive polarity.
- F. Potential semantic relations expressed by the linkage: e.g. cause-effect, means-end, conditional, concessive.
- G. Relationships, if any, between syntactic and semantic structures associated with a particular linkage.

The theoretical framework employed in this thesis is a hybrid of Role and Reference Grammar (Van Valin and Foley 1980, Foley and Van Valin 1984, Van Valin 1990, 1992, *inter alia*) and Construction Grammar (Fillmore 1986b, 1988, G. Lakoff 1987, Brugman 1988, Fillmore et al. 1988, *inter alia*).

The organization of the thesis is as follows. In the balance of Chapter 1, first the morphological characteristics of TE and the conventional taxonomy of TE-constructions are provided. Then, the problems of the traditional coordination-subordination dichotomy are taken up. Because TE-linkage exhibits essential properties of both coordination and subordination, a third category, cosubordination, is introduced. Finally, the issue of how the meaning of connectives should be captured in linguistic descriptions is discussed. It is argued that (i) even though most semantic relations between TE-linked constituents are inferrable from the meaning of the constituents, they are nevertheless semantic properties of the TE-linkage itself; (ii) the notion of *grammatical construction*, i.e. a pairing of a syntactic pattern with a meaning structure, is needed for an adequate description of TE-linkage because some constraints on the conjuncts are applicable neither to the syntactic structure of the TE-linkage nor to the semantic relation between the constituents, but to the pairing of the two.

Chapter 2 presents a synopsis of Role and Reference Grammar with special focus on its application to the facts of Japanese linking structures. It introduces such notions as the layered structure of the clause, i.e. nucleus, core, and clause (§2.2), focus structures (§2.3), operators (§2.4), juncture and nexus (§2.5), linkage types (§2.6), and the lexical representation of verbals (§2.7).

Chapters 3 to 6 are devoted to detailed analysis of TE-constructions. Chapters 3 and 4 deal with TE-linkage at the nuclear level, Chapter 5 at the core level, and Chapter 6 at the clause level. Concluding remarks follow in Chapter 7.

1.2. MORPHOSYNTACTIC CHARACTERISTICS OF TE-LINKAGE

1.2.1. Verbal Suffix TE

TE is attached to the stem of a verb or adjective, making it and its grammatical dependents part of a complex construction. When TE is added, the resultant ‘Verbal + TE’ is sometimes referred to as *gerund* (Bloch 1946), *gerundive* (Kuno 1973), *past participle* (Teramura 1969), or TE-form (most textbooks of Japanese). Although ‘Verbal + TE’

exhibits some similarities with the gerund in Indo-European and other languages, e.g. Archi (Northeast Caucasian, Kibrik 1988), it cannot, in principle, function as a nominal, and some occurrences of TE function more like the English conjunction *and*. I adhere to the traditional analysis of TE as a connective suffix in this thesis.

As with the past-tense/perfective suffix *-ta*, TE participates in a number of morpho-phonemic processes that depend on the final consonant of a consonant-final verb stem.¹ For example, *aw-* ‘meet’ + TE > *atte*, *kaer-* ‘go home’ + TE > *kaette*, *tat-* ‘stand’ + TE > *tatte*, and *kak-* ‘write’ + TE > *kaite*. When the verb stem ends in a voiced obstruent, TE is voiced, e.g. *yob-* ‘call’ + TE > *yonde*, and *oyog-* ‘swim’ + TE > *oyoide*.

In Classical Japanese, TE was attached to the *ren’yoo form* (a nonfinite inflectional form) of a verbal. (The apostrophe in *ren’yoo* indicates a syllable break.) Bloch (1946) translates the term *ren’yoo form* as *infinitive*, Teramura (1969) as *present participle*, and Kuno (1973) as *continuative*. I will use the term *ren’yoo form* to avoid conceivable confusion due to the variety of translations. In some poetic expressions, TE still follows the verb *ren’yoo form* without this phonological integration, e.g. *ikite kaerazu* ‘be gone and will never return’ and *kage o sitaite* ‘yearning for your shadow’. (*ik-* ‘go’ + TE and *sitaw-* ‘yearn’ + TE are realized in Modern Japanese as *itte* and *sitatte*, respectively.)

The copula + TE is realized as *de*, which is identical with its *ren’yoo form*. In Classical Japanese, the *ren’yoo form* of the copula was *ni*: thus *sizuka* ‘quiet (adjectival noun)’ + *ni* ‘be (*ren’yoo*)’ + TE was *sizuka nite*. The same phrase is realized as *sizuka de* in Modern Japanese.

Historically, TE originated from the *ren’yoo form* of the auxiliary verb *tu*, which marked perfective aspect (Yamada 1954).² *Tu* is obsolete in Modern Japanese, however.

¹ In Japanese, verb stems end either in a consonant or a vowel. Vowel-final stems do not undergo such morphophonemic processes.

² This analysis has been widely accepted by many, but not all, Japanese linguists. According to Matsuo (1936), TE has been a connective particle from the very beginning.

1.2.2. Conventional Categorization of TE-Constructions

Traditionally, TE-constructions have been divided into three categories according to the function of TE: (i) that of a non-productive derivational suffix, e.g. (1a); (ii) that of linking a main with a so-called auxiliary to form a complex predicate,³ e.g. (1b); and (iii) that of linking two phrases/clauses, e.g. (1c).

- (1) a. korera no samazama-na gensyoo o siite hitotu no
 these GEN various phenomena ACC boldly (force-TE) one GEN
 gensyoo to site mitai. [Amerika]
 phenomenon QUOT do-TE want-to-consider
 'I dare consider these various phenomena as a single phenomenon.'
- b. nihon-sya ga ippai hasitte iru. [Amerika]
 Japanese-car NOM many run-TE be-NPST
 Lit. 'Many Japanese cars are running.'
 'There are Japanese cars everywhere.'
- c. mina kawaki to nemuke ni taete same no oyogu
 everyone thirst and sleepiness DAT endure-TE shark GEN swim
 araumi o hyooryuu sita. [Tsushimamaru]
 rough-sea ACC drifted
 'Enduring thirst and sleeplessness, they drifted on the rough seas where sharks
 were sometimes spotted.'

In the first category, TE functions as a derivational suffix, forming an adverb from a verb. *Siite* in (1a) could be analyzed as *sii-* 'force' + TE; however, *siite* in this usage does not have its own valence, i.e., it lacks a subject or object, and generally verbs in this category lose part of their verbal nature when TE is attached. Furthermore, the meaning of a derived adverbial is not always predictable from the meaning of the base verb. Therefore, *siite* 'boldly/dare (do something)' as expressed here must be listed as such in the lexicon.⁴ (If *siite* takes overt or covert arguments, on the other hand, it belongs to the

³ In classical Transformational Grammar (e.g. Smith 1970, Nakau 1973, Inoue 1974), as well as in many current syntactic theories (e.g. McCawley and Momoi 1986, Lee 1989, Sells 1990, Matsumoto 1990b), the second verb is considered to be the main verb which takes a sentential/VP complement.

⁴ Other examples of this type are: *aratame-* 'renovate' + TE > *aratamete* 'on another occasion', *hatas-* 'accomplish' + TE > *hatasite* 'really', *hazime-* 'begin' + TE > *hazimete*

second or third category.) Because the semantic import of the derivational process associated with TE is irregular and non-productive, and in particular since TE does not function as a connective as such, this first category will not be considered further in the present study.

In the second category, exemplified by (1b), the verb preceding TE is the main predicate of the clause, and the verb or adjective which follows TE is a so-called auxiliary.⁵ For example, 'Verb-TE *i-*' in (1b) is the grammatical means for expressing progressive (imperfective) aspect. The semantic relations between the linked constituents in the second category are relatively fixed, compared with the third category, and are determined in large part by the second constituent. Syntactically, on the other hand, some TE-constructions in this category raise serious questions. For example, when *ar-* 'be (located)' is the second constituent, the construction as a whole becomes intransitive even if the 'main verb' is transitive. The current trend in syntactic theories is to treat such grammatical-function-changing processes as lexical, i.e. to consider 'Verb-TE *ar-*' as a lexical unit. However, there is no syntactic evidence to support such an analysis (cf. §3.5).

The semantic relations between the linked constituents in the third category are so diverse that no single one can be considered central. In (1c), the first clause holds a CIRCUMSTANCE relation to the second, but many other relations may also be expressed by TE-linked constituents, e.g. ADDITIVE, TEMPORAL SEQUENCE (SEQUENCE for short),⁶ CAUSE-EFFECT (CAUSE for short), MEANS-END (MEANS for short), CONTRAST, and

'for the first time', *itar-* 'reach' + TE > *itatte* 'extremely', *kiwame-* 'go to the end' + TE > *kiwamete* 'to a high degree', and *sitagaw-* 'follow' + TE > *sitagatte* 'therefore'.

Some lexical items in this category may have a partial valence, appearing with an NP other than the subject or object. In such a case, they form an adverbial phrase: e.g. NP *ni totte* 'for NP', NP *ni yotte* 'by NP', and NP *to site* 'as NP', which appears in (1a).

⁵ There are more than ten such 'auxiliary' verbs that may appear as the second constituent in this second category of TE-constructions: the exact number varies according to the analyst.

⁶ In Chapter 6, I will argue that SEQUENCE per se cannot be expressed by TE-linkage.

CONCESSION. These relations are provided here solely for purposes of exposition: whether or not all such relations need be posited in the description of TE-linkage is a separate issue.

(2) a. ADDITIVE

kono utyuu no soodai na sungeki wa setunakute sinpiteki
 this universe GEN grand drama TOP be-oppressive-TE mysterious

da. [Nisshoku]

COP-NPST

'This grand drama of the universe [eclipse] is oppressive and mysterious.'

b. SEQUENCE

hurasuko ni kitai o irete, hutatabi omosa o hakaru. [Rika]
 flask to gas ACC put-TE again weight ACC measure

'Put the gas into the flask and weigh (it) again.'

c. CAUSE

tomodati o izimete sensee ni sikarareta. (Endo 1982)

friend ACC bother-TE teacher DAT scold-PASS-PST

'(I) was scolded by the teacher because (I) bothered (my) friend.'

d. MEANS

hi ni kazasite mizu o zyohatu saseru. [Rika]
 frame LOC hold-up-TE water ACC evaporate

'By holding (it [the spoon]) over the frame, evaporate the water.'

e. CONTRAST

nihonkai-gawa wa yuki ga hutte ite, taiheeyoo-gawa wa
 Japan-Sea-coast TOP snow NOM is-falling-TE Pacific-coast TOP

harete imasu. (Morita 1980)

is-clear(POL)

'It's snowing on the Japan Sea coast, but it's clear on the Pacific coast.'

f. CONCESSION

kare wa sono koto o sitte ite iwanai. (Morita 1980)

he TOP that matter ACC know-TE say-NEG-NPST

'Although he knows the subject matter, (he) won't say it.'

The prevailing view is that, because of this diversity in semantic relations, TE-linkage has no meaning of its own, and that the interpreter must infer the intended semantic relation based on extralinguistic knowledge (Alfonso 1966, Endo 1982, Gray 1983, inter

alia). The validity of this claim will be discussed in §1.3. We now turn to the issue of representation of the syntactic relationship obtaining between the TE-linked constituents.

1.2.3. Coordination-Subordination Dichotomy

1.2.3.1. Definitions

Generally, the traditional coordination-subordination dichotomy is utilized to characterize multi-clausal/phrasal sentences. Bloomfield (1933:194) defines a coordinative construction formed with *and* as one type of endocentric construction, in which 'the resultant phrase belongs to the same form-class as two or more of the constituents.' His definition of *form-class* is 'All forms which can fill a given position thereby constitute a *form-class*' (ibid. 185), and elsewhere 'All forms having the same functions constitute a *form-class*' (ibid. 159). *Function* is defined in these terms: 'The positions in which a form can appear are its *functions* or, collectively, its *function*' (ibid. 185).

Dik (1968) criticizes Bloomfield for inconsistency, providing the following examples: *I want to emphasize this and also that you should never forget what your father told you* (coordination of a pronoun and a complement clause); and *He felt quite happy and at ease in his new surroundings* (coordination of an adjective and a prepositional phrase) (ibid. 28).⁷ According to Bloomfield's definitions, these sentences lead to the startling conclusion that pronouns and complement clauses must belong to the same form-class, and likewise adjectives and prepositional phrases. However, these pairs of linguistic objects do not in general appear in the same positions in most sentences. Thus, if the Bloomfieldian conception is employed, form-classes are defined relative to sentences or sentence-types — which is an untenable consequence.

⁷ Charles Fillmore (p.c.) has pointed out that *at ease* in the second example is only superficially a prepositional phrase: it has the internal syntax of a PP but the external syntax of an adjective. As with adjectives, *at ease* can collocate with the degree adverb *quite*.

Dik contends that the conception of *function* as a purely distributional notion must therefore be abandoned. He defines coordination as linkage of two or more constituents which are equivalent in *grammatical function*, e.g. subject, object, and predicative/attributive modifier. To define *grammatical function*, he subscribes to Longacre (1965:65), who states, 'By function is meant the particular office or role of one distinguishable part of a construction type in relation to other parts of the same construction.'

Quirk et al. (1985), who employ the Bloomfieldian definition for coordination, define subordination as embedding with or without a subordinating conjunction. Lyons (1968:178), on the other hand, utilizes the notion of grammatical dependency. 'Complex sentences are divided into: (a) those in which the constituent clauses are grammatically *co-ordinate*, no one being dependent on the others, but all being, as it were, added together in sequence ... and (b) those in which one of the clauses (the "main clause") is "modified" by one or more *subordinate* clauses grammatically dependent upon it ...'

1.2.3.2. Problems

As has been pointed out in recent linguistic literature (Hairman and Thompson 1984, Van Valin 1984, Roberts 1988, inter alia), the coordination-subordination dichotomy is inadequate for cross-linguistic investigations. In the case of TE-linkage, for instance, sentences exhibit characteristics of both coordination and subordination.⁸ Semantically,

⁸ Talmy (1978b) claims that Japanese has no genuine coordinate constructions whatsoever. While his arguments require further scrutiny, the claim itself is valid in the sense that no connective is synonymous to the conjunction *and*, which is the most general device for coordination. Even those which are traditionally categorized as coordination conjunctions, e.g. *si* 'and', are heavily loaded semantically and pragmatically, and thus subject to various semantic/pragmatic constraints.

Having examined 3,330 multi-predicate sentences sampled from various types of text, Saeki (1975:81) ranks *si* 12th in frequency, with only nine of 1,047 total occurrences of connectives. Inoue (1983:128-30) reports that the frequency of *si* is 6.4% in speech and less than 2% in writing.

sentence (3) appears to be of prototypical coordination. But the predicate of the first conjunct is nonfinite, and the second finite. Syntactically, the construction is thus neither distributionally nor functionally in coordination.

- (3) maki wa asita oosaka e itte hiro wa asatte
 TOP tomorrow ALL go-TE TOP day-after-tomorrow
 oosaka kara kaette kuru.
 ABL return-TE come
 'Maki will go to Osaka tomorrow, and Hiro will return from Osaka the day after.'

However, other than the nonfinite first conjunct, there are no grounds for claiming a subordinate relationship in (3). Semantically, the first conjunct does not modify or complement the second in any way.

Such a discrepancy between syntax and semantics is also found in the Latin ablative absolute, as discussed by R. Lakoff (1984:488-9):

- (4) Caesar, acceptis litteris, nuntium mittit.
 'Caesar, the letter having been received, sends a messenger.'

She considers parataxis and hypotaxis to form a continuum along which there are four major levels (ibid. 487-8):

- A. Pure parataxis, or side-by-side sentences, with nothing explicitly present to indicate any relationship between them. E.g. *The baby cried. The mommy picked it up.*
- B. Mixed type, with the ideas of relatedness expressed via coordinating conjunction. E.g. *The baby cried, and the mommy picked it up.* Type B differs from type A: while B does not explicitly state the nature of the relationship between the two conjuncts, it does make explicit its existence, as type A does not.
- C. Near-hypotaxis, in which one idea, or clause, is subordinated to the other: not only is the relationship of one idea to the other made explicit, but also the exact semantic nature of that relationship, e.g. temporal sequentiality, cause, and condition. E.g. *The baby cried before the mommy picked it up; When the baby cried, the mommy picked it up.* The two clauses, or idea-units, are still syntactically autonomous.
- D. Pure hypotaxis, in which the subordinated clause loses its full sentential identity. Both syntactically and semantically, the relationship between the two original ideas is one of subordination. E.g. *After crying, the baby was picked up by the mommy.*

Lakoff implies that, in general, the closer the encoding strategy to the pure hypo-

taxis end, the more explicit the semantic relation between the clauses.⁹ But languages may prefer some strategies over others. The ablative absolute of Latin, a language which especially favors subordinate syntax, appears to her 'perverse in that it subordinates, but to no semantic end: it provides no indication ... of exactly what the relationship between the clauses is supposed to be. This must be supplied by the reader from context. In meaning, the ablative absolute is equivalent to a coordinating conjunction' (ibid. 488). For the same reason, some types of Japanese TE-construction are perceived semantically as coordination.

1.2.3.3. Coordination-Subordination Continuum

Kuno (1973, §17) proposes that the coordination-subordination dichotomy should be replaced by a continuum. Having applied several syntactic tests to multi-clausal sentences in Japanese with six different connective constructions (TE, *ren'yoo*, *toki* 'when', *node* 'because', *to* 'upon V-ing', and *si* 'and'), he claims that they show different 'degrees' of subordination.¹⁰ His observations are summarized in the following. (The first verb is represented as V1, and the second as V2: C1 and C2 represent the first and the second clause, respectively.)

- A. Only with TE, *ren'yoo*, and *toki*, can V1 be in the scope of sentence-final interrogative *ka*.
- B. Only with TE, *ren'yoo*, and *toki*, can V1 be in the scope of sentence-final negative *na*-.
- C. Only with TE, *ren'yoo*, and *toki*, can V1 be in the scope of sentence-final modal *yoo to s*- 'be about to'.

⁹ Orin Gensler has pointed out to me that while the generalization is valid across categories A to C, the semantic relations in D need not be more explicit than those in C. Rather, the contrary can be more frequently observed.

¹⁰ Prior to Kuno, Minami (1964) had proposed a similar analysis in the framework of traditional Japanese grammar, *kokugo-gaku*. For a brief survey of *kokugo-gaku* analyses of clause linkage, see Shinzato (1981).

- D. Only with TE, ren'yoo, *toki*, *node*, and possibly *to*, can an element in C2 be preposed to the left of V1.¹¹
- E. With *toki*, *node*, and *to*, the so-called zero pronoun (\emptyset) in C2 need not be coreferential with the subject of C1, whereas \emptyset must be coreferential with the subject of C1 with TE, ren'yoo, and *si*.

When the subject of C2 is overtly present, Kuno contends, TE, ren'yoo, and *si* mark coordination, and thus E is irrelevant.

From observations A through E, Kuno concludes that TE and ren'yoo are the tightest subordination connectives; yet when they conjoin clauses with different subjects, they signal coordination, which is at the loosest extreme on his continuum.

	Subordination				Coordination
	tight←			→loose	
	TE V-ren'yoo	<i>toki</i>	<i>node</i>	<i>to</i>	TE, <i>si</i> V-ren'yoo
Is V1 in the scope of <i>ka</i> ?	Yes	Yes	No	No	No
Is V1 in the scope of <i>na</i> -?	Yes	Yes	No	No	No
Is V1 in the scope of <i>yoo to s</i> -?	Yes	Yes	No	No	No
Can an element in C2 be preposed?	Yes	Yes	Yes	Yes?	No
Can \emptyset have disjoint ref.?	No	Yes	Yes	Yes	NA

Table 1: Kuno's Subordination-Coordination Continuum

Kuno's data, however, do not support his claim that these connective constructions form a *continuum*. Rather, they suggest that there are more categories than traditional coordination and subordination. Furthermore, it is peculiar that TE and ren'yoo should

¹¹ Kuno mentions that when ren'yoo denotes two *independent* actions, rather than two *successive* actions, no elements in C2 can be preposed to the left of V1.

be used to signal only the two extremes on the continuum. This peculiarity also suggests that Kuno's single-dimensional continuum along the line of coordination-subordination is inadequate to represent the full diversity of TE-constructions.

1.2.3.4. Seven Parameters

Haiman and Thompson (1984) propose that subordination as a grammatical category should be abandoned *in toto* because it does not refer to a single phenomenon. Subordinate clauses are merely non-main clauses, but the main clause as a grammatical notion is also not well defined. They contend that there are at least seven independent formal properties which are usually associated with the main-subordinate distinction.

- A. Identity between the two clauses in subject, tense, or mood, e.g. *Leaving her family behind, she fled.*
- B. Reduction of one of the clauses resulting from ellipsis or neutralization of some categorial opposition, e.g. *I recommended submitting the proposal* (the opposition of tense in *submitting* is lost.)
- C. Grammatically signaled incorporation of one of the clauses, e.g. relative clauses.
- D. Intonational linking of the two clauses.
- E. One clause within the scope of the other, cf.
 What did she run out of the room hollering?
 *What did George cook enchiladas although Sally can't eat?
- F. Absence of time iconicity between the two clauses, e.g. *To buy provisions, they took me into the market.*
- G. Identity of speech act perspective between the two clauses; i.e., in the case of direct speech, the speaker is presenting two different points of view, his/her own and that of the person being quoted, while in the case of indirect speech, only the speaker's point of view is presented.

They suggest that instead of assuming a coordination-subordination dichotomy, the analyst must determine which parameters are relevant to describing the relationship between the conjuncts under investigation.

Properties A, B, D, E, F are relevant to an analysis of TE-constructions. Identity of subject is not obligatory in some constructions, e.g. (5a), but it is obligatory in others, e.g. (5b).

- (5) a. maki wa kinoo oosaka e itte hiro wa asita oosaka kara
 TOP yesterday ALL go-TE TOP tomorrow ABL
 kaette kuru.
 return-TE come
 'Maki went to Osaka yesterday, and Hiro will return from Osaka tomorrow.'
- b. renga o tukatte ie o tateru.
 brick ACC use-TE house ACC build
 '(I) will build a house using bricks.'

With regard to tense, because the first conjunct is nonfinite, its tense might appear to be identical with that of the second. In fact, though, in some TE-constructions the tenses need not be identical, e.g. (5a), whereas in others it must be, e.g. (5b).

Identity of mood also varies according to the type of TE-construction, as shown in (6).

- (6) a. maki wa kinoo oosaka e itte hiro wa asita oosaka kara
 TOP yesterday ALL go-TE TOP tomorrow ABL
 kaette kuru soo da.
 return-TE come EVID COP-NPST
 'I heard that Maki went to Osaka yesterday, and that Hiro will return from
 Osaka tomorrow.'
 ?'Maki went to Osaka yesterday, and I heard that Hiro will return from Osaka
 tomorrow.'
- b. maki ga sinde hahaoya wa hokenkin o seekyuu suru
 NOM die-TE mother TOP insurance-money ACC claim do
 soo da.
 EVID COP-NPST
 'Maki died, and I heard that (her) mother will claim the insurance money.'
 ?'I heard that Maki died and that (her) mother will claim the insurance money.'
- c. renga o tukatte ie o tateru soo da.
 brick ACC use-TE house ACC build EVID COP-NPST
 '(S/he) will build a house using bricks.'
 NOT: '(S/he) will use bricks, and I heard that (s/he) will build a house.'

Intonational contour is not uniform across the various types of TE-construction: the distinction between the syntactic and semantic properties of the following sentences is made according to the presence or absence of a demarcative low tone around the onset of

/i/ in *simatta* — which is represented by a comma. *Simaw-* functions as a main predicate in (7a), whereas it functions as an auxiliary in (7b), indicating the speaker's regret.

- (7) a. *hen na hon o yonde, simatta.*
 obscene book ACC read-TE put-away-PST
 '(I) read an obscene book and put (it) away.'
- b. *hen na hon o yonde simatta.*
 obscene book ACC read-TE put-away-PST
 '(I)'ve read an obscene book (to my regret).'

As for property E (i.e. One clause within the scope of the other), the scope varies according to the semantic relationship intended between the conjuncts.

- (8) a. #*dare ga oosaka e itte hiro ga kyooto e itta -n*
 who NOM ALL go-TE NOM ALL went NMLZ
desu ka.
 COP-NPST Q
 'Who went to Osaka, and Hiro went to Kyoto?' (Intended)
- b. #*hiro ga oosaka e itte dare ga kyooto e itta -n*
 NOM ALL go-TE who NOM ALL went NMLZ
desu ka.
 COP-NPST Q
 'Hiro went to Osaka, and who went to Kyoto?' (Intended)
- c. *dare ga kite, paa[t]ii ga dainasi ni natta -n desu ka.*
 who NOM come-TE party NOM became-ruined NMLZ COP-NPST Q
 Lit. 'Who came, and the party became ruined?'
 NOT 'Who came, and did the party get ruined?'
- d. *hiro ga kite, nani ga dainasi ni natta -n desu ka.*
 NOM come-TE what NOM became-ruined NMLZ COP-NPST Q
 Lit. 'Hiro came, and what got ruined?'

If a CAUSE relation can be inferred between the two clauses, e.g. (8c,d), querying a constituent in either clause is acceptable. If nothing other than an ADDITIVE relation can be inferred, e.g. (8a,b), the constraint which is compatible with the so-called Coordinate Structure Constraint (Ross 1967) applies.¹²

¹² For the semantic/pragmatic nature of the Coordinate Structure Constraint, see

writing, e.g. 'R. Lakoff implies that, in general, the closer the encoding strategy to the pure hypotaxis end, the more explicit the semantic relation between the clauses. But languages may prefer some strategies over others.' By contrast, if *because*-clauses as in 'Because the first conjunct is nonfinite, its tense might appear to be identical with that of the second' are uttered in isolation, they are necessarily considered to be telegraphic speech.

The second component of the coordination-subordination distinction is that 'in subordination one of the clauses functions as a part of another, whereas in coordination each clause is complete and distinct from all others. In other words, subordination involves embedding, while coordination involves the joining of autonomous whole clauses' (ibid.). Based on these two parameters, four possibilities emerge.

- A. [-dependent, -embedded]
- B. [-dependent, +embedded]
- C. [+dependent, -embedded]
- D. [+dependent, +embedded]

Type A designates coordination, and D subordination. Van Valin (1984) lists some candidates for type B: parentheticals, direct discourse complements, and syntactic amalgams (G. Lakoff 1976). Type C is referred to as *cosubordination*,¹⁴ a term originally proposed by Olson (1981) for the analysis of Barai, a Papuan language. Cosubordination is widespread in the world's languages, e.g. Choctaw and Tonkawa (Muskogean: Oklahoma), Jacaltec (Mayan: Guatemala), and Swahili.

There are two kinds of dependency: *operator dependency* and *distributional dependency*. In the former, the clause cannot stand as a complete sentence because it depends on another clause for operators which are part of its interpretation, as in the first half of 'Depending on another for operators, the clause cannot occur by itself'. In the latter, the

¹⁴ This is a somewhat unusual term, suggesting that two or more constituents are jointly subordinate to another constituent. However, for want of a better term, I will maintain *cosubordination* to refer to a dependent yet non-embedded constituent.

clause cannot stand alone even though it depends on no other clauses for operators, e.g. the *because*-clause above.¹⁵

Some TE-constructions are properly categorized as in cosubordination: there is operator dependency, but no embedding. This coordination-subordination-cosubordination trichotomy is further developed in the theory of Role and Reference Grammar, which is adopted in this thesis in order to represent syntactic properties of TE-constructions. Combined with three juncture types, this trichotomy can accommodate most of the parameters proposed by Haiman and Thompson. A synopsis of the theory is provided in Chapter 2.

1.3. MEANING OF CONNECTIVES

Most, if not all, linguistic expressions are semantically underspecified, but potential ambiguities rarely emerge if an expression is embedded in a larger context — for example, if a word appears in a sentence and the sentence is uttered/written in discourse. In other words, the word and the intrasentential, intersentential, and/or extrasentential context contribute jointly to the final interpretation.¹⁶

Although TE-linkage exhibits an extreme degree of semantic unspecificity, it is nonetheless very common in actual usage¹⁷ and does not cause problems in

¹⁵ In the current version of Role and Reference Grammar, e.g. Van Valin (1992), the term *dependent* is restricted to operator dependency. It is considered that operators are not directly relevant to the determination of subordination because its crucial defining feature is embedding. The fundamental contrast then is between embedded and non-embedded constructions, and a dependency contrast is utilized only to distinguish between coordination and cosubordination.

¹⁶ Imai and Suto (1981) refer to this feature of language as *juncture of convergence* (i.e. combining words restricts the interpretation), as opposed to *juncture of divergence* (combining words increases the possibilities of interpretation).

¹⁷ On the basis of a corpus of 3,330 multi-predicate sentences sampled from various types of text, Saeki (1975:81) reports a total of 26 connectives (1,047 tokens altogether), of which TE holds the foremost rank. It occurs 512 times, whereas the second most frequent connective *ga* occurs 141 times. According to Inoue (1983:128-30), TE appears most frequently in spontaneous speech (34.5% of all connectives) and in informal writing

communication. This leads to questions about how much of the meaning is attributable to the TE-linkage itself, how much to the properties of the conjuncts, and how much to the interpreter's extralinguistic knowledge of the described situation. Before proceeding with this inquiry, let us clarify the notion of *meaning* as utilized in this thesis.

1.3.1. Independent and Dependent Semantic Aspects

Following Reichling's methodology, Dik (1968:257-8) divides linguistic information into *semantic information* and *grammatical* (i.e. syntactic/morphological) *information*. The former is information relevant to the linguistic expression as such, and the latter pertains to the internal organization of the expression. All expressions carry grammatical information by virtue of being usable in larger syntagms.

Semantic information is further divided into *independent* and *dependent semantic aspects*. The independent semantic aspects are immediately obtainable from the expression without further linguistic context. The dependent semantic aspects of the expression can be obtained only within a larger whole of which the expression is a part. For example, speakers of English know the semantics of *table* without any further context, whereas they need some context, e.g. *table-*, to identify the semantics of the suffix *-s*. The former is said to have an independent semantic aspect of its own, whereas the latter has only a dependent one. Dependent semantic aspects are also called *semantic values*.¹⁸ Henceforth I will use the expression *meaning of the connective X* to refer to *X's dependent* semantic aspects.

(27%). In formal writing such as newspaper editorials, TE ranks second (17.2%) after ren'yoo linkage (36.9%). The actual occurrence of TE is much more frequent than these numbers suggest because these data do not include cases in which the second predicate is a so-called auxiliary.

¹⁸ Following Reichling, Dik also proposes the following terminological distinction: the term *content* for the independent semantic aspect contained in a phrase, a clause, or a sentence, and the term *meaning* only for that contained in a word. However, I do not consider this distinction necessary, and thus it has not been adopted in this thesis.

Connectives do have grammatical information associated with them. They also indicate certain relationships between the semantic information of one conjunct and that of the other. But connectives do not carry independent semantic aspects of their own. Even with such ‘semantically loaded’ connectives as *before*, in order to describe its semantics, it is necessary to take linked clauses into account — e.g., the referent of the main clause precedes the referent of the *before* clause.

Viewed in this light, the common claim that TE does not have its own meaning is justified only if *meaning* is restricted to independent semantic aspects, since the semantic description of TE is impossible without recourse to the larger constituent of which TE is a part. However, the advocates of this claim appear to contend that TE does not have even dependent semantic aspects: the contingent semantic relations associated with TE-linkage, they propose, are so diverse that the interpreter only *infers* the one intended by the speaker. In order to discuss this issue, it is necessary to clarify the distinction between what is expressed and what is implicated.

1.3.2. Implicature

One of the basic requirements for understanding discourse is recognizing how each clause coheres with the next. Our linguistic and pragmatic competence ‘reads in’ some conceivable relation(s) even when two clauses are co-present without any overt cues (*parataxis*). Thus, certain aspects of interpretation are not part of the conventional force of the uttered sentence but part of what Grice (1975) has named *conversational implicatures*. For example, one will automatically perceive a CAUSE relation when one hears ‘My cat died last night. I’m sad’; it therefore seems superfluous to attribute a CAUSE to *and* in ‘My cat died last night, and I’m sad’.

Another example of such implicature is ‘They had a baby and got married’ (Wilson 1975:151). As Horn (1985:146-47) points out, a SEQUENCE relation (as in the *and-then* reading) is present even when these two clauses are in mere parataxis. Therefore, rather than attributing the SEQUENCE relation to the meaning of *and* itself, researchers (e.g.

Gazdar 1979, Leech 1983, Levinson 1983, inter alia) appeal to certain auxiliary theories, such as the iconicity between clause order and intended temporal order (Haiman 1980, 1985) and the Gricean maxim of manner which stipulates 'Be orderly'.

In the Gricean theory of linguistic pragmatics, the CAUSE relation observed between the conjuncts linked by *because* and the PRECEDENCE relation between those linked by *before* are considered to be *conventional implicatures*. Conventional implicatures are non-truth-functional inferences which are attached to particular expressions by convention, not by pragmatic principles. However, if we do not adhere to the dogma of truth-functional semantics and instead adopt what Fillmore (1985b) refers to as the *semantics of understanding*, there will be no obstacle to regarding CAUSE and PRECEDENCE as the meaning of *because*- and *before*-linkage, respectively.

The difference between *and*-linked and *because*- or *before*-linked sentences emerges sharply in the following pairs.

- (10) a. One plus one is two, and I'm sad.
 b. Because one plus one is two, I'm sad.
- (11) a. John eats apples, and six men can fit in the back seat of a Ford.
 b. John eats apples before six men can fit in the back seat of a Ford.

If these sentences were uttered, the interpreter would at least try to make sense out of the b-sentences in such a way that a CAUSE, (10b), or a PRECEDENCE, (11b), holds between the conjuncts. As R. Lakoff (1971) points out, success or failure in interpreting these sentences would depend on one's deductive abilities. In interpreting (10b), for example, one might link the situations in the following way:

One refers to a person. As in arithmetic, one person and one person are two persons. The speaker feels sad because however much people try to understand each other, they are nevertheless individuals and therefore cannot unite perfectly.

The interpreter might consider (11b) as describing John's eating a low-calorie diet so that he will be thinner and take up less space.

With the a-sentences, on the other hand, the likely interpretation of *and* is merely a

signal that the speaker has something more to say, i.e. intends to keep the floor. Halliday and Hasan (1976:233), who draw a strict line between structural and cohesive (semantic) relationships, note:

The 'and' relation is felt to be structural and not cohesive, at least by mature speakers; this is why we feel a little uncomfortable at finding a sentence in written English beginning with *And*, and why we tend not to consider that a child's composition having *and* as its dominant sentence linker can really be said to form a cohesive whole.

They contend that *and* has a syntactic function, but that it provides little information about the semantic relation between the conjuncts.

Grice (1975) proposes several diagnostic tests for conversational implicature, of which the so-called cancellability test is the most prominent.¹⁹ Conversational implicatures can be cancelled without yielding contradiction, e.g. (12a). On the other hand, if something is asserted, denying (part of) it will result in contradiction, e.g. (12b).

- (12) a. They had a baby and got married, but not necessarily in that order.
 b. #They had a baby before they got married, but not necessarily in that order.

TE is to some extent similar to *and*.²⁰ The CAUSE relation associated with a TE-

¹⁹ Conversational implicatures are characterized as *calculable, cancellable, nondetachable, nonconventional, and indeterminate* (Grice 1975). However, Sadock (1978:295) claims that 'There are no sufficient tests for conversational implicature and no group of tests that together are sufficient.' He argues that nondetachability fails to be a necessary feature, nonconventionality is completely circular, and indeterminacy is not unique to conversational implicatures (cf. demonstratives). '[C]alculability is trivially necessary since nearly anything can be "worked out" with the aid of the Cooperative Principle' (ibid. 295). Although necessary, cancellability fails to be sufficient 'for recognizing conversational implicature because, in the very important case of grammatical ambiguity, any one sense is obviously cancellable' (ibid. 296).

²⁰ Of the four logical operators (conjunction, disjunction, material implication, and equivalence), TE is equivalent to logical conjunction: the TE-conjuncts must be compatible in their truth condition, i.e., neither of the conjuncts can entail the negation of the other. By contrast, logical disjunction allows the conjuncts to be contradictory, e.g. *Joan is Canadian, or Joan is not a Canadian*. TE is clearly not equivalent to material implication, for neither the falsity of the first proposition nor the truth of the second proposition linked by TE guarantees the conjoined proposition to be true. And TE cannot be used to state that the conjuncts are logically equivalent.

construction is cancellable and hence can be taken as an implicature.

- (13) kaze o hiite atama ga itai. atama ga itai no wa
 cold ACC catch-TE head NOM ache head NOM ache NMLZ TOP
 itumo no koto dakedo.
 always GEN thing though
 ‘(I) caught a cold, and (my) head aches. I always have a headache, though.’

If only the first sentence is supplied, it is naturally implicated that the cold is a cause of the speaker’s headache. This implicature is cancelled by the second sentence, indicating that the speaker always has a headache anyway.

The SEQUENCE relation is also cancellable, and hence it too can be regarded as an implicature.

- (14) maki wa oosaka e itte hiro wa oosaka kara kaette kuru.
 TOP ALL go-TE TOP ABL return-TE come
 hiro ga kaette kuru no ga saki dakedo.
 NOM return-TE come NMLZ NOM first though
 ‘Maki will go to Osaka, and Hiro will return from Osaka. Hiro’s return comes first, though.’

In both *and*- and TE-linkage, the perceived semantic relation would be present even if the linked constituents were in parataxis, and the semantic relation would not be perceived unless it were already present in the parataxis of the conjuncts without *and* or TE. Accordingly, many researchers claim that, like *and*, TE does not have a meaning of its own, and that all semantic relations that the hearer perceives are implicated by the conjuncts themselves. Let us call this claim the *implicature-only analysis*.

The implicature-only analysis is challenged by the fact that not all semantic relations potentially implicated by parataxis can be expressed by TE-linkage — i.e., TE is not absolutely transparent.²¹ Some conceivable relations are filtered out when constituents are linked by TE. TE-constructions have many arbitrary (or idiomatic) constraints, both on possible semantic relations and on the semantic nature of the conjuncts, which

²¹ A similar observation has been made by van Dijk (1977) regarding *and* in English.

cannot be attributed to any pragmatic principles. In other words, TE-linkage restricts the universe of possible semantic relations implicated by the conjuncts. The following section illuminates such constraints imposed by TE-linkage.

1.3.3. Constraints on TE-Linkage

1.3.3.1. SEQUENCE Relation and TE-Linkage

Given appropriate pairs of clauses, SEQUENCE can always be implicated when two clauses are in parataxis, as in (15).

- (15) watasi ga ie o deta. ame ga hutte kita.
 I NOM house ACC left rain NOM began-falling
 'I left home. It began raining.'

The speaker's leaving home and the onset of rain is a possible sequence of events, and yet (15') is unacceptable.²²

- (15') #watasi ga ie o dete ame ga hutte kita. (Endo 1982)
 I NOM house ACC leave-TE rain NOM began-falling
 'I left home, and it began raining.' (Intended)

The anomaly of (15') will be discussed in detail in Chapter 6. For the present, suffice to say that a mere incidental SEQUENCE cannot be expressed by TE-linkage.

1.3.3.2. ADDITIVE Relation and TE-Linkage

Some ADDITIVE relations which are inferrable from constituents in parataxis cannot be expressed by TE-linkage. In (16), TE-linkage cannot replace *ren'yoo-linkage*, which is also compatible with English *and-linkage*.

²² In order to express the relation intended in (15'), the connective *to* or *tara* must be used.

- (16) nihon-rettoo ni hazimete dokuzi no bunka o umidasita
 Japanese-islands LOC for-the-first-time own GEN culture ACC created
 zyoomon-zin wa kariudo de ari (cf. #atte), gyohu datta.
 Jomon-people TOP hunter COP be(ren'yoo) be-TE fisherman were
 [Hakubutsukan]
 'The Japanese of the Jomon period [8000 to 200 B.C.], who created their own
 culture for the first time on the Japanese islands, were hunters and fishermen.'

Here, if TE-linkage is utilized, native speakers expect the second constituent to be a negative clause, as in (16'). This is a peculiar constraint on the combination of TE-linkage and *ar-* 'be' as the first predicate.

- (16') nihon-rettoo ni hazimete dokuzi no bunka o umidasita
 Japanese-islands LOC for-the-first-time own GEN culture ACC created
 zyoomon-zin wa kariudo de atte, gyohu de wa nakatta.
 Jomon-people TOP hunter COP be-TE fisherman COP PRT NEG-PST
 'The Japanese of the Jomon period ... were hunters but not fishermen.'

1.3.3.3. CAUSE Relation and TE-Linkage

Another major semantic relation attributable to TE-linkage is CAUSE. Sweetser (1990) claims that some ambiguities of conjunctions are not due to polysemy on the part of the lexical items, but rather to ambiguity among the content (real-world), epistemic, and speech act domains in which they apply, as illustrated in (17).

- (17) a. Since John wasn't there, we decided to leave a note for him.
 (His absence caused our decision in the real world.)
 b. Since John isn't here, he has (evidently) gone home.
 (The knowledge of his absence causes my conclusion that he has gone home.)
 c. Since {we're on the subject/you're so smart}, when was George Washington born?
 (I ask you because we're on the subject, or because you're so smart — the fact that we're on the subject, for example, enables my act of asking the question.)

When CAUSE applies in the epistemic domain, the event sequence may be distinct from the temporal sequence. For example, one may say, 'My daughter will begin college soon, and I had to quit the gym (to save money for tuition)'. Japanese can express these clauses in the same order by using the conjunction *node* (roughly 'since/because'), as

shown in (18).

- (18) musume ga moo-sugu gakkoo ni hairu node zimu o
 daughter NOM soon school to enter-NPST because gym ACC
 yamenakereba naranakatta.
 had-to-quit
 'Because my daughter will begin school soon, I had to quit the gym.'

This sequence can also be implicated by parataxis; it cannot, however, be expressed by TE-linkage.

- (18') #musume ga moo-sugu gakkoo ni haitte zimu o
 daughter NOM soon school to enter-TE gym ACC
 yamenakereba naranakatta.
 had-to-quit

One may argue that the basic function of TE-linkage is to express SEQUENCE, and that CAUSE is parasitic on it. However, this claim has difficulty in accounting for the fact that SEQUENCE per se cannot be expressed by TE-linkage, as demonstrated earlier.

Furthermore, certain CAUSE relations are also filtered out by TE-linkage even when the two clauses maintain an iconic temporal order. In (19a), for example, the first sentence is naturally interpreted as the CAUSE of the speaker's happy feeling. However, linking these two sentences by TE will result in anomaly, as shown in (19b).

- (19) a. kutu o katta. uresii.
 shoe ACC bought am-happy
 '(I) bought shoes. I am happy.'
- b. #kutu o katte uresii.
 shoe ACC buy-TE am-happy
 'I bought shoes, and (so) I'm happy.' (Intended)
- c. kutu o katte uresikatta.
 shoe ACC buy-TE was-happy
 'I bought shoes, and (so) I was happy.'

The reason for this pattern of anomaly lies in the interaction between the construction and modality. Modality is defined as the speaker's mental attitude toward the proposition

or the speech act *at the time of utterance*, conceived as the speaker's instantaneous present (Nakau 1979, 1992). Verbals in Japanese like *uresi-* 'be happy' in (19), which denote human feeling or mental activity are called *psych-predicates*²³ and are considered to be modality expressions when occurring in the nonpast tense. Such psych-predicates are subject to constraints on grammatical tense: as shown in (19c), a CAUSE relation can be expressed by TE-linkage when the predicate is in the past tense, but not when it is in the nonpast, cf. (19b). This constraint on the interaction between CAUSE and modality is unique to TE-linkage, and thus must be stated in its description.

These facts indicate that if a theory claims a certain semantic relation to be derived by implicature, it must then employ some filtering mechanism to eliminate those subtypes of the relation which do not persist through TE-linkage. But such filtering will be impossible unless the theory has attributed potential semantic relations to TE-linkage in the first place, because the constraints need to apply only to instances where the linkage has a *particular* semantic value — a non-incidental course of events in the case of SEQUENCE, or temporal iconicity in the case of CAUSE.

At least as far as descriptions of connectives are concerned, the reductionism of the implicature-only analysis — with its attribution of as many semantic relations as possible to pragmatics — does not seem tenable. It is, therefore, more expedient to attribute the semantic relations which are compatible with TE-linkage to the TE-linkage itself. In the following section, an experimental study supporting this contention is introduced.

²³ In Japanese, the direct representation of subjective experiences (represented consciousness) other than the speaker's own is what Banfield (1982) refers to as an *unspeakable sentence*, i.e., it cannot naturally occur in spoken language. Kuroda (1973) calls the style where such psych-predicates appear only with the first person subject the *reportive style*. In reportive style, only the person himself/herself is entitled to express his/her own psychological state. In the *nonreportive style*, by contrast, a third-person subject is permitted. See also Benveniste (1966) and Aoki (1986) regarding this phenomenon.

1.3.4. Imai and Suto's Experiment

Imai and Suto (1981) consider the following five hypotheses regarding the meaning of connective constructions in Japanese.

- A. The connective in question has only syntactic functions, but no semantic value.²⁴ Consequently, if there is more than one such connective, they are interchangeable in all sentences where one may be appropriately used.
- B. The connective in question has a single semantic value, and the conjuncts intrinsically hold a single semantic relation to each other. The connective can be appropriately used only if its semantic value and the semantic relation between the conjuncts match. Therefore, use of the connective is redundant.
- C. The connective in question has a single semantic value, and there are multiple possibilities for the semantic relation between the conjuncts. The connective can be appropriately used only if one of the semantic relations between the conjuncts matches the semantic value of the connective. In such a case, the connective specifies the semantic relation between the conjuncts.
- D. The connective in question has multiple semantic values, and the conjuncts can only hold a single semantic relation. The connective can be appropriately used only if the semantic relation between the conjuncts matches one of the semantic values of the connective.
- E. The connective has multiple semantic values, and there are multiple possibilities for the semantic relation between the conjuncts. The connective can be appropriately used only if one of its semantic values and one of the potential semantic relations between the conjuncts match.

To test these hypotheses, Imai and Suto conducted an experiment using six Japanese connectives — *node*, *kara*, *nara*, *ba*, *to*, and *TE*. They selected 36 pairs of clauses (C1 followed by C2) of the type 'nominative NP + intransitive verb', e.g. *kikai ga ugoku* 'the machine runs' and *mootaa ga muwaru* 'the motor spins'. The NPs and verbs in each pair are in hyponymy (cf. Cruse 1986), e.g. *mootaa* 'motor' (hyponym) and *kikai* 'machine' (superordinate), and *mawar-* 'spin' (hyponym) and *ugok-* 'move' (superordinate). The verb form in C1 is morphologically adjusted according to the connective. By adding the negative suffix *-na-* and the perfective suffix *-ta*, they constructed nine variations for each

²⁴ Imai and Suto utilize the term *setzuzoku kinoo* 'connective function', which is equivalent to Reichling-Dik's term *semantic value*, i.e. dependent semantic aspect, in this context. Thus, I adopt the latter term to represent their ideas.

pair of clauses, as shown in Table 2.²⁵

Type	C1		C2	
	-na(negative)	-ta(perfective)	-na(negative)	-ta(perfective)
1				
2	√			
3			√	
4		√		
5				√
6	√	√		
7			√	√
8	√			√
9		√	√	

Table 2: Stimuli of Imai and Suto's Experiment

The pairs of clauses were linked by the six connectives, yielding 1944 ($36 \times 9 \times 6$) sentence stimuli.²⁶ These stimuli were divided into four sets, and each set was presented to 41 native speakers of Japanese, who judged the naturalness of the connective on a five-point scale. By applying the statistical method known as the Eckart-Young analysis, they obtained the eigenvalue and eigenvector of each connective. The results show the overall differences among the stimuli in a two-dimensional vector space, schematically represented in Figure 1.

²⁵ The possible combinations of *-na-* and *-ta* yield 16 variations. Imai and Suto do not provide the reason why these particular nine variations were selected.

²⁶ Because Imai and Suto do not make a distinction between grammaticality and naturalness, the fact that some stimuli were ungrammatical, i.e. *to* and *TE* cannot appear with a perfective C1, does not affect the validity of their claim. The suffix *-tara*, instead of *-ta*, was added when clauses were connected by *-ba*.

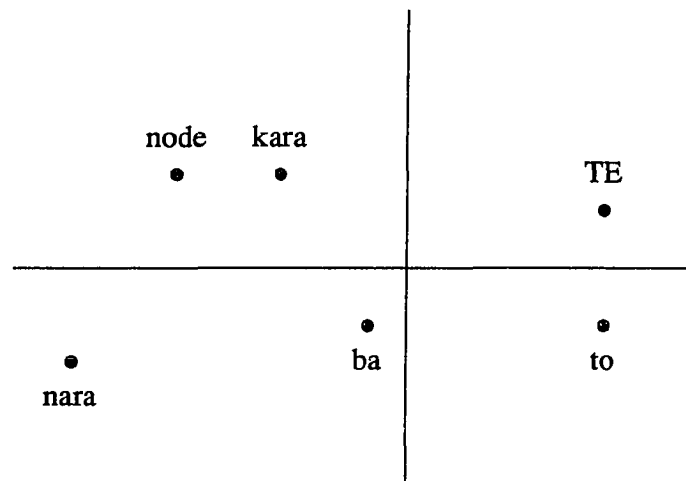


Figure 1: Results of the Eckart-Young Analysis

Figure 1 shows that *node*, *kara*, and TE appear above the abscissa, and *nara*, *ba*, and *to* appear below it. On the other hand, *node*, *kara*, *nara*, and *ba* appear to the left of the ordinate, and *to* and TE to the right of it. This two-dimensional scattering indicates that the naturalness judgments were made according to at least two parameters, whatever they may be, which indicates that the connectives have multiple semantic values. Imai and Suto interpret the results in such a way that TE forms a group with *to* with respect to temporal sequence, and with *node* and *kara* with respect to causal relation and conditionality.

The most distant connective from TE was *nara*. *Nara* has the value opposite to TE with respect to both temporal sequence and causal/conditional relation. Therefore, if a pair of conjuncts has only one intrinsic semantic relation, as hypotheses B and D claim, there are three possibilities. First, if the intrinsic semantic relation matches the characteristics of TE, then TE is rated very natural, but *nara* is rated unnatural. Second, if the intrinsic relation matches the characteristics of *nara*, *nara* is rated very natural but TE is not. Finally, if neither temporal sequence nor causal/conditional relation is relevant to the intrinsic semantic relation obtaining between the conjuncts, then both are rated unnatural. In any case, if hypothesis B or D is valid, then it will be impossible for both TE and *nara* to receive a high rating on a scale of intuitive naturalness. However, in the experiment both connectives did receive high ratings with type 1

stimuli (see Table 2), i.e. when both C1 and C2 are affirmative and in the nonpast tense. TE received 4.15, and *nara* 4.14 on a five point scale. Therefore, conjuncts in general must have multiple possibilities of semantic relation, and such possibilities may narrow down when a connective is inserted.

Based on these results, then, Imai and Suto concluded that hypothesis E is the most plausible: the connectives have multiple semantic values, and pairs of conjuncts have multiple possibilities of semantic relation. A connective can be appropriately used only if one of its semantic values matches one of the potential semantic relations between the conjuncts.²⁷

If this is a valid conclusion, the fact that the semantic relation is not determined solely by TE does not dictate that TE is meaningless or redundant. Rather, the connective and the meaning of the conjuncts jointly determine some semantic relation(s). Consequently, attributing the semantic relation(s) to the conjuncts alone would only partially account for how the hearer decodes uttered sentences. TE-Linkage permits some interpretations while rejecting others.

1.3.5. Decoding and Encoding Idioms

As has been indicated, although all semantic relations compatible with TE-linkage can be implicated by biclausal parataxis, not all semantic relations implicated by parataxis can be implicated by TE-linkage. It is therefore proposed that the set of all semantic relations which *can* be expressed by TE-linkage must be so stated. Both the connective and the conjuncts encompass multiple semantic relations, and the sentence is acceptable only when these relations match. Imai and Suto's study has been presented as one piece of

²⁷ One could argue that *some* connectives have a single semantic value, whereas others have multiple semantic values, and thus the results do not necessarily support hypothesis E, which is a statement about connectives in general. However, as far as the analysis of TE-linkage is concerned, their claim does seem to be valid because, as illustrated in previous sections, it is impossible to attribute a single semantic value to TE-linkage.

evidence in support of this claim. In this section, the issue will be discussed from another perspective — hearer-based vs. speaker-based description.

The distinction between what is asserted and what is implicated is certainly an important one in the theory of meaning. However, attributing as many semantic relations as possible to conjuncts via pragmatic principles appears to presuppose the *ideal speaker/hearer in a homogeneous speech community* (Chomsky 1965:3). If we instead envision conjunctive constructions with the *innocent speaker/hearer* (Fillmore 1979) in mind, the characterization of TE-linkage will be very different. Such an innocent speaker/hearer could not make the reasoning involved in going beyond literal meaning, and thus all the properties of TE-linkage would have to be learned explicitly. This claim, however, does not exclude the possibility that some constraints on TE-linkage may have more general application and therefore need not be stated in its description.

Let us consider what Fillmore et al. (1988), following Makkai (1972), refer to as the distinction between idioms of decoding and idioms of encoding. The term *idiom* is used to refer generally to a lexically filled idiom, e.g. *kick the bucket*, *spill the beans*, or *pull a fast one*. However, idioms can be partially filled, i.e. involve a variable — e.g. *hold one's breath*, *go halves with someone in something*. At the extreme of this underspecification are purely formal idioms, e.g. the [NP VP] structural pattern observed in *Him be a doctor?* (Akmajian 1984). Formal idioms (or grammatical constructions) are syntactic patterns which are used for semantic and/or pragmatic purposes not predictable from general grammatical rules alone, and thus they must be learned separately.

Formal idioms are further divided into decoding idioms and encoding idioms — those which are necessary for decoding and encoding, respectively. A decoding idiom is an expression that the language user might or might not understand without prior experience, but that could not be understood with complete confidence if it had not been learned separately — e.g. *The more carefully you do your work, the easier it will get*, or *Him be a doctor?*. With an encoding idiom, on the other hand, the language user would not know whether or not it is a conventional way of saying what it says unless s/he had learned it separately.

To appropriately utter a certain expression — in particular, to correctly use an encoding idiom — one must know all its syntactic, semantic, and pragmatic characteristics; but to interpret (decode) the expression one can make do with less. Thus all decoding idioms are encoding idioms, but not vice versa. *It's time you brushed your teeth*, and *That's not big enough of a box*, for example, are not decoding but encoding idioms. Idiomatic expressions like these are decodable through the use of analogy or by appeal to extralinguistic cognitive abilities; but the user could never *use* them correctly without having learned the expression separately.

While most, if not all, semantic relations associated with understanding TE-linkage can be worked out from the meaning of the conjuncts, one cannot use TE-linkage correctly without knowing the constraints on the combination of TE-compatible semantic relations, on the one hand, and the semantic properties of the conjuncts, on the other. Therefore, grammar cannot treat such semantic relations as mere implicatures and leave them out of the description of the TE-linkage.

The question to be asked, then, is where in the description of language such constraints should be stated. As many researchers have pointed out, the constraints are not properties of TE itself. Nor are they properties of the syntactic structures in which TE appears, because the constraints emerge only when a certain syntactic structure with TE expresses a certain semantic relation. Such a pairing can be stated through the notion of *grammatical construction*. Fillmore (1986b:3) notes, '[Construction Grammar] aims at describing the grammar of a language directly in terms of a collection of *grammatical constructions* each of which represents a *pairing of a syntactic pattern with a meaning structure*' (emphasis in original). This notion of grammatical construction is indispensable for stating subtle constraints on TE-linkage.

If we represent one of the syntactic properties of TE-linkage — say, two clauses having distinct subjects — as SYN-TE1, and one of the semantic relations that TE-linkage can denote as SEM-TE1, then the grammatical construction [SYN-TE1, SEM-TE1] will be the descriptive unit with which the constraints on that particular pairing should be associated. For example, the obligatory iconicity between clause order and intended temporal order

is a constraint on the grammatical construction [SYN-TE1, CAUSE]. This iconicity constraint holds for neither SYN-TE1 nor CAUSE in isolation, for the constraint does not apply to [SYN-TE1, ADDITIVE] or to [SYN-NODE, CAUSE].

To take another example, when the subjects of the conjuncts are identical (SYN-TE2) and the second clause contains a psych-predicate, the grammatical construction [SYN-TE2, CAUSE] is subject to an idiomatic constraint, as demonstrated in the following set of examples:

- (20) a. #kutu o katte uresii.
 shoe ACC buy-TE am-happy
 ‘I bought shoes, and (so) I’m happy.’ (Intended)
- b. siken ni ukatte uresii.
 exam LOC pass-TE am-happy
 ‘I passed the exam, and I’m happy.’
- c. zyoon ga kite uresii.
 NOM come-TE am-happy
 ‘Joan came, and (so) I’m happy.’

We have remarked that tense plays a role in the constraint; but other factors do as well. Though TE-linkage cannot express a CAUSE relation in (20a), it can do so if the subject of the first clause is not agentive, as shown in (20b). Note too that coreference of the two subjects is critical: (20c), with different subjects (i.e. SYN-TE1), is perfectly good. To sum up, when the subject is shared by both clauses (i.e. SYN-TE2), CAUSE relations cannot be expressed if (i) the subject bears the semantic role of agent in the first clause, and (ii) the second clause is headed by a psych-predicate which is construed as a modality expression (and is thus in the nonpast tense). This restriction is to be associated with [SYN-TE2, CAUSE] in the grammatical description of TE-linkage.

1.4. CONCLUSION

TE-linkage exhibits characteristics of both coordination and subordination. The first conjunct, containing a nonfinite predicate, cannot appear independently — which signals its

subordination-status. However, in some types of TE-linkage, there is no evidence for embeddedness of the first conjunct, and the first conjunct does not semantically modify the second in any sense. Thus, in order to describe the diverse types of TE-linkage, the three-way distinction, coordination-subordination-cosubordination, is more appropriate. Chapters 3 to 6 demonstrate that all three types are observed in TE-linkage.

In almost all cases, the hearer can infer the intended semantic relation from the meaning of the conjuncts; nevertheless, the grammar must state the set of all such relations as part of the meaning of TE-linkage, for two reasons. First, conjuncts typically hold multiple possibilities of semantic relation. These possibilities are narrowed down, and possibly singled out, when they appear in a TE-construction, and even analysts who consider such semantic relations to be implicatures will find it necessary to state which particular implicature is borne out in the TE-linkage. Second, while one may accurately *interpret* sentences without knowing the set of semantic values of TE-linkage, one still could not *use* TE correctly because of its idiosyncratic constraints. The implicature-only analysis, as usually conceived, imagines that the whole problem can be dealt with ‘somehow’ through the agency of pragmatic implicature; but when one seeks to articulate this ‘somehow’, there is no way to avoid an explicit statement of TE-compatible semantic relations.

In Chapters 3 to 6, it will be demonstrated that, given relevant syntactic and semantic information about the conjuncts, the semantic relation of each occurrence of TE-linkage is idiomatic and fairly restricted — which is not surprising given that TE is the most frequently occurring connective, and that it functions without causing communicative difficulties.

CHAPTER 2

BASIC CONCEPTS IN ROLE AND REFERENCE GRAMMAR OF JAPANESE

2.1. INTRODUCTION

As discussed in Chapter 1, the connective TE participates in a wide range of constructions. The provision of a comprehensive and principled account of all TE-constructions thus poses a challenge for syntactic theories. The theoretical framework adopted in this thesis to characterize the syntactic properties of TE-linkage is that of Role and Reference Grammar (henceforth RRG), a monostratal, functional theory of grammar.¹ This chapter introduces the fundamental concepts and mechanisms of RRG.

Regarding intraclausal syntax, it is widely accepted that the major constituent break falls between the subject and the VP. RRG takes a very different approach to this issue — which is the topic of §2.2 and §2.3. The central concepts in RRG for representing clause linkage are explained in §2.4 (*operators*) and §2.5 (*junction* and *nexus*). As for multiclausal constructions, most syntactic theories employ the traditional coordination-subordination dichotomy to characterize complex sentences. However, this dichotomy is inadequate for analyses of TE-linkage, as discussed in §1.2.3. The more adequate tri-
chotomy of coordination-subordination-cosubordination is restated in §2.5. Section 2.6 illustrates various linkage types, drawing examples from both English and Japanese. RRG relies heavily on the lexical representation of verbals for the syntactic analysis; §2.7 explains the Vendler-Dowty verb classes and *thematic relations*.

¹ According to Nichols (1984:97), 'Functionalists maintain that the communicative situation motivates, constrains, or otherwise determines grammatical structure, and that a structural or formal approach is not merely limited to an artificially restricted data base, but is inadequate even as a structural account. Functional grammar, then, differs from formal and structural grammar in that it purports not to model but to explain; and the explanation is grounded in the communicative situation.'

2.2. THE LAYERED STRUCTURE OF THE CLAUSE

In RRG each clause is considered to have a layered structure. The innermost layer of the clause is called the *nucleus*, which contains the predicate(s). The next layer is the *core*, which contains the nucleus and the arguments of the predicate(s). The arguments are lexical or phrasal dependents of the predicate, i.e., the predicate governs the number of arguments, their surface forms, and their grammatical and semantic functions. Adjacent to the core is the *periphery*, which subsumes non-arguments of the predicate, e.g. outer locative and temporal phrases.² Each clause consists of at least one (or more than one) core, with or without periphery. Because these concepts are defined semantically and/or functionally, the layered structure is considered to be universal and independent of the syntactic characteristics of the language under investigation (e.g. configurational-nonconfigurational or head marking-dependent marking).

RRG posits two additional elements to the layered structure. The *precore slot* (PCS), which is clause-internal but core-external, accommodates focused elements, e.g. *what* in *What are you reading?*, and an *exhaustive-listing NP-ga* in Japanese (Van Valin 1987).³ The *left detached position* (LDP), which is sentence-internal but clause-external,

² The distinction between arguments (complements), especially optional arguments, and non-arguments (adjuncts) varies from theory to theory. Because all syntactic theories inevitably refer to this distinction, various diagnostic tests have been proposed and tried: back-formation (Steinitz 1969, Helbig and Schenkel 1973), extractability (Brinker 1972), elimination (Helbig and Schenkel 1973), substitution (Brinker 1972, Andersen 1973), passivizability (Emons 1974), 'do-so' test (Lakoff and Ross 1976, Somers 1984), addability (Vater 1978), queriability (Herbst 1982), referability (Kameyama 1985), and question pull (Hasegawa 1988). However, none of them has provided a theory-neutral basis for the distinction. Some researchers (e.g. Vater 1978) have given up the distinction, and some others (e.g. Somers 1984) have proposed finer-grained distinctions, while still others (e.g. Günther 1978) claim that the dichotomy is intuitively clear in most cases, and thus the lack of clear discovery procedures does not justify the abandonment of the distinction. Notwithstanding the theoretical difficulties, recognizing the dependent elements is part of understanding the predicate (Fillmore 1986a, Pollard and Sag 1987), and the distinction is psychologically real in most cases (Hasegawa 1988). In RRG, the arguments, which appear in the core, are determined according to the Logical Structure and the lexical idiosyncrasy of the predicate. See §2.7 for further discussion.

³ Kuroda (1965) observes that *ga* is attached to the subject of an adjectival or copulative sentence when a characterizational judgment is involved. In a characterizational

accommodates adverbials and topical entities, e.g. *wa*-marked topic constituents in Japanese. By positing these two slots, RRG enables the analyst to represent the syntactic reflexes of the so-called *theme-rheme distinction* (*Functional Sentence Perspective*), originally proposed by the Prague School linguist Mathesius. Figure 1 illustrates the layered structure in RRG.

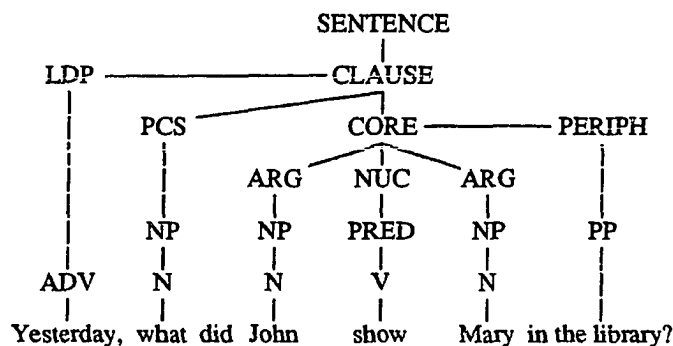


Figure 1: Layered Structure in RRG

2.3. FOCUS STRUCTURES

RRG does not posit a unit corresponding to the VP in other syntactic theories. The so-called subject-object asymmetry (cf. Huang 1984, Saito 1985) is accounted for in terms of the information structure. Lambrecht (1986, 1987, 1988), who considers topic and focus as the primary information statuses, defines topic as the entity that the sentence or proposition is about. The topic referent is part of the sentence's pragmatic presupposition and is active or accessible in the discourse. The focus is the non-presupposed part of the utterance.⁴

judgment, the speaker characterizes some entity by the property expressed by the adjectival or copulative phrase. Consequently, the sentence implies that the entity and only the entity in the current universe of discourse has such a property. Kuno (1970) calls this function of *ga* 'exhaustive listing'. Note that not only subject but also locative and possessive NPs with *ga* can have the exhaustive listing function.

⁴ Erteschik-Shir and Lappin (1979) explain the notion of focus in terms of *dominance*. They claim that a certain constituent of a sentence is *dominant*, and that the speaker in-

Lambrecht identifies three types of focus structure. The fundamental contrast is between *narrow* and *broad focus*. In narrow focus, the focus domain is a single constituent. Narrow focus subsumes the notion of exhaustive listing. In broad focus, on the other hand, the focus domain extends over more than one constituent.

There are two types of broad focus, *predicate focus* and *sentence focus*. Lambrecht (1988:6) defines *predicate focus* as 'Unmarked focus structure found in sentence constructions in which the subject is the topic, ... in which the predicate expresses an assertion about this topic. The focus domain is the predicate (or part of it). The object NP is the unmarked focus constituent.' This focus structure corresponds to the traditional notion of topic-comment structure. Sentence focus, which corresponds to traditional presentational constructions, does not have topical subject: the focus domain is the entire sentence. The subject is the topic in the predicate focus structure, but there is no topic-comment partitioning in the sentence focus structure.

Underlying this predicate focus-sentence focus distinction is the notion of *thetic/categorical judgment*, which was originally proposed by Franz Brentano and introduced to linguistic circles by Kuroda (1972).⁵ Categorical judgments consist of two separate acts: the act of recognizing that which is to be made the subject, and the act of affirming or denying what is expressed by the predicate about the subject. Thetic judgments, on the other hand, are logically unstructured, merely expressing one's recognition or rejection of the material of judgment. Kuroda proposes that *ga* functions as indicator of a *thetic judgment*, and *wa* of a *categorical judgment*.⁶

tends to direct the hearer's attention to the *intension* of that constituent.

⁵ For details of the theory, see Kuroda (1972), Lambrecht (1986, 1987), and Sasse (1987).

⁶ In his recent work, Kuroda (1990) argues that accounts based on Functional Sentence Perspective (e.g. the old vs. new information account) are unsatisfactory. Instead, he contends that *wa* is associated with *asserting*, and *ga* with *affirming*. '... asserting ... is essentially a positive act taken by a cognitive agent in which s/he expresses his/her act of committing him/herself to the truth of a proposition, a positive act to create or register a cognitive reality in the conceptualized form of a proposition. In contrast, affirming ... is an act of stating a proposition to which the speaker has already committed him/herself (and s/he assumes that the hearer has, too)' (ibid. 5).

Subject in Japanese is normally marked by *ga* (the nominative case particle) when it is introduced into discourse. Subsequently, it is anaphorically referred to either by so-called zero anaphora, by a pronoun, or by repetition of (some part of) the NP. When a pronoun or an NP is used, it is marked by *wa* (the so-called topic particle). Anaphoric pronouns cannot be marked by *ga* in a predicate focus construction. On the other hand, the use of *ga* is appropriate when it functions as a marker of narrow focus, i.e. exhaustive listing, indicated by small capitals in the following examples. In spoken English, such focused elements bear prosodic prominence; in spoken Japanese, the particle *ga* itself, not the entire NP, bears a high tone, and/or the NP is followed by a pause.

(1) Predicate Focus

- a. kare {wa/#ga} sinda.
 he TOP/NOM died
 'He died.'
- b. watasi {wa/#ga} tegami o kaita.
 I TOP/NOM letter ACC wrote
 'I wrote {the/a} letter.'

(2) Narrow Focus

- a. KARE {GA/#wa} sinda.
 he NOM/TOP died
 'HE died / It was he who died.'
- b. WATASI {GA/#wa} tegami o kaita.
 I NOM/TOP letter ACC wrote
 'I wrote the letter / It was I who wrote the letter.'

The particle *wa* also exhibits a dual function, marking both topic and contrast, the latter being a kind of narrow focus. *Wa* can bear a high tone with a contrastive NP, but not with a topic NP, as in (3).⁷

I agree with Kuroda that the *ga-wa* distinction cannot be attributable solely to old vs. new information. As he points out, to call *wa* a topic marker is misleading because the term implies that a discourse-based account is presupposed. I maintain the use of this well-established term throughout this thesis, however.

⁷ *Wa* will be glossed with the label TOP throughout this thesis, but the reader should be aware that not all *wa*-marked NPs are *topics*. For an argument that topic-*wa* and

- (3) a. kare wa sinda. (Topic)
 he TOP died
 'He died.'
- b. KARE WA sinda. (Contrast: Narrow Focus)
 he TOP died
 'HE died (but someone else survived).'

While both types of *wa*-marked NP can appear in the main clause, only contrastive NPs can appear in a subordinate clause.

- (4) a. hiro {ga/#wa} kuru node syokuzi o yooi sita.
 NOM/TOP come because meal ACC preparation did
 'Because Hiro will come, (I) prepared a meal.'
- b. HIRO {WA/#ga} kuru node syokuzi o yooi sita.
 TOP/NOM come because meal ACC preparation did
 '(Although the others won't come,) Hiro will come, so (I) prepared a meal.'

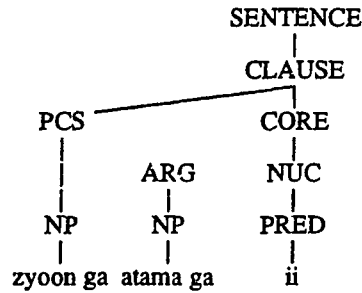
The entity which functions as topic of the sentence must already be established or *discourse-active* (Chafe 1987). Because interrogative pronouns do not satisfy this condition, they cannot be interpreted as topic even when marked by *wa*, e.g. (5a), although they can be interpreted as contrastive, e.g. (5b).

- (5) a. dare {ga/#wa} kimasu ka.
 NOM/TOP come(POL) Q
 'Who will come?'
- b. DARE {WA/#ga} kimasu ka.
 TOP/NOM come(POL) Q
 '(I know that some won't come, but) who will come?'

RRG represents these usages of *ga* and *wa* by associating the NPs in question with the PCS, the LDP, or an ARG inside the core. In (6), *zyoon ga* is contrastive (narrow focus), whereas *atama ga* is a non-topical argument of *i*- 'good'. The former is in the PCS, and the latter inside the core.

contrastive-*wa* are a case of polysemy, and not homonymy, see Miyagawa (1987) and Hasegawa (1989).

- (6) ZYOON GA atama ga ii.
 NOM head NOM is-good
 'JOAN (and only Joan in the current universe of discourse) is smart.'

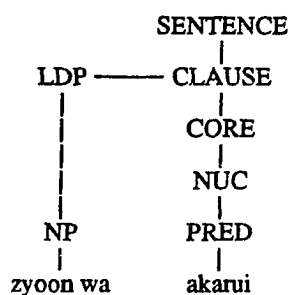


'JOAN (and only Joan in the current universe of discourse) is smart.' (= 6)

Figure 2: Narrow Focus and Non-Topical Argument NPs

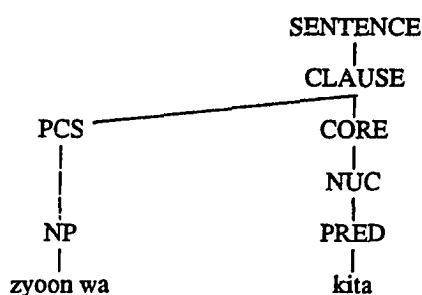
Wa-marked NPs are either topical or contrastive. The former are associated with the LDP, while the latter with the PCS. The sentences in (7) illustrate the distinction.

- (7) a. zyoon wa akarui. (Topic NP-*wa*)
 TOP cheerful
 'Joan is cheerful.'
- b. ZYOON WA kita. (Contrastive NP-*wa*)
 TOP came
 'JOAN came (but someone else didn't).'



'Joan is cheerful.' (= 7a)

Figure 3: Topic NP-*wa*



'JOAN came (but someone else didn't).' (= 7b)

Figure 4: Contrastive NP-*wa*

Contrastive NP-*wa*'s and narrow focus NP-*ga*'s are cognitively similar: both convey the idea 'THIS entity, but not something else.' Therefore, it is plausible to associate a contrastive NP-*wa* with the PCS, as in the case of a narrow focus NP-*ga*. In this analysis, all *wa*-marked NPs is either topic or narrowly focused.

2.4. OPERATORS

In Figure 1, the auxiliary verb *did* is not assigned any status in the layered structure. In RRG, lexical items appearing in the sentence are divided into (i) constituents of the layered structure and (ii) *operators*. The former consist of the predicate, its arguments, and adjunct phrases (i.e. periphery), whereas the latter consist of morphemes which are realizations of grammatical categories, such as aspect, tense, and modal.⁸ The operators are further divided into categories according to the layer they modify. The following list summarizes the operators and their levels of modification. Of course, a given language

⁸ Some researchers, e.g. Vennemann (1973), utilize the term *operator* differently: an operator is a constituent that combines with a construction of type A to yield another construction of type A (i.e. an endocentric construction), and all modifiers (including adverbials) can be construed as operators. In RRG adverbials are not operators, although many of them express concepts similar to those which operators express. An operator in RRG must be a closed-class grammatical morpheme of limited distribution.

need not grammaticize all operators.

(8) Nuclear Operators

- a. Aspect (ASP)
- b. Directionals (DIR): only those directionals modifying orientation of action or event without reference to participants
- c. Internal (i.e. narrow scope) Negation (NEG)

(9) Core Operators

- a. Directionals (DIR): only those directionals expressing the orientation or motion of one participant with reference to another participant or to the speaker
- b. Modals (MOD):⁹ root modals, e.g. permission, obligation
- c. Internal Negation (NEG)

(10) Clausal Operators

- a. Status (STAT): epistemic modals,¹⁰ external negation
- b. Tense (TNS)
- c. Evidentials (EVID)
- d. Illocutionary Force (IF): declarative, interrogative, imperative

Note that negation can in principle be operative at any level. However, in Japanese, no negative operator can directly apply to the clausal layer. In English, *He isn't promoted because he is kind to his staff* is ambiguous between the interpretations of internal and external negation: (i) because he is kind to his staff, he is not promoted; (ii) it is not the case that he is promoted because he is kind to his staff, or the reason why he is promoted

⁹ In standard RRG, the term *modality*, instead of *modal*, is utilized. However, following Nakau (1979, 1992), I regard the former as a semantic/pragmatic concept. Nakau defines *modality* as the expression of the speaker's mental attitude toward the proposition or the speech act at the time of utterance (defined as the speaker's instantaneous present). This definition does not specify the grammatical categories of such expressions. Because RRG considers only grammaticized modality as operators, it is more appropriate to utilize the different term *modal* in this context.

¹⁰ Palmer (1986) defines the term *epistemic* as any modal system which indicates the degree of commitment by the speaker to what s/he says, including evidentials such as 'hearsay' and 'report'. He claims that there are basically two types of epistemic modal systems: one is based on judgments, and the other on evidence. Some languages, e.g. English, have only judgment modals, while others, e.g. Tuyuca, have only evidentials. Still others, e.g. German, combine the two in a single grammatical system. Japanese belongs to the third group.

is not because he is kind to his staff. In Japanese, the structurally equivalent sentence is not ambiguous: it allows only the interpretation with internal negation, e.g. (11a). External negation requires nominalization of the two clauses, e.g. (11b).

- (11) a. *kare wa buka ni sinsetu da kara syoosin si-na-i.*
 he TOP staff DAT kind COP-NPST because promotion do-NEG-NPST
 'Because he is kind to (his) staff, he is not promoted.'
- b. *kare wa buka ni sinsetu da kara syoosin suru*
 he TOP staff DAT kind COP-NPST because promotion do-NPST
no de wa na-i.
 NMLZ COP-TE PRT NEG-NPST
 'It is not the case that he is promoted because he is kind to (his) staff.'

Nai-de is the operator of nuclear-level negation, whereas *naku-te* and *-zu* are the operators of core-level negation.¹¹ The sentences in (12) illustrate these two negative operators: (12a) involves nuclear juncture, whereas (12b) involves clausal juncture. Thus, *naku-te* is permitted in (12b), but not in (12a).

- (12) a. *zyoon wa ban-gohan o tabe- {nai-de/*naku-te} iru.*
 TOP dinner ACC eat NEG-TE be-NPST
 'Joan hasn't eaten dinner.'
- b. *kodomo ga yasai o tabe- {nai-de/naku-te} komaru.*
 child NOM vegetable ACC eat NEG-TE be-in-trouble-NPST
 '(I)'m in trouble because (my) child doesn't eat vegetables.'

RRG represents the operators separately from the layered structure (Johnson 1987).

¹¹ *De* in *nai-de* and *te* in *naku-te* are allomorphs of the connective suffix TE. However, I will treat *nai-de* and *naku-te* as distinct operators in this thesis. Note that these negative operators appear between the verb-stem and TE.

Shiraishi (1956) claims that *nai-de* is derived from the negative form of the verb *ar-* 'be (located)', whereas *naku-te* is from the adjective *na-*. While *nai-de* can co-occur only with verbs, *naku-te* can with both verbs and adjectives.

According to Suzuki (1976), who has examined sentences in nine texts (eight of which are modern novels) for the characteristics of negative expressions, *nai-de* occurred 180 times, *naku-te* 54 times, and *zu* 470 times. Forty-seven percent of *nai-de*, 43% of *naku-te*, and 4% of *zu* were in conversation part of the texts.

The representation of the layered structure itself is referred to as the *constituent projection*, and that of the operators, the *operator projection*, as illustrated in the following figures. The IF of *declaration* is considered to be the unmarked case in this study and thus is often not stated in the diagrams.¹²

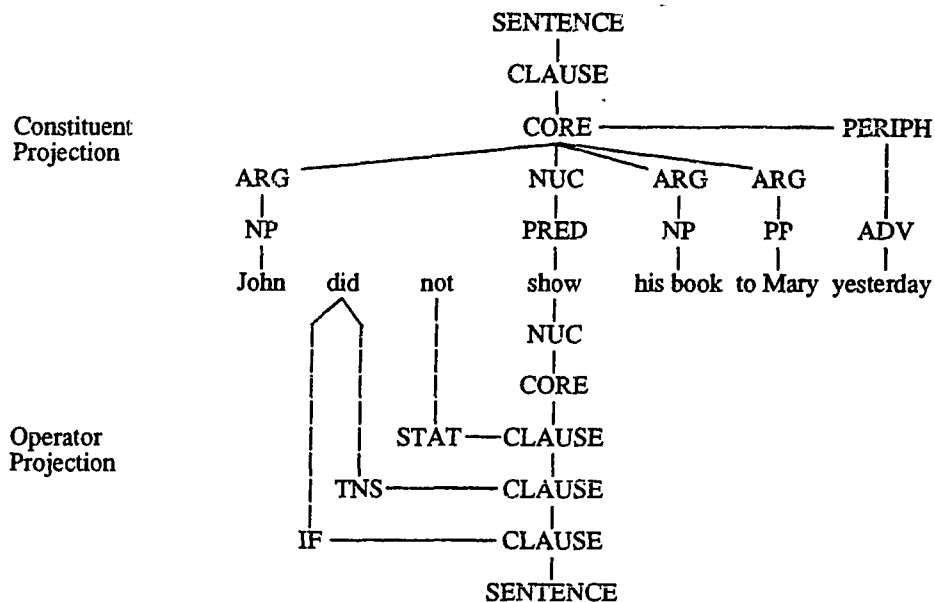


Figure 5: Constituent and Operator Projection in RRG

- (13) zyoon wa tomodati ni a- e- ta soo yo.
 TOP DAT meet can PST EVID PRT(IF)
 '(I heard that) Joan could meet her friend.'

¹² In (13), one of the functions of the sentence-final particle *yo* is to mark the IF of declaration, and thus so marked in the corresponding figure.

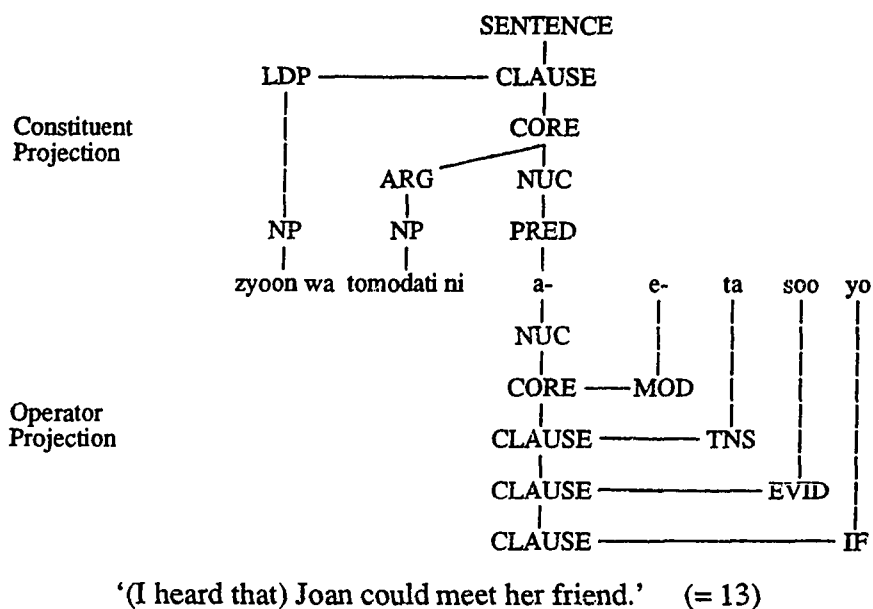


Figure 6: Constituent and Operator Projection in RRG of Japanese

2.5. JUNCTURE AND NEXUS

The taxonomy of clause linkage in RRG is based on the two concepts *nexus* and *junction*. Linkages are possible at any layer of the clause in RRG. The *junction* types are classified by the grammatical level of the linked units: clausal, core, and nuclear. As for *nexus* types, two parameters, [\pm embedded] and [\pm dependent], play a role (cf. §1.2.3.5). If one unit is embedded in another, the *nexus* type is *subordination*, of which sentential complements and adverbial clauses are typical examples. Non-embedded constructions are further divided according to *operator dependency*. If one unit is dependent on the other for one or more of the operators of a particular *junction* level (i.e. both units are in the scope of an operator), the *nexus* type is *cosubordination*, whereas if two units are independent of each other for all operators at the level of *junction*, the *nexus* type is *coordination*. Figure 7 illustrates this categorization.

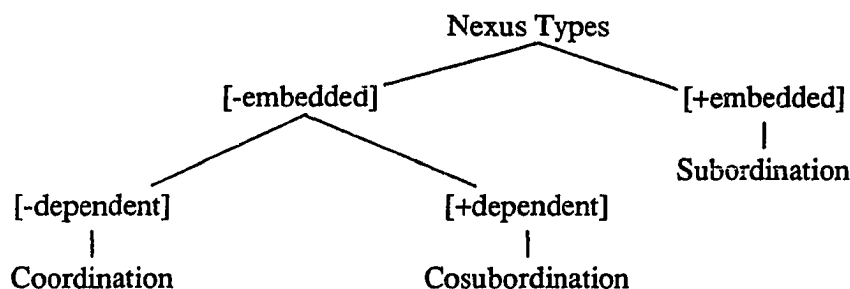


Figure 7: Nexus Types in RRG

Because there are three types each for both nexus and juncture, the theory is able to distinguish a total of nine linkage types, i.e. clausal subordination, clausal coordination, clausal cosubordination, core subordination, core coordination, and so forth.

2.6. LINKAGE TYPES

2.6.1. Clausal Subordination

All three nexus types in clausal juncture are commonly observed in the world's languages. There are two types of clausal subordination: complements and adverbials,¹³ as illustrated in Figures 8 to 11.

¹³ Note that in RRG the embedded clause in Figure 8 does not appear under an ARG node — which may be counterintuitive if the term *argument* is taken in the quasilogical sense. However, this decision makes sense in light of various differences between typical arguments and such embedded clauses. For example, unlike arguments, the embedded clause is not 'preposable': 'This story John told Mary' vs. '*That he will arrive at the party late John told Mary'. And certain adverbials may appear between the verb and the embedded clause: 'John believed wholeheartedly that Mary was qualified for the job', but not between a verb and its argument, '*John believed wholeheartedly the fact'. See also Foley and Van Valin (1984), Chapter 6.

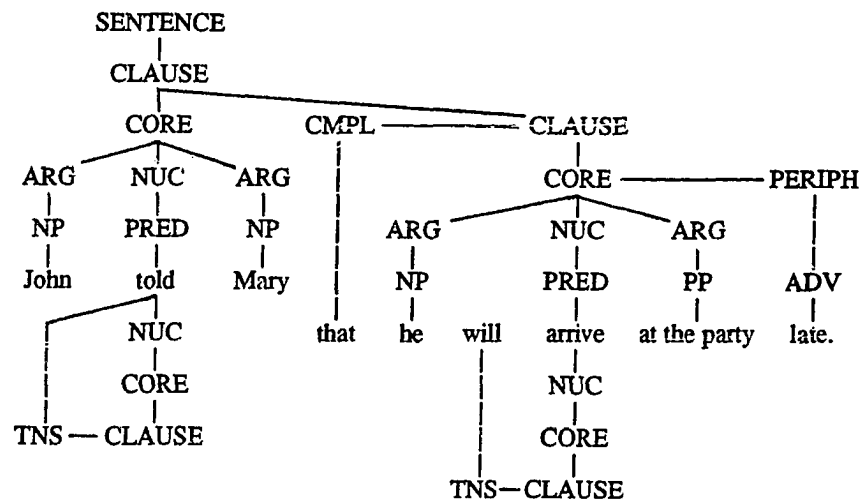
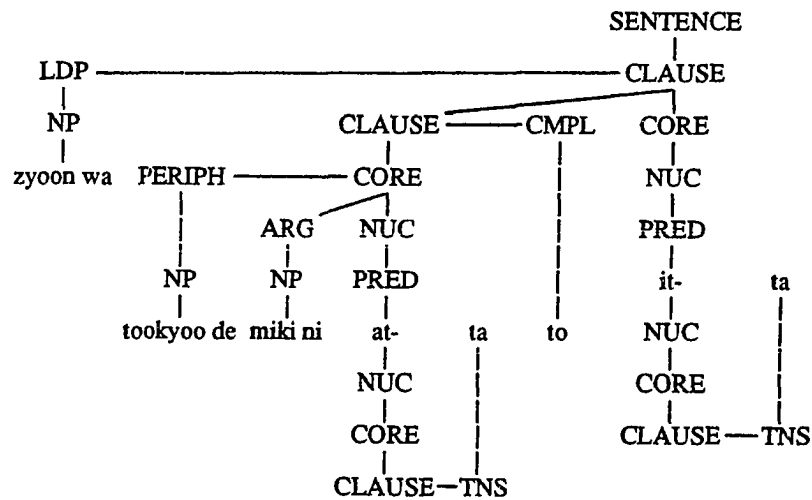


Figure 8: Clausal (Complement) Subordination in English

- (14) zyoon wa tookyoo de miki ni at- ta to it- ta.
 TOP LOC DAT meet PST CMPL say PST
 'Joan said that (she) met Miki in Tokyo.'



'Joan said that (she) met Miki in Tokyo.' (= 14)

Figure 9: Clausal (Complement) Subordination in Japanese

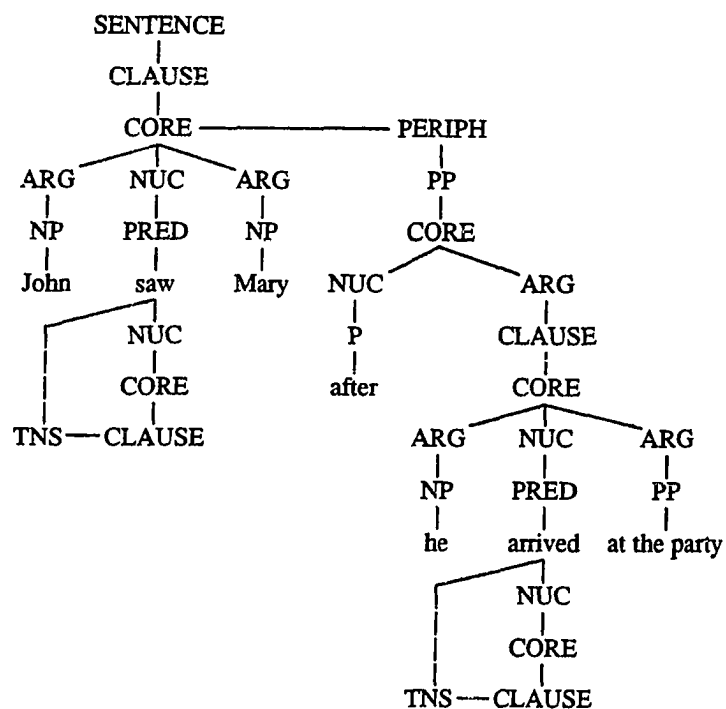
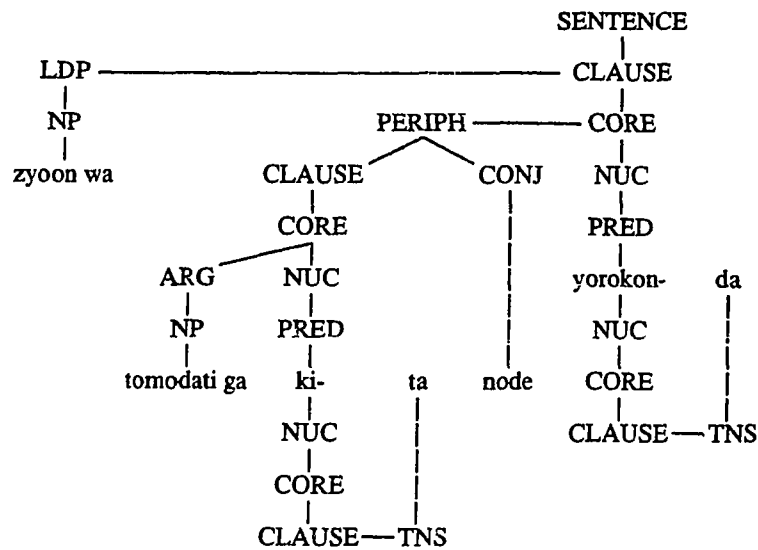


Figure 10: Clausal (Adverbial) Subordination in English

- (15) zyoon wa tomodati ga ki- ta node yorokon- da.
 TOP friend NOM come PST because get delighted PST
 'Joan was delighted because (her) friend came (to her house).'



'Joan was delighted because (her) friend came (to her house).' (= 15)

Figure 11: Clausal (Adverbial) Subordination in Japanese

2.6.2. Clausal Coordination

If two clauses are in coordination, they are independent of each other with respect to clausal operators, e.g., each conjunct may have a distinct IF.

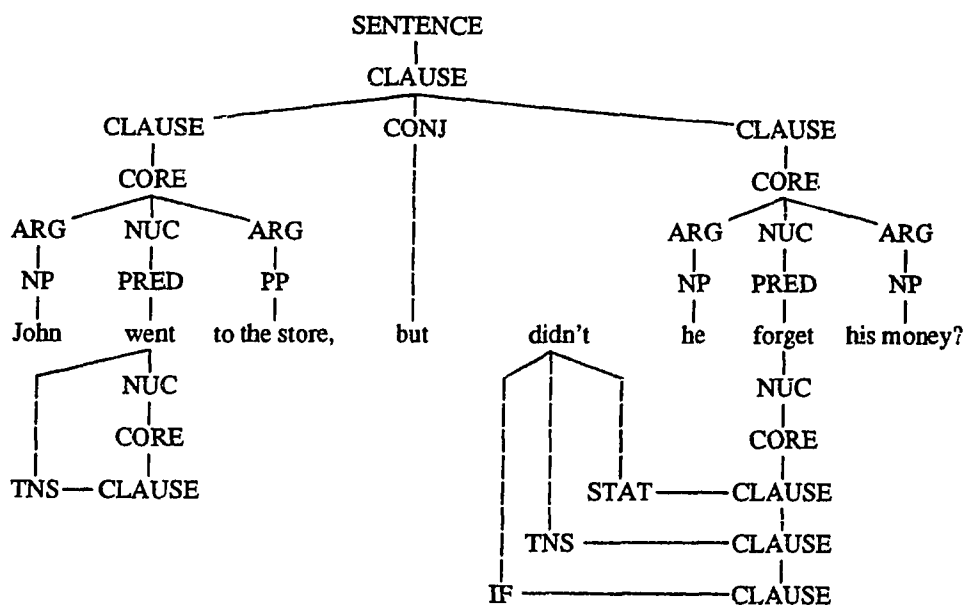


Figure 12: Clausal Coordination in English

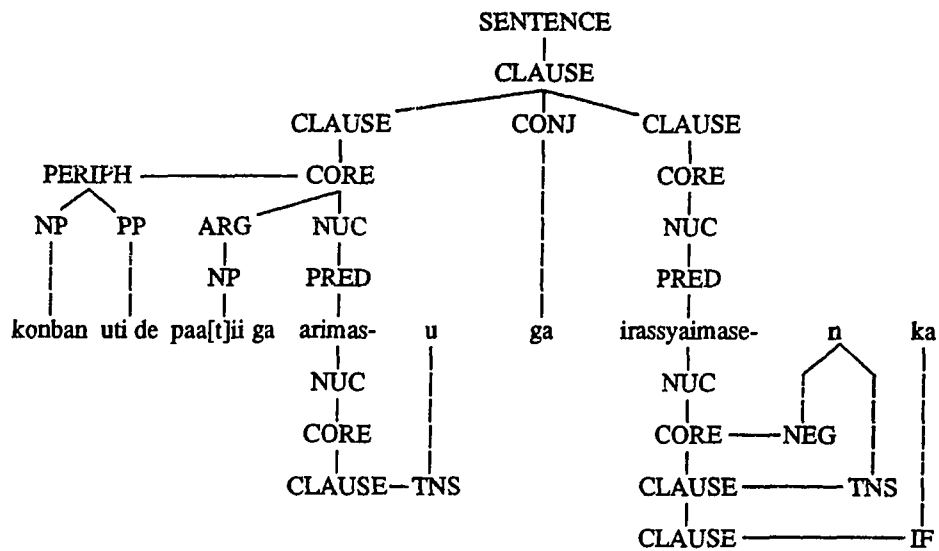
The conjunction *ga* 'and, but' links clauses in coordination.¹⁴

(16) konban uti de paa[t]ii ga arimas- u ga, irassyaimase-
 tonight house LOC party NOM be(POL) NPST CONJ come(POL)

n ka.
 NEG-NPST Q

'There is a party at my home tonight, and won't you come?'

¹⁴ The *t* in square brackets in (16) indicates that the phoneme is not palatalized: i.e., it denotes [t] not [tʃ].



'There is a party at my home tonight, and won't you come?' (= 16)

Figure 13: Clausal Coordination in Japanese

2.6.3. Clausal Cosubordination

When the linked clauses are in clausal cosubordination, one is dependent on the other with regard to at least one clausal operator. In the following figure, for example, both tense and illocutionary force are shared by the linked clauses.

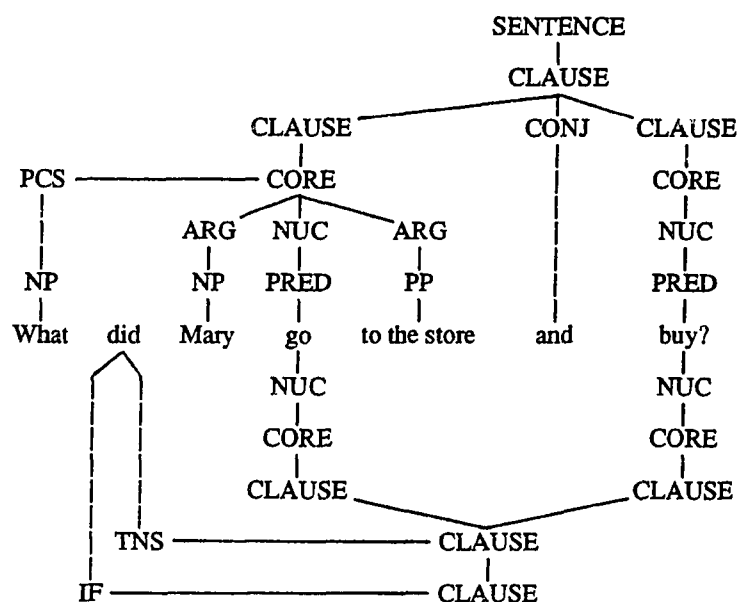


Figure 14: Clausal Cosubordination in English

The *V1-ta-ri V2-ta-ri s-* construction ('do V1 and V2 among other things') in Japanese involves clausal cosubordination. Similar to English *do*, in this construction *s-* 'do' appears only in order to realize tense. The relevant part of Figure 15 is shown in bold face. (*CS* in (17) stands for *connective suffix*.)

- (17) kinoo wa [tomodati ga ki- ta- ri konpyuutaa ga koware-
 yesterday TOP friend NOM come PFV CS computer NOM break
 ta- ri si- ta] node nani mo deki- nakat- ta.
 PFV CS do PST because anything can-do NEG PST
 'Yesterday, [a friend came and the computer broke down], so I couldn't
 accomplish anything.'

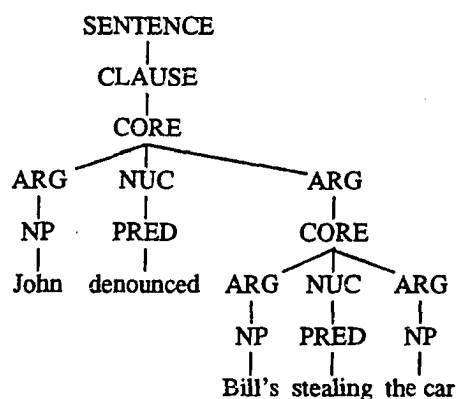
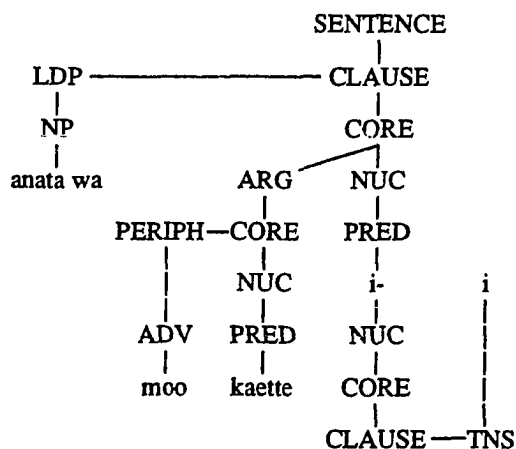


Figure 16: Core Subordination in English

The adjective *i-* 'be permitted'¹⁵ in Japanese takes a subordinated core argument which is linked by TE. This linkage type is discussed in detail in chapter 5.

- (18) *anata wa moo kaette i- i.*
 you TOP already go-home-TE be-permitted NPST
 'You may go home now.'



'You may go home now.' (= 18)

Figure 17: Core Subordination in Japanese

¹⁵ This *i-* is distinct from *i-* 'be good'. The negative of 'be permitted' is *ike-na-*, whereas the negative of 'be good' is *yoku-na-*.

2.6.5. Core Coordination

In non-embedded nexus at the core level, one argument must be shared between the linked cores. This shared argument is called the *pivot* around which the construction is built (Foley and Van Valin 1984). The subject is the prototypical pivot for the inter-clausal syntax of both English and Japanese. Most control phenomena are accounted for in RRG in terms of such argument sharing (Cutrer 1987). The accusative plus infinitive construction in English is an example of core coordination.

(19) John could tell Bill to wash the car.

Sentence (19) shows that the root modal *could* (a core-level operator) has scope only over the first conjunct; thus the juncture-type is indeed coordination, for there is no operator dependency at the core level of juncture.

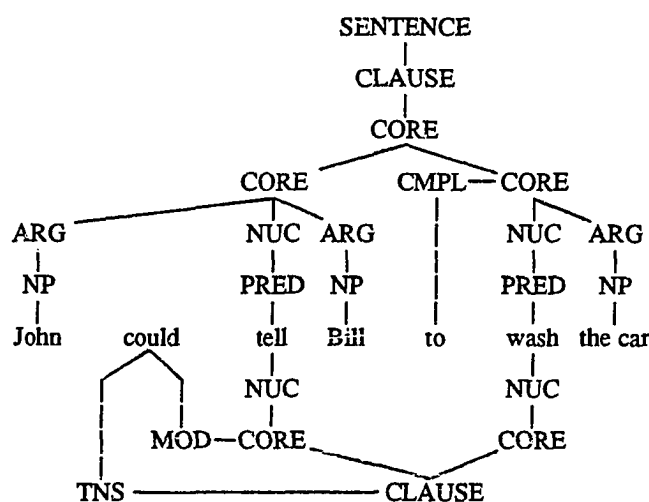
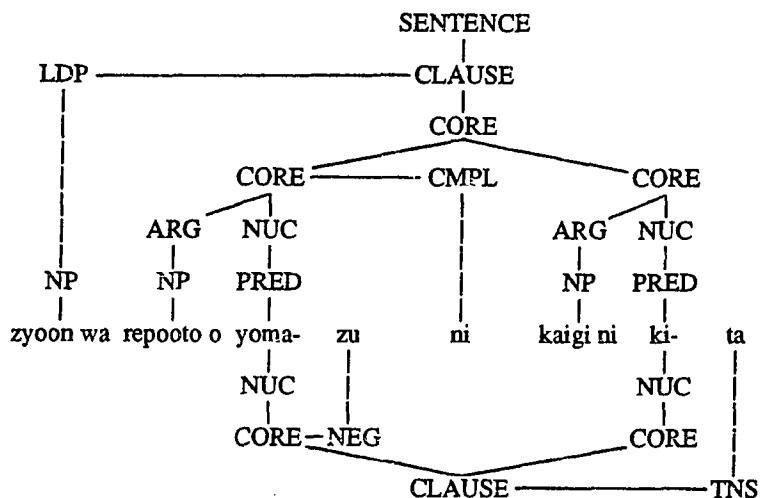


Figure 18: Core Coordination in English

A Japanese example of core coordination is the *V-zu ni* 'without -ing' construction. The subjects of the linked cores must be identical; at the same time, the first core is negated independently, demonstrating an absence of core-operator dependency and hence coordination.

- (20) zyoon wa repooto o yoma- zu ni kaigi ni ki- ta.
 TOP report ACC read NEG CMPL meeting LOC come PST
 'Joan came to the meeting without reading the reports.'



'Joan came to the meeting without reading the reports.' (= 20)

Figure 19: Core Coordination in Japanese

2.6.6. Core Cosubordination

The scope of the core operators in core cosubordination covers all linked cores, which is not the case in core coordination.

- (21) a. John should want to try to wash the car.
 b. John can sit playing his guitar for hours.

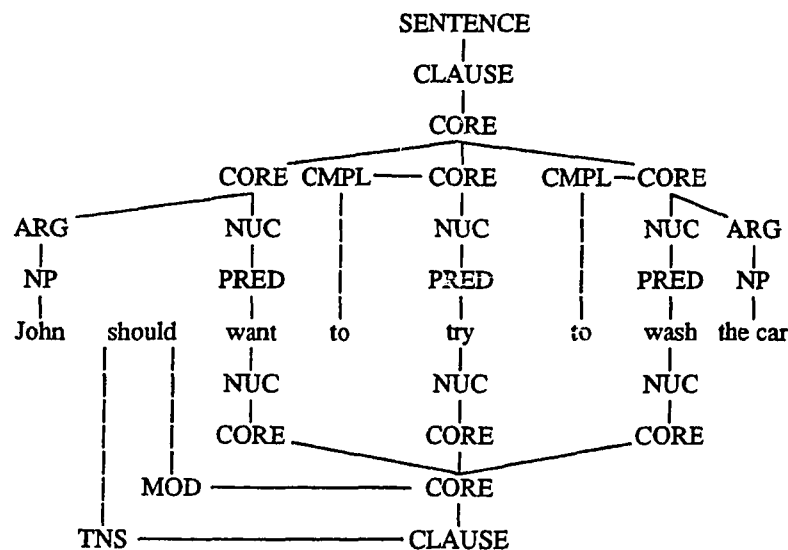


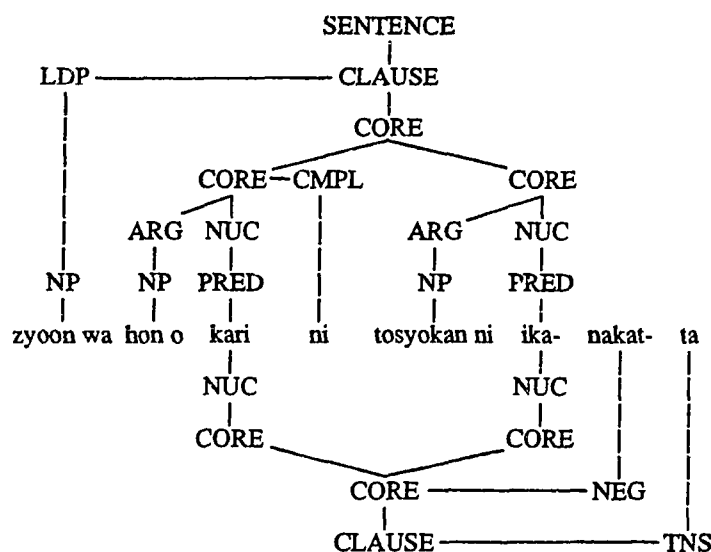
Figure 20: Core Cosubordination in English

In Japanese, the *V(ren'yoo) ni* 'in order to' construction, which occurs with a second core containing a motion verb, is an example of core cosubordination. As with core coordination, the subjects of linked cores must be identical.

- (22) *zyoon wa hon o kari ni tosyokan ni ika-nakat-ta.*
 TOP book ACC borrow CMPL library LOC go NEG PST
 'Joan didn't go to the library to borrow some books.'

The scope of the core negative operator in (22) ranges over not only the second core but also the first core. The sentence may be uttered to express that Joan went to the library for some other purpose.¹⁶ Therefore, there is operator dependency at the core level in this construction, the defining feature of cosubordination.

¹⁶ In such a case, the particle *wa* is likely to appear after *kari ni*.



'Joan didn't go to the library to borrow some books.' (= 22)

Figure 21: Core Cosubordination in Japanese

2.6.7. Nuclear Juncture

In nuclear juncture, two or more nuclei are linked to form a complex nucleus which takes a single set of core arguments.

(23) Je ferai manger les gâteaux à Jean.
 I will make eat the cakes to
 'I will make Jean eat the cakes.'

Compare (23) with (24), which involves core coordination.

(24) Je laisserai Jean manger les gâteaux.
 I will let eat the cakes
 'I will let Jean eat the cakes.'

In the core juncture, (24), the argument which is semantically the object of the first predicate and the subject of the second predicate appears between the two. In the nuclear juncture, (23), on the other hand, the predicates appear adjacent to each other, and the direct object appears immediately after the complex nucleus.

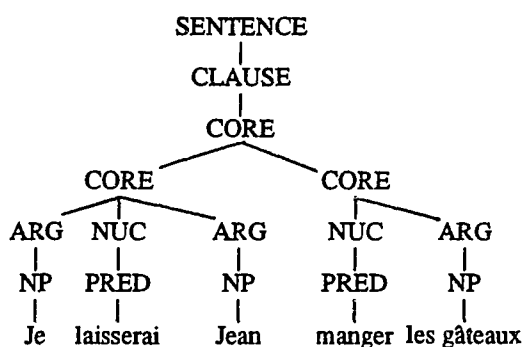


Figure 22: Core Juncture

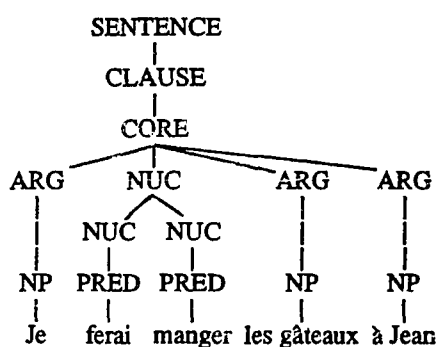


Figure 23: Nuclear Juncture

In Japanese, TE-linkage is the primary means for effecting nuclear juncture. Chapters 3 and 4 demonstrate that TE-linked nuclei are either in subordination or in coordination. A subordinate nucleus does not participate in determination of the core arguments, only modifying the matrix nucleus, whereas coordinated nuclei jointly specify the arguments.

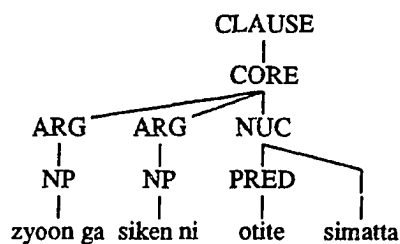
Nuclear juncture is the tightest syntactic linkage. This means that the items which may intervene between the linked nuclei are very limited; in Japanese, only a small number of particles can appear in this position. This structural property is reflected in the meaning as well: the verbals linked in nuclear juncture frequently form a single concept and exhibit similarities with lexical compounds, e.g. *tabe-hazime-* 'eat-begin'.

However, there are clear differences between nuclear juncture and lexical compounds. First, although small in number, some particles can intervene in the former, whereas absolutely no item can intervene in the latter. Second, the first verbal can be independently negated only in the former. Third, the former does not permit further lexical derivation, but the latter does (A. Ishikawa 1985), e.g. **tabe-te mi kata* 'way of trying to eat (intended)' (*tabe* 'eat', *mi* 'see') vs. *tabe-hazime-kata* 'way of starting to eat'. TE-constructions with an 'auxiliary' verb, in the traditional analysis, are considered in RRG as instances of nuclear juncture in RRG — to be discussed in detail in Chapters 3 and 4.

In this chapter, it will suffice by way of illustration to point out that the construction Verb-TE *simaw-* 'put' is an example of nuclear subordination. Only a small number of

particles can appear between the TE-predicate and *simaw-*, and the ditransitive *simaw-* does not affect the number of core arguments — i.e. the core arguments are identical with those of the Verb-TE. Figure 24 illustrates this nuclear subordination construction, one of whose functions is to express the speaker's regret.

- (25) *zyoon ga siken ni otite simatta.*
 NOM examination DAT fail-TE put-PST
 'Joan failed the exam, to my regret.'



'Joan failed the exam, to my regret.' (= 25)

Figure 24: Nuclear Subordination in Japanese

2.7. LEXICAL REPRESENTATION OF VERBALS

2.7.1. Vendler-Dowty Verb Classes

The lexical representation of verbals plays a more significant role in RRG than in any other contemporary syntactic theory. Adopting Vendler (1957) and Dowty (1979), RRG categorizes verbals into four classes, viz. *states*, *activities*, *achievements*, and *accomplishments*, according to *Aktionsart* (the inherent lexical aspect) of verbals.¹⁷ Examples of English and Japanese verbals from each class are provided in the following table.

¹⁷ Seven years prior to Vendler, Kindaichi (1950) classified Japanese verbs solely on the behavior of *V-te i-*. The results are similar to Vendler's when applied to Japanese verbs. For the comparison of Kindaichi's and Vendler's classification, see Jacobsen (1979, 1982, 1991).

State	Activity	Achievement	Accomplishment
have	walk	receive	give
know	eat	learn	teach
want	watch	die	kill
be dead	talk	come	put
deki- 'be able to'	aruk- 'walk'	tuk- 'arrive'	age-, kure- 'give'
ar-, i- 'be, exist'	tabe- 'eat'	sir- 'get to know'	osie- 'teach'
omow- 'think'	kuras- 'live'	ware- 'break'	moraw- 'obtain'
nozom- 'hope'	kaimono s- 'shop'	toke- 'melt'	tukur- 'make'
samu- (Adj) 'be cold'	mi- 'look at, see'	sin- 'die'	koros- 'kill'
hosi- (Adj) 'want'	nak- 'cry'	kizuk- 'realize'	ok- 'put on'

Table 1: Verb Classes

States and activities have a uniform aspectual structure. That is, if the meaning of the predicate is represented as *predicate'*, *predicate'* (x) being true for a certain interval indicates that it is true at any instant in the interval.

Achievements and accomplishments have a complex aspectual structure with an inherent end-point. Achievements are inchoative in nature, and accomplishments are inherently causative. They are derivable from either states or activities by postulating the operator-connectives BECOME and CAUSE (Dowty 1979).¹⁸ While Dowty tends to reject G. Lakoff's (1972) overall hypothesis that all words which take 'sentential complements' can be reduced to a fixed number of language-universal operators, he considers that aspectual categories of verbals might indeed be reduced in the way proposed by Lakoff. The RRG representation of such lexical decomposition, *logical structure (LS)*, is given in Table 2.

¹⁸ Dowty considers that only states are primitives. In RRG, on the other hand, both states and activities are treated as primitives, since it is impossible to derive activities from state predicates.

Verb Class	Logical Structure
State	predicate' (x) or (x,y)
Activity	predicate' (x) or (x,y)
Achievement	BECOME predicate' (x) or (x,y)
Accomplishment	ϕ CAUSE ψ , where ϕ and ψ are any well-formed LS. However, ϕ is typically an activity, and ψ an achievement.

Table 2: Verb Classes and Their Logical Structures

In Japanese, state predicates can appear neither with *n-zikan/nenkan* 'for n hours/years' nor with *n-zikan/nenkan de* 'in n hours/years'. Activities can co-occur with *n-zikan/nenkan*, but not with *n-zikan/nenkan de*; whereas achievements and accomplishments can co-occur with *n-zikan/nenkan de*, but not with *n-zikan/nenkan*. Accomplishments can form a lexical compound with *owar-* 'finish', but states, activities, and achievements cannot.

Many activity verbs also appear as corresponding accomplishment verbs. The accomplishment use is derived by the following lexical rule (Van Valin 1990:225).

- (26) Activity [motion, creation, consumption] \rightarrow Accomplishment: Given an activity LS [ϕ ...**predicate1'**...], add 'CAUSE [ψ **BECOME predicate2'**...]' to form a ϕ CAUSE ψ accomplishment LS.

The nature of **predicate2'** depends on the type of activity. Motion activities normally take [BECOME (NOT) be-at' (x,y)]; creation activities take [BECOME exist' (x)]; consumption activities take [BECOME NOT exist' (x)].

Another property of verbals which must be stated in the lexicon is the *punctual/durative* distinction. Activities are durative; achievements and accomplishments may be either punctual or durative. Events which are denoted by such verbs as *toke-* 'melt' (achievement) and *tukur-* 'make' (accomplishment) usually take some time to reach the inherent end-point (hence durative), whereas those which are denoted by *tuk-* 'arrive' (achievement) and *otos-* 'drop' (accomplishment) are usually punctual.

However, this punctual/durative distinction is linguistic: it does not necessarily

reflect the structure of the real-world events referred to by the verbs. For example, the events referred to by *ik-* ‘go’ and *k-* ‘come’ require duration of time, and yet these verbs behave as punctual accomplishments.

Finally, the lexicon in RRG includes information about agentivity (controllability), by utilizing the operator DO proposed by Dowty. For example, *see'* represents *see*, and DO *see'* represents *look at*. In Japanese, *mi-* is either *see'* or DO *see'*. DO appears in the LS only when agentivity is lexicalized, e.g., *koros-* ‘murder’, which is [+agentive]. The LS of English *kill* need not have DO because it can express [-agentive] as well, e.g. *The bomb killed many soldiers*. Most activity verbs in English permit both [+agentive] and [-agentive] interpretations.

Many activities and accomplishments in Japanese, by contrast, do encode agentivity. Therefore, [-agentive] adverbials, e.g. *guuzen ni* ‘accidentally’ and *ukkari (to)* ‘absentmindedly’, cannot appear with such verbs unless the verbs accompany *simaw-* ‘put into (an appropriate place)’, which can indicate [-agentive] in a specific construction (cf. §3.3). If collocation with a [-agentive] adverbial would yield an anomaly, the predicate is considered to contain DO, e.g. (27).

- (27) a. #kabin o guuzen ni kowasita.
 vase ACC accidentally broke
 ‘(I) broke the vase accidentally.’
- b. kabin o guuzen ni kowasite simatta.
 vase ACC accidentally break-TE put-PST
 ‘(I) broke the vase accidentally.’

Because of the necessity of dealing with the punctual/durative distinction and the encoding of agentivity, Dowty ultimately abandoned the Vendler-type classification and proposed a set of revised verb classes based on an interval semantics (1979:180-6).

	Nonagentive	Agentive
States	1a. <i>be asleep, be in the garden love, know</i>	2a. possibly <i>be polite, be a hero,</i> etc. belong here or in 4.
	1b. interval statives: <i>sit, stand lie</i>	2b. interval statives: <i>sit, stand lie</i> (with human subject)
Activities	3. <i>make noise, roll, rain</i>	4. <i>walk, laugh, dance</i> (cf. 2a)
Single change of state	5. <i>notice, realize, ignore</i>	6. <i>kill, point out</i> (something to someone)
Complex change of state	7. <i>flow from x to y dissolve</i>	8. <i>build (a house), walk from x to y, walk a mile</i>

Table 3: Dowty's Revised Verb Classes

However, most of the fuzziness observed in Vendler's classification persists in Dowty's revised one. Dowty notes (ibid. 185):

We have just seen how the distinction between 5-6 and 7-8 is fuzzy, not because of syntax, but because of differing expectations about the way changes will happen over time. Similarly, the agentive/non-agentive distinction depends on one's imagination for the kinds of properties that are or could be under voluntary immediate control of a rational being, as well as one's imagination for what entities can be rational, acting beings. Thus not only is this not a categorization of verbs, it is not a categorization of sentences, but rather of the propositions conveyed by utterances, given particular background assumptions by speaker and/or hearer about the nature of the situations under discussion. Despite this "fuzziness", it is the way these distinctions are ensconced in the syntactic structure of the English language that gives them their interest and significance.

His observations are accurate and insightful. Fuzzy though it is, I believe that the verb classification adopted in RRG and in this thesis correctly reflects native speakers' knowledge about their languages. Thus, in the balance of the thesis, I will maintain the terms *state*, *activity*, *achievement*, and *accomplishment*, and also the punctual/durative and the agentive/nonagentive distinction. The following table provides the LS of some Japanese verbals.

Verbal	Gloss	Logical Structure
i-, ar-	be	be-at' (x,y)
	have	have' (x,y)
hosi- (Adj)	want	want' (x,y)
kikoe-	be audible	audible' (x); audible' (x,y)
mie-	be visible	visible' (x); visible' (x,y)
nak-	cry	cry' (x)
hasir-	run	DO run' (x)
simar-	close (IV)	BECOME closed' (x)
wakar-	understand	BECOME understand' (x,y)
nakunar-	disappear	BECOME NOT visible' (x)
nakus-	lose	BECOME NOT have' (x,y)
moraw-	receive	BECOME have' (x,y)
	obtain	[DO (x, [do' (x)])] CAUSE [BECOME have' (x,y)] BECOME be-at' (y,x)
k-	come	[do' (x)] CAUSE [BECOME be-at' (y,x)]
ik-	go	[do' (x)] CAUSE [BECOME be-at' (y,x)]
mise-	show	[DO (x, [do' (x)])] CAUSE [see' (y,z)]
ok-	put on	[DO (x, [do' (x)])] CAUSE [BECOME be-on' (y,z)]
simaw-	put away	[DO (x, [do' (x)])] CAUSE [BECOME be-at' (y,z)]
age-, kure-	give	[DO (x, [do' (x)])] CAUSE [BECOME have' (y,z)]
sime-	close (TV)	[DO (x, [do' (x)])] CAUSE [BECOME close' (y)]

Table 4: Japanese Verbals and Their Logical Structures

2.7.2. Thematic Relations

Basing itself on Jackendoff (1976), RRG defines thematic relations in terms of the argument positions in the LS representations.

(28) STATES

- A. Locational: **be-at'** (x,y); x = locative, y = theme
- B. Non-Locational:
 1. State or condition: **broken'** (x); x = patient
 2. Perception: **see'** (x,y); x = experiencer, y = theme
 3. Cognition: **believe'** (x,y); x = experiencer, y = theme
 4. Possession: **have'** (x,y); x = locative, y = theme
 5. Equational: **be'** (x,y); x = locative, y = theme

(29) ACTIVITIES

A. Uncontrolled:

1. Non-motion: **cry'** (x), **learn'** (x,y); x = effector, y = locative
2. Motion: **roll'** (x); x = theme

B. Controlled: DO (x, [run' (x)]); x = agent

The term *locative* subsumes the traditional notions of *goal*, *recipient*, *source*, and *path*; goal, recipient, and source NPs are recognized as such depending on which one of the following configurations appears in the LS of the predicate:

(30) Goal: ...BECOME **be-at/in/on'** (x,y)

Recipient: ...BECOME **have'** (x,y)

Source: ...BECOME NOT **be-at/in/on'** (x,y) or ...BECOME NOT **have'** (x,y)

The following chapters then, will utilize the notion of (a) layered structure of the clause (nucleus, core, clause), (b) operator (aspect, negative, tense, illocutionary force, etc.), (c) juncture (nuclear, core, clausal), (d) nexus (coordination, subordination, co-subordination), (e) aspectual classes of verbals (states, activities, achievements, accomplishments), and (f) logical structure of verbals.

CHAPTER 3

TE-LINKAGE WITH NUCLEAR JUNCTURE: PART I

3.1. INTRODUCTION

TE can link any two units of the same type, i.e. two nuclei, cores, or clauses. As remarked in Chapter 2, the criterion for nuclear juncture is that the two linked nuclei (predicates) take a single set of arguments. Japanese permits relatively unrestricted ellipsis, however, and hence arguments of linked verbs at *any* juncture level may fail to be overtly present.¹ In elliptical sentences, therefore, two verbs may appear to be linked at the nuclear level even when the linkage is actually at the core or the clausal level, so that the determination of juncture level is not always transparent. However, those verbals which can appear as a second conjunct in nuclear juncture are very limited in number (and the meaning of the resultant complex unit depends in large measure on the second nucleus and the nexus type). The analysis of TE-linkage at the level of nuclear juncture is thus simpler, and therefore that is where I shall begin.

Twelve verbals can appear as second conjunct in nuclear TE-linkage. Four of them — *simaw-* ‘put into an appropriate place’, *i-* ‘exist, be (animate)’, *mi-* ‘see’, and *mise-* ‘show’ — do not affect the valence of the complex nucleus, whereas the others — *ar-* ‘exist, be (inanimate)’, *ik-* ‘go’, *k-* ‘come’, *ok-* ‘put on’, *age-ikure-* ‘give’, *moraw-* ‘receive, obtain’, and *hosi-* ‘be wanted’ — do affect the valence. Some verbals appear in

¹ Suppression of a particular NP (especially the subject), as opposed to pronominalization (the usual strategy in English), is one of the principal devices for expressing discourse cohesion in Japanese. Rich semantic specification of argument structure (selectional restrictions), the use of honorific expressions, and the presence of psych-predicates frequently serve to signal whether the subjects of TE-linked constituents are identical or distinct (Kameyama 1985, 1988). And, above all, the discourse context almost always specifies the referent of the subjects, so that the ambiguities so often discussed in the linguistic literature are more potential than actual.

nuclear subordination; others appear in nuclear coordination; still others appear in both nexus types. This chapter examines nuclear TE-linkage with *simaw-* and *ar-*.

The organization of the chapter is as follows. Section 3.2 presents a number of unique properties of nuclear juncture vis-à-vis core/clausal juncture. In §3.3, TE-linkage with *simaw-* as second constituent is investigated. Section 3.4 deals with TE-constructions with *ar-*; the discussion centers upon two distinct syntactic patterns and argues that they reflect the perfect-resultative distinction in the domain of semantics/pragmatics.

3.2. NUCLEAR VS. CORE/CLAUSAL JUNCTURE

3.2.1. Diagnostic Tests

There are several diagnostics for the distinction, in TE-linkage, between nuclear juncture, on the one hand, and core and clausal juncture on the other. Nuclear juncture is subject to (i) restrictions on possible intervening elements, (ii) obligatory joint participation in the domains of core-level and clause-level operators, and (iii) an intonational restriction: obligatory absence of *major phrase* boundaries. Regarding (i), only the particles *wa*, *mo*, *koso*, *made*, *sae*, and *nante* can appear between the linked nuclei, whereas in core or clausal juncture other items can intervene between the two conjuncts (except with core subordination). As for (ii), the linked nuclei jointly form a complex nucleus; this falls within the core, and the core in turn is included in the clause. Thus, neither of two linked nuclei can be separately affected by core-level or clause-level operators; all linked nuclei are jointly within the scope of any higher-level operator. It is diagnostic test (ii) which serves to distinguish nuclear juncture from core subordination, for a subordinate core can be independently negated by the core-level negative operator *naku-te* (cf. §2.4). While the nuclear-level negative operator *nai-de* can be suffixed to the first conjunct at all juncture levels, this is impossible for *naku-te* if the juncture is at the nuclear level.² Thus,

² As mentioned in Chapter 2, *de* in *nai-de* and *te* in *naku-te* are realizations of the connective suffix TE. Thus the negative operators themselves are *nai-* and *naku-*.

diagnostics (i) and (ii) in combination can uniquely identify nuclear juncture. The juncture must be at the nuclear level if only the above-mentioned particles may intervene between the conjuncts in question, and if *naku-te* cannot negate the first.

In addition, intonational contours (iii) serve to indicate the distinction between nuclear and core/clausal juncture. In the Tokyo dialect of Japanese, if the first syllable of a word consists of one mora and is unaccented, the first syllable is associated with a low tone (L) and the second syllable with a high tone (H).³ (If the first syllable consists of more than one mora, i.e. heavy syllable, this disagreement in tone is optional.) For example, *ikú* 'go (NPST)' in the citation form has the LH tonal configuration. When two or more words are concatenated, some H's are suppressed, forming a *minor phrase* (McCawley 1968). The minor phrase is a prosodic unit in which at most one H occurs. When minor phrases are concatenated, each H is slightly lower than the preceding H — a phenomenon known as *downstep*.⁴ The domain of downstep forms another prosodic unit called the *major phrase* (Poser 1984, Beckman and Pierrehumbert 1986, inter alia); downstep occurs within a single major phrase. At a major phrase boundary, the fundamental frequency is reset, so that the initial H in each major phrase is not constrained to be lower than the preceding H, relative to the *global declination line*.⁵

While the conjuncts in nuclear juncture necessarily form a single major phrase (usually a minor phrase), those in core/clausal juncture need not. For example, when *mótte* 'carry-TE' and *kúru* 'come (NPST)' are linked in nuclear juncture, they form either a single minor phrase (*mótte kuru*) or a single major phrase (*mótte kúru* with a downstep),

³ These L and H are not inherent in a lexical item, but rather are inserted at the phrase level. Pierrehumbert and Beckman (1988) call them *boundary L* and *phrasal H*, respectively.

⁴ This phenomenon is also called *catathesis* (Poser 1984, Beckman and Pierrehumbert 1986, Pierrehumbert and Beckman 1988).

⁵ For further discussion of the prosodic structure of the Tokyo dialect, see McCawley (1968), Haraguchi (1977), Beckman and Pierrehumbert (1986), Kubozono (1987, 1989), Pierrehumbert and Beckman (1988), Selkirk and Tateishi (1988, 1991), and Hata and Hasegawa (1992). For global declination of fundamental frequency, see Ladd (1984), and Liberman and Pierrehumbert (1984).

but they cannot form two major phrases. On the other hand, when these two verbs occur in core/clausal juncture, a major-phrase boundary can be inserted between them.

In traditional Japanese grammar, those verbs which appear as second constituent in a nuclear-level TE-construction have been treated as auxiliaries. This analysis reflects native speakers' intuition that the complex nucleus which consists of the TE-predicate and such an 'auxiliary' verb encodes a single concept. Nuclear juncture is the tightest linkage in syntax, and this syntactic tightness reflects the semantic tightness. The linked nuclei, in fact, frequently exhibit similarities with lexical compounds; some researchers (e.g. Nakau 1976, Miyara 1981, Sugioka 1984, Miyagawa 1989, Jacobsen 1991) even consider the sequence 'V-te V' a lexical unit.

However, there is little evidence for this last analysis. First, while true lexical compounds permit further lexical derivation (A. Ishikawa 1985), the sequence 'V-te V' never undergoes such derivation (Lee 1989). For example, *toki* 'time' can be attached to the lexical compound *moti-tuzuke-* 'hold + continue > keep something' and *kai-tatak-* 'buy + beat > beat down the price' and form *moti-tuzuke-doki* 'time for keeping something' and *kai-tataki-doki* 'time to beat down the price'. By contrast, *toki* cannot be attached to a 'V-te V' sequence, e.g. **motte-i-doki* 'hold-TE + be + time; time for keeping something (Intended)' and **katte-simai-doki* 'buy-TE + put + time; time for buying something'.

Second, while the particles *wa*, *mo*, *koso*, *made*, *sae*, and *nante* can appear between the linked nuclei, such intrusion is not permitted with real lexical compounds, e.g. *yon-de wa iru* 'read-TE + WA + be; IS reading (the focus on *is*)' vs. **yomi-wa-hazimeru* (lexical compound) 'will BEGIN to read (Intended)'.

Third, the nuclear-level negative operator *nai-de*, which can negate the TE-predicate alone, can never appear in lexical compounds, e.g. *yoma-nai-de iru* 'have not read' vs. **yomi-nai-de-tuzukeru* (lexical compound) 'will continue not reading (Intended)'. These facts suggest that 'V-te V' sequences must be accounted for in the syntax, not the lexicon.

Note, however, that some 'V-te V' sequences do undergo phonological integration. For example, *V-te simau* 'put/finish; finish V-ing', *V-te iru* 'be/stay; be V-ing', and *V-te*

oku ‘put on; have V-ed’ are frequently contracted to *V-tyau*, *V-teru*, and *V-toku*, respectively, in a colloquial register. I consider this phenomenon to be attributed to a post-syntactic process, as proposed in Shibatani and Kageyama (1988).

3.2.2. Propositionality

As discussed in §1.2.2, TE-constructions are traditionally categorized according to whether the second conjunct is an ‘auxiliary’ or not. Although the term *auxiliary* has never been clearly defined, this categorization does appear to reflect native speakers’ intuitive understanding of TE-constructions. The two categories (predicate + ‘auxiliary’ and predicate + predicate) are felt to be somehow distinct.

This distinction corresponds roughly to the division between nuclear and core/clausal juncture in RRG. From the RRG perspective, the distinction is significant because each conjunct in core/clausal juncture can denote a separate proposition, whereas in nuclear juncture it cannot. Native speakers are aware that the TE-linkage occurring in core/clausal juncture indicates the relationship between propositions, whereas that occurring in nuclear juncture indicates the relationship between verbals.

3.3. THE TE SIMAW- CONSTRUCTION

3.3.1. Nuclear Subordination

Although it is perfectly possible for both verbs to retain their full autonomy in the sequence ‘*V-te simaw-*’ (in core juncture), it is extremely common for *simaw-* to act as a kind of helping verb and thus for the combination to constitute a special construction. This construction involves nuclear juncture, as the standard diagnostics show: a major-phrase boundary between *V-te* and *simaw-* is prohibited, and only *wa* and *mo* (and *sae* for some speakers) can appear between the linked nuclei. As for negative operators, although the nuclear-level *nai-de* can, in principle, appear between the conjuncts, it rarely does, because of the semantics of the construction — which will be discussed later.

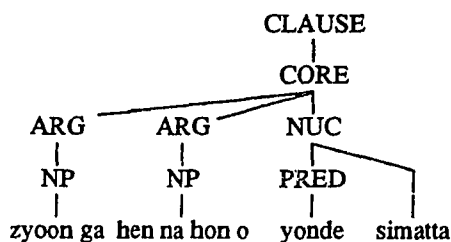
Adding the ditransitive verb *simaw-* ‘put’ does not increase the number of core arguments, nor does it impose any selectional restriction on those arguments:⁶ the core arguments are identical with those of the TE-predicate, cf. (1a). Therefore, the nexus type is determined to be subordination.

- (1) a. *zyoon ga hen na hon o yonde simatta.*
 NOM obscene book ACC read-TE put-PST
 ‘Joan has read an obscene book.’
 (One Major Phrase: Nuclear Subordination)
- b. *zyoon ga hen na hon o yonde, simatta.*
 NOM obscene book ACC read-TE put-PST
 ‘Joan read an obscene book and put (it) away.’
 (Two Major Phrases: Core Coordination, cf. Chapter 5)

In nuclear subordination, the subordinate predicate modifies some property of the matrix predicate; in particular, in (1a), *simaw-* indicates completion.⁷ This is parallel to adverbial subordination on the clause level, in which the subordinate clause modifies the matrix clause in various ways. Figure 1 represents nuclear subordination. Note that because *simaw-* is not predicative of any core argument, there is no PRED-node dominating it.

⁶ The verb *simaw-* will be glossed here as ‘put’, instead of the more accurate ‘put into an appropriate place’. In Classical Japanese, *simaw-* was used to indicate ‘finish’, and the sense ‘put into an appropriate place’ was derived from ‘finish’: when people have finished some work, they return the instruments/materials to their appropriate places. However, in Modern Japanese the sense ‘finish’ survived only in fixed expressions, e.g. *mise o simaw-* ‘quit business’ (*mise* ‘store’); on the other hand, the noun *o-simai* ‘end, finish’ retains the original meaning. The semantic similarity between this old meaning ‘finish’ and the perfective use of TE SIMAW- (see below) is undoubtedly not accidental.

⁷ There are other possible interpretations of (1a), which will be discussed shortly.



'Joan has read an obscene book.' (= 1a)

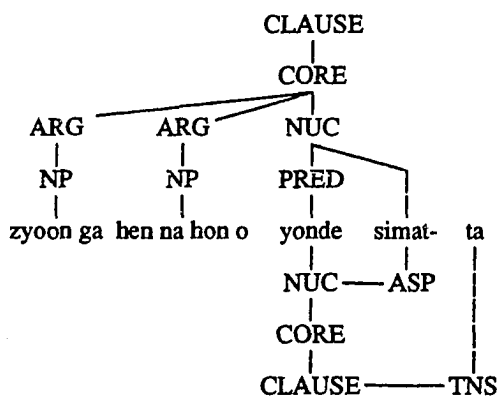
Figure 1: Nuclear Subordination

3.3.2. Nuclear-Layer Modification: Operator Construction

The central definitional constraint on the semantic relations between linked nuclei in subordination is that the subordinate predicate must modify only the 'bare' matrix predicate itself, with no attention to its arguments. Because a nucleus cannot denote a proposition, this constraint entails that the subordinate predicate cannot modify a proposition. The modifications possible with TE-linkage include functions normally fulfilled by nuclear operators, e.g. aspect and directionality. The question then arises as to why subordinate predicates themselves are not considered to *be* nuclear operators. They are not operators proper because they do not form a closed class of grammatical morphemes with limited distribution. For instance, adverbials of time in a nonfinite clause can express whether the event takes place before the speech time or after it — which is the standard function of the operator *tense*. Nonetheless, as discussed in §2.4, adverbials are not considered to be operators in RRG. In the same way, although they may be functionally equivalent, subordinate predicates by themselves are not nuclear operators.

On the other hand, it is significant that although subordinate predicates are not operators *morphologically*, they nevertheless function as operators when appearing in a TE-construction with nuclear subordination. This dual characterization can be captured in RRG by projecting a subordinate predicate in both the constituent and the operator projection, as shown in Figure 2. Nuclear subordination can therefore be considered an *operator construction* — that is, nuclear subordination recasts a verbal morpheme so that

it functions as an operator.



'Joan has read an obscene book.' (= 1a)

Figure 2: Operator Construction (Nuclear Subordination)

OPERATOR CONSTRUCTION

Syntax: Nuclear Subordination

Semantics: Subordinate predicate modifies the bare matrix predicate.

The complex nucleus resulting from nuclear modification by *simaw-* is perfective and/or nonagentive. Traditionally, perfective aspect is considered to be opposed to imperfective: perfective indicates a situation as a single whole, without distinction of the separate phases, i.e. inception, continuation/progression, and termination (Comrie 1976, Maslov 1988). Perfective must be distinguished from perfect, which expresses present relevance of a past situation; the complex nucleus in the TE SIMAW- construction need not express present relevance of a past situation.

As discussed in §2.7.1, a verb's lexical entry contains inherent information about agentivity; the verb's inherent lexical meaning can in turn be modified aspectually by

simaw- (perfective). Both nonagentivity and perfectivity are thus natural properties of the matrix predicate itself (with no attention to core arguments). Therefore, attributing these functions to nuclear subordination with *simaw-* is very much in keeping with the central constraint on the semantic relationships between linked predicates in nuclear subordination.

On the other hand, *simaw-* as a subordinate predicate may also indicate the speaker's attitude toward the proposition (i.e. modality), which appears to be a patent violation of the central constraint. For example, *simaw-* in (1a) may indicate the speaker's negative attitude toward the situation, i.e. 'Joan has read an obscene book, to my regret'. However, modality in general is essentially a semantic/pragmatic notion, and hence we should not expect that modality expressions must *syntactically* modify the constituent denoting the proposition. A modality expression need not form a syntactic constituent at all. For example, in English *I don't think* in 'I don't think Sue left this morning, {*do I? / did she?}' is not a syntactic constituent, and yet it should be analyzed as a unit of modality expression in order to account for the irregular behavior of tag questions. When no modality expression is involved, a tag must be associated with the matrix clause, as shown in 'He doesn't think Sue left this morning, {does he? / *did she?}', while when the matrix predicate is (part of) a modality expression, a tag can be directly associated with a 'lower' clause (Nakau 1992). Furthermore, modality expressions (e.g. *kind of*) need not be attached to a constituent which denotes a proposition at all, but can syntactically modify a lexical NP (as opposed to a nominalized clause).⁸ Although a complete analysis of modality in Japanese is beyond the scope of the present thesis, I maintain that modality expressions need not be attached to a syntactic constituent which denotes a proposition. Semantically, TE SIMAW- indeed can qualify the proposition as a whole; but this says nothing about its syntactic integration into the clause, which can perfectly well be at the nuclear level.

⁸ See Kay (1984) for the English hedges *kind of*, *sort of*, and Kinjo (1992) for the Japanese hedge *nante*.

3.3.3. Makiuchi's Analysis

In this section, I summarize and discuss Makiuchi's (1972) description of TE SIMAW-, which is representative of hitherto-proposed analyses. Makiuchi (ibid. 117-23) claims that the invariant semantic value of TE SIMAW- is [+completion], and that the construction has an additional feature [\pm expected]. With [+expected], the construction emphasizes the completion of the TE-situation (the situation denoted by the TE-marked constituent), whereas with [-expected], it expresses the speaker's reaction towards the unexpected TE-situation.

TE SIMAW- may specify the aspect of the TE-predicate as being perfective,⁹ as shown in (2b). In (2a), the aspect of *tabe-* 'eat (activity)' is unspecified. The speaker is demanding that the addressee perform an act of eating, and (2a) can be interpreted as 'Start eating!' With (2b), on the other hand, the speaker is demanding that the addressee perform an act of eating as a single whole, and implying thereby the completion of eating (accomplishment).¹⁰

- (2) a. gohan o tabe- nasai.
 meal ACC eat IMP
 'Eat your meal!'
- b. gohan o tabete simai- nasai.
 meal ACC eat-TE put IMP
 'Finish your meal!'

However, TE SIMAW- need not be [+completed]. As shown in (3), the lexical compound *yari-tuzuke-* 'do + continue' can appear with TE SIMAW-.

- (3) ikenai to wa omotte mo, tui konpyuutaa geemu o
 no-good QUOT PRT think-TE PRT unintentionally computer game ACC

⁹ Makiuchi's '[+completion]' seems to me too strong; I prefer the weaker term 'perfective'.

¹⁰ (2b) does not necessarily presuppose that the addressee has already started eating.

yari-tuzukete simau.
do-continue-TE put-NPST
'Although I think it's not good, I keep on playing computer games.'

TE *SIMAW-* frequently indicates modality, but it is not accurate to say that the construction, when it has a completive meaning, always involves [+expected], as Makiuchi claims. In (4), the speaker has anticipated Joan's coming to a certain place, but the semantics of the sentence does not involve any emphasis on completion. Rather, the sentence indicates that the state of affairs is undesirable for the speaker.

(4) yahari zyoon ga kite simatta.
as-anticipated NOM come-TE put-PST
'Joan came, I'm afraid.'

Nor can Makiuchi's analysis account for the function of *simaw-* in (5b).

(5) a. #zyoon ga guuzen ni tegami o suteta.
NOM accidentally letter ACC threw-away
'Accidentally, Joan threw the letter away.'

b. zyoon ga guuzen ni tegami o sutete simatta.
NOM accidentally letter ACC throw-away-TE put-PST
'Accidentally, Joan threw the letter away.'

Many activity and accomplishment verbs in Japanese are semantically agentive, and TE *SIMAW-* is used to cancel the lexical operator DO, i.e. [+agentive], of the TE-predicate.¹¹ Nonagentive adverbials, e.g. *guuzen ni* 'accidentally', *omowazu* 'unintentionally', and *ukkari (to)* 'absentmindedly', are unnatural with such agentive verbs unless accompanied by *simaw-*.

Makiuchi also claims that 'emotion verbs' can appear in TE *SIMAW-*, but only with [-expected].

¹¹ For alternative analyses of inherent agentivity, see Holisky (1987) and Van Valin and Wilkins (1992).

- (6) *nikunde wa ikenai to omoi nagara nikunde simatta.*
 hate-TE PRT must-NEG QUOT think while hate-TE put-PST
 ‘While I thought I shouldn’t hate him/her, I did hate him/her.’
 (Makiuchi 1972:122, Modified)

It is not clear what he means by *emotion verbs*, but if they include verbs which express psychological states, (7) counts as a counterexample. What is emphasized in (7) is [-agentive].

- (7) *dame daroo to omotte ita keredo, sirase o kiita toki wa*
 no-good PROV QUOT think-TE be-PST but notice ACC heard time PRT
yahari kanasiku natte simatta.
 as-expected be-sad become-TE put-PST
 ‘I anticipated that I wouldn’t make it [e.g. passing an exam], but I couldn’t help becoming depressed when I heard the notice [that I had failed].’

In the following sections, I will characterize TE SIMAW- in terms of four concepts — factuality, perfectivity, agentivity, and modality — which will be defined in the next two subsections.

3.3.4. Contextual Effects

It is frequently claimed that the function of *simaw-* in TE SIMAW- depends on ‘context’. However, descriptions which contain such statements are not satisfactory unless they explicitly state which contextual effects should count as relevant. In order to characterize TE SIMAW-, three kinds of contextual effects must be taken into consideration: factuality, perfectivity, and agentivity.

I will use the term *factuality* to refer to the dimension of *realis-irrealis*: factual propositions are taken to be facts, whereas nonfactual propositions are not.¹² Factuality is

¹² This opposition was originally inspired by Kiparsky and Kiparsky’s notion of *factivity* (1970). They contend that factive presuppositions arise from *factive verbs*, i.e., verbs whose complements are presupposed to be true (i.e. facts). Examples of factive verbs include *regret*, *surprise*, *know*, *remember*, *realize*, and *resent*, whereas nonfactive verbs include *suppose*, *assert*, *allege*, *claim*, *conjecture*, and *believe*. The Japanese counterparts of such verbs behave similarly. However, my use of ‘factivity’ is so dif-

determined by the concepts of tense, modality, evidentiality, and illocutionary force. For example, affirmative propositions in the past tense are factual; those in the conditional or imperative are nonfactual. We are considering here the complex nucleus involving *simaw-*; and tense, modality, evidentiality, and illocutionary force are not intrinsically associated with this complex nucleus per se. Hence factuality, as determined by these concepts, can properly be seen as a 'contextual' notion.

The *perfective*, which is the opposite of the imperfective (and the unmarked member of the opposition), expresses a dynamic situation as a single whole. Thus, only nonstatives can be perfective. A punctual achievement, which does not have an internal structure, is automatically perfective simply by virtue of its inherent inability to be imperfective. On the other hand, if the TE-predicate is a durative achievement, or an accomplishment, or an activity which has undergone the standard lexical rule (cf. §2.7.1) to form the corresponding accomplishment verb, the perfective implies that the end-point has been realized. In this case, perfectivity is equivalent to completion. By contrast, if the TE-predicate is an activity per se, semantically represented as ϕ , then the perfective merely indicates the absence of imperfective semantics (the marked member of the opposition). For example, the activity with the simple past tense (*susi o tabeta* 'ate (sushi)') simply indicates that the activity of sushi-eating has taken place; whether or not the actor ate all (or some fixed amount) of sushi is immaterial.

Finally, *agentivity* as a contextual effect is defined as the determination of agentivity by some element outside the complex nucleus, typically by adverbials, e.g. *wazato* 'intentionally', *guuzen ni* 'accidentally', *omowazu* 'unintentionally', and *ukkari (to)* 'absentmindedly'. These three concepts — factuality, perfectivity, and agentivity — will be utilized for the analysis of TE SIMAW-.

ferent from theirs that I felt it better to use a distinct term.

3.3.5. Modality of Regret/Surprise

TE SIMAW- may indicate a certain kind of mental attitude on the part of the speaker toward the proposition/speech act. The specification of such an attitude is hard to make precise. Generally, however, the TE SIMAW- construction indicates that the speaker regrets or is surprised at the actual occurrence of what is denoted by the proposition. Underlying these concepts is the notion of unexpectedness, and thus Makiuchi's term [-expected] is justified. However, it must be noted that regret, at least, is not at all incompatible with [+expected]: one may have anticipated some event, but nevertheless regret it when it has happened. Therefore, the term *modality of regret/surprise*, rather than a more abstract [-expected], will be utilized in this thesis.

The mental attitude indicated by TE SIMAW- may be the speaker's attitude toward the speech act, rather than toward the proposition. Nakau (1992) refers to the speaker's attitude toward the speech act by the term *discourse modality*, and toward the proposition by the term *sentence modality*. Ono and Suzuki (1992) implicitly acknowledge a similar distinction in the usages of TE SIMAW-. They posit four kinds of interpretation; (i) inability to undo, (ii) speaker's negative attitude, (iii) speaker's guiltily positive attitude, and (iv) automatic (equivalent to [-agentive] in our terminology). In their analysis, (i-iii) are related through grammaticization of the speaker's attitude. They claim: 'The lexical verb *shimau* has been grammaticized into an auxiliary *shimau/chau*, which conveys the meaning of "inability to undo." It has then taken on a sense of the speaker's negative attitude, since many situations which have become unchangeable often have undesirable consequences for the speaker. Further, this meaning is later extended to convey the speaker's guiltily positive attitude, i.e., pleasure mixed with some guilt about the situation.'

Ono and Suzuki provide three examples for speaker's guiltily positive attitude (iii), all naturally uttered sentences, viz. (8a-c).¹³

¹³ Transcriptions and glosses are Ono and Suzuki's.

- (8) a. uno o yatte shimai-mashi-ta yo.
 Uno OBJ do SHIMAU-POLITE-PST PTL
 ‘(I) played Uno (with the girls).’
- b. boku dat-tara itadai-chau kedo.
 I COP-if have-CHAU but
 ‘I would have (her).’
- c. atashi sa kookoosee ni sa ... nanpa s-are-chat-ta.
 I PTL high.school.student by PTL approach do-PASS-CHAU-PST
 ‘I was approached by high school boys ...’

Sentence (8a) was uttered by a male speaker in reporting that he had fun playing Uno (a card game) during a ski trip. In (8b), the interlocutors were talking about a mutual (male) friend who received a gift from a married woman and was harassed by her husband. By uttering (8b), the speaker indicates that if he were in the friend’s position, he would go on to be intimate with her. The speaker of (8c) is a woman who felt flattered at being approached by teen-aged boys. Ono and Suzuki observe that in these instances the speakers do not have a negative attitude toward the proposition at all; rather, the speakers feel guilty because they are in such a fortunate situation all by themselves without the hearer, or because the situation involves a violation of a social code.

Although the difference between (ii) and (iii) — i.e. speaker’s negative attitude and speaker’s guiltily positive attitude — is important, the label *guiltily positive attitude* is unfortunate, for it sounds like an oxymoron. Negative attitudes may exist for various reasons, and do not necessarily imply that the speaker evaluates the event itself negatively. One may, for example, have a negative attitude if one has to announce one’s success in an awkward situation. This does not indicate that the speaker considers his/her success negatively.

Our conclusion, then, is that TE SIMAW- can indicate the speaker’s negative attitude either toward the proposition or toward the speech act. In other words, there are two types of modality: *sentence modality* and *discourse modality*. This, however, does not run counter to Ono and Suzuki’s contention that the function of TE SIMAW- has been extended from semantics to pragmatics — the direction discussed by Traugott (1982),

Sweetser (1990), and Traugott and König (1991), *inter alia*. In the case of TE SIMAW-, I would propose that the modality of regret/surprise is to be derived from the semantic content of the construction, viz. perfective and nonagentive — as also suggested by Ono and Suzuki in a slightly different way.

3.3.6. Obligatory Modality Interpretation

3.3.6.1. Punctual Achievements

Three concepts can be expressed by TE SIMAW-: perfective, nonagentive, and modality of regret or surprise. If the TE-predicate itself is already perfective and nonagentive, the resultant complex nucleus can only be construed as a modality expression. Punctual achievements are perfective and, being inchoative, are nonagentive; predictably, they form modality expressions with TE SIMAW-, e.g. (9).

(9) TE-predicate: punctual achievement (perfective, nonagentive)

- a. *zyoon ga siken ni ukatte simatta.*
 NOM exam LOC pass-TE put-PST
 ‘Joan passed the exam, to my regret/surprise.’ (Sentence Modality)
- b. *zyoon ga hon o nakusite simatta.*
 NOM book ACC lose-TE put-PST
 ‘Joan lost the book, to my regret/surprise.’ (Sentence Modality)
- c. *watasi wa siken ni ukatte simatta.*
 I TOP exam LOC pass-TE put-PST
 ‘(I hesitate to say this, but) I passed the exam.’ (Discourse Modality)

3.3.6.2. Statives

Statives are nonagentive, and they cannot be perfective. In general, TE SIMAW- does not accommodate stative TE-predicates, but when it does, it functions as a modality expression (and not as a perfective), e.g. (10).

(10) TE-predicate: stative (imperfective, nonagentive)

- a. onaka ga miete simatta.
 belly NOM be-visible-TE put-PST
 'My belly was showing, to my embarrassment.'
- b. tyotto ooki-sugite simatta. (Morita 1980)
 a-little too-big-TE put-PST
 'It's a little too big, I'm afraid.'

3.3.7. Obligatory Absence of Modality Interpretation

The concepts regret and surprise force the interpreter to regard the target proposition as *factual* (in the sense of §3.3.4). Therefore, TE SIMAW- cannot be a modality expression in nonfactual contexts, (11), where it rather conveys a perfective nuance.

- (11) a. hon o kaesite simaoo.
 book ACC return-TE put-PROV
 '(I) intend to return the book.'
- b. hon o kaesite simau rasii.
 book ACC return-TE put-NPST EVID-NPST
 '(S/He) seems to be returning the book.'
 'It seems that (s/he) will return the book.'
- c. waratte simaeba umaku gomakaseru.
 smile-TE put-COND well can-cover-up
 'If (you respond with a) smile, (you) can cover up well.'

As mentioned above, if the TE-predicate is inherently perfective and nonagentive, a modality interpretation is obligatory; on the other hand, nonfactual contexts do not allow modality interpretations. Therefore, such a TE-predicate in a nonfactual context results in anomaly, e.g. (12).

(12) TE-predicate: punctual achievement (perfective, nonagentive)

Context: nonfactual

- #kono kuriimu o tukau to kizuato ga kiete simau
 this cream ACC use if scar NOM vanish-TE put-NPST

soo da.
 EVID COP-NPST
 'I heard that if (I) use this cream, scars will disappear, to my surprise.' (Intended)

3.3.8. Interpretation of Accomplishments

Accomplishments are perfective and generally agentive, e.g. *otos-* 'drop (transitive)' and *koros-* 'kill'. If the TE-predicate is an accomplishment, three possible interpretations emerge: TE SIMAW- may indicate nonagentivity, or modality, or both, as shown in (13).¹⁴

- (13) a. *zyoon ga kabin o watte simatta.*
 NOM vase ACC break-TE put-PST
 'Joan (unintentionally) broke the vase.'
 'Joan broke the vase, to my regret.'
 'Joan (unintentionally) broke the vase, to my regret.'
- b. *zyoon ga kite simatta.*
 NOM come-TE put-PST
 'Joan (unintentionally) came.'
 'Joan came, to my regret.'
 'Joan (unintentionally) came, to my regret.'

3.3.9. TE-Predicates Which Permit [\pm Perfective]

Most activity verbs ([-perfective]) have their accomplishment counterpart ([+perfective]), and are thus ambiguous with respect to perfectivity. If the TE-predicate is such a verb, in principle seven interpretations are possible, as illustrated in (14). Some of these interpretations are difficult but not impossible to contextualize.¹⁵

¹⁴ *K-* 'come', which appears in (13b), has two Logical Structures (LSs): an achievement LS (BECOME be-at'(x,y)), and an accomplishment LS ([do'(x)] CAUSE [BECOME be-at'(y,x)]). The achievement *k-* accommodates nonanimate subjects, and the accomplishment *k-* only animate subjects. *Ik-* 'go', on the other hand, has only an accomplishment LS.

¹⁵ Japanese *korae-* 'endure (e.g. pain)' is much more clearly agentive than any obvious English equivalent. As an approximation in (14a-g), I render the agentive notion as 'withstand', the perfective notion as 'survive', and the nonagentive notion as 'bear

(14) zyoon wa itami o koraete simatta.
 TOP pain ACC withstand-TE put-PST

- a. [+perfective]
 'Joan has survived the pain. (It doesn't hurt any longer.)'
- b. [-agentive]
 'Joan bore the pain (passively endured, without doing anything about it; she is still enduring the pain).'
- c. [+modality]
 'Joan withstood the pain, to my surprise. (I don't know if she still has pain or if she didn't feel the pain at all.)'
- d. [+perfective, -agentive]
 'Joan has borne and survived the pain (passively endured; but she doesn't have pain any longer).'
- e. [+perfective, +modality]
 'Joan has survived the pain, to my surprise. (It doesn't hurt any longer.)'
- f. [-agentive, +modality]
 'Joan bore the pain (passively), to my surprise. (She still has the pain).'
- g. [+perfective, -agentive, +modality]
 'Joan has borne the pain and survived it, to my surprise. (She doesn't have the pain any longer.)'

The following formula sums up these possibilities:

(([+perfective] or [-agentive]) and [\pm modality]) or [+modality]

3.3.10. How Many TE SIMAW- Constructions?

In §1.3.5 I argued that for an adequate description of TE-linkage, it is necessary to posit a grammatical entity which consists of a pairing of a syntactic pattern with a meaning structure. The term *construction* has traditionally been used to refer to a syntactic pattern alone, but in this thesis, it denotes such a pairing.

It has been demonstrated in the previous subsections that TE SIMAW- can indicate perfectivity, nonagentivity, and/or modality. Are there, then, three distinct TE SIMAW- constructions rather than one? The answer is 'No.' Although each semantic aspect can be isolated and some sentences permit only one of them, many sentences indicate various passively'.

combinations of the three (as seen in 14). If there were three distinct constructions (i.e. SYN1 + SEM1, SYN1 + SEM2, SYN1 + SEM3), a sentence would have to be an instantiation of just one of them. (This, of course, does not exclude ambiguity: the sentence might be interpreted in more than one way.) If this were the case, the sentence would not permit the simultaneous presence of more than one semantic aspect. However, the data indicate the contrary: co-occurrence of more than one semantic aspect is frequently observed. Therefore, I conclude that there is only one TE SIMAW- construction.

In principle, TE SIMAW- indicates all three semantic aspects at once, and I will take this interpretation as the default, or the unmarked case. Consequently, prototypical examples of TE SIMAW- are those which permit this default interpretation, e.g. (15).¹⁶

- (15) ukkari kabin o watte simatta.
 absent-mindedly vase ACC break-TE put-PST
 ‘(I) absent-mindedly broke the vase, to my regret.’

Some semantic aspects will be excluded from the set of possible interpretations if the TE-predicate itself is perfective or nonagentive, or if the context is nonfactual. Let us consider, for example, the anomaly of (16).

- (16) #zyoon ga ikiteiru aida ni sain o morawa-nai-de simatta.
 NOM alive while signature ACC obtain-NEG-TE put-PST
 ‘I regret that I didn’t obtain her signature while Joan was still alive.’

Negation of the TE-predicate in (16) cannot be perfective. Therefore, as with statives, the use of TE SIMAW- is awkward. In such a case, the greater the regret, the higher the acceptability. Some may consider (16) ungrammatical, but similar sentences can nonetheless be observed in natural speech.

The properties of TE SIMAW- are summarized as follows.

¹⁶ This claim is in accordance with the ‘textbook generalization’, i.e., textbooks of Japanese do provide this default interpretation as *the* use of TE SIMAW-.

TE SIMAW- CONSTRUCTION

Syntax:	Nuclear Subordination
Semantics:	The complex nucleus is perfective and/or nonagentive.
Pragmatics:	The speaker regrets or is surprised at the situation denoted by the clause.

3.4. TE AR- CONSTRUCTIONS

3.4.1. Verbs of Existence

There are two verbs of existence in Japanese: *ar-* and *i-*. *Ar-* is canonically selected when the existent entity (i.e. the referent of the subject marked in the nominative *ga*) is inanimate; *i-* is selected when it is animate, e.g. (17).

- (17) a. asoko ni kuruma ga {aru/*iru}.
 over-there LOC car NOM be-NPST
 ‘There is a car over there.’
- b. asoko ni kodomo ga {*aru/iru}.
 over-there LOC child NOM be-NPST
 ‘There is a child over there.’

Both verbs are polysemous; semantically, each has two distinct Logical Structures: *be-at*’, and *have*’. With the *‘have*’ reading, both core arguments can be marked in the nominative, but the possessor is typically suppressed or marked by *wa*. Note the curious fact that the nominative NP of *i-* *‘have*’ cannot be inanimate, whereas that of *ar-* *‘have*’ may sometimes be animate; contrast (18a) and (18b).

- (18) a. zyoon {wa/ga} tookyoo ni ie ga {*iru/aru}.
 TOP/NOM LOC house NOM be-NPST
 ‘Joan has a house in Tokyo.’

- b. zyoon {wa/ga} tookyoo ni sinseki ga {iru/aru}.
 TOP/NOM LOC relatives NOM be-NPST
 'Joan has a relative in Tokyo.'

Further, when the location in locational readings is metaphorical, *ar-* can again be used with animate entities, as shown in (19).

- (19) a. zyoon wa zetuboo no donzoko ni {iru/aru}.
 TOP desperation GEN bottom LOC be-NPST
 'Joan is in the depths of despair.'
- b. zyoon wa koohuku no zettyoo ni {iru/aru}.
 TOP happiness GEN peak LOC be-NPST
 'Joan is at the peak of happiness (Joan is in seventh heaven).'

Both verbs can appear in nuclear juncture, but TE AR- constructions exhibit more complex structural characteristics than TE I-. Semantically, on the other hand, TE I- constructions are far more complex than TE AR-. In this thesis, I will focus on TE AR- and discuss TE I- only in passing.

3.4.2. Valence-Maintaining vs. Valence-Changing Construction

There are two types of TE AR- construction: (i) one in which the valence of the TE-predicate is maintained, and (ii) one in which the valence of the TE-predicate is altered in such a way that the actor (subject) is suppressed and the undergoer (direct object) is marked in the nominative. For example, in pattern (i) the undergoer of the transitive verb *tome-* 'stop' is marked in the accusative in (20a), just as in (20b) without *ar-*. Note that the TE-predicate can be intransitive in this pattern, e.g. (20c).

- (20) a. (zyoon ga) soto ni kuruma o tomete ar- u.
 NOM outside LOC car ACC stop-TE be NPST
 '(Joan) has parked the car outside.'
- b. (zyoon ga) soto ni kuruma o tome- ta.
 NOM outside LOC car ACC stop PST
 '(Joan) parked the car outside.'

- c. (watasi wa) takusan nete ar- u wa yo.
 I TOP a-lot sleep-TE be NPST PRT PRT
 '(I)'ve slept a lot.'

Contrast the change in valence in the second pattern:

- (21) (*zyoon ga) soto ni kuruma ga tomete ar- u.
 NOM outside LOC car NOM stop-TE be NPST
 'There is a car parked outside.'

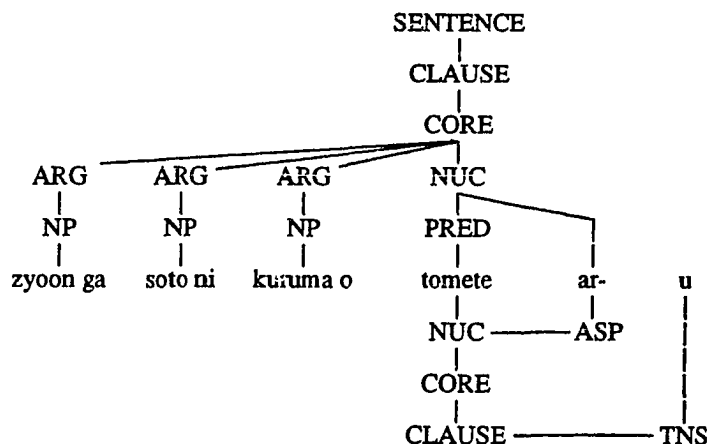
Let us call these two types the *valence-maintaining TE AR- construction*, (20), and the *valence-changing TE AR- construction*, (21), and abbreviate them as *V-M* and *V-C*, respectively.¹⁷

3.4.3. Nuclear Subordination vs. Nuclear Coordination

Because only a small number of particles can intervene between the TE-predicate and *ar-*, and the TE-predicate can be negated by the use of *nai-de* (nuclear-level negative operator) but not by *naku-te* (core-level negative operator), the juncture in the TE AR-pattern is determined to be at the nuclear level. In V-M, the valence of the complex nucleus '*V-te ar-*' is identical with that of the TE-predicate itself, and the animacy restriction of *ar-* does not apply. That is, *ar-* makes no contribution to the argument structure.¹⁸ Thus, as with TE SIMAW-, the nexus type is determined to be subordination. Figure 3 illustrates this nuclear subordination of V-M.

¹⁷ Martin (1975) refers to V-M as *possessive resultative*, and V-C as *intransitivizing resultative*.

¹⁸ The loss of selectional restriction is common in nuclear subordination. In Lakhota, for example, *hā* 'stand (inanimate)' indicates progressive aspect in nuclear subordination, *lowā hā* 'He is singing'. However, when 'stand' is a predicate, *nāzī* 'stand (animate)' must be used instead, *lowā nāzī* 'He stands singing' (Robert Van Valin, p.c.).



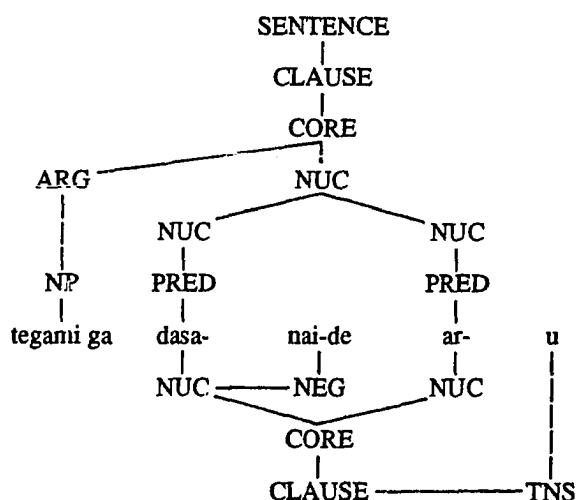
'Joan has parked the car outside.' (= 20a)

Figure 3: Nuclear Subordination in the V-M Construction

In an RRG analysis of V-C, by contrast, the TE-predicate and *ar-* will be linked in [-embedded] nuclear juncture, jointly specifying their core argument(s). The nexus is determined to be coordination rather than cosubordination because it is possible to negate just the first predicate in V-C, by using the nuclear negative operator *nai-de*. Figure 4 illustrates this linkage type.

(22) Valence-Changing TE AR- Construction

tegami ga dasa- nai-de ar- u.
 letter NOM send NEG-TE be NPST
 'There is a letter which hasn't been sent out.'



'There is a letter which hasn't been sent out.' (= 22)

Figure 4: Nuclear Coordination in the V-C Construction

Although V-M occurs more frequently than V-C (NLRI 1964), V-C has received greater attention in the linguistic literature because it poses fundamental problems for syntactic theories. Most current syntactic theories consider all processes which change grammatical functions (e.g. passives and causatives in Japanese) to be lexical. However, as discussed in §3.2.1, the 'V-te ar-' sequence cannot be a lexical unit, and therefore the change in grammatical function must be accounted for as part of the syntax of V-C.

3.4.4. Argument Selection in Nuclear Coordination: Macroroles

In nuclear coordination, two predicates, each of which has its own inherent argument structure (Logical Structure, LS), are linked together to form a single nucleus. Although complex, such a nucleus can only have a single set of core arguments. The question, then, arises as to which particular entities in the LSs of the linked predicates are to be realized as core arguments of the complex nucleus. In order to discuss this issue, I will introduce another concept of RRG, viz. *macroroles*.

Given the LS representation of predicates, the selection of the core arguments is highly predictable. As discussed in §2.7.2, RRG recognizes six thematic relations —

agent, effector, experiencer, locative, theme, and patient. These thematic relations are defined according to (i) their position in a verb's LS and (ii) Aktionsart of the verb, as restated in (23, 24).

(23) STATES

- A. Locational: **be-at'** (x,y); x = locative, y = theme
- B. Non-Locational:
 - 1. State or condition: **broken'** (x); x = patient
 - 2. Perception: **see'** (x,y); x = experiencer, y = theme
 - 3. Cognition: **believe'** (x,y); x = experiencer, y = theme
 - 4. Possession: **have'** (x,y); x = locative, y = theme
 - 5. Equational: **be'** (x,y); x = locative, y = theme

(24) ACTIVITIES

- A. Uncontrolled:
 - 1. Non-motion: **cry'** (x), **learn'** (x,y); x = effector, y = locative
 - 2. Motion: **roll'** (x); x = theme
- B. Controlled: **DO** (x, [**run'** (x)]); x = agent

Among these six thematic relations, at most two are selected by any given predicate to be special core arguments. Those two relations — or *macroroles* (MRs) — are the *actor* and *undergoer*. We will shortly turn to the question of determining, in any given case, which thematic relations are chosen as actor and undergoer.

The number of MRs that each predicate takes is either 0 (e.g. *samu-* 'be cold (weather)'), 1 (e.g. *nak-* 'cry'), or 2 (e.g. *yom-* 'read'), according to the default principle in (25).

(25) GENERAL MACROROLE ASSIGNMENT PRINCIPLE I (Van Valin 1990:227)

The number of MRs a verb takes is less than or equal to the number of arguments in its LS.

- a. If a verb has two or more arguments in its LS, it will take two MRs.
- b. If a verb has one argument in its LS, it will take one MR.

If the number of LS arguments and the number of MRs fail to match, the latter must be specified in the lexical entry of the predicate. For verbs which take one MR, the following rule determines which of the two possibilities is selected.

(26) GENERAL MACROROLE ASSIGNMENT PRINCIPLE II (Van Valin, loc. cit.)

- a. If the verb has an activity predicate in its LS, the MR is actor.
- b. If the verb has no activity predicate in its LS, the MR is undergoer.

Prototypically, the actor is an agent and the undergoer a patient. More generally, these MRs are determined according to the *Actor-Undergoer Hierarchy* shown in Figure 5.¹⁹ (' \Rightarrow ' indicates increasing markedness of realization of thematic relation as macrorole.) Thus, if there is an agent present, it will normally be selected as actor; otherwise, an effector will be chosen; otherwise, an experiencer; etc. Similarly, in the reverse direction for undergoer.

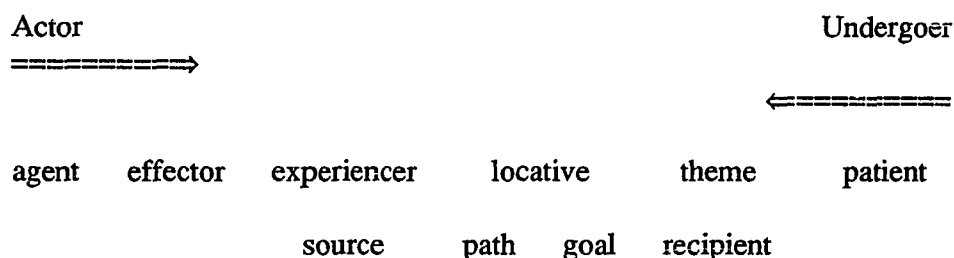


Figure 5: Actor-Undergoer Hierarchy in RRG

As discussed in the preceding section, the V-C construction is intransitive, i.e., it does not permit an accusative NP — in RRG terms, it has only one MR. This intransitivizing process is considered to be an operation on LSs. Let us consider (27) for example.

- (27) yasai ga kitte ar- u.
 vegetable NOM chop-TE be NPST
 'There are vegetables being chopped.'

The two coordinated predicates in (27) have the following LSs.²⁰

¹⁹ Inoue (1989) proposes a similar hierarchy for subject selection in Japanese, viz. (from highest to lowest) agent, experiencer, source, goal, objective (*taisyoogo*), cause, instrumental, locative.

²⁰ The verb *kir-* 'cut, chop' is agentive, and thus has DO in its LS, i.e. [DO (x, [do' (x)])] CAUSE [BECOME chopped' (y)]; however, the agentivity is irrelevant to the

<i>kir-</i>	'chop'	[do' (w)] CAUSE [BECOME chopped' (x)] w = effector; x = patient
<i>ar-</i>	'exist, be'	be-at' (y,z) y = locative; z = theme

When *ar-* appears in the TE-construction with nuclear coordination, the complex nucleus takes only one MR. This particular intransitivizing process can be represented as:

[do' (x)] CAUSE [BECOME pred' (y)] → pred' (y)

When this process is applied to *kir-* 'chop', it will yield:

[do' (x)] CAUSE [BECOME chopped' (y)] → chopped' (y)

However, the resultant LS fails to capture the fact that (27) is also a locative existential sentence, even though the locative is not overtly present. This part is made possible by stipulating the LS of *ar-* as:

<i>ar-</i>	'exist, be'	be-at' (x,y) (x = locative; y = theme)
		be-at' (x, [LS]) (x = locative)

The LS of the V-C construction with *kir-* will then be:

kitte ar-: be-at' (x, [chopped' (y)])

This is exactly what the sentence indicates. To sum up, V-C must specify as its syntactic property that:

TE-predicate: [do' (x)] CAUSE [BECOME pred' (y)] → pred' (y)
ar-: be-at' (x, [LS])

Note that V-C changes the valence of the TE-predicate in two ways: it removes the actor, but at the same time it adds a *ni*-locative.

issue at hand, and thus not included in the discussion.

Note that *ar-* as main predicate have two entities in its LS, a locative and a theme. However, only the theme receives a MR status, and the locative is marked by *ni*.

3.4.5. Perfect vs. Resultative

Sentences involving the ‘V-*te ar-*’ pattern have been uniformly analyzed as resultatives, and no question has been raised as to whether they are appropriately categorized as such. In this section it is argued that while the V-C construction is properly categorized as a resultative, V-M exhibits properties of both the resultative and the perfect.²¹

According to Comrie (1976), perfect indicates the continuing present relevance of a past situation, and that resultative, which indicates both a state and a preceding event (i.e. action or process) from which it has resulted, is the clearest manifestation of perfect.²² With this definition, all resultatives are perfects, and perfect and resultative thus form privative opposites.²³ In other words, perfect can be resultative or nonresultative.

Surveying resultatives in the world’s languages, Nedjalkov and Jaxontov (1988) specify the following general characteristics of perfect and resultative constructions.

- (28) a. While the aftereffects of the action expressed by the perfect are non-specific, the resultative expresses a resultant state of a specific participant.
- b. The perfect, unlike the resultative, can be derived from any verb, whether transitive or intransitive, telic or atelic, including those verbs that denote situations which involve no change in the state of any participant, e.g. the verbs corresponding to *sing* and *laugh*.
- c. The perfect does not alter the valence of the base verb, whereas the resultative is predominantly intransitive.
- d. If adverbials of duration co-occur with the perfect, they denote duration of the event; if they co-occur with the resultative, they express duration of the resultant state.

²¹ In this thesis, the term *perfect* is used to refer solely to the present perfect. The future perfect and the pluperfect exhibit different characteristics from the present perfect.

²² We will refine this definition shortly.

²³ Zwicky and Sadock (1975) define privative opposites as, ‘[Two understandings] U_1 and U_2 are *privative opposites* with respect to [some semantic feature] F if U_1 can be represented as being identical to U_2 except that U_1 includes some specification for F that is lacking in U_2 ,’ e.g. *dog* ‘male canine’ and *dog* ‘canine’. With privative opposition, the more specific understanding implies the more general understanding; the one feature value is marked, the other neutral (unmarked).

- e. If adverbials of moment co-occur with the perfect, they denote the moment at which the event takes place, whereas with the resultative, they denote only a moment at which the state is in existence.
- f. Resultatives of verbs of motion can collocate with adverbials which do not occur with the base verb alone, whereas the perfect does not allow such a collocation.

It will be instructive to apply these criteria to the V-M and V-C constructions. We shall see that, according to (28a-e), the V-M construction is to be categorized as perfect, and the V-C construction as resultative. However, according to (28f), the V-M construction may be categorized as resultative as well.

Regarding (28a), first of all, the aftereffects expressed by the V-C construction are indeed more specific than with the V-M construction. For example, (20a) can be a statement either about Joan's past action or about the present state of the car, while (21) can only be a statement about the car. This difference in specificity of aftereffects is partly due to (28c): V-C is necessarily intransitive, thus arguing for its status as a resultative; and by consistently suppressing the actor, V-C constrains any 'aftereffects' to apply specifically to the undergoer. V-M, on the other hand, is subject to no such transitivity constraint.

With regard to the potential base verb (28b), it has already been mentioned that V-M accommodates not only transitive verbs but also intransitives, e.g. (20c). V-C, on the other hand, permits only transitive base verbs expressing some event which can result in a visible state of the object.²⁴ Sentence (29) is anomalous because knocking on a door usually does not leave any visible traces.

(29) #*doa ga tataite aru.* (Matsumoto 1990a)
 door NOM beat-TE be-NPST
 'The door is in the state of having been knocked upon.' (Intended)

²⁴ Miyagawa (1989) claims that the V-C construction provides an independent and objective test for themehood, however it is defined, i.e. only those verbs which can appear in this construction assign the theme role to their object NP. However, such a claim is untenable. As Matsumoto (1990a) convincingly argues, the acceptability of sentences with V-C depends on pragmatics rather than on a particular semantic role that the base verb assigns to its object.

When adverbials of duration co-occur with a TE AR- construction (28d), they denote the duration of the event with V-M, e.g. (30a), and the duration of the resultant state with V-C, e.g. (30b). (30c) is awkward because it involves V-M, and therefore *san zikan* ‘three hours’ is construed as the duration of the event, even though *tuke-* ‘turn on’ is not a durative verb but a punctual one. (The contrast between TE AR- and TE I- will be explained shortly.)

- (30) a. *watasi wa zyuugo zikan nete {aru/#iru}.* (V-M Construction)
 I TOP 15 hours sleep-TE be-NPST
 ‘I’ve slept 15 hours.’
- b. *denki ga san zikan tukete aru.* (V-C Construction)
 light NOM 3 hours turn-on-TE be-NPST
 ‘The light has been (turned) on for 3 hours.’
- c. *?denki o san zikan tukete aru.* (V-M Construction)
 light ACC 3 hours turn-on-TE be-NPST
 ‘(I)’ve turned on the light for 3 hours.’ (Intended)

The adverbials in the following V-M sentences appear to be counterexamples, i.e. they appear to denote the duration of the resultant state.

- (31) a. *kuruma o san zikan tomete aru.*
 car ACC 3 hours stop-TE be-NPST
 Lit. ‘The car has been stopped for 3 hours.’
 ‘The car has been parked for 3 hours.’
- b. *biiru o reezooko ni san zikan irete aru.*
 beer ACC refrigerator LOC 3 hours put-TE be-NPST
 ‘(I) put the beer in the refrigerator for 3 hours.’

However, these verbs are actually polysemous, for *tome-* ‘stop’ and *ire-* ‘put’, though basically punctual, can metonymically indicate a continuing state ensuing from the initial action, e.g. ‘park’ instead of ‘stop’. The proof is the fact that in (32a, b), no TE-linkage is involved, and yet the same adverbials of duration occur; this demonstrates that *tome-* and *ire-* are not being used as punctual verbs in (32), and hence not in (31) either.

- (32) a. san zikan tomemasu.
 3 hours stop(POL)-NPST
 '(I)'ll park (it) for 3 hours.'
- b. san zikan reezooko ni iremasu.
 3 hours refrigerator LOC put(POL)-NPST
 '(I)'ll put (it) in the refrigerator for three hours.'

In cases where a punctual TE-predicate cannot metonymically refer to a resultant continuing state, e.g. *tuk-* 'arrive' and *oe-* 'finish (TV)', the collocation of durative adverbials and V-M is anomalous and unacceptable.

- (33) a. *san zikan tuite aru.
 3 hours arrive-TE be-NPST
 '(I) arrived (and have been here) for three hours.' (Intended)
- b. *kaigi o san zikan oete aru.
 meeting ACC 3 hours finish-TE be-NPST
 '(I) ended the meeting three hours ago.' (Intended)

When adverbials of moment co-occur with a TE AR- construction (28e), they denote the time at which the event took place with V-M, e.g. (34a), and a time at which the resultant state is in existence with V-C, e.g. (34b).²⁵ Notice that the tense (past) is in accordance with the adverbial *kinoo* 'yesterday' in (34b), whereas the tense is in nonpast in (34a).

- (34) a. watasi wa kinoo kippu o katte {aru/#iru}.
 I TOP yesterday ticket ACC buy-TE be-NPST
 '(I) bought a ticket yesterday (and this fact is relevant to the current discourse).' (V-M Construction)

²⁵ The HAVE -EN pattern in English cannot collocate with moment adverbials which denote a single event time: '*I've read the book yesterday'. It can collocate with cyclic moment adverbials, e.g. *Sunday*, but only when it is construed as the so-called experiential perfect: 'All my life I've gone to church on Sunday'. See McCawley (1971) and Michaelis (1991) for further discussion.

- b. kippu ga kinoo katte {atta/*aru}. (V-C Construction)
 ticket NOM yesterday buy-TE be-PST/be-NPST
 Lit. 'Yesterday there was a ticket bought.'

According to Nedjalkov and Jaxontov's criteria (28a-e), then, the V-M construction is more appropriately categorized as perfect than as resultative. It remains to consider their final criterion, (28f). But first a digression is necessary regarding the perfect TE I- construction and the differences between it and V-M, as observable in (30a) and (34a). The crucial fact is that V-M describes situations subjectively, whereas TE I- does so objectively.²⁶ V-M with third-person subject, therefore, implies that the speaker considers the referent of the subject to be an insider, so that it is appropriate to state his/her action subjectively. In (35a) *sono otoko* 'that man' cannot refer to the subject as an insider, and thus the sentence with AR- (V-M) is anomalous. By contrast, (35b) with I- is anomalous on most occasions, because subjective description is the default when the speaker describes his/her own past actions.²⁷

- (35) a. sono otoko wa tanaka ni wairo o watasite {#aru/iru}.
 that man TOP LOC bribe ACC give-TE be-NPST
 'The man has given a bribe to Tanaka.'

²⁶ Prototypical examples of objective description are those concerning natural events, e.g. earthquake, typhoon, or change of season. The most salient examples of subjective description occur when the speaker describes his/her own actions, where the speaker knows that the actor (= himself/herself) intends to perform the described action. However, knowledge of the actor's intention is not in itself a sufficient condition for the speaker to describe the action subjectively. In order to consider himself/herself entitled to make a subjective description, the speaker must consider the actor an insider. See Wetzel (1985) and Tokunaga (1986) for the insider-outsider distinction in Japanese.

²⁷ Two kinds of subjectivity are involved in perfect constructions in Japanese. First, the question of whether or not the past event is relevant to the current discourse is a subjective judgment, which applies equally to both the V-M and the TE I- construction. The point under discussion here, however, concerns the way to describe the event itself. The event is described subjectively with V-M, objectively with TE I-.

- b. watasi wa tanaka ni wairo o watasite {aru/#iru}.
 I TOP LOC bribe ACC give-TE be-NPST
 'I've given a bribe to Tanaka.'

Returning now to the characteristics of the perfect and the resultative proposed by Nedjalkov and Jaxontov, we observe (28f) that V-C can collocate with a *ni*-marked locative that is not permitted by the TE-predicate, a collocation which is not possible with the perfect. In other words, V-C adds a valence participant, as shown in (36a', b'). In (36a), the *ni*-locative, *reezooko no naka ni* 'in the refrigerator' cannot collocate with *kaw-* 'buy'; but the collocation is possible when *kaw-* is the TE-predicate of V-C, as in (36a').

- (36) a. *reezooko no naka ni gyuunyuu o katta.
 refrigerator GEN inside LOC milk ACC bought
 (Uninterpretable)
- a'. reezooko no naka ni gyuunyuu ga katte aru.
 refrigerator GEN inside LOC milk NOM buy-TE be-NPST
 Lit. 'Milk is bought in the refrigerator.'
 'Milk has been bought and is in the refrigerator.'
- b. *genkan ni kutu o migaita.
 entrance-hall LOC shoe ACC polished
 (Uninterpretable)
- b'. genkan ni kutu ga migaita aru.
 entrance-hall LOC shoe ACC polish-TE be-NPST
 Lit. 'Shoes are polished in the entrance hall.'
 'Shoes have been polished and are in the entrance hall.'

Note, however, that in V-M a collocation with a *ni*-locative is also possible, although not as natural as in V-C; in the perfect TE I- construction, by contrast, such a collocation is excluded. Thus:

- (37) a. reezooko no naka ni gyuunyuu o katte {aru/*iru}.
 refrigerator GEN inside LOC milk ACC buy-TE be-NPST
 '(I) bought milk, and it is in the refrigerator.'

- b. genkan ni kutu o migaite {aru/*iru}.
 entrance-hall LOC shoe ACC polish-TE be-NPST
 '(I) polished the shoes, and they are in the entrance hall.'

The sentences in (37) demonstrate that the V-M construction shares one property of resultatives, viz. increasing the valence of the base verb (28f).

The fact that when adverbials of moment co-occur with V-M, they denote the time at which the event took place, e.g. (38a), has already been mentioned (recall 34a). Such adverbials, however, cannot co-occur with V-M when there is a *ni*-locative which was not in the TE-predicate's original valence (38b).

- (38) a. kinoo gyuunyuu o katte aru kara kyoo wa
 yesterday milk ACC buy-TE be-NPST because today PRT
 kawa-nai-de.
 buy-NEG-TE
 '(I) bought milk yesterday, so don't buy (any) today.'
- b. *reezooko no naka ni kinoo gyuunyuu o katte
 refrigerator GEN inside LOC yesterday milk ACC buy-TE
 aru kara kyoo wa kawa-nai-de.
 be-NPST because today PRT buy-NEG-TE
 '(I) bought milk yesterday, and it is in the refrigerator, so don't buy (any) today.' (Intended)

These sentences display an interesting pattern regarding distribution of *ni*-locatives and moment adverbials, correlating with the dual interpretation of V-M as asserting a process and/or a resultant state. If the V-M construction is understood to be perfect, it can co-occur with a moment adverbial denoting the event time, but not with a *ni*-locative (38b). If, on the other hand, the V-M construction is understood as resultative, it can co-occur with a *ni*-locative (specifying the location of the resultant state) (37a), but not with a moment adverbial denoting the event time (38b). These inverse co-occurrence restrictions bring out strongly the ambiguity of V-M with respect to the perfect-resultative distinction.

3.4.6. Monovalent vs. Bivalent Locational Resultative

Nedjalkov and Jaxontov recognize two semantic types of resultatives: specific resultative and general resultative. In the specific resultative, the visual state of an entity allows the observer to transparently deduce the particular event that must have brought it about, e.g. *tied, cooked*. In the general resultative, by contrast, the state of an entity is described less immediately, through an event the speaker has witnessed or deduced indirectly, e.g. *killed, stolen*. There are two kinds of specific resultatives: monovalent, i.e. X has a visible property P (e.g. *cooked, broken*), and bivalent locational, i.e. X is located in a specific way with respect to Y (e.g. *attached to, enclosed in*). The latter is bivalent because it involves two entities, location and theme.

It holds as an implicational universal that:²⁸

general resultative > monovalent resultative > bivalent locational resultative.

That is, if the general resultative is found in the language in question, so too is the specific resultative; if the monovalent resultative is found, so too the bivalent locational. Kozinskij (1988) claims that the preference for specific resultatives has to do with observability: states such as being dead, broken, etc. are more observable than some other states, e.g. being killed or stolen. If, Kozinskij argues, one considered location to be merely another of the visible properties, then the bivalent locational would appear to be more complex, and less observable, than the monovalent nonlocational. Therefore, one might have expected the implicational universal to be:

general resultative > bivalent locational resultative > monovalent resultative.

Kozinskij, however, claims that the bivalent locational is more observable than the monovalent nonlocational. He argues that both the *figure* and the *ground* (in the sense of Talmy 1978a), and often their spatial arrangement as well, are normally immediately observable; in the case of *The stamp is glued to the envelope*, for example, no previous

²⁸ For A > B, it is the case that if a language has an explicit means of expressing A, it will also have an explicit means of expressing B.

state need be inferred, presupposed, or guessed. By contrast, in the monovalent nonlocational, e.g. *The window is broken*, an alternative state of the same or a similar entity is necessary as grounds for comparison. In such a case, the role of *ground* is played by this alternative state, which is called the *norm* (Chafe 1976). Such a ground, however, does not fall within the field of direct perception, and cannot be observed. Thus bivalent locational resultatives are more salient than monovalent resultatives. Therefore, Kozinskij maintains, the more observable the situation, the higher the probability of the use of the resultative — a thoroughly reasonable statement from the viewpoint of human cognition.

Both the V-C and the V-M construction can be bivalent locational resultative. (Recall that both permit a *ni*-locative.) While V-M permits general resultative interpretations, V-C permits only specific resultative interpretations. That is, V-C is utilized only when the visual state of an entity allows the speaker to deduce the particular event that has brought it about.²⁹ However, V-C is still ambiguous regarding the monovalent nonlocational and bivalent locational opposition, as illustrated in (39, 40).

- (39) a. *ningyoo no kubi ga nuite aru.*
 doll GEN head NOM pull-out-TE be-NPST
 'A doll's head has been pulled out (of its socket).'
- b. *konpyuutaa no moodemu ga hazusite aru.*
 computer GEN modem NOM detach-TE be-NPST
 'The modem has been detached from the computer.'
- (40) a. *ningyoo no kubi ga nuite aru.*
 doll GEN head NOM pull-out-TE be-NPST
 'There (deictic) is a doll's head which was pulled out (of its socket).'
- b. *konpyuutaa no moodemu ga hazusite aru.*
 computer GEN modem NOM detach-TE be-NPST
 'There (deictic) is a modem which was detached from the computer.'

²⁹ Katsuya Kinjo has brought to my attention some similarities between the distinction discussed here and the two Turkish past-tense morphemes, *-di* (direct experience) and *-miş* (indirect experience). One of the uses of *-di* can be characterized as perfect, and one of the uses of *-miş* as resultative. See Slobin and Aksu (1982) for details.

Sentences with V-C are ambiguous when the subject contains a genitive NP and the TE-predicate indicates detachment of some sort. Thus, the construction can be used to describe either the state in which a headless doll is present (monovalent nonlocational; the speaker describes the state with respect to the norm), as in (39a), or the state in which a detached head of a doll is present but not the rest of the doll (bivalent locational, even though the locative NP is not overtly present), as in (40a).³⁰

The *ni*-locative may appear only with the bivalent locational resultative, as shown in (41). That is, when the locative NP is overtly present, the statement is about only the doll's head or the modem — not about the headless doll or the computer without a modem.

- (41) a. *teeburu no ue ni ningyoo no kubi ga nuite aru.*
 table GEN top LOC doll GEN head NOM pull-out-TE be-NPST
 'There on the table is a doll's head which was pulled out (of its socket).'
- b. *teeburu no ue ni konpyuutaa no moodemu ga hazusite aru.*
 table GEN top LOC computer GEN modem NOM detach-TE
 'There on the table is a modem which was detached from the computer.'

3.4.7. Assertion vs. Implication of the Past Event

Perfect and resultative are distinct in a crucial way. The perfect is equivalent to the simple past in terms of truth conditions, whereas the resultative is a stative in which the preceding event is mentioned but its actual occurrence is not asserted. The truth-conditional equivalence of simple past and perfect is shown in (42). If Tanaka's or the

³⁰ In order to simplify discussion of these examples, I have labeled the first interpretation 'monovalent nonlocational resultative', which involves a comparison between the current state of an entity and the norm, and the second 'bivalent locational resultative', which does not require such a comparison. Strictly speaking, however, the second interpretation also indicates that the speaker has either witnessed the previous state or inferred it. The point at issue here is that in the bivalent locational interpretation, the subject NP as a whole (containing two nouns) refers to a single entity, just as it usually does; by contrast, in the monovalent nonlocational interpretation, the genitive NP alone has a referring function. This last feature is unique to the V-C construction.

speaker's alibi is being discussed, (42b) or (42c) is more appropriate than (42a).³¹

- (42) a. {tanaka/ watasi} wa san-zi ni yamada o tazuneta.
 I TOP 3 o'clock PRT ACC visited
 'Tanaka/I visited Yamada at 3 o'clock.'
- b. tanaka wa san-zi ni yamada o tazunete iru.
 TOP 3 o'clock PRT ACC visit-TE be-NPST
 'Tanaka visited Yamada at 3 o'clock (and this fact is relevant to the
 current discourse).'
- c. watasi wa san-zi ni yamada o tazunete aru.
 I TOP 3 o'clock PRT ACC visit-TE be-NPST
 'I visited Yamada at 3 o'clock (and this fact is relevant to the current
 discourse).' (V-M construction)

The perfect involves the notion of modality. The speaker considers that the past event is relevant to the current discourse, but how it is relevant is not specified. The modality-part of the sentence cannot be challenged by the addressee(s), because only the speaker has the right to express her/his own attitude toward what s/he says. While the addressee(s) can deny the proposition-part by uttering *sore wa tiguu* 'That's not true', s/he cannot deny the intended relevance of the proposition to the current discourse by simply denying the previous utterance as a whole.

The perfect (as expressed TE I- below) frequently implicates a state resulting from the event referred to by the TE-predicate. But such a resultative reading is an implicature, which can be cancelled without yielding a contradiction.

- (43) a. tanaka wa ni-nen mae ni sono uti o katte iru.
 TOP 2-years ago PRT that house ACC buy-TE be-NPST
 'Tanaka bought that house 2 years ago (and this fact is relevant).'

³¹ As mentioned above (§3.4.5), the use of *i-* (42b) indicates objective description, *ar-* (42c) subjective description.

- b. sikasi kare wa saikin kyuu-ni yamada ni uriharatta.
 however he TOP recently suddenly LOC sold
 'However, recently he suddenly sold (it) to Yamada.'

If only (43a) is heard, the natural interpretation is that Tanaka owned the house at the time of utterance, i.e. the resultative state is implicated. However, this implicature can readily be cancelled by (43b).

By contrast, with the resultative, the resultant state is asserted, but the previous event is not. The speaker presents the current state of an entity as the resultant state of some enabling event which is assumed to have occurred to the entity. The speaker may not be focusing on the enabling event per se at all; s/he may not even know whether the enabling event really occurred, or when. Thus one could say

- (44) mado ga akete aru.
 window NOM open(TV)-TE be-NPST
 'The window is open(ed).'

even if one had not seen the window being opened, indeed even if the window had been standing open for years. The enabling event is only *assumed* to have occurred, and this assumption (implicature) is cancellable. Thus:

- (45) a. #biiru ga katte aru; sikasi nonde simatta kara
 beer NOM buy-TE be-NPST but drink-TE finished because
 moo na- i.
 any-longer be-NEG NPST
 Lit. 'There's some beer bought; but because (I) drank it, there's no more.'
- b. biiru ga katte aru; moratta no ka mo sirenai
 beer NOM buy-TE be-NPST received NMLZ Q PRT can't-know
 keredo.
 though
 Lit. 'There's some beer bought; it may be a gift, though.'

In (45a), the second clause denies the resultant state, i.e. there is some beer — which yields a contradiction. In (45b), on the other hand, where the second clause cancels the implicature that someone bought the beer, the sentence is not perceived as

contradictory.³²

Looked at from the viewpoint of truth conditional semantics, the V-M construction is distinct from V-C and the perfect TE I- construction in that it asserts both the event and the resultant state. Thus both of the following are anomalous:

- (46) a. #zyoon ga biiru o katte aru; moratta no ka mo
 NOM beer ACC buy-TE be-NPST received NMLZ Q PRT
 sirenai keredo.
 can't-know though
 'Joan has bought some beer; she might have been given it, though.'
- b. #zyoon ga biiru o katte aru; sikasi nonde simatta
 NOM beer ACC buy-TE be-NPST but drink-TE finished
 kara moo na- i.
 because any-longer be-NEG NPST
 'Joan has bought beer; but because (she) drank it, there isn't any more.'

The asserted event is potentially cancelled in (46a), and the asserted resultant state in (46b), making both sentences anomalous.

What is peculiar to V-M is that although both the event and the resultant state are asserted, only one of them can be singled out for further modification. As pointed out above, an adverbial of moment, which denotes the time at which the event took place, cannot co-occur with a non-valence-bound *ni*-locative, denoting the location of an entity. For example, if *reezooko no naka ni* 'in the refrigerator' is absent in (38a) V-M can accommodate *kinoo* 'yesterday'. This restriction suggests that the construction is ambiguous with respect to the perfect-resultative opposition. On the other hand, the cancellability test suggests that the construction is simultaneously both perfect and resultative.

It has been suggested that the perfect in many languages has developed from the resultative diachronically (Jespersen 1924, Kuryłowicz 1964, Maslov 1988) as well as

³² Matsumoto (1990a) claims that one condition on the V-C construction is that an agent must have purposefully produced the situation being described by the V-C. I maintain that neither the actual occurrence of the event nor the purposefulness of the agent need be asserted.

ontogenetically (Slobin and Aksu 1982). Takahashi (1975), who investigated predicative forms in the speech of 305 children from ages 3.3 to 6.6, reports that the *V-te ar-* sequence has already been acquired even by the youngest group of children (ages 3.3 to 4.4). However, because young children seldom use case particles, it is not always clear which TE AR- construction they are using. Takahashi's data include a fair number of V-C sentences in all but the youngest group, but no occurrences of V-M.

It may be plausible, then, to consider that V-C is acquired prior to V-M. However, although V-C (the resultative) may be more salient than V-M (the resultative perfect) semantically, V-C is more complex than V-M syntactically, by virtue of changing the verb valence. This discrepancy awaits further investigation. The characteristics of the V-M and the V-C constructions are summarized below.

**RESULTATIVE-PERFECT TE AR- CONSTRUCTION
(V-M Construction)**

Syntax:	Nuclear Subordination
Semantics:	The complex nucleus in the nonpast denotes both the past situation and the present state of the entity affected by the situation.
Pragmatics:	The past situation is relevant to the current discourse.

RESULTATIVE TE AR- CONSTRUCTION (V-C Construction)

Syntax:	Nuclear Coordination TE-predicate: [do' (x)] CAUSE [BECOME pred' (y)] → pred' (y) ar-: be-at' (x, [LS])
Semantics:	The complex nucleus denotes the present state of the entity.
Pragmatics:	The event referred to by the TE-predicate is only implicated, not asserted.

3.5. CONCLUSION

In this chapter, nuclear TE-linkage with *simaw-* ‘put’ and *ar-* ‘be’ has been examined. The verb SIMAW- is linked with the TE-predicate in subordination, and thus it does not affect the argument structure of the core, i.e. the argument structure is identical with that of the TE-predicate. Although the complex nucleus embodying the subordination is not a lexical unit, it nevertheless exhibits similarities with lexical compounds because the subordinate predicate qualifies certain properties of the TE-predicate itself, without affecting its argument structure. Although three concepts — perfectivity, nonagentivity, and the speaker’s regret/surprise — can be identified with TE SIMAW-, there is only a single TE SIMAW- construction. In prototypical usages, all three nuances are present; some may be absent in less typical instances.

Unlike SIMAW-, AR- is linked to the TE-predicate either in nuclear subordination (V-M) or in nuclear coordination (V-C); thus there are two syntactically distinct TE AR- constructions. Although there is no strict one-to-one correspondence, V-M typically indicates perfect, and V-C resultative. The V-C and V-M constructions were examined with respect to the perfect-resultative opposition. V-C displays all the diagnostic characteristics of resultative typically found in the world’s languages, whereas V-M exhibits some characteristics of both perfect and resultative. V-M deviates from the perfect TE I-construction in that (i) only V-M permits *ni*-locatives which are not in the valence of the TE-predicate, and (ii) V-M asserts (i.e. does not implicate) the state which results from an event referred to by the TE-predicate.

CHAPTER 4

TE-LINKAGE WITH NUCLEAR JUNCTURE: PART II

4.1. INTRODUCTION

In Chapter 3, two nexus types were identified in TE-linkage with nuclear juncture. The verb *simaw-* 'put' appears only in nuclear subordination, whereas *ar-* 'be (inanimate)' appears in either nuclear subordination or nuclear coordination. In this chapter two more verbs, *k-* 'come' and *ik-* 'go', are examined as second conjuncts in nuclear juncture.

As with *ar-*, the verbs *k-* and *ik-* may be linked to the TE-predicate in either subordination or coordination, but the semantics of the TE K- and TE IK- constructions are far more complex than those of TE AR-. Traditional paradigms of feature-based semantics are inadequate to describe TE K-/IK-. This chapter first analyzes the semantics of TE K-/IK- in terms of *prototype semantics*,¹ which was already briefly utilized in the analysis of the TE SIMAW- construction in §3.3. It then discusses the nexus types of the various TE K-/IK- constructions.

Section 4.2 demonstrates the necessity of appealing to prototype semantics in analyzing TE K-/IK-. In §4.3 the canonical uses of K- and IK- as main predicates are described; in §4.4, the characteristics of the TE-predicates are examined using the framework of Vendler (1957). Section 4.5 summarizes G. Lakoff's (1987) analysis of THERE-constructions, which exhibit some similarities with TE K-/IK-. Sections 4.6 - 4.9 categorize the TE K-/IK- constructions and illustrate their characteristics in comparison with THERE-constructions. After the full complexity of the semantics has been laid out, the syntax of TE K-/IK- is discussed in §4.10. Conclusions follow in §4.11.

¹ For the notion of *prototype*, see Rosch (1975, 1978).

4.2. PROTOTYPE SEMANTICS

There have been many attempts to provide a comprehensive account of TE K-/IK- (Morita 1968, Takahashi 1976, Yoshikawa 1976, Makiuchi 1972, Endo 1982, Gray 1983, Teramura 1984, Hamada 1989, inter alia). However, most of these are taxonomies of usages, and the explanations they offer are satisfying only to those who are already familiar with these TE-constructions. Yoshikawa (1976), for example, classifies TE K-/IK- as follows.²

- (1) When physical motion is involved, K- indicates motion toward the speaker and IK- motion away from the speaker. The TE-predicate indicates:

- a. Action before coming/going.

gohan o tabete itta.
meal ACC eat-TE went
'Having had a meal, (I) went (there).'

- b. Means for coming/going.

koon ni aruite itta.
park LOC walk-TE went
'(I) went to the park on foot.'

- c. Circumstance of coming/going.

zyoon wa osoosiki ni akai huku o kite kita.
TOP funeral LOC red dress ACC wear-TE came
'Joan wore a red dress to the funeral service.'

- (2) When no physical motion is involved:

- a. K- indicates a process of emergence.

me ga dete kita.
sprout NOM appear-TE came
'(The tree) has begun to sprout.'

- b. IK- indicates a process of disappearance.

saigo no kiboo ga kiete iku.
last GEN hope NOM vanish-TE go
'There goes our last hope.'

² The examples are constructed by the present author.

- c. K- and IK- indicate a process of change.

onaka ga suite kita.
stomach NOM become-empty-TE came
'(I) became hungry.'

kusa ga nobite iku.
grass NOM grow-TE go
'The grass is growing tall.'

- d. K- indicates the inception of a process.

ame ga hutte kita.
rain NOM fall-TE came
'It began raining.'

- e. K- indicates continuation up to the reference time.

dandan wakatte kimasita ne.
gradually understand-TE came(POL) PRT
'(S/he) has gradually understood (it), hasn't (s/he)?'

- f. IK- indicates continuation from the reference time.

dandan wakatte ikimasu yo.
gradually understand-TE go(POL) PRT
'(S/he) will gradually understand (it).'

Such a list gives those who are not familiar with these TE-constructions the spurious impression that these usages are independent of each other, and thus must be learned separately. Takahashi (1975) reports that children about age 4 have already acquired all these TE-constructions except (2e, f), which are learned later than age 6.³ Explanations within previous frameworks for the order of acquisition are prone to be ad hoc.

The problems with structurally identical and yet semantically distinct clusters of constructions have been recognized by empirical linguists for some time. Fillmore (1975, 1982a, b), for example, argues the need for a semantic theory which is based on

³ It might be claimed, as Takahashi does, that the TE-construction of a process of disappearance (2b) is also missing from young children's speech. The validity of this claim depends on how one classifies the common phrase *sinde ik-* 'die go' (i.e. 'die'), which is learned at an early age. If this is classified under (2b), the claim is false; Takahashi, however, considers it an instance of the TE-construction of a process of change (2c), not of (2b).

the idea of *prototype*. In prototype semantics, the meaning of a linguistic form is represented through the presentation of a prototype rather than through a statement of necessary and sufficient conditions for the form to be used appropriately. Prototype semantics not only can show how each TE-construction is related to the canonical meaning of K-/IK-, but it can also predict that those TE-constructions in which the canonical meaning of K-/IK- is preserved are easier to learn than those involving an extended meaning.

Another problem with previous analyses is that no attempt has been made to explain the interaction between K-/IK- and the grammatical tense of the particular TE-construction. For example, in (3a) the same situation can be expressed by K- or IK-, but only with the former in the past tense and the latter in the nonpast tense; in (3b) both must be in the nonpast tense. This phenomenon cannot be explained without referring to underlying metaphors, as was done by Lakoff (1987) for THERE-constructions.

- (3) a. danro no hi ga kiete {kita/iku}.
 hearth GEN fire NOM vanish-TE came/go
 'The fire in the hearth is about to go out.'
- b. dandan samuku natte {kuru/iku}.
 gradually be-cold become-TE come/go
 'It will become cold gradually.'

In this chapter, the TE K-/IK- constructions are categorized according to underlying metaphors, and it is shown how each TE-construction is related to the central TE-construction, in which K- and IK- indicate both motion and direction in physical space as they do as main predicates. I will demonstrate that no adequate description of TE K-/IK- can be achieved without recourse to the concepts of prototype and metaphorical mapping.

4.3. THE VERBS K- AND IK-

4.3.1. Concepts Involved in K- and IK-

The relationships between the meaning of K- and IK- as main verbs, which will be referred to as the canonical meaning of K- and IK-, and their meanings in TE-constructions are not arbitrary, although they are not obvious in such taxonomies as (1) and (2). Generally, a lexical item indicates a bundle of concepts, some of which may be more central than others. In a prototypical usage, all salient concepts are present, while in nontypical usages only some of them are.⁴ Therefore, in order to see the relationships between the canonical meanings of K- and IK- and their meanings in TE-constructions, it is essential to identify the concepts typically encoded in the former.

Five concepts — motion, direction, duration, origin, and goal — are associated with K- and IK-.

- A. Motion: The entity moves.
- B. Direction: The motion is either toward or not toward the speaker.
- C. Duration: The motion is understood to have duration in the time domain.
- D. Origin: The location of the entity before the motion takes place.
- E. Goal: The location of the entity when the motion is completed.

A and B are inherent properties of the lexical items K- and IK-, and D and E can be expressed by postpositional phrases. However, C is not an inherent part of K-/IK-, but rather is part of the frames or scenarios that these verbs evoke (cf. Fillmore 1982b, 1985a, 1985b). As lexical items, K- and IK- are punctual achievements which cannot be

⁴ Fillmore (1982b) notes that the lexical item *breakfast* prototypically indicates the meal which is eaten early in the day, after a period of sleep, and which consists of a somewhat unique menu. However, any one of these three concepts can be absent, and yet the word can still be appropriately uttered. One may use the term *breakfast* for the meal of eggs, toast, coffee, and orange juice eaten at sunrise without sleep, or for such a meal eaten at three o'clock in the afternoon after long sleep through the morning. Or one may call a meal consisting of cabbage soup and chocolate pie *breakfast* if one has it in the morning after sleep through the night. Or some establishments even serve 'breakfast' all day. See also Coleman and Kay (1981) for the English verb *lie*.

used to focus on the duration of a motion. Therefore, even though coming and going obviously do take some time in the real world, the grammatical means for expressing progressive (imperfective) aspect (TE I- construction), (4a), does not work with these verbs, as shown in (4b).

- (4) a. zyoon wa ima hon o yonde iru.
 TOP now book ACC read-TE be-NPST
 'Joan is reading a book now.'
- b. *zyoon wa ima gakkoo ni itte iru.
 TOP now school LOC go-TE be-NPST
 'Joan is on the way to school now.'

The durational component of the semantics of K-/IK- is naturally highlighted in such sentences as (5).⁵

- (5) tookyoo kara kyooto ni {kuru/iku} ni wa go-zikan kakaru.
 ABL LOC come/go CMPL TOP 5-hours take
 'It takes five hours to {come/go} to Kyoto from Tokyo.'

If the mover is not the speaker, time adverbials are associated with the arrival rather than the departure for K-, (6a), whereas they are associated with the departure for IK-, (6b).

- (6) a. san zi ni zyoon wa tookyoo kara kyooto ni kita.
 3 o'clock LOC Joan TOP Tokyo ABL Kyoto LOC came
 'At 3 o'clock, Joan came to Kyoto from Tokyo. (Joan arrived at Kyoto at 3.)'
- b. san zi ni zyoon wa tookyoo kara kyooto ni itta.
 3 o'clock LOC Joan TOP Tokyo ABL Kyoto LOC went
 'At 3 o'clock, Joan went to Kyoto from Tokyo. (Joan left Tokyo at 3.)'

This phenomenon indicates that the time adverbials are speaker-oriented, i.e. they refer to the time when the mover comes to or goes away from the speaker. In other words, if the mover is not the speaker, IK- places a focus on the inception of motion (leaving for a destination), and K- on the achievement (arriving at the destination). If the mover is the

⁵ This demonstration (5) was suggested by Charles Fillmore.

speaker, time adverbials typically indicate the arrival time with both verbs.

While K- and IK- canonically indicate motion and direction and imply duration, these verbs as used in TE-constructions may indicate motion and direction, or only direction, or direction and duration. Therefore, direction must be considered the most central component in the meaning of K- and IK- in TE-constructions.

4.3.2. Canonical Usages of K- and IK-

K- indicates motion toward the speaker or toward the place considered to be the speaker's territory, e.g. his/her home or place of employment. IK- on the other hand, indicates motion of any orientation except toward the speaker or his/her territory. When the mover is the speaker, K- is selected if s/he is at the goal at the time of speech, and IK- if s/he is at any other place at the speech time. Unlike English COME/GO, the deictic center of K-/IK- is restricted to the speaker.⁶ For instance, if the mover is the speaker and the goal is the hearer's house, IK- , but not K-, is the natural choice, whereas if the mover is someone other than the speaker and the goal is the speaker's house, K-, but not IK-, will be selected, e.g. (7).⁷

- (7) a. *watasi wa anata no uti ni {iku/#kuru}*.
 I TOP you GEN house LOC go/come
 'I'll {go/#come} to your house.'
- b. *zyoon wa watasi no uti ni {kuru/#iku}*.
 TOP I GEN house LOC come/go
 'Joan will {come/#go} to my house.'

Even if the goal is neither the location of the speaker nor his/her territory, K- may nonetheless be selected when the origin of the mover is farther away than the goal, i.e.

⁶ See Fillmore (1972, 1973) for the multiple possibilities of deictic center with English COME and GO. For the comparison of COME/GO and K-/IK-, see Ooe (1975) and Tokunaga (1986).

⁷ If the speaker moves to his/her own house, *kaer-* 'go back' will be selected instead of K-.

the motion is toward the speaker. For example, although *ano* 'that (distal)' in (8a) indicates that the store is not in the speaker's vicinity, K- may be chosen if the origin of Joan's motion is farther away than the store, as illustrated in Figure 1. In (8b), by contrast, the use of K- is anomalous. Joan generally sets off from her own home, which is next to the speaker's; the origin is thus typically closer to the speaker than is the goal (cf. Figure 2), thereby disqualifying the use of K-.

- (8) a. *zyoon wa yoku ano mise ni {kuru/iku}*.
 TOP often that store LOC come/go
 'Joan (comes/goes) to that store frequently.'
- b. *tonari no zyoon wa yoku ano mise ni {#kuru/iku}*.
 next-door GEN TOP often that store LOC come/go
 'My next-door neighbor, Joan, {#comes/goes} to that store frequently.'

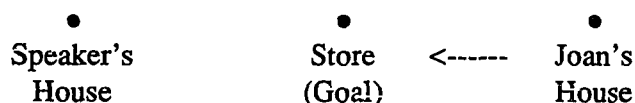


Figure 1: Both K- and IK- are permitted.

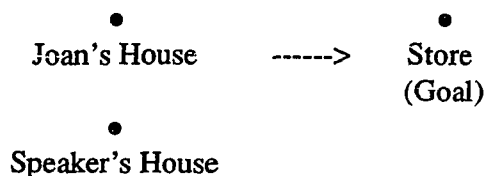


Figure 2: Only IK- is permitted.

If the goal of the motion is the speaker's territory, but his/her location at the speech time is distinct from that goal, there will be two potential deictic centers. For example, when the speaker and the hearer are at the same place at the speech time, the K- sentence in (9) is appropriate if both of them move to the goal. The corresponding IK- sentence in (10), on the other hand, is appropriate if only the hearer moves to the goal, i.e. if the speaker will not be at the goal when the hearer arrives there.

- (9) ima kara sugu boku no uti ni kite kudasai. (Kuno 1978:256)
 now ABL soon I GEN house LOC come-TE please-do
 'Please come to my house now.'
- (10) ima kara sugu boku no uti ni itte kudasai. (Kuno 1978:256)
 now ABL soon I GEN house LOC go-TE please-do
 'Please go to my house now.'

Kuno (1978) explains this phenomenon in terms of empathy. The speaker's empathy is stronger toward himself/herself (i.e. the first person referent) than toward the second or third person referent. Kuno represents this conception as the *empathy hierarchy of speech-act participants* (a revised version of the hierarchy in Kuno and Kaburaki 1975) — schematically, $E(\text{1st person}) > E(\text{2nd/3rd person})$. He then posits the following empathy constraints for K- and IK-.

- (11) When the mover is the speaker:
- a. K- is selected if the speaker is at the goal at the speech time.
 - b. IK- is selected if the speaker is at the origin at the speech time.
- (12) When the mover is not the speaker:
- a. K- is selected if the speaker's empathy is stronger toward the person at the goal than toward the mover (i.e. the person at the origin), either at the speech time or at the onset of the motion.
 $E(\text{person at goal}) > E(\text{mover} = \text{person at origin})$
 - b. IK- is selected otherwise.
 $E(\text{person at goal}) \leq E(\text{mover} = \text{person at origin})$

Kuno claims that, when both speaker and hearer are at the origin at the speech time, the speaker must be at the goal in order to satisfy the empathy constraint for K-, and thus the speaker must be a mover. One way of describing the outcome is $E(\text{person at goal} = \text{speaker at goal}) > \bar{E}(\text{persons at origin} = \text{speaker at origin})$. Kuno considers that empathy toward the speaker at the goal is stronger than the empathy toward the speaker at the origin.

However, if this were the case, sentence (13), also from Kuno (1978), should be acceptable with K-. In (13), the speaker will be at the goal when the move is completed: as in Kuno's analysis of (9), $E(\text{person at goal} = \text{speaker at goal}) > E(\text{person at origin} = \text{speaker at origin})$, and hence the sentence should be acceptable. The fact that K- is

unacceptable in (13) demonstrates that Kuno's analysis of (9) is inadequate.

- (13) ima kara sugu boku no uti ni {#kimasyoo/ikimasyoo}.
 now ABL soon I GEN house LOC come/go-HORT
 'Let's {#come/go} to my house now.'

His explanation regarding IK- in (10), i.e. that the speaker does not accompany the hearer, is also dubious. According to Kuno, IK- requires $E(\text{person at origin}) \geq E(\text{person at goal})$. (Again, both speaker and hearer are assumed to be at the origin at the speech time.) Thus the equation can be rewritten as $E(\text{speaker, hearer}) \geq E(x)$. Kuno claims that in order to satisfy this equation, x cannot be the speaker. If the mover is the speaker, he explains, then the result will be $E(\text{person at origin} = \text{hearer.2nd.person}) \geq E(\text{person at goal} = \text{speaker.1st.person})$, violating the empathy hierarchy of speech-act participants. This explanation makes little sense: for the hearer is certainly a mover and ends up at the goal, regardless of the speaker's accompaniment, since the sentence is intended to make a request.

A more plausible explanation would be as follows. In (10), the speaker requests that the hearer go to the speaker's house. IK- is quite naturally selected because the motion is away from the speaker at the speech time, as Kuno himself points out. Whether or not the speaker accompanies the hearer is immaterial. It is, rather, the use of K- in (9) which requires some explanation.

As Ooe (1975) points out, if the speaker presents himself/herself as being at the goal at the mover's intended arrival time, K- may be selected even when the speaker is not at the goal at the speech time, e.g. (14).⁸

- (14) zyon ga konban roku zi ni soko ni {kimasu/ikimasu} node,
 NOM tonight 6 o'clock LOC there LOC come/go(POL) because

⁸ According to Ooe, IK- in (14) is not acceptable; but it was accepted by all native speakers of Japanese whom I consulted.

watasi ga saki ni itte matte imasu. (Ooe 1975)
 I NOM ahead go-TE will be waiting(POL)
 'John is {coming/going} there at six tonight, so I am going there first and will wait
 (for him).'

In (9), K- may be selected because the speaker intends to be at the goal when the hearer arrives there, and in order for the speaker to do so, s/he must get to the goal before or at the same time as the time of the hearer's arrival. In (13), by contrast, K- is unacceptable because the sentence asserts that the speaker is a mover and yet the motion is away from his/her location at the speech time. Regarding the deictic center, the speaker's location at the speech time must therefore have precedence over his/her location when the motion is completed (at the goal) — which is contrary to Kuno's claim. This is the reason why K- in (13) is inappropriate.

The final characteristic to be mentioned in this subsection is that, similar to COME and GO, K- is selected when the moving object comes into sight, e.g. (15a), and IK- when the object goes out of sight with no particular goal, e.g. (15b). These uses motivate the TE-constructions indicating emergence and disappearance in Yoshikawa's taxonomy.

- (15) a. a, kita.
 oh came
 'Oh, (here s/he) comes.'
- b. aaa, itte simatta.
 well go-TE put-PST
 'Well, (s/he) is gone.'

Note that (15a) is in the past tense even though the moving entity has not yet reached the speaker. The past tense indicates that the entity has already come into the speaker's view. While K- by itself can predicate the subject, IK- must be accompanied by *simaw-*, indicating perfective aspect, when it is used to express disappearance of the entity referred to by the subject.

4.3.3. Metaphorical Extensions of K- and IK-

While K- is frequently used metaphorically, i.e. predicating non-physical subjects, metaphorical extension of IK- is rather limited in ordinary conversation. Similar to the case of IK- indicating disappearance, *simaw-* is needed when the subject of IK- refers to a non-physical entity. In (16), (a) is a poetic expression, and (b) is unacceptable; (c), (d), and (e), however, are quite ordinary.

- (16) a. haru ga iku.
 spring NOM go
 Lit. 'Spring is going away. (Spring is passing.)'
- b. #senzai itiguu no kooki ga itta.
 1000-years once GEN chance NOM went
 'The chance of a lifetime has gone.'
- c. senzai itiguu no kooki ga itte simatta.
 1000-years once GEN chance NOM go-TE put-PST
 'The chance of a lifetime has gone.'
- d. haru ga kita.
 spring NOM came
 'Spring has come.'
- e. senzai itiguu no kooki ga kita.
 1000-years once GEN chance NOM came
 'The chance of a lifetime has come.'

IK- by itself can predicate a non-physical subject only when the subject refers to or stands metonymically for some information (the *conduit metaphor* in Reddy 1979) and the goal is not the speaker, e.g. (17).

- (17) moo sugu {renraku/denwa} ga ikimasu.
 soon notice/telephone NOM go(POL)
 Lit. '{Notice/Telephone} will go (to you) soon. (You'll receive {notice/a phone call} soon.)'

4.3.4. Interpretation of Tense Markers

On the general interpretation of tense, the past tense indicates that the event has taken place prior to the speech time, and nonpast indicates either that the event will take place after the speech time, or that it is habitual. However, in many linguistic contexts this general interpretation may fail to hold — for example, when a moving entity is visible to both interlocutors. Here, the use of a past tense in (18a) and of a nonpast tense in (18b) deviates from the general interpretation of tense markers: the moving entity has not reached the goal in (18a), while it has already started to move in (18b).

- (18) a. a, kotti ni {kuru/kita}.
 oh this-direction LOC come/came
 ‘Oh, (here it/he/she) comes toward us.’
- b. a, migi ni {iku/itta}.
 oh right LOC go/went
 ‘Oh, (it/he/she) goes to the right.’

In Japanese, when the speaker has just recognized the location of an object, the past tense is more likely to be used than the nonpast tense, as in (19). The past tense is used because the state of affairs has been recognized. The past tense in (18a) is to be understood as another instance of this usage.⁹

- (19) a, koko ni atta.
 oh here LOC be-PST
 Lit. ‘Oh, (it) was here. (Oh, here it is.)’

As for (18b), the nonpast tense may be used to indicate a process in progress when the referred entity is visible to both interlocutors, as illustrated in the following example.

- (20) a, tokeru, tokeru.
 oh melt melt
 ‘Oh, (it)’s melting.’

⁹ See Hirata (1987) for this usage of the past tense.

4.4. AKTIONSART OF TE-PREDICATES

TE-predicates in the TE K-/IK- construction must indicate some change of state; this condition excludes stative verbs, unless stative verbs can express temporal states. Activities, accomplishments, and achievements can appear as TE-predicates. Like states, activities have no inherent terminal point, e.g. *aruk-* 'walk', *mi-* 'watch', and *tabe-* 'eat', although a terminal point can be added by 'quantification', e.g. *iti zikan aruku* 'walk for one hour' and *ringo o mittu taberu* 'eat three apples'. By contrast, accomplishments and achievements do have inherent terminal points. Examples of the former are *ake-* 'open (transitive)', *kowas-* 'break (transitive)' and *tate-* 'build'; and of the latter, *ak-* 'open (intransitive)', *koware-* 'break (intransitive)', and *tuk-* 'arrive'. Achievements are inchoative in nature, whereas accomplishments involve some causality, i.e. doing something causes a change of state (Dowty 1979).

A useful diagnostic for the Aktionsart of TE-predicates is the semantic behavior observed when *i-* 'be' is added to the verb in question. For activity and accomplishment verbs, the addition of *i-* is the grammatical means for expressing progressive (imperfective) aspect or the notion of perfect; for achievement verbs, it expresses only perfect; for stative verbs, the construction is ungrammatical. For example,

dekite 'be able (state)' + *iru* 'be (NPST)' → ungrammatical
tabete 'eat (activity)' + *iru* → 'is eating/has eaten'
akete 'open (transitive, accomplishment)' + *iru* → 'is opening/has opened'
tuite 'arrive (achievement)' + *iru* → 'has arrived'.

As in English, achievements in Japanese cannot co-occur with verbs which serve as terminative quantifiers, e.g. *oe-*, *owar-*, *yam-* 'finish/end'.

Many achievements are punctual, e.g. *tuk-* 'arrive', but achievements can be durative. *Durative achievements* are those achievement verbs which can co-occur with *hazime-* 'begin', e.g. *araware-* 'appear', *hutor-* 'become fat', *kie-* 'vanish', *ukab-* 'spring', and *wakar-* 'understand'.¹⁰ For example, *hi ga kieru* 'fire goes out' is not true

¹⁰ Durative achievements are categorized as achievements by Dowty, but not by

until the fire has actually gone out. However, the event need not be perceived as instantaneous. If the fire becomes weaker, one may anticipate its going out and say *hi ga kie hazimeta* 'The fire began to go out'.

Most achievements that occur in the TE K-/IK- constructions are durative achievements. Note that non-durative achievements, e.g. *sin-* 'die' and *tuk-* 'arrive', may also co-occur with *hazime-*; however, such verbs must take a plural subject to indicate that the event type is repeated, e.g. (21).¹¹

- (21) a. {tomodati/#zyoon} ga sini-hazimeta.
 friends/Joan NOM began-to-die
 '(My) friends/#Joan} began to die (out)'.
 b. {okyaku-san/*zyoon} ga tuki-hazimeta.
 customers/Joan NOM began-to-arrive
 '{The customers/*Joan} began to arrive'.

For achievements, which cannot be turned into the progressive by the use of the TE I- construction, TE K-/IK- is the primary means to express progressive aspect, e.g. (22b).

- (22) a. samuku naru.
 be-cold become
 'It will become cold.'
 b. samuku natte {kuru/iku/*iru}.
 be-cold become come/go/be-NPST
 'It's getting cold.'

4.5. THERE-CONSTRUCTIONS

Lakoff (1987) presents eleven types of deictic THERE-construction. Four that are relevant to the analysis of the TE K-/IK- constructions are exemplified below.¹²

Vendler.

¹¹ When the subject is construed as plural, non-durative achievements can also co-occur with terminatives, e.g. *okyaku-san ga tuki-owatta* 'The guests have finished arriving'.

¹² I have made some changes in the names of the THERE-constructions for expository purposes; the names are not always identical to those used in Lakoff's analysis.

- (23) PHYSICAL-SPACE THERE-Construction
 a. {There goes/Here comes} Harry into the bar.
 b. {There goes/Here comes} the bus into the terminal.
- (24) CONCEPTUAL-SPACE (Existence) THERE-Construction
 a. There goes our last hope.
 b. Here comes the chance of a lifetime.
- (25) PERCEPTUAL-SPACE THERE-Construction
 a. {There goes/Here comes} the beep.
 b. {There goes/Here comes} the pain in my knee.
- (26) ACTIVITY-START THERE-Construction
 a. There goes Harry, meditating again.
 b. *Here comes Harry, meditating again. (Physical-Space deixis only.)

Lakoff claims that physical-space deixis is central — i.e. the central function of THERE-constructions is for the speaker to direct the hearer's attention to an entity in physical space. He then explains how other deictic THERE-constructions cluster around the central one by means of metaphors.

- (27) Conceptual Space (Existence) to Physical Space
 a. Concepts are entities.
 b. Concepts are located in conceptual space.
 c. Existence is location here; nonexistence is location away.

Conceptual-space deixis is minimally distant from central, physical-space deixis. Just as things that exist in physical space are located, so too things in our mind may come into and go out of existence.

Perceptual-space deixis is distinct from central deixis in several ways. For example, sentences in the PHYSICAL-SPACE THERE-construction have corresponding sentences with the more canonical word order seen in (28b).

- (28) a. There's Harry.
 b. Harry is there.

Sentences in the THERE-construction involving non-visual perception do not have such correspondences.

- (29) a. There's the beep.
 b. *The beep is there.

The metaphors to map perceptual space to physical space are as follows.

(30) Perceptual Space to Physical Space

- a. Percepts are entities.
- b. Percepts are located in perceptual space.
- c. Realized is distal (THERE); soon-to-be-realized is proximal (HERE).
- d. Activation of perception is motion.

In the ACTIVITY-START THERE-construction, within which only THERE-GOES can appear, there is no motion — only an activity. Activity is conceptualized in terms of motion along a path, and THERE designates its starting point.

(31) Activity-Start Deixis to Physical-Space Deixis

Activities are motions along a path.

In the CONCEPTUAL-SPACE and PERCEPTUAL-SPACE THERE-constructions, THERE-GOES points to the immediate past, whereas HERE-COMES indicates the immediate future, though the grammatical tense is fixed in the present. In the ACTIVITY-START THERE-construction, by contrast, THERE-GOES refers to a situation in progress.

Together with idiosyncratic constraints, the metaphors presented above predict the selection of locative adverbial HERE/THERE as well as the choice of motion verb COME/GO. The concepts introduced by Lakoff are of general utility in classifying the TE K-/IK- constructions.

4.6. PHYSICAL-SPACE TE-CONSTRUCTIONS

4.6.1. General Remarks

There are similarities between K-/IK- in the TE-constructions and COME/GO in the four types of THERE-constructions in Lakoff's classification: physical-space deixis, conceptual-space (existence) deixis, perceptual-space deixis, and activity-start deixis. In the following, I will first categorize TE K-/IK- based on the space in which they are to be interpreted. As with the THERE-constructions, the prototypical TE K-/IK- construction

operates in physical space, with the other TE-constructions linked to it by various metaphorical mappings.

The TE-construction referring to physical space is central for the following reasons. First, the canonical meaning of K- and IK- is preserved, i.e. the selection of K-/IK- is based on the same rules which govern K- and IK- as main predicates. Second, the general interpretation of tense (cf. §4.3.4) remains valid: the past indicates that the event has taken place prior to the speech time, and the nonpast indicates either that the event will take place after the speech time, or that it is habitual. Thus K- and IK- in this prototypical TE-construction are minimally distant from their canonical uses.

English and Japanese are almost identical regarding the uses of these basic motion verbs in central constructions, so that speakers who have learned one system do not have serious difficulty in understanding the other. In non-central constructions, however, while spatial metaphors alone are adequate to account for THERE-constructions, both spatial and temporal metaphors are needed to explain the complexity of the interaction between K-/IK- and tense in TE-constructions.

4.6.2. Prototype: Physical-Motion TE-Construction

The prototypical TE-construction is the PHYSICAL-MOTION TE-construction, in which K- and IK- indicate both a motion and its direction in physical space, as they do as main predicates. K- indicates a direction toward the speaker, whereas IK- any direction except toward the speaker, e.g. (32).

- (32) a. gohan o tabete {kita/itta}.
 meal ACC eat-TE came/went
 ‘Having had a meal, (I) {came (here)/went (there)}.’
- b. eki ni hasitte {kita/itta}.
 station LOC run-TE came/went
 Lit. ‘(I) {came/went} to the station running.’

- c. hon o gakkoo ni motte {kuru/iku}.
 book ACC school LOC hold-TE come/go
 '(I)'ll {bring/take} the book to school.'
- d. zyoon wa osoosiki ni akai huku o kite {kita/itta}.
 Joan TOP funeral LOC reu dress ACC wear-TE came/went
 'Joan wore a red dress to the funeral service.'

In (32d) with K-, the speaker was at the goal when Joan arrived, whereas with IK- the speaker describes the event locating himself/herself at the origin of Joan's motion. K- and IK- in this TE-construction are thus predicative.

As Yoshikawa (1976) points out, TE-predicates indicate an action the subject performed before coming/going, or they indicate the means or circumstance of the motion referred to by K-/IK-. The past tense is used to refer to past events, and the nonpast to future or habitual events, in conformity with the general interpretation of tense.

4.6.3. Point-of-View TE-Construction

In the prototypical PHYSICAL-MOTION TE-construction, both motion and direction are expressed by K-/IK-. A slightly deviant case occurs when the TE-predicate itself indicates a motion, while K-/IK- indicates only direction. Here K- and IK- convey the location of the speaker's vantage point. Identifying one's vantage point in the description adds a personalized touch to the statements. This type of TE-construction will be referred to as the POINT-OF-VIEW TE-construction.

While the absence of K-/IK- causes a change in truth-value in the PHYSICAL-MOTION TE-construction, in the POINT-OF-VIEW TE-construction statements with and without K-/IK- retain the same truth-value because here K-/IK- is not predicative, e.g. (33).

- (33) a. neko ga ido no naka ni otita.
 cat NOM well GEN inside LOC fell
 'The cat fell into the well.'

- b. *neko ga ido no naka ni otite {kita/itta}. (Gray 1983)*
 cat NOM well GEN inside LOC fall-TE came/went
 'The cat {came/went} falling into the well. (The speaker is at the bottom of the well with *kita* and outside the well with *itta*.)'
- c. *hakutyoo ga hokkaidoo ni watatta.*
 swan NOM LOC migrated
 'Swans migrated to Hokkaido.'
- d. *hakutyoo ga hokkaidoo ni watatte {kita/itta}.*
 swan NOM LOC migrate-TE came/went
 'Swans {came/went} migrating to Hokkaido. (The speaker is in Hokkaido with *kita* and not in Hokkaido with *itta*.)'

In the POINT-OF-VIEW TE-construction, as in the PHYSICAL-MOTION TE-construction, the past tense is used to refer to events in the past. However, the interpretation of the nonpast tense is slightly different. The nonpast is used here to refer either to events in progress or to habitual, but not to future, events. This is a natural consequence of the function of this TE-construction. In order for the speaker to describe an event from a particular perspective, s/he must witness it, which is incompatible with future semantics.

4.6.3.1. Subtype: Moving-Scenery TE-Construction

Whenever the speaker moves toward or away from some object, it is also possible to describe the situation as if the speaker were standing still and the object were in motion. We experience this perspective when we travel by car or train: physical objects seem to come and go as we move through physical space. TE K-/IK- can be used to convey this shift in perspective, as in sentences (34b, d).

- (34) a. *yama ni tikazuite itta.*
 mountain LOC move-closer-TE went
 '(I) went toward the mountain.'

- b. yama ga tikazuite kita.
 mountain NOM move-closer-TE came
 Lit. 'The mountain came closer (to me).'
- c. yama kara toozakatte itta.
 mountain ABL move-away-TE went
 '(I) went away from the mountain.'
- d. yama ga toozakatte itta.
 mountain NOM move-away-TE went
 Lit. 'The mountain went away (from me).'

I will call this construction the MOVING-SCENERY TE-construction. This perspective-shifting nuance is peculiar to the TE K-/IK- construction. Note that if K-/IK- is the main predicate, this perspective cannot be expressed, cf. (35b).

- (35) a. yama ni itta.
 mountain LOC went
 '(I) went to the mountain.'
- b. #yama ga kita.
 mountain NOM came
 Lit. 'The mountain came.'

The MOVING-SCENERY TE-construction is categorized as a subtype of the POINT-OF-VIEW TE-construction because they have in common the two characteristics of unchanging truth value and non-future tense interpretation.

4.6.4. Transfer TE-Construction

There are two kinds of verbs which take a goal NP: those which express a motion of the referent of the subject (already discussed above), and those which express a motion of the referent of the direct object, e.g. *kas-* 'lend', *nage-* 'throw', and *okur-* 'send'. When the TE-predicate involves a verb of the second type, the construction will be referred to as the TRANSFER TE-construction. Takahashi (1976) recognizes that in this TE-construction, where only the referent of the object moves, K- can be used, but IK- cannot. K- in the TRANSFER TE-construction typically indicates that the goal is the speaker;

thus the goal is usually not overtly identified, e.g. (36).

- (36) *zyoon ga (watasi ni) hanataba o nagete kita.*
 NOM I LOC bouquet ACC throw-TE came
 ‘Joan threw (her) bouquet in my direction.’

The transferred object need not be a physical entity; *iw-* ‘say’ and *tutae-* ‘tell’ can be TE-predicates. For example, what is transferred in (37) is not the money itself but Joan’s message (or more accurately the information expressed by her message) promising the money.

- (37) *zyoon ga (watasi ni) okane o kasu to itte kita.*
 NOM I LOC money ACC lend QUOT say-TE came
 ‘Joan said to me that she’ll lend the money (to me/someone).’

Recall that, based on the conduit metaphor, IK- can predicate NPs which indicate or stand for information; yet in the TRANSFER TE-construction IK- cannot appear even when the transferred entity is information. This constraint is unpredictable, and thus must be stated in the description of the TRANSFER TE-construction.

The general interpretation rules of tense are applicable in this TE-construction. The past tense is used to refer to past events, and the nonpast to future or habitual events.

In (36, 37), if *watasi ni* is present, then the sentences with and without K- are synonymous. However, there are cases in which adding K- is obligatory, not because of non-synonymy, but because of an independently motivated constraint of the Japanese language — which is the topic of the next section.

4.6.4.1. Subject-Centered TE-Predicates

Adding K- (or some other similar empathy shifter) is obligatory in sentences which describe situations where the speaker is a participant referred to by the goal NF — not the subject NP — and the verb is what Kuno and Kaburaki (1975) refer to as *subject-centered*. Most verbs in Japanese are either subject-centered, e.g. *okur-* ‘send’ and *age-* ‘give’, or neutral, e.g. *iw-* ‘say’ and *mise-* ‘show’. If the verb is subject-centered, the

'simple' version of the sentence does not comfortably accommodate the speaker as a direct/indirect object; thus in (38b), the sentence is not acceptable.

(38) a. zeemusyo ga watasi ni tokusokuzyoo o okutte kita.
 revenue-office NOM I LOC demand-note ACC send-TE came
 'The revenue office sent me a demand note.'

b. #zeemusyo ga watasi ni tokusokuzyoo o okutta.
 revenue-office NOM I LOC demand-note ACC sent
 'The revenue office sent me a demand note.' (Intended)

Kuno and Kaburaki claim that with subject-centered verbs, the *empathy hierarchy of surface structure* is E(subject) > E(object) > E(agent in passive). Sentence (38b) then has E(subject = 3rd person) > E(object = 1st person), which violates the hierarchy of speech-act participants (cf. §4.3.2), and is thus unnatural. K- is *object-centered* (or more appropriately *goal-centered*, as Gray 1983 argues), and adding it overrides the empathy hierarchy of surface structure and makes the empathy E(object = 1st person) > E(subject = 3rd person), in accordance with the empathy hierarchy of speech-act participants. In short, TE K- functions to convert a subject-centered TE-predicate to object(goal)-centered.

The presentation as just given is an oversimplification, however. In fact, there are three different contexts in which other factors in addition to subject-centeredness may come into play and can lead to the speaker appearing in non-subject position: intrasentential topic continuity, stylistic distancing, and discourse-topic continuity. Sentence (39b), first of all, is acceptable because Joan is selected as subject for the sake of intrasentential topic continuity.

(39) a. #zyoon {wa/ga } watasi kara okane o karita.
 TOP/NOM I ABL money ACC borrowed
 'Joan borrowed some money from me.'

b. zyoon {wa/ga } watasi kara okane o karite ryokoo ni itta.
 TOP/NOM I ABL money ACC borrow-TE travel for went
 'Joan borrowed some money from me and went on a trip.'

The second type, stylistic distancing, occurs largely in certain literary styles. Here, when one attempts to describe an event objectively, i.e. as some third person would describe it, one can make a distinction between one's role as narrator and as event participant by deliberately violating the empathy hierarchy of speech-act participants and selecting another participant as subject, as in (40).

- (40) tanaka wa zizitu watasi kara wairo o uketotta.
 TOP in-fact I ABL bribe ACC received
 'In fact, Tanaka received a bribe from me.'

Finally, the selection of nonspeaker subject may be based solely on discourse-topic continuity, in narratives which (unlike the second type) are presented essentially from the speaker's point of view. In such discourse, it would be almost impossible to completely avoid the use of non-speaker subject; yet the speaker does not want to run the risk of having his/her use of non-speaker subject misinterpreted as an instance of stylistic distancing. It is on this occasion that the speaker adds K-.

A subtype of this last use of K- is what Tokunaga (1986) refers to as *affective deixis*, in which K- contrasts with *kure-* 'give', not with IK-. In affective deixis, the recipient (indirect object) of *kure-* is the speaker or someone whom the speaker considers to be his/her insider, e.g. family members.¹³ If the speaker is grateful to the referent of the subject for his/her act in which the speaker is the recipient, *kure-* will be selected. If, on the other hand, the speaker is annoyed with the person at his/her act, K- will be selected. Tokunaga (1986:130) illustrates such a contrast using the examples in (41).

- (41) a. tomu wa watasi ga komatte ita node okane o kasite kureta.
 TOP I NOM was in trouble because money ACC lend-TE gave
 'Tom lent me money because I was in trouble (with money, and I am grateful to him).'

¹³ For the concept of insider/outsider, see Wetzel (1984, 1985).

- b. tomu wa watasi ga iranai to iu noni okane o
 TOP I NOM need-NEG QUOT say although money ACC
 kasite kita.
 lend-TE came
 'Tom lent me money, although I said I didn't need it (and I am annoyed).'

In (42), K- does not carry this negative connotation. The difference is due to expectations in the social norm. For example, for a bank to lend money is a routine transaction, whereas to lend money to a friend is not. Therefore, if a friend did lend money to the speaker, the speaker would normally be grateful; the use of K- indicates that this normal expectation does not hold. On the other hand, if it is a bank which lent the money, there is no expectation that the speaker should show appreciation; the dimension of gratitude/annoyance becomes irrelevant, and thus K- does not imply the speaker's annoyance.

- (42) ginkoo ga (yatto) okane o kasite kita.
 bank NOM finally money ACC lend-TE came
 '(Finally,) the bank lent me the money.'

4.6.5. Summary

As with their canonical uses as main verbs, K- and IK- focus on motion and the direction in the PHYSICAL-MOTION TE-construction. In other words, the canonical meaning of K- and IK- is preserved, and, consequently, no special metaphors are needed for an understanding of this TE-construction. The interpretation of tense is in accordance with the general rules. Children acquire this TE-construction by ages 3.3 - 4.4 in Takahashi's study.

In the POINT-OF-VIEW TE-construction, K- and IK- indicate only direction, and the motion is expressed by the TE-predicate. This TE-construction is as common as the PHYSICAL-MOTION TE-construction in the speech of children of ages 3.3 - 4.4. This TE-construction has as a subtype the MOVING-SCENERY TE-construction, which does not occur in Takahashi's data on children up to age 6.6. K- and IK- do not participate in truth-value judgments for the predicates as a whole. The general interpretation rule for

the past tense is applicable, but the nonpast tense is constrained to be either present progressive or habitual.

In the TRANSFER TE-construction, the moving entity is referred to by the object NP; here only K- can participate in the construction. Similar to the POINT-OF-VIEW TE-construction, K- does not affect the truth value of the statement. Tense is interpreted according to the general rules. With subject-centered verbs, the presence of K- or *kure-* 'give' is obligatory in ordinary conversation. This TE-construction is not found in Takahashi's data. The following table summarizes the properties of the TE K-/IK- constructions applicable in physical space.

Construction	K-/IK- indicates	K-/IK- affects truth value	Past Tense	Nonpast Tense
Main predicate	Motion, Direction	Yes	Past	Fut/Habit
Physical-motion	Motion, Direction	Yes	Past	Fut/Habit
Point-of-view	Direction	No	Past	Pres/Habit
Transfer	(K- only) Direction	No	Past	Fut/Habit

Table 1: Properties of Physical Space TE K-/IK- Constructions

4.7. COGNITIVE TE-CONSTRUCTION

K- and IK- in (43) resemble COME and GO in the THERE-construction of conceptual-space (existence) deixis, as exemplified in *Here comes the chance of a lifetime* and *There goes our last hope* (24).

- (43) a. *meean ga ukande kita.*
 good-idea NOM flash-TE came
 'A good idea flashed in my mind.'
- b. *saigo no kiboo ga kiete iku.*
 last GEN hope NOM vanish-TE go
 'There goes our last hope.'

In principle, the metaphors for mapping conceptual space (existence) to physical space in

THERE-constructions are also applicable to the sentences in (43). Therefore, any language user who has learned these metaphors could easily conceptualize an appropriate image schema for those sentences.

This use is clearly motivated by the very human conception of birth and death. To be born is to enter both the physical and the cognitive world, and to die is to exit them both. Birth is associated with coming, and death with going, as in the following examples (44c-f are from Lakoff 1987).

- (44) a. onna no ko ga umarete {kita/kuru}.
 female GEN child NOM be-born-TE came/come
 'A girl {was/will be} born.'
- b. heetai ga sinde {itta/iku}.
 soldier NOM die-TE went/go
 'The soldiers {died/will die}.'
- c. There's a baby on the way.
 d. The baby has arrived.
 e. He's gone.
 f. Let us pray for the dear departed.

Naturally, the TE-predicates which occur with K- indicate emergence of some kind, e.g. *araware-* 'appear', *mebae-* 'sprout', *otozure-* 'visit', and *wak-* 'spring'; those which occur with IK- indicate disappearance, e.g. *kie-* 'vanish', *kudake-* 'break', *sar-* 'leave', and *toke-* 'melt away'.

K- and IK- in the following sentences resemble COME and GO in the THERE-construction of non-visual perception, e.g. {*Here comes/There goes*} *the beep*.

- (45) a. onaka ga suite kita.
 stomach NOM become-empty-TE came
 '(I) became hungry.'
- b. kanasiku natte kita.
 sad become-TE came
 '(I) became sad.'

- c. hiza no itami ga kiete itta.
 knee GEN pain NOM vanish-TE went
 'The pain in (my) knee went away.'

There is no difference regarding the function of K-/IK- between TE-constructions with conceptual (43) and perceptual (45) TE-predicates; therefore, I categorize them together as the COGNITIVE TE-construction.¹⁴ In the COGNITIVE TE-construction, the entities that exist in the speaker's consciousness are considered to have entered the speaker's cognitive space, and those which are no longer conceived or perceived are considered to have exited it. The following metaphors map cognitive space to physical space.

(46) Cognitive Space to Physical Space

- a. Cognitive objects (concepts/percepts) are entities.
- b. Cognitive objects are located in cognitive space.
- c. Existence is location here; nonexistence is location away.

Figure 3 represents the image schema for the COGNITIVE TE-construction. This image is purely spatial and independent of the tense on K-/IK-.

¹⁴ The term *cognitive* is justified here because the kind of perception expressed by perceptual TE-predicates is not the lower-level perception which stands in contradistinction to cognition. For example, we perceive and react to pain even while sleeping; but (45c) is not appropriate to describe this situation. The kind of perception that is expressed in the TE-construction has been mediated by some cognitive process.

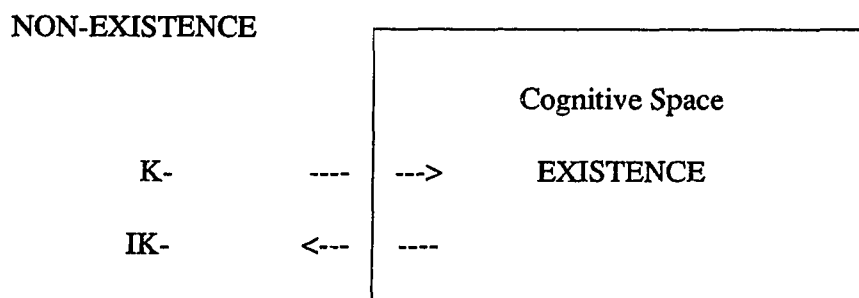


Figure 3: Image Schema for COGNITIVE TE-Construction

In the COGNITIVE TE-construction, the goal of K- and the origin of IK- are fixed in the speaker's cognitive space, whereas the origin of K- and the goal of IK- are arbitrary.

The tense on K- indicates the time of entrance, and that on IK- the time of exit. Because both the goal of K- and the origin of IK- are in the speaker's cognitive space, K- focuses on the completion, and IK- on the inception of metaphorical motion. This difference is also observable when they are used as main predicates with both origin and goal NPs — the phenomenon discussed earlier.

Takahashi's data on children's speech show that *umarete k-* 'be-born-come' and *sinde ik-* 'die-go' are learned by ages 3.3-4.4, but the application of the concepts of emergence and disappearance in cognitive space is learned much later. There are some examples in his data of the COGNITIVE TE-construction with K-, but no examples are found with IK-.

4.8. MOVING-WORLD TE-CONSTRUCTION

Fillmore (1971) points out that time is one-dimensional and unidirectional, i.e. if two events occur at different times, one of them is necessarily earlier or later than the other. He recognizes two metaphors for time. We can regard time as stable and ourselves moving through time, or we can regard ourselves as stable and time moving past us. The former metaphor is referred to as *moving world*, and the latter as *moving time*. In the

moving-world metaphor, we have come to the present from the past and will go into the future, whereas in the moving-time metaphor, the future comes to us, and the past goes away from us.

The PHYSICAL-SPACE and COGNITIVE TE-constructions are purely spatial in nature. K- and IK- indicate motion and/or direction, and they generally do not make reference to the internal structure of an action or event expressed by the TE-predicate. On the other hand, recognition that the motions expressed by K- and IK- have three phases — inception, process, and completion — is essential for understanding the MOVING-WORLD TE-construction.

The THERE-construction which exhibits slight resemblance to the MOVING-WORLD TE-construction is the one indicating activity-start, e.g. *There he goes, meditating again*. Lakoff posits the metaphor, ACTIVITIES ARE MOTIONS ALONG A PATH, to explain this construction. In the ACTIVITY-START THERE-construction, only THERE-GOES, not HERE-COMES, designates the starting point on an activity path. Because GO implies a path toward the future, this metaphor is in accordance with moving-world. The TE K-/IK- construction may encode a similar concept, as illustrated in (47).

- (47) yasai kara tabete iku.
 vegetable ABL eat-TE go
 '(I)'ll begin eating with (lit. from) the vegetables.'

While the activity-path metaphor is restricted in English to situations where the onset of activity has just taken place and the activity is on-going at the speech time, the moving-world metaphor applies more broadly in Japanese, as shown in (48).

- (48) a. rokuzyuu nen ikite kita.
 60 years live-TE came
 '(I) have lived for 60 years.'

- b. zutto gaman-site kita.
 for-a-long-time endure-TE came
 '(I) have endured (it) a long time.'

Unlike the ACTIVITY-START THERE-construction, non-agentive achievements can appear as TE-predicates in the MOVING-WORLD TE-construction, e.g. (49).

- (49) a. kono ko wa dandan hahaoya ni nite kita.
 this child TOP gradually mother LOC resemble-TE came
 'The child gradually came to resemble her mother.'
- b. moo sugu miti ga suite kuru.
 soon street NOM become-less-crowded-TE come
 'The streets will be less crowded soon.'

In the MOVING-WORLD TE-construction, the selection between K- and IK- is based on when the inception of the action or process takes place. If the inception precedes the reference point in time and the event is on-going at that point, K- will be selected; if the inception is after the reference point, IK- will be selected. Figure 4 illustrates this conceptualization.

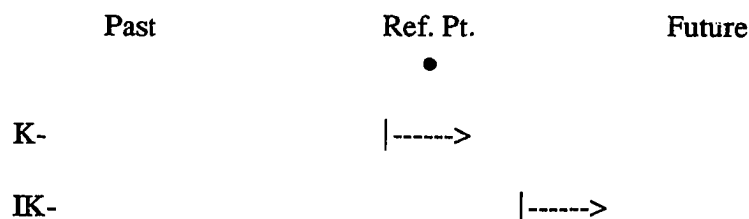


Figure 4: Image Schema for the MOVING-WORLD TE-Construction

Because the reference point is typically the speech time, K- is more likely to occur in the past, and IK- in the nonpast tense, e.g. (50).

- (50) a. dandan wakatte kimasita ne.
 gradually understand-TE came(POL) PRT
 '(S/he) has gradually understood (it), hasn't (s/he)?'

- b. dandan wakatte ikimasu yo.
 gradually understand-TE go(POL) PRT
 '(S/he) will gradually understand (it).'
- c. ima made kare no wagamama o mitomete kita keredo,
 now until he GEN selfishness ACC tolerate-TE came but
 kore kara wa kyohi-site iku.
 this ABL PRT reject-TE go
 '(I) have tolerated his selfish acts until now, but (I)'ll reject them from now on.'

If K- is in the nonpast tense (*kuru*) or IK- is in the past tense (*itta*), some context is necessary to indicate that the reference point is distinct from the speech time, e.g. (51).

- (51) a. miti ga konde kuru kara hayaku kaerimasyoo.
 street NOM become-crowded-TE come because soon return-HORT
 '(If we wait too long,) the street will get crowded, so let's go home now.'
- b. sentaku-sitara sode ga tizinde itta.
 when-wash sleeve NOM shrink-TE went
 'When (I) washed it, the sleeves shrank.'

Iku (nonpast) occasionally indicates that the event referred to by the TE-predicate is in progress, e.g. (52). In such a case, both interlocutors are observing the change of state.

- (52) koori ga tokete iku.
 ice NOM melt-TE go
 'The ice is melting away (now).'

As shown in (53), even though K- and IK- focus on the inception, the inception cannot be further specified.

- (53) *hati zi ni iti peezi me kara yonde {itta/iku/kita/kuru}.
 8 o'clock LOC first page ABL read-TE went/go/came/come
 '(I) {started/will start} reading from the first page at 8 o'clock.'

Because a decomposition of motion into three phases is not part of the canonical meaning of K- and IK-, these verbs in the MOVING-WORLD TE-construction are fairly remote from canonical K- and IK-, and thus might not be expected to be easily learned, especially when the reference time and the speech time are distinct, i.e. K- in the nonpast

tense and IK- in the past tense. In Takahashi's data, the MOVING-WORLD TE-construction with K- has been learned by children by ages 3.3 - 4.4; but K- is mostly in the past tense, and when the nonpast tense is used, it is the so-called historical present, referring to the past. K- in the 'true' nonpast tense does not occur in the speech of children of age 6.6. The TE-construction with IK- is absent in the speech of children of ages 3.3 - 4.4, but it emerges about ages 4.1 - 5.6. There is no occurrence of IK- in the past tense in the data up to age 6.6.

4.9. MOVING-TIME TE-CONSTRUCTION

The final TE K-/IK- construction is based on the moving-time metaphor: TIME COMES FROM THE FUTURE TOWARD US AND GOES AWAY FROM US INTO THE PAST. This TE-construction parallels the MOVING-SCENERY TE-construction in physical space, in which the observer does not move, but the scenery does. Thus:

- (54) a. haru ga megutte kita.
 spring NOM come-round-TE came
 'Spring has come again.'
- b. akarui mirai ga otozurete kuru.
 bright future NOM visit-TE come
 'A bright future will come (to us).'
- c. toki ga toori-sugite itta.
 time NOM pass-TE went
 'Time passed (us by).'
- d. kako ga toozakatte iku.
 past NOM move-away-TE go
 Lit. 'The past is moving away.'

Although the choice between K- and IK- somewhat resembles that in the COGNITIVE TE-construction, the TE-predicates in the MOVING-TIME TE-construction need not express emergence/disappearance of any kind, and the image schemas for these two types of TE-constructions are different. In the COGNITIVE TE-construction, there is a bounded cognitive space, and the entities enter (K-) and exit (IK-) the space. In the

MOVING-TIME TE-construction, there is no bounded space — only a path along which time moves, as illustrated in the following figure.

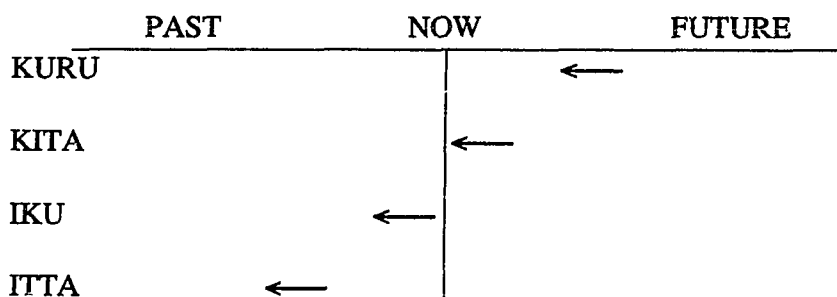


Figure 5: Image Schema for the MOVING-TIME TE-Construction

4.10. SYNTAX OF THE TE K-/IK- CONSTRUCTIONS

4.10.1. Nuclear Subordination

It has been demonstrated that in all but the PHYSICAL-MOTION TE-construction, K- and IK- do not affect the truth-value of the proposition expressed by the core. Neither do they affect the valence of the complex nucleus. That is, although both K- and IK- as independent verbs have a *ni*-locative (goal) NP in their valences, such an NP cannot appear in TE K-/IK- if it is not in the valence of the TE-predicate. For example, *samuku nar-* 'become cold' in (55, 56) does not take a *ni*-locative; the collocation with a *ni*-locative is ungrammatical (55b, 56b). In all but PHYSICAL-MOTION TE-constructions, K- and IK- modify the aspect of the TE-predicate: they are analyzed as being in nuclear subordination, modifying the nuclear layer.

- (55) a. *dandan samuku natte kuru.* (COGNITIVE/MOVING-TIME)
 gradually be-cold become-TE come
 'It will become cold gradually.'

- b. *koko ni dandan samuku {naru/ natte kuru}.
 here LOC gradually be-cold become become-TE come
 'It will become cold gradually here.' (Intended)
- (56) a. dandan samuku natte iku. (MOVING-WORLD)
 gradually be-cold become-TE go
 'It will become cold gradually.'
- b. *koko ni dandan samuku {naru/ natte iku}.
 here LOC gradually be-cold become become-TE go
 'It will become cold gradually here.' (Intended)

In the POINT-OF-VIEW, TRANSFER, and COGNITIVE TE-constructions, K- and IK- indicate the direction of (abstract or concrete) motion vis-à-vis the position of the speaker.

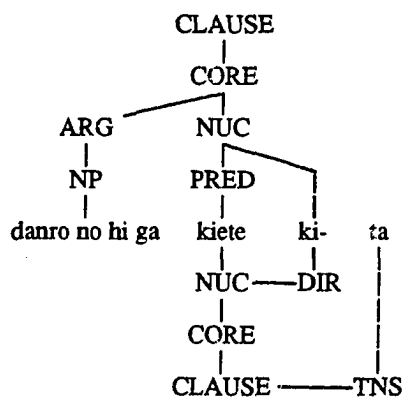
Teramura (1984) points out that when K- and IK- are 'auxiliaries', they cannot predicate anything of the subject, e.g. (57b, 58b). This fact is captured well in RRG in terms of nuclear subordination: K- and IK- are subordinated and thus are not directly predicative of the subject.

- (57) a. roosoku no hi ga kiete iku.
 candle GEN flame NOM go out-TE go
 'The candle is about to go out.'
- b. *roosoku no hi ga iku.
 candle GEN flame NOM go
 'The candle is about to go.'
- (58) a. piano no oto ga kikoete kuru.
 piano GEN sound NGM sound-TE come
 'The sound of a piano is heard.'
- b. *piano no oto ga kuru.
 piano GEN sound NOM come
 'The sound of a piano comes.'

Figures 6 and 7 illustrate the syntactic structures of (59a, b).

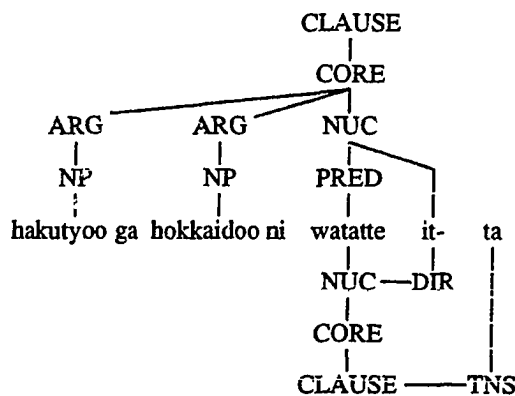
- (59) a. danro no hi ga kiete kita. (MOVING-WORLD)
 hearth GEN fire NOM vanish-TE came
 'The fire in the hearth is about to go out.'

- b. hakutyoo ga hokkaidoo ni watatte itta. (POINT-OF-VIEW)
 swan NOM Hokkaido LOC migrate-TE went
 'Swans migrated to Hokkaido. (The speaker is not in Hokkaido.)'



'The fire in the hearth is about to go out.' (= 59a)

Figure 6: Nuclear Subordination (MOVING-WORLD TE-Construction)



'Swans migrated to Hokkaido. (The speaker is not in Hokkaido.)' (= 59b)

Figure 7: Nuclear Subordination (POINT-OF-VIEW TE-Construction)

4.10.2. Nuclear Coordination

In the PHYSICAL-MOTION TE-construction, K- and IK- indicate a motion and its direction in physical space, as they do as main predicates. In this construction, a *ni*-locative which is not in the valence of the TE-predicate is permitted, e.g. (60b, 61b).

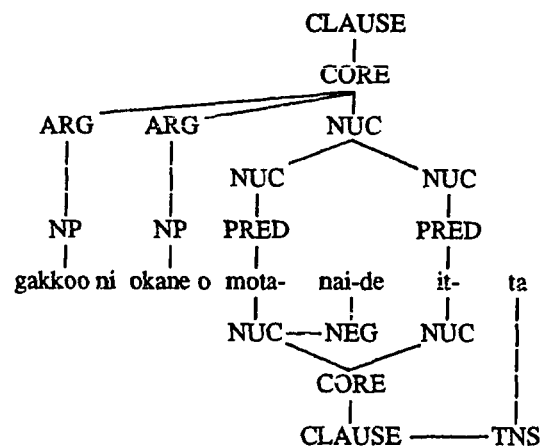
Because the TE-predicate plays a role in the specification of core arguments, the nexus type cannot be subordination.

- (60) a. *gakkoo ni okane o motta.
 school LOC money ACC carried
 ‘(I) carried some money to school.’ (Intended)
- b. gakkoo ni okane o motte itta.
 school LOC money ACC carry-TE went
 ‘(I) took some money to school.’
- (61) a. *marii wa soogizyoo ni akai huku o kita.
 TOP funeral-place LOC red cloth ACC wore
 ‘Mary wore a red dress to the funeral.’ (Intended)
- b. marii wa soogizyoo ni akai huku o kite kita.
 TOP funeral-place LOC red cloth ACC wear-TE came
 ‘Mary came to the funeral wearing a red dress.’

Because it is possible to negate just the first predicate, by using the nuclear negative operator *nai-de*, e.g. (62), the nexus type in this construction must be coordination rather than cosubordination.

- (62) a. gakkoo ni okane o mota- nai-de itta.
 school LOC money ACC carry NEG-TE went
 ‘(I) went to school without carrying money.’
- b. marii wa soogizyoo ni kuroi huku o ki- nai de kita.
 TOP funeral-place LOC black cloth ACC wear NEG-TE came
 ‘Mary came to the funeral without wearing a black dress.’

Figure 8 illustrates the linkage in (62a).



'(I) went to school without carrying money.' (= 62a)

Figure 8: Nuclear Coordination (PHYSICAL-MOTION TE-Construction)

In nuclear coordination, the linked nuclei act as a single nucleus and take a single set of core arguments. Therefore, even when the TE-predicate itself takes a *ni*-locative, at most one *ni*-locative may appear in the core, i.e., the linked nuclei are not independent of each other in terms of the determination of core arguments. For example, *yor-* 'stop by', as well as *IK-*, takes a *ni*-locative, cf. (63a, b), but two *ni*-locatives are not permitted, cf. (63c). When the TE-predicate has a *ni*-locative in its valence, the locative is always associated with the TE-predicate, rather than with *K-* or *IK-*, cf. (63d). Note that the subject of the complex nucleus must bear the macrorole of actor (not undergoer) of both TE-predicate and *K-/IK-*.

- (63) a. sono mise ni yotta.
that store LOC stopped-by
'(I) stopped by the store.'
- b. ginkoo ni itta.
bank LOC went
'(I) went to the bank.'
- c. *ginkoo ni sono mise ni yotte itta.
bank LOC that store LOC stop-by-TE went
'Stopping by the store, (I) went to the bank.' (Intended)

- d. ginkoo ni yotte itta.
 bank LOC stop-by-TE went
 '(I) stopped by the bank (and went to somewhere else).'
 NOT: '(I) stopped by somewhere and went to the bank.'

K-/IK- has the following formula in its LS:

BECOME [be-at' (x,y)] (x = locative; y = theme)

When K-/IK- is coordinated with the TE-predicate at the nuclear level, rules (i) and (ii) will hold.

- (i) ACTOR (TE-predicate) = ACTOR (K-/IK-)
 (ii) If the TE-predicate contains a locative in its LS:
 BECOME (be-at' (x, [TE-pred' (y,z)]) (x → ∅; y = locative; z = ACTOR)

Otherwise:

BECOME (be-at' (x, [TE-pred' (y, (z))]) (x = locative; y = ACTOR)

If two *ni*-locatives are to be present, core-level, rather than nuclear-level, linkage must be utilized. In core linkage, the *ni*-locative argument of K- or IK- intervenes between the two predicates, e.g. (64).

- (64) sono mise ni yotte ginkoo ni itta.
 that store LOC stop-by-TE bank LOC went
 '(I) stopped by the store and went to the bank.'

Or *ni* in *ginkoo ni* (as an argument of IK-) may be marked by an emphatic H (high) tone with a pause, as indicated by the comma in (65). This H signals that the NP is not in its canonical position. In addition, when *yotte* and *itta* are linked in nuclear juncture, the insertion of a minor-phrase boundary is optional, i.e., both predicates are likely to be uttered in a single minor phrase. On the other hand, when *yotte* and *itta* are linked in core juncture, the presence of a minor-phrase boundary, or more preferably a major-phrase boundary, is obligatory.¹⁵ The commas in (65) represent not only a pause but also

¹⁵ See §3.2.1 for the notions of minor and major phrases.

minor or major-phrase boundaries.

- (65) *ginkoo ni, sono mise ni yotte, itta.*
 bank LOC that store LOC stop-by-TE went
 ‘(I) stopped by the store and went to the bank.’

When the TE-predicate does not take a *ni*-locative, there is a choice between linking two predicates in nuclear or core juncture.

- (66) a. *ginkoo ni okane o motte itta.* (Nuclear Juncture)
 bank LOC money ACC carry-TE went
 ‘(I) took some money to the bank.’
- b. *okane o motte ginkoo ni itta.* (Core Juncture)
 money ACC carry-TE bank LOC went
 ‘(I) carried some money and went to the bank.’

However, there is a subtle difference between (66a) and (66b). In (66a), carrying some money and going to the bank are considered to be a single event, ‘taking some money to the bank.’ In (66b), on the other hand, they are considered to be two separate events. Hence (67a) is anomalous, whereas (67b) is not.

- (67) a. #*ginkoo ni okane o motte itta keredo, totyuu de otosite*
 bank LOC money ACC carry-TE went but on-the-way drop-TE
simatta.
 put-PST
 ‘(I) took some money to the bank but dropped (it) on the way.’ (Intended)
- b. *okane o motte ginkoo ni itta keredo, totyuu de otosite*
 money ACC carry-TE bank LOC went but on-the-way drop-TE
simatta.
 put-PST
 ‘(I) carried some money and went to the bank but dropped (it) on the way.’

Matsumoto (1990c) points out that the difference between these two linkage types is also apparent in interpretation of a purpose phrase. For example, if *roon o harai ni* ‘to pay a monthly installment’ is added, both acts (carrying money and going to the bank) are understood to be done for this purpose in (66a), whereas in (66b), going to the bank is understood to be done for this purpose while carrying money need not be. From these

observations, we conclude that (66a) is in nuclear coordination, whereas (66b) involves core juncture, to be discussed in the next chapter.

4.11. CONCLUSION

In this chapter, K- and IK- in nuclear juncture have been examined. I have argued that there are six distinct TE K-/IK- constructions in which K-/IK- marks the direction and/or aspect, viz. the PHYSICAL-MOTION, POINT-OF-VIEW, TRANSFER, COGNITIVE, MOVING-WORLD, and MOVING-TIME TE-constructions. The first three TE-constructions have physical space as their operating domain. The PHYSICAL-MOTION TE-construction is central in that its analysis requires no special metaphor.

PHYSICAL-MOTION TE K-/IK- CONSTRUCTION

Syntax: Nuclear Coordination
 ACTOR (TE-predicate) = ACTOR (K-/IK-)
 If the TE-predicate contains a locative in its LS:
 BECOME (be-at' (x, [TE-pred' (y, z)])
 (x → ∅; y = locative; z = ACTOR)
 Otherwise:
 BECOME (be-at' (x, [TE-pred' (y, (z))])
 (x = locative; y = ACTOR)

Semantics: The TE-predicate indicates an action before coming/going, a means for coming/going, or circumstance of coming/going.

In the POINT-OF-VIEW TE-construction, K- and IK- indicate only direction, designating the speaker's vantage point in physical space and adding a personal touch to the description.

POINT-OF-VIEW TE K-/IK- CONSTRUCTION

Syntax:	Nuclear Subordination
Semantics:	K- and IK- modify the direction of the TE-predicate.
Pragmatics:	K- and IK- designate the speaker's vantage point in physical space.

In the TRANSFER TE-construction, only K- can be utilized.

TRANSFER TE K- CONSTRUCTION

Syntax:	Nuclear Subordination
Semantics:	K- modifies the direction of the TE-predicate.
Pragmatics:	K- converts the subject-centered TE-predicate to goal-centered.

In these TE-constructions, except with the POINT-OF-VIEW TE-construction, the past tense is used to denote events in the past, and the nonpast to denote future or habitual events. In the POINT-OF-VIEW TE-construction, the nonpast may be used to denote events in progress at the speech time.

In the COGNITIVE TE-construction, those entities which are active in the speaker's consciousness have come into cognitive space in the past and exist there at the speech time, whereas those which are yet to be realized will come into the space in the future. Those which were real but are not real any longer have left the space, and those which are likely to become not real will leave the space in the future. The general interpretive rules of tense are applicable in the COGNITIVE TE-construction.

COGNITIVE TE K-/IK- CONSTRUCTION

Syntax:	Nuclear Subordination
Semantics:	K- and IK- modify the direction of the TE-predicate.
Pragmatics:	K- indicates that the TE-situation becomes active in the speaker's consciousness; IK- indicates that the TE-situation exits from the speaker's consciousness.

The MOVING-WORLD TE-construction is based on the metaphor of moving world, and K-/IK- indicates the temporal relationship between the event and the speaker's reference point in time. If the inception of event is before the reference time and the event is on-going at the reference time, K- is selected; if the inception is after the reference point, IK- is selected. If the inception is before the speech time, the past tense is selected; if it is after the speech time, the nonpast tense is selected.

MOVING-WORLD TE K-/IK- CONSTRUCTION

Syntax:	Nuclear Subordination
Semantics:	K- and IK- modify the aspect of the TE-predicate.
Pragmatics:	The aspect is expressed based on the moving-world metaphor.

The MOVING-TIME TE-construction is based on the moving-time metaphor. The moving entity in this TE-construction is time — time itself or a period of time such as a season.

MOVING-TIME TE K-/IK- CONSTRUCTION

Syntax:	Nuclear Subordination
Semantics:	K- and IK- modify the aspect of the TE-predicate.
Pragmatics:	The aspect is expressed based on the moving-time metaphor.

The COGNITIVE, MOVING-WORLD, and MOVING-TIME TE-constructions are not mutually exclusive, and the same event may be described with either K- or IK-, as illustrated in (68).

- (68) a. danro no hi ga kiete iku. (COGNITIVE)
 hearth GEN fire NOM vanish-TE go
 'The fire in the hearth is about to go out.'
- b. danro no hi ga kiete kita. (MOVING-WORLD)
 hearth GEN fire NOM vanish-TE came
 'The fire in the hearth is about to go out.'

In both (68a, b), the fire has begun to go out prior to the speech time, and it has not yet completely disappeared. While (68a) is in the COGNITIVE TE-construction, in which IK- is selected because the fire is disappearing, (68b) is in the MOVING-WORLD TE-construction, within which K- is selected because the inception is before the reference time (which coincides with the speech time) and the event is on-going at that time.

Similarly, K- is selected in (69a) because someone's true intention is predicted to become apparent in the future. But IK- is selected in (69b) because the revealing of someone's true intention is predicted to occur after the reference time, NOW.

- (69) a. honne ga arawarete kuru. (COGNITIVE)
 true-intention NOM reveal-TE come
 'Her true intention will surface.'

- b. honne ga arawarete iku. (MOVING-WORLD)
 true-intention NOM reveal-TE go
 'Her true intention will surface.'

If K- occurs with a verb of disappearance, e.g. (68b), or IK- with a verb of emergence, (69b), the sentence is in the MOVING-WORLD TE-construction. If, on the other hand, K- occurs with a verb of emergence, or IK- with a verb of disappearance, the type of TE-construction cannot be determined solely from the sentence. The speaker may have chosen K-/IK- according to the COGNITIVE-SPACE-AS-PHYSICAL-SPACE metaphor or according to the moving-world metaphor, making the sentence ambiguous in this respect, e.g. (70c).

- (70) a. kiboo ga umarete kita. (COGNITIVE)
 hope NOM be-born-TE came
 'New hope has been born.'
- b. kiboo ga umarete kita. (MOVING-WORLD)
 hope NOM be-born-TE came
 'New hope is about to be born.'
- c. kiboo ga umarete kuru. (COGNITIVE/MOVING-WORLD)
 hope NOM be-born-TE come
 'New hope will be born.'

If K- is in the nonpast tense, e.g. (70c), it implies a future event in both the COGNITIVE and MOVING-WORLD TE-constructions; therefore, no extensional ambiguity arises, although it becomes uncertain which image schema the speaker has in mind.

In the case of IK-, there is no extensional ambiguity in either the past or the nonpast tense, e.g. (71).

- (71) a. saigo no kiboo ga kiete iku. (COGNITIVE/MOVING WORLD)
 last GEN hope NOM vanish-TE go
 'Our last hope will disappear.'
- b. saigo no kiboo ga kiete itta. (COGNITIVE/MOVING WORLD)
 last GEN hope NOM vanish-TE go
 'Our last hope has disappeared.'

Another example to illustrate the multiple possibilities of underlying metaphor is provided below. (72a) may be in the COGNITIVE or MOVING-TIME TE-construction, although there is no extensional ambiguity.

- (72) a. dandan samuku natte kuru. (COGNITIVE/MOVING-TIME) (=55a)
 gradually be-cold become-TE come
 'It will become cold gradually.'
- b. dandan samuku natte iku. (MOVING-WORLD) (=56a)
 gradually be-cold become-TE go
 'It will become cold gradually.'

K- and IK- may have multiple functions in TE-constructions. Without the recognition of underlying metaphors, the choice between K- and IK- can remain bewildering for the analyst. Indeed, in many cases, either can appear as directional indicator. However, given a specific metaphor whose function is to map the directionality of K-/IK- in physical space into some other domain, selection becomes both highly restricted and highly predictable, thus confirming the usefulness of the present analysis.

CHAPTER 5

TE-LINKAGE WITH CORE JUNCTURE

5.1. INTRODUCTION

This chapter investigates core-level TE-linkage. In core juncture there are two cores, each with its own nucleus and its own set of arguments. Serial verb constructions (cf. Foley and Van Valin 1984, Pullum 1990), which are found in diverse languages of the world, are typical examples of core juncture.¹ In a serial verb construction, the verbs are merely juxtaposed without a complementizer or conjunction and are linked by virtue of sharing a common core argument, e.g. 'Joan lay smoking a cigarette in bed' and 'Joan stood playing the guitar on a street corner'.

Each core in core juncture may be accompanied by its own distinct core-level operators. For example, in 'Joan must believe Hiro to be able to accomplish the task', the notion of obligation expressed by the deontic modal *must* holds only between *Joan* and *believe*, and the notion of ability expressed by *be able to* holds only between *Hiro* and *accomplish the task*. Thus the cores in this sentence are independent of each other with respect to these operators.

On the other hand, the linked cores can never be independently specified vis-à-vis a clause-level operator, regardless of nexus type. All linked cores must be within the scope of, for instance, an illocutionary force (IF) operator: thus the interrogative operator has both cores in its scope, as in 'Must Joan believe Hiro to be able to accomplish the task?'.

If one core is embedded in the other, the linkage type is core subordination. A diagnostic test for embeddedness at the core level is whether or not there is an argument shared by both conjuncts. In core subordination, there is no shared argument: the

¹ Serial verb constructions can also involve nuclear juncture. See Olson (1981) for the distinction between core-level and nuclear-level serial constructions.

embedded core as a whole — not an argument in it — is an argument of the matrix core, e.g. ‘Joan denounced Hiro’s stealing the car’ and ‘Joan’s losing the election surprised everyone’. It is the embedded core, not *Hiro* or *Joan* alone, which is the argument of the matrix core in these sentences.

If there is no embedding, the linked cores will share at least one core argument. The grammatical phenomenon of control (as in so-called EQUI constructions) is in part accounted for in RRG by this argument-sharing mechanism. In English, there are subject-control and object-control EQUI constructions, e.g. ‘Joan promised Hiro to leave early’ and ‘Joan persuaded Hiro to leave early’, respectively. Like English, Japanese in general permits both types of control; however, in core-level TE-linkage with a shared argument the controller is always the subject.

Non-embedded cores are either in core cosubordination, if one core is dependent on the other vis-à-vis a core-level operator, or in core coordination, if there is no operator-dependency at the core level. Therefore, in order to distinguish cosubordination and coordination, it is necessary to examine operator dependency at this level. Three types of core operator are posited in RRG, yielding three potential diagnostics: internal negation, directionals, and root modals. In Chapter 2, it was pointed out that while *nai-de* is the negation operator at the nuclear level, *naku-te* and *zu* are negation operators at the core level. This in fact turns out to be the only one of the three diagnostics that is applicable in Japanese. Core-level *directionals* are not grammaticized in Japanese and hence are not operators at all. As for root modals, concepts expressed by root modals in many languages are generally expressed in Japanese by complex constructions — e.g. *V-nakere ba nara-na-* ‘must; (lit.) if not V, it cannot be’. To be sure, Japanese does have genuine root modals (i.e. lexicalized root-modality expressions), e.g. the desideratives *-ta-* and *-tagar-*; however, these desideratives also encode evidential meanings, which properly belong to the clause level. The subject of a predicate involving *-ta-* ‘want (Desiderative)’ is the speaker (in assertion) or the addressee (in question), whereas that of *-tagar-* must be third person (the literal translation of *-tagar-* is ‘show a sign of wanting to V’). These desiderative operators thus encode information similar to that which

person markers express; beyond that, they are evidentials. They indicate how the speaker has obtained the information: either by virtue of himself/herself being the wanter, or by inference based on detecting signs of someone else's desire. Because these functions are evidential, *-ta-* and *-tagar-* must be regarded not only as core operators but also as clausal operators.² In fact, the scope of a root modal/evidential can vary from sentence to sentence. Therefore, root modals will not be further considered in this study as determiners of nexus type in core juncture.

TE can be used to link cores in all three nexus types. Section 5.2 investigates core subordination, in which the TE-marked core as a whole is an argument of the second core. Section 5.3 is devoted to the non-embedded nexus types. It is argued that although identical at first sight, these two nexus types behave differently with respect to the negative operator *naku-te*. Section 5.4 discusses how the distinction between core coordination and core cosubordination is directly reflected in their semantics. While in core coordination both cores are used to assert separate propositions in declarative sentences, the first core in core cosubordination functions as an adverbial modifier. Section 5.5 summarizes the chapter.

5.2. CORE SUBORDINATION

Some verbals take a TE-linked core argument (henceforth TE-argument), e.g. *i-* 'be permitted', *daizyoobu* + COP 'be all right', and *sum-* 'be settled'.

- (1) a. *anata wa moo kaette i- i.*
 you TOP already go-home-TE be-permitted NPST
 'You may go home now.'
- b. *koko de tabako o sutte i- i.*
 here LOC cigarette ACC smoke-TE be-permitted NPST
 'It is permitted to smoke here.'

² See Aoki (1986) for the argument that these morphemes are evidential markers.

- c. anata wa ko-naku-te daizyoobu desu. (McGloin 1976)
 you TOP come-NEG-TE all-right COP(POL)-NPST
 'It is all right that you don't come.'
- d. kyoo wa kaimono ni ika-naku-te sun- da. (McGloin 1976)
 today TOP shopping CMPL go-NEG-TE be-settled PST
 '(I) didn't have to go shopping today.'

I- in (1a, b) must not be confused with the homonymous *i-* 'be good', shown in (2).

- (2) zyoon wa akarukute i- i.
 TOP be-cheerful-TE be-good NPST
 'Joan is cheerful and nice.'

I- 'be good' in (3a) may be modified by degree adverbials, e.g. *totemo* 'very', but *i-* 'be permitted' in (3b) cannot be.

- (3) a. zyoon wa akarukute totemo ii.
 TOP be-cheerful-TE very be-good-NPST
 'Joan is cheerful and very nice.'
- b. *koko de tabako o sutte totemo ii.
 here LOC cigarette ACC smoke-TE very be-permitted-NPST
 'It is totally permitted to smoke here.' (Intended)

Furthermore, the negative form of *i-* 'be good' is *yoku-na-*, (4a, b), whereas the negation of *i-* 'be permitted' is expressed as *ike-na-*, as shown in (4c).

- (4) a. kono ringo wa hurukute yoku-na-i.
 this apple TOP be-old-TE be-good-NEG-NPST
 'This apple is old and not good.'
- b. koko de tabako o sutte wa yoku-na-i.
 here LOC cigarette ACC smoke-TE PRT be-good-NEG-NPST
 'It is not good to smoke here.'
- c. koko de tabako o sutte wa ike-na-i.
 here LOC cigarette ACC smoke-TE PRT be-permitted-NEG-NPST
 'It is not permitted to smoke here.'

Although these two *i-*'s exhibit distinct morphosyntactic characteristics — and thus must be considered homonymous rather than polysemous — their meanings do overlap.

In the affirmative form, in fact, it is not always clear which *i-* is intended. When they are in the negative form, by contrast, the formal difference between these two *i-*'s enables the semantic differences between them to emerge more clearly. For example, (4b) with *i-* 'be good' is used to express the speaker's opinion that cigarette-smoking is not appropriate in the location, whereas (4c) with *i-* 'be permitted' conveys the much stronger notion of prohibition by some external authority.

The negative form *ike-na-* is unique to *i-* 'be permitted'. That is, this morphological (suppletive) alternation is not available to other adjectives; all other adjectives conjugate in the same way as *i-* 'be good'. The question, then, arises as to whether *i-* 'be permitted' is appropriately categorized as adjective. The alternative is to categorize it as a root-modal operator. This alternative, however, must be rejected because *ike-na-* can appear as a main predicate, e.g. (5), something which is not permitted with operators.³

- (5) *ziipan wa ike-na-i.*
 jeans TOP be-permitted-NEG-NPST
 'Jeans are not permitted.'

Insofar as only a small number of particles, e.g. *wa* and *mo*, can intervene between the TE-predicate and such predicates as *i-* 'be permitted', *daizyoobu* + COP 'be all right', and *sum-* 'be settled', these sequences resemble those in nuclear juncture. However, as remarked, there is a crucial difference between core and nuclear juncture. While only the nuclear negative-operator, *nai-de*, can appear on the first predicate in nuclear juncture, e.g. (6a), not only *nai-de* but also the core negative-operator *naku-te* may negate the first conjunct in core juncture, as shown in (6b) and (1c, d).

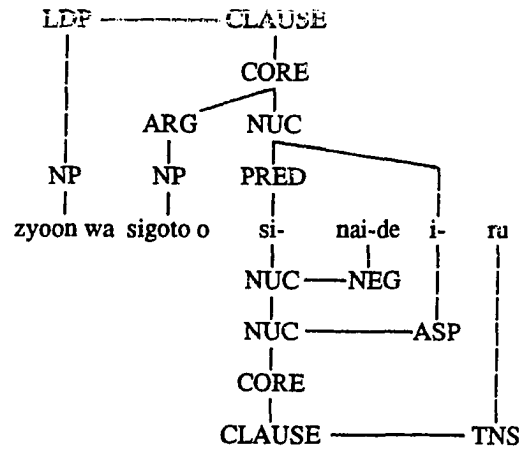
- (6) a. *zyoon wa sigoto o si- {nai-de/*naku-te} iru.*
 TOP work ACC do NEG-TE be-NPST

³ Recall that in RRG operators must be a closed-class grammatical morpheme of limited distribution (§2.4). The operator thus is a morphosyntactic notion, not a functional notion. Although adjectives in a certain construction (e.g. *it is necessary that*) can be used to express a concept similar to that which an operator expresses, such adjectives themselves are not considered to be operators.

'Joan isn't working.' (Nuclear Subordination)

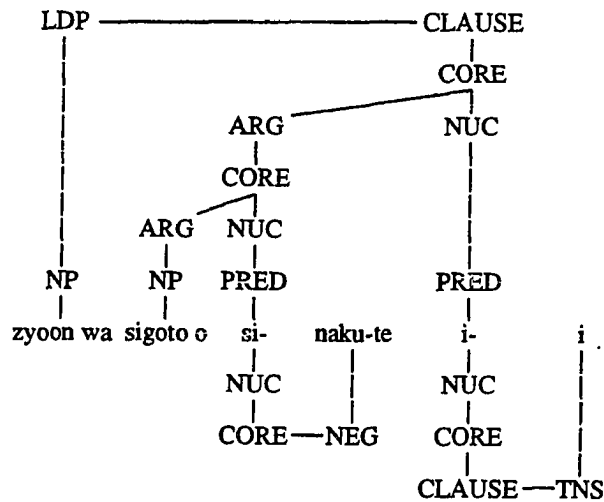
b. zyoon wa sigoto o si- (nai-de/naku-te) ii.
 TOP work ACC do NEG-TE be-permitted-NPST
 'Joan is permitted not to work.' (Core Subordination)

The following figures illustrate these two contrasting TE-linkage types:



'Joan isn't working.' (= 6a)

Figure 1: Nuclear Subordination



'Joan is permitted not to work.' (= 6b)

Figure 2: Core Subordination

TE-arguments have usually been analyzed in the same way as clausal complements, the latter illustrated in (7).

- (7) a. zyoon wa hiro ga gakkoo o yameru to itta.
 TOP NOM school ACC quit-NPST QUOT said
 ‘Joan said Hiro will quit school.’
- b. zyoon ga hiro o semeta no ga yoku-na-i.
 NOM ACC condemn-PST NMLZ NOM be-good-NEG-NPST
 ‘It is not good that Joan condemned Hiro.’

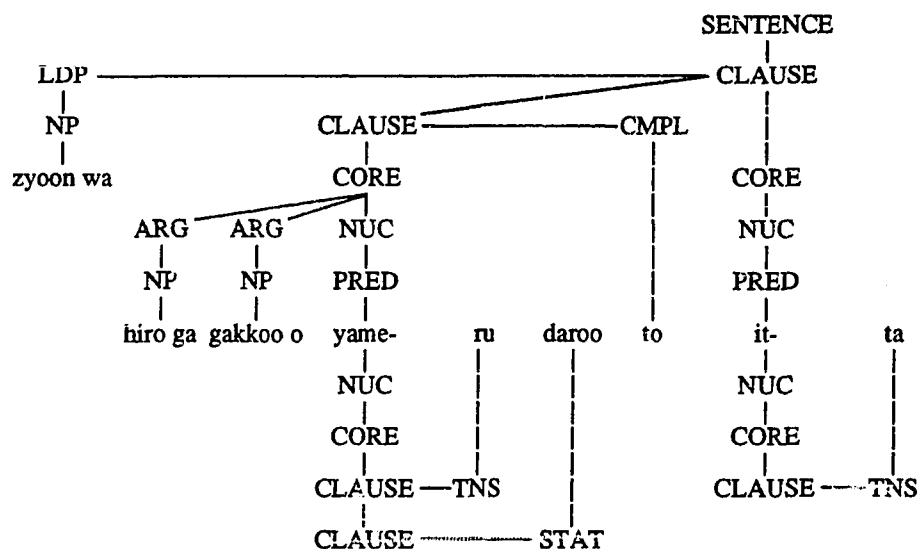
However, although both (6b) and (7) involve embedding, the juncture level in (7) is not the core level. In (6b), the subordinate unit can never be accompanied by the clausal operator of tense, whereas in (7) it must be.⁴

Similarly, evidentials (clausal operators), e.g. *daroo* (Presumptive) and *rasi-* ‘it appears to be’, can appear in a true subordinate clause, e.g. (8), whereas such operators can never appear with a subordinate core.

- (8) a. zyoon wa hiro ga gakkoo o yameru daroo to itta.
 TOP NOM school ACC quit-NPST EVID QUOT said
 ‘Joan said Hiro would quit school.’
- b. zyoon ga hiro o semeta rasi no ga ki ni naru.
 NOM ACC condemned EVID-NPST NMLZ NOM worries
 ‘It worries (me) that Joan seems to have condemned Hiro.’

Compare Figure 2, which illustrates core subordination, with Figure 3, illustrating clausal subordination.

⁴ The interpretation of tense operators in embedded clauses is relative rather than absolute, i.e., the tense of the embedded clause is interpreted as being either prior (past tense) or not prior (nonpast tense) to the referent time expressed by the matrix clause. See Okawa (1990) and references therein for the interpretation of tense in subordinate clauses.



'Joan said Hiro would quit school.' (= 7a)

Figure 3: Clausal (Complement) Subordination

5.3. NON-EMBEDDED NEXUS TYPES

In core-level TE-linkage with non-embedded nexus, the subject must be shared by both cores. Thus this linkage resembles VP-linkage in other syntactic theories, e.g. Lexical Functional Grammar as described in Sells (1990). RRG presents the linkage from a different perspective: the shared argument serves as the *pivot* around which two cores are conjoined. The following sentences exemplify non-embedded core linkage with TE.⁵

⁵ In most sentences in this subsection, I have preferred to formulate the example with the nominative *ga* rather than the topic marker *wa*, so that the subject NP will be clearly inside the core (and not in the LDP). However, in main clauses, because such an NP is shared by both cores, it would be more natural to use *wa*, which overtly indicates intrasentential topic continuity. In subordinate clauses, on the other hand, *wa* cannot be used to mark topic and in fact *ga* is obligatory. (See §2.3 for a brief discussion about *wa* and *ga*.) Accordingly, all the examples below are presented as subordinate clauses; the clauses have all been nominalized with *koto* 'fact/(abstract) thing', although I have not provided a matrix clause for the examples.

- (9) a. zyoon ga okane o tamete kuruma o katta koto
 NOM money ACC save-TE car ACC bought fact
 'the fact that Joan saved money and bought a car'
- b. zyoon ga kippu o katte eega o mita koto
 NOM ticket ACC buy-TE movie ACC saw fact
 'the fact that Joan bought a ticket and saw the movie'

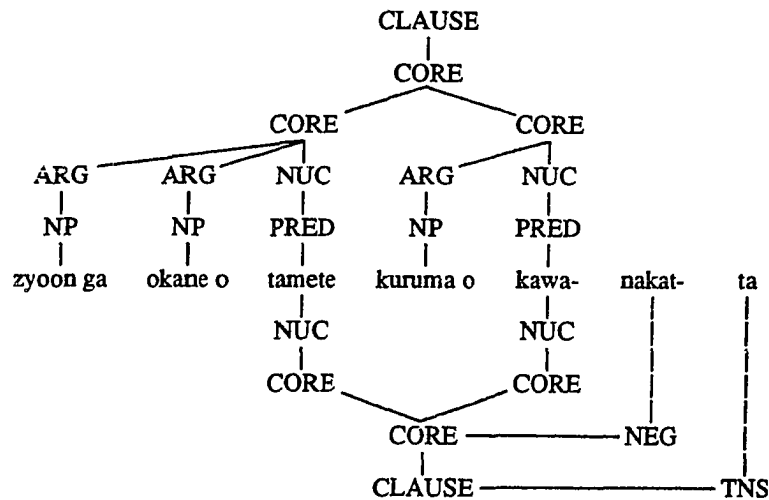
The clauses in (9) are potentially ambiguous. When the negative morpheme is attached to the second predicate, the ambiguity becomes apparent, as shown in (10, 11); the a- and b-clauses are superficially identical, but the interpretation is different.

- (10) a. zyoon ga okane o tamete kuruma o kawa- nakatta koto
 NOM money ACC save-TE car ACC bought NEG-PST fact
 'the fact that Joan bought a car without saving money'
- b. zyoon ga okane o tamete kuruma o kawa- nakatta koto
 'the fact that Joan saved money and didn't buy a car'
- (11) a. zyoon ga kippu o katte eega o mi- nakatta koto
 NOM ticket ACC buy-TE movie ACC see NEG-PST fact
 'the fact that Joan saw the movie without buying a ticket'
- b. zyoon ga kippu o katte eega o mi- nakatta koto
 'the fact that Joan bought a ticket but didn't see the movie'

The ambiguity between the a- and b-clauses is structural, though it need not surface phonetically.⁶ In the a-clauses both cores are within the scope of negation; in the b-clauses only the second core is. This phenomenon can be stated in terms of operator dependency. As shown in (12), the first core in (10a) is dependent on the second with regard to the core-level negative operator, whereas there is no operator dependency in (10b). In other words, in (10a) both cores are in the scope of the negative operator, whereas in (10b) only the second core is. Thus, the former is in core cosubordination, while the latter is in core coordination.

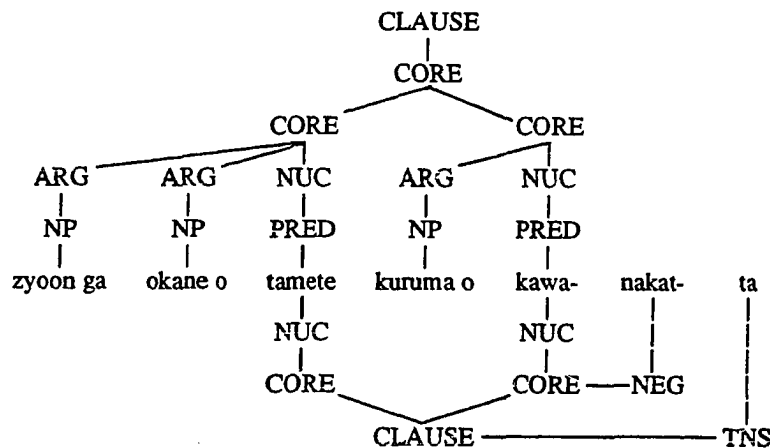
⁶ A major-phrase boundary is more likely to occur in the b-clauses than in the a-clauses; however, this is only a tendency, and may fail to be observed in naturally uttered sentences.

- (12) A: [_{CORE} [_{CORE} zyoon ga okane o tamete] [_{CORE} kuruma o kaw-]]-NEG
 B: [_{CORE} zyoon ga okane o tamete] [_{CORE} kuruma o kaw-]-NEG



'(the fact that) Joan bought a car without saving money' (= 10a)

Figure 4: Core Cosubordination



'(the fact that) Joan saved money and didn't buy a car' (= 10b)

Figure 5: Core Coordination⁷

⁷ Because there is no core-level operator dependency in coordination, no super CORE-node appears in the operator projection.

Note that although the scope of negation ranges over both cores in core cosubordination, what is negated is not the two propositions, but rather the semantic relation between them. That is, the clause in Figure 4 (= 10a) does not indicate 'Joan didn't save money and didn't buy a car': it instead indicates that 'Joan bought a car by saving money' does not hold. This fact challenges the implicature-only analysis, which states that all semantic relations compatible with TE-linkage are to be worked out by pragmatic principles (cf. §1.3). If the semantic relation between Joan's saving money and her buying a car (a MEANS relation) is only an implicature and not part of an assertion, as proponents of the implicature-only analysis would claim, then the negative operator serves only to cancel it. This amounts to the claim that the negation is metalinguistic, in the sense discussed by Horn (1985).

Horn contends that there is a descriptive/metalinguistic dichotomy in negation. *Descriptive* negation is a device to negate the truth of a proposition, whereas *metalinguistic* negation is a device to negate the *assertability* of a sentence.⁸ The speaker utilizes the latter to express objection to a previous utterance on any grounds whatsoever: phonetic realization, morphology, style or register, conversational implicature, or conventional implicature. The following examples, which illustrate metalinguistic negation, are all taken from Horn (1985); they include all sub-types except conventional implicature.

- (13) a. (Esker too ah coo-pay luh vee-and?)
Non, je n'ai pas 'coo-pay luh vee-and' — j'ai coupé la viande.
(Objection based on phonetic realization)
- b. I didn't manage to trap two monGEESE — I managed to trap two monGOOSES.
(Objection based on morphology)
- c. Grandma isn't 'feeling lousy', Johnny, she's indisposed.
(Objection based on register)
- d. Max doesn't have (just) THREE children — he has FOUR.
(Conversational Implicature: Objection based on the Maxim of Quantity)

⁸ The term metalinguistic negation was originally proposed by Ducrot (1972), as *négation métalinguistique* (Horn 1985).

- e. It's not true that they had a baby and got married — they got married and had a baby.
(Conversational Implicature: Objection based on the Maxim of Manner)

Conventional implicature will require somewhat more explanation. Horn takes up the following sentences originally discussed by Karttunen and Peters (1976). In addition to the proposition that John solved the problem, (14a) conveys (14c). However, (14c) is not *asserted* by uttering (14a) because the negation of (14a), i.e. (14b), also conveys (14c). Thus, (14c) is considered to be an implicature.

- (14) a. John managed to solve the problem.
b. John didn't manage to solve the problem.
c. It was difficult for John to solve the problem.

Unlike conversational implicature, however, this particular implicature (14c) is directly associated with the linguistic expression *manage*; therefore, such implicature is considered *conventional*, not conversational. Note that, contrary to Grice's original claim, conventional implicature can be cancelled, as shown in (15):

- (15) John didn't MANAGE to solve the problem — it was quite easy for him to do.

Let us now consider whether or not the negation involved in (10a), restated as (16), is metalinguistic.

- (16) zyoon ga okane o tamete kuruma o kawa- nakatta koto
NOM money ACC save-TE car ACC bought NEG-PST fact
'the fact that Joan bought a car without saving money'

As pointed out earlier, what is negated in (16) is the MEANS relation, i.e. the proposition that Joan bought a car by means of saving money. Compare this clause with the wide-scope reading of the following English sentence, which can be paraphrased as 'The reason why Joan was promoted is not because she is nice to her staff.'⁹

⁹ Recall the brief discussion of this sentence in Chapter 1. For a detailed analysis of sentences like (17), see Kay (1991).

(17) Joan didn't get promoted because she's nice to her staff.

When both clauses in (17) are in the scope of negation, what is negated is the semantic relation CAUSE expressed by *because*. In the Gricean theory of pragmatics, to which Horn appears to subscribe, the CAUSE relation is not truth-functional and is thus considered to be a case of conventional implicature. Consequently, the negation in (17) counts as metalinguistic in Horn's theory of negation. By contrast, the narrow-scope reading — 'Because Joan is nice to her staff, she didn't get promoted' — must be considered descriptive. However, as discussed in Chapter 1, if we do not adhere to truth-functional semantics, CAUSE is the (dependent) semantic aspect of *because*, and therefore the negation in (17) is at the descriptive level, negating what is asserted by the use of *because*, not at the metalinguistic level.

As for the MEANS relation in (16), we certainly do not perceive that the speaker is rejecting the *assertability* of *zyoon ga okane o tamete kuruma o katta* 'Joan bought a car by saving money': the negation in (16) is hardly metalinguistic. Therefore, I conclude that the negative operator appearing on the second core in core cosubordination is descriptive negation and hence must be accounted for in semantics proper. Although it is possible to formulate a special rule for the negative operator to account for this fact, such a rule will be ad hoc. If, by contrast, we consider such semantic relations as MEANS to be a property of TE-linkage with core cosubordination, no special rules will be required. Any operator of negation can deny the semantic relation between the constituents in its scope.

The negative operators *nai-de* and *naku-te* have been studied by several researchers (McGloin 1972, 1976; Kitagawa 1976; Suzuki 1976; Takasaki 1984), yet so far no really satisfactory characterization of their distribution and semantics has emerged. It is one of the merits of RRG that it can provide such a characterization. RRG states that in core cosubordination, a first core cannot be independently negated by a core-level operator, whereas in core coordination, it can be. This characterization dovetails perfectly with the observed behavior of *nai-de* and *naku-te* and provides an explanation of that behavior — as in (18).

- (18) zyoon ga okane o tame- naku-te kuruma o katta koto
 NOM money ACC save NEG-TE car ACC bought fact
 ‘the fact that Joan didn’t save money and bought a car (instead)’
 (parsed as coordination)
 NOT: ‘the fact that Joan bought a car without saving money’
 (parsed as cosubordination)

On the other hand, in either nexus type, the first core can contain the nuclear-level operator *nai-de*. Because it is a *nuclear* operator, when *nai-de* appears on the first predicate it does not provide any information about the nexus type of the core linkage, so that the resultant phrase will still be ambiguous between cosubordination and coordination. The sentences in (19) confirm this prediction. Note that the corresponding clause with *naku-te* is not ambiguous, as shown in (18).

- (19) zyoon ga okane o tame- nai-de kuruma o katta koto
 NOM money ACC save NEG-TE car ACC bought fact
 A: ‘the fact that Joan bought a car without saving money’
 (parsed as cosubordination)
 B: ‘the fact that Joan didn’t save money and bought a car (instead)’
 (parsed as coordination)

With core cosubordination, the declarative utterance is interpreted as asserting a single proposition specified by the second core, with the first core functioning as an adverbial modifier, e.g. indicating a means as in (18). With core coordination, by contrast, the declarative utterance is interpreted as asserting two propositions, as shown in (19B). Because saving money and buying a car are naturally independent events, (19) permits both interpretations. For the same reason, the use in (18) of *naku-te*, which signals coordination nexus, is acceptable.

On the other hand, (20a) is not readily ambiguous: the preferred interpretation (and for many speakers the only interpretation) is A. That is, the sentence is not naturally parsed as involving coordination. This is because buying a ticket and seeing a movie can hardly be conceived as independent events. *Eega o mi-* immediately evokes the *interpretive frame* which contains an event of buying a ticket.¹⁰ With no further information, the

¹⁰ *Interpretive frames* are organizers of experience and tools for understanding.

use of *naku-te* in (20b) is unnatural for just the same reason: given the interpretive frame, the events are hard to construe as independent. (Recall that *naku-te* signals that the juncture is not at the nuclear level.) However, if the sentence is uttered in a context where Joan was supposed to buy a ticket for, say, a concert but spent the money for a movie instead, (20b) becomes natural.

- (20) a. *zyoon ga kippu o kawa- nai-de eega o mita koto*
 NOM ticket ACC buy NEG-TE movie ACC saw fact
 A: 'the fact that Joan saw the movie without buying a ticket'
 B: 'the fact that Joan didn't buy the ticket and saw a movie (instead)'
- b. *zyoon ga kippu o kawa- naku-te eega o mita koto*
 NOM ticket ACC pay NEG-TE movie ACC saw fact
 'the fact that Joan didn't buy the ticket and saw a movie (instead)'

Nai-de can also be interpreted as 'by (means of) not V-ing', as illustrated in (21a, b).

- (21) a. *zyoon ga gohan o tabe- nai-de taizyuu o herasita koto*
 NOM meal ACC eat NEG-TE body-weight ACC reduced fact
 'the fact that Joan reduced the body weight by not eating meals'
- a'. *zyoon ga doryoku o si- nai-de taizyuu o herasita koto*
 NOM effort ACC do NEG-TE body-weight ACC reduced fact
 'the fact that Joan reduced the body weight without making effort'

Fillmore (1985b:232) notes: 'Interpretive frames can be introduced into the process of understanding a text through being invoked by the interpreter or through being evoked by the text. A frame is invoked when the interpreter, in trying to make sense of a text segment, is able to assign it an interpretation by situating its content in a pattern that is known independently of the text. A frame is evoked by the text if some linguistic form or pattern is conventionally associated with the frame in question. For example, the sentence "We never open our presents until the morning" makes no mention of Christmas, yet interpreters who share certain cultural experiences would immediately (in the terminology suggested here) invoke a Christmas context; replace the simple noun *presents* with *Christmas presents* and we have introduced a word which evokes that same context.' For concepts similar to the interpretive frame, see Minsky (1975), Schank (1975, 1980), Schank and Abelson (1977), and Schank and Riesbeck (1981).

- b. zyoon ga mudazukai o si- nai-de okane o tameta koto
 NOM wasting ACC do NEG-TE money ACC saved fact
 ‘the fact that Joan saved money by not wasting’
- b’. zyoon ga mokuteki o mota- nai-de okane o tameta koto
 NOM purpose ACC have NEG-TE money ACC saved fact
 ‘the fact that Joan saved money without having a purpose’

The distinction between the ‘by not V-ing’ and the ‘without V-ing’ interpretation seems to be purely pragmatic. If performing the first action normally prevents the accomplishment of the second action, e.g. (21a, b), the interpreter is likely to construe the clause with ‘by not V-ing’. ‘Without V-ing’ interpretations generally do not require such a presupposition, e.g. (21a’, b’).

Because the first core serves as an adverbial modifier in core cosubordination, it is frequently claimed that the first core is subordinated. Although the ‘subordinate’ status of the first core is justified on semantic grounds, there is no evidence for its *syntactic* subordination. A subordinate core must be an argument of the matrix core in RRG; adverbials are not valence-bound, and thus they fall outside the core.

To sum up, TE can link two cores in all three nexus types. In core subordination, the subordinate core as a whole is an argument and is governed by the matrix predicate; the lexicon must supply the information as to which class of predicate can take a TE-marked core as an argument. With other predicates, sentences involving TE-linked cores are potentially ambiguous between coordination and cosubordination. The interpreter selects the appropriate reading based on considerations of discourse context and interpretive frames.

5.4. SEMANTIC RELATIONS IN NON-EMBEDDED CORE JUNCTURE

5.4.1. Core Coordination

As discussed in the previous section, coordinated cores are presented as independent of each other syntactically as well as semantically, and thus a declarative clause containing coordinated cores is used to assert two propositions. Although various semantic relations

can be inferred from the meanings of linked cores, this TE-linkage does not uniquely signify any particular semantic relation. In fact, the linkage can be used as a purely structural device, to conjoin two or more cores with no further semantic overtones. In such a case, subject sharing is the only requirement for this linkage type, as illustrated in (22).

- (22) ootoo wa daigakusee de kodomo no toki yoku kenka
 younger-brother TOP college-student COP-TE child GEN time often quarrel
 site uindo-saahuin ga suki de kyonen itarii e itte...
 do-TE windsurfing NOM fond-of COP-TE last-year Italy ALL go-TE
 'My younger brother is a college student and quarreled a lot when (he was) a child
 and likes windsurfing and went to Italy last year and ...'

In this respect, TE-linkage parallels *and*-linkage in English. As Halliday and Hasan (1976:233) argue (cf. §1.3.2), an adult English speaker treats *and* as a structural but not a cohesive device: it may be utilized solely to keep the floor. In some cases, on the other hand, the discourse context may provide a cue to determine the speaker's motivation for using *and* or TE. As discussed in §1.2.3.4, for example, if the interlocutors are talking about customers' payment statuses, the reasoning for conjoining particular propositions is transparent, i.e. consisting a list of customers' payments. TE is used for this purpose in (23).

- (23) abe-san wa asita haratte bandoo-san wa sensyuu haratte dan-san
 PRT tomorrow pay-TE PRT last-week pay-TE
 wa raisyuu haratte endoo-san wa kinoo haraimasita.
 PRT next-week pay-TE PRT yesterday paid(POL)
 'Abe will pay tomorrow, Bando paid last week, Dan will pay next week, and Endo
 paid yesterday.'

However, when only *two* cores or clauses are linked by TE, the hearer inevitably interprets them as bearing a certain semantic relation to one another, and does not take TE as a mere structural device. For example, when the predicates of the linked cores are not stative, a SEQUENCE reading is the unmarked interpretation, e.g. (24).

- (24) zyoon ga terebi o mite ohuro ni haitta koto
 NOM TV ACC watch-TE bath LOC entered fact
 'the fact that Joan watched TV and took a bath'

The natural interpretation of (24) is that Joan watched TV and then took a bath. However, this SEQUENCE interpretation is to be attributed in part to the iconicity between clause order and intended temporal order (Haiman 1980, 1985), rather than purely to TE-linkage itself. If the linked cores are stative, on the other hand, no SEQUENCE can be inferred, e.g. (25).

- (25) *zyoon ga akarukute sinsetu na koto*
 NOM be-cheerful-TE kind COP fact
 ‘The fact that Joan is cheerful and kind’

Because TE-linkage in core coordination merely signals that two denoted events are independent of each other in the sense that neither is ‘part’ of the other, it permits CAUSE interpretations. In (26a), for example, the reason for Joan’s firing is her embezzlement. As shown in (26b), the negative operator does not have the first core in its scope — a characteristic feature of coordination nexus.

- (26) a. *zyoon ga tukaikomi o site kubi ni natta koto*
 NOM embezzlement ACC do-TE was-fired fact
 ‘the fact that Joan embezzled and got fired’
- b. *zyoon ga tukaikomi o site kubi ni nara-nakatta koto*
 NOM embezzlement ACC do-TE be-fired NEG-PST fact
 ‘the fact that Joan embezzled but didn’t get fired’
 NOT: ‘the fact that Joan got fired without embezzlement’

In Chapter 6, we will examine the semantic relations CAUSE and REASON in detail; this subsection will merely present some facts about those relations when they are expressed by core-coordination TE-linkage. A CAUSE relation can be inferred only when the second core denotes a non-action. In (26), for example, the first core denotes an action, and the second a non-action. In (27), on the other hand, both cores denote non-actions. In both cases, a CAUSE interpretation is permitted.¹¹

¹¹ When both cores denote actions, no CAUSE interpretation is possible. See Chapter 6 for details.

- (27) a. *zyoon ga naibu-koosoo ni yaburete kubi ni natta koto*
 NOM internal-strife LOC be-defeated-TE was-fired fact
 'the fact that Joan was defeated in the internal strife and got fired'
- b. *zyoon ga asi o otte byooin ni hakobareta koto*
 NOM leg ACC break-TE hospital LOC was-carried fact
 'the fact that Joan broke (her) leg and was carried to the hospital'

When the first core denotes a non-action and the second an action, the non-action is considered to be the REASON for the action, e.g. (28).

- (28) a. *zyoon ga rakudai site gakkoo o yameta koto*
 NOM fail-TE school ACC quit-PST fact
 'the fact that Joan failed (in an examination) and quit school'
- b. *risoo ni kyoomee site, ... 12-nin no wakamono ga*
 idea LOC sympathize-TE GEN young-people NOM
kaihatutozyookoku e tabidatta. [Boran[t]ia]
 developing-country ALL left-for
 'Sympathizing with (his) ideals, 12 young volunteers went to developing countries.'

Furthermore, when the first core denotes a non-action and the second an action, TE-linkage also permits CONCESSION relations, e.g. (29).¹²

- (29) a. *kare wa sono koto o sitte ite iwanai. (Morita 1980)*
 he TOP that fact ACC know-TE say-NEG-NPST
 'He knows the fact but doesn't say (it).'
- b. *zyoon wa okane o motte ite kasanai.*
 TOP money ACC have-TE lend-NEG-NPST
 'Joan has money but doesn't lend (it).'
- c. *zyoon wa uso da to sitte ite watasi ni osieta.*
 TOP lie COP-NPST QUOT know-TE 1st.sg to told
 'Joan knew that (it) was a lie but told (it) to me nevertheless.'

¹² *Sitte ite* in (29a, c) and *motte ite* (29b) themselves involve nuclear-level TE-linkage; however, because nuclear linkage is irrelevant to the current discussion, I have not provided details in the glosses.

When the second core denotes an action which is contrary to expectation, the linked cores are interpreted as bearing a CONCESSION relation. When this relation is intended, the second core is frequently negated, e.g. (29a, b); but if the co-occurrence of the two events is strongly contrary to cultural/social expectation, e.g. (29c), the second core may be affirmative.

The fact that core-coordination TE-linkage is compatible with both CAUSE and REASON, on the one hand, and their 'opposition' CONCESSION on the other suggests that these semantic relations are inferred rather than asserted. With a CAUSE or REASON relation, the subject of the first constituent need not be identical with that of the second. Therefore, these relations may be implicated by clause-level TE-linkage as well as by core linkage. However, unlike core TE-linkage, CONCESSION relations cannot be implicated by clause-level TE-linkage, as we will see in Chapter 6.

5.4.2. Core Cosubordination

TE-linkage in core cosubordination signals adverbial modification without further specification as to which particular adverbial function (i.e. semantic relation) should hold between the cosubordinate and the matrix core. Several taxonomies of adverbial functions compatible with TE-linkage have been proposed (NLRI 1951, Negishi 1970, Morita 1980, Endo 1982, *inter alia*). Although these hitherto-proposed taxonomies distinguish neither juncture nor nexus types, most of them appear to recognize MANNER¹³ and MEANS relations corresponding to what we call TE-linkage with core cosubordination.

Rather than summarizing such taxonomies of semantic relations, this subsection will compare core-cosubordination TE-linkage with *de*-marked NPs, the latter of which can denote semantic relations compatible with those expressed by TE-linkage. *De* is diachronically related to TE (Konoshima 1966, 1983; Komatsu 1981).¹⁴ Because no

¹³ The commonly used term in Japanese is *yootai*. *Yootai* denotes a very general concept, corresponding to *aspect, appearance, condition, phase, feature, way, manner*, etc. I have selected the term *manner* to label this semantic relation.

¹⁴ It is widely accepted that connective particles in Japanese (*ga, o, ni, to*) developed

predicate has an NP-*de* in its valence, all *de*-marked NPs are considered to be adverbials. As with TE-linkage, *de*-marked NPs hold various semantic relations to their predicates, viz. LOCATION, MEANS, MATERIAL, MANNER, MEASURE, and CAUSE.¹⁵

Generally, when the adverbial function of an NP-*de* is not easily inferrable from the meanings of the NP and the predicate, or when the speaker wants to be more precise, s/he can replace the NP with a TE-linked core. This fact indicates that TE and *de* are related not only diachronically but also synchronically (i.e. psychologically). The selection of TE-predicate in such paraphrasing is, of course, semantically restricted, and generally the least marked predicate of the appropriate semantic field is selected. The following sentences illustrate the parallelism between NP-*de*'s and TE-linked cores.

(30) LOCATION

a. zyoon ga noodosutoroomu de kutu o katta koto
 NOM PRT shoes ACC bought fact
 'the fact that Joan bought shoes at Nordstrom'

a'. zyoon ga noodosutoroomu e itte kutu o katta koto
 NOM ALL go-TE shoes ACC bought
 'the fact that Joan bought shoes going to Nordstrom'

b. soto de hanasi-masyoo.
 outside PRT talk-HORT(POL)
 'Let's talk outside.'

b'. soto ni dete hanasi-masyoo.
 outside LOC go-out-TE talk-HORT(POL)
 'Let's go outside and talk.'

from the corresponding case particles (Ishigaki 1955; Komatsu 1981; Hirose 1991; Ohori 1991, 1992). In the case of TE, however, the development was the reverse, so that some case-particle *de*'s were derived from the connective TE, via two paths: *ni-te* 'COP + TE' and *zu-te* 'NEG + TE' (Konoshima 1966).

¹⁵ A clause can contain multiple NP-*de*'s if they hold different semantic relations to the predicate — e.g. CAUSE-*de* and LOCATION-*de* commonly co-occur in the same clause, as do MANNER-*de* and MEANS-*de*. Thus there are many homonymous *de*'s in Japanese. However, because MEANS and MATERIAL NP-*de*'s can never co-occur in a single clause, these relations are considered not to be distinct.

(31) MEANS

- a. *zyoon ga teepu de kankokugo o benkyoo sita koto*
 NOM tape PRT Korean ACC study did fact
 'the fact that Joan studied Korean with tapes'
- a'. *zyoon ga teepu o kiite kankokugo o benkyoo sita koto*
 NOM tape ACC listen-TE Korean ACC study did fact
 'the fact that Joan studied Korean listening to tapes'
- b. *kuruma de itta koto*
 car PRT went fact
 'the fact that (I) went (there) by car'
- b'. *kuruma o unten site itta koto*
 car ACC drive-TE itta fact
 'the fact that (I) went (there) by driving a car'

(32) MATERIAL

- a. *zyoon ga renga de ie o tateta koto*
 NOM brick PRT house ACC built fact
 'the fact that Joan built a house with bricks'
- a'. *zyoon ga renga o tukatte ie o tateta koto*
 NOM brick ACC use-TE house ACC built fact
 'the fact that Joan built a house using bricks'

As remarked, MEANS and MATERIAL NP-*de*'s cannot co-occur in a single clause. Therefore, should both NPs be expressed, one of them must be encoded with a TE-linked core, e.g. (33).

- (33) a. *#zyoon ga densirenzi de okome de keeki o tukutta koto*
 NOM microwave-oven PRT rice PRT cake ACC made fact
 'the fact that Joan made cake with rice with a microwave oven' (Intended)
- a'. *zyoon ga densirenzi o tukatte okome de keeki o*
 NOM microwave-oven ACC use-TE rice PRT cake ACC
 tukutta koto
 made fact
 'the fact that Joan made cake with rice using a microwave oven'
- a''. *zyoon ga densirenzi de okome o tukatte keeki o*
 NOM microwave-oven PRT rice ACC use-TE cake ACC

tukutta koto
made fact
'the fact that Joan made cake using rice with a microwave oven'

(34) MANNER

- a. zyoon ga akai huku de osoosiki ni kita koto
NOM red cloth PRT funeral LOC came fact
'the fact that Joan came to the funeral in a red dress'
- a'. zyoon ga akai huku o kite osoosiki ni kita koto
NOM red cloth ACC wear-TE funeral LOC came fact
'the fact that Joan came to the funeral wearing a red dress'
- b. sakadati de aruita koto
handstand PRT walked fact
'the fact that (I) walked on (my) hands'
- b'. sakadati site aruita koto
handstand do-TE walked fact
'the fact that (I) walked standing on (my) hands'

(35) MEASURE

- a. zenbu de 3,000 en.
all PRT yen
'All for 3,000 yen.'
- a'. zenbu kutte 3,000 en. (Morita 1980)
all eat-TE yen
'All (you can) eat for 3,000 yen.'
- b. mikka de siageta koto
three-days PRT completed fact
'the fact that (I) completed (it) in three days'
- b'. mikka kakete siageta koto
three-days spend-TE completed fact
'the fact that (I) completed (it) spending three days'

(36) CAUSE¹⁶

- a. zyoon ga tukaikomi de kubi ni natta koto
 NOM embezzlement PRT was fired fact
 'the fact that Joan was fired for embezzlement'
- a'. zyoon ga tukaikomi o site kubi ni natta koto (= 25a)
 NOM embezzlement ACC do-TE was fired fact
 'the fact that Joan embezzled and got fired'
- b. hune no kekkoo de okureta.
 ferry GEN suspension-of-service PRT was-late
 '(I) was late due to the suspension of the ferry service.'
- b'. hune ga kekkoo site okureta.
 ferry NOM suspension-of-service do-TE was-late
 Lit. 'The ferry service being suspended, (I) was late.'
 'Because the ferry service was suspended, (I) was late.'

The subject of the two conjuncts must be identical in TE-linkage with LOCATION, MEANS, and MANNER relation. This makes some sense semantically because in order for a person to perform some action in some place, the same person must first go there (LOCATION); similarly, one does something in order to accomplish something else (MEANS); and one does something while doing something else (or after doing something and its resultant state remains when the other action is performed) (MANNER). Only core-level TE-linkage automatically implies such construal. If the subjects are distinct, on the other hand, these relations cannot be inferred with TE-linkage. In the CAUSE relation, however, the subject of the CAUSE clause need not be identical with that of the EFFECT clause. Thus the juncture can easily be at the clause level as well, e.g. (36b'). MEASURE NPs are rather different from these two types because when such NPs are used predicatively, there is generally no subject. MEASURE NPs are inherently adverbial, not expressing propositions. Thus MEASURE NPs are difficult to paraphrase with TE-linkage.

When a negative operator applies to the second core, the resultant interpretation

¹⁶ Because the CAUSE relation can be expressed by an NP-*de*, it is included in the discussion of this subsection although it requires core coordination rather than core cosubordination.

indicates that all these paraphrases with TE-linkage — except (36a'), which is in core coordination as discussed in the previous section, and (36b'), which involves clausal juncture — are clearly in core cosubordination. If the sentence permits both cosubordination and coordination readings, it is only the former which can be parallel with the corresponding NP-*de*. The following provide some examples.

(37) LOCATION

- a. *zyoon ga noodosutoroomu de kutu o kawa-nakat-ta koto*
 NOM PRT shoes ACC buy-NEG-PST fact
 'the fact that Joan didn't buy shoes at Nordstrom'
- a'. *zyoon ga noodosutoroomu e itte kutu o kawa-nakat-ta koto*
 NOM ALL go-TE shoes ACC buy-NEG-PST fact
 'the fact that Joan didn't go to Nordstrom and buy shoes'
 NOT: 'the fact that Joan went to Nordstrom but didn't buy shoes'

MEANS

- b. *zyoon ga teepu de kankokugo o benkyoo si-nakat-ta koto*
 NOM tape PRT Korean ACC study do-NEG-PST fact
 'the fact that Joan didn't study Korean by listening to tapes'
- b'. *zyoon ga teepu o kiite kankokugo o benkyoo si-nakat-ta*
 NOM tape ACC listen-TE Korean ACC study do-NEG-PST
 koto
 fact
 'the fact that Joan didn't study Korean listening to tapes'
 NOT: 'the fact that Joan studied Korean without listening to tapes'

MANNER

- c. *zyoon ga akai huku de osoosiki ni ko-nakat-ta koto*
 NOM red cloth PRT funeral LOC come-NEG-PST fact
 'the fact that Joan didn't come to the funeral in a red dress'
- c'. *zyoon ga akai huku o kite osoosiki ni ko-nakat-ta koto*
 NOM red cloth ACC wear-TE funeral LOC come-NEG-PST fact
 'the fact that Joan didn't come to the funeral wearing a red dress'
 NOT: 'the fact that Joan came to the funeral without wearing a red dress'

Being in core cosubordination, the first cores in (34a', b', c') can contain *nai-de* without changing their adverbial nature. On the other hand, if instead the first core is negated by *naku-te*, the semantic relation changes and the nexus type switches to

coordination. With *naku-te*, the utterance asserts two separate events; the parallelism with NP-*de* thus is not maintained, as shown in the following.

(38) LOCATION

a. *zyoon ga noodosutoroomu e ika-nai-de kutu o katta koto*
 NOM ALL go-NEG-TE shoes ACC bought fact
 'the fact that Joan bought shoes without going to Nordstrom'

a'. *zyoon ga noodosutoroomu e ika-naku-te kutu o katta koto*
 NOM ALL go-NEG-TE shoes ACC bought fact
 'the fact that Joan didn't go to Nordstrom and bought shoes (instead)'

MEANS

b. *zyoon ga teepu o kika-nai-de kankokugo o benkyoo sita*
 NOM tape ACC listen-NEG-TE Korean ACC study did
 koto
 fact
 'the fact that Joan studied Korean without listening to tapes'

b'. *zyoon ga teepu o kika-naku-te kankokugo o benkyoo sita*
 NOM tape ACC listen-NEG-TE Korean ACC study did
 koto
 fact
 'the fact that Joan didn't listen to tapes and studied Korean (instead)'

MANNER

c. *sakadati si-nai-de aruita koto*
 handstand do-NEG-TE walked fact
 'the fact that (I) didn't walk standing on (my) hands'

c'. *sakadati si-naku-te aruita koto*
 handstand do-NEG-TE walked fact
 ?'the fact that (I) didn't stand on (my) hands and (I) walked'

Most NP-*de*'s can be paraphrased with TE-linkage; the chief exception is MEASURE NPs. On the other hand, it is quite common for TE-linked cores to have no equivalent NP-*de*, e.g. (39).

(39) *amerika-zin no sensee {#de /ni tuite } eego o benkyoo sitai.*
 American GEN teacher PRT attend to English ACC study do-DES
 Lit. 'I want to study English attending to an American teacher.'
 'I want to study English with an American teacher.' (Endo 1982)

I hypothesize, therefore, that all but MEASURE NP-*de*'s are abbreviated forms of the corresponding TE-linked cores. When a particular NP in the first core and the predicate of the second core jointly provide sufficient information about the semantic relation between the linked cores, an equivalent sentence can be formulated in which the given NP is marked with *de* and the TE-predicate does not appear at all, with NP-*de* now metonymically standing for the original core. When the NP and the predicate in the second core do not sufficiently specify the semantic relation, however, this metonymy fails to convey the intended information. Such sentences as (40) will not be uttered unless the speaker believes that the addressee can identify what *biza* refers to and, consequently, that its adverbial function is apparent to the addressee.

- (40) *biza de katta.*
 VISA PRT bought
 '(I) bought (it) by (using) a VISA card.'
 '(I) bought (it) at (a store called) VISA.'

5.4.3. KUNO'S CONTROLLABILITY CONSTRAINT

Kuno (1973:196-97) claims that in TE-linkage with identical subjects (i.e. non-embedded core juncture), both cores must be either self-controllable (actions) or both non-self-controllable (events). He judges the following examples ungrammatical because of the violation of this constraint: in (41), the first predicate is non-controllable, the second controllable.¹⁷

- (41) a. *zyon wa asa me o samasite kao o aratta.*
 TOP morning wake-TE face ACC washed
 'John woke up in the morning and washed his face.'

¹⁷ The awkwardness of (41a) is not due solely to the lack of agreement in controllability. In the event sequence implicit in (41a), an intermediate action — 'getting up' — is missing. If the second core in (41a) were to be replaced by, say, 'looked around', the sentence would be perfectly natural, even though the second predicate refers to a controllable action.

Note that Japanese *tuk-* 'arrive' in (41b) is non-controllable.

- b. zyon wa hikoozyoo ni tuite ie ni denwa sita.
 TOP airport LOC arrive-TE home LOC telephone did
 'John arrived at the airport and called home.'
- c. zyon wa marii ni guuzen deatte sono hanasi o sita.
 TOP LOC accidentally meet-TE that talk ACC did
 'John ran into Mary accidentally and talked about it (with her).'

While some may feel these sentences awkward, it is overly pedantic to claim that they are actually ungrammatical. The following are some attested examples which violate Kuno's controllability constraint.

- (42) a. ware-ware wa katute amano ikkoo kootyoo ga
 we TOP previously (high-school) principal NOM
 ninen-see no zenki daigaku an o teesyoo site yabureta
 2-year-system GEN 1st-half college plan ACC propose do-TE lost
 koto o omoidasu. (NLRI 1951)
 fact ACC recall
 'We recall that Amano, a high-school principal, lost (an election) proposing
 a two-year college system some time ago.'
- b. Yui wa ... sono onna no ane geesya to sitasiku natte
 TOP that woman GEN sister geisha COM be-friendly become-TE
 kekkon sita. (NLRI 1951)
 marriage did
 'Yui made friends with a sister geisha of the woman and married (her).'

On the other hand, it is true that when there is agreement in controllability, the sentence sounds more natural, as shown in (43). *Aw-* in (43c) is polysemous; it can mean either to meet someone intentionally (controllable) or to run into someone (non-controllable). The former interpretation is naturally construed with (43c) because of the controllability of the second core — which reflects the preference for agreement in controllability.

- (43) a. zyon wa asa okite kao o aratta.
 TOP morning get-up-TE face ACC washed
 'John got up in the morning and washed his face.'

- b. zyon wa hikoozyoo ni tuite nimotu no kensa o
 TOP airport LOC arrive-TE luggage GEN inspection ACC
 uketa.
 underwent
 'John arrived at the airport and underwent the inspection of his luggage.'
- c. zyon wa marii ni atte sono hanasi o sita.
 TOP LOC meet-TE that talk ACC did
 'John met Mary and talked about it (some matter).'

Gray (1983), who also disputes Kuno's grammaticality judgments for the sentences in (41), points out that if the conjuncts have distinct locative or temporal adjuncts, the sentences will be completely acceptable, regardless of any disagreement between the controllability of the predicates. Her examples are:

- (44) a. zyon wa me o samasite zyuppun-go ni kao o aratta.
 TOP eye ACC wake-TE ten-minutes-later LOC face ACC washed
 'John woke up and ten minutes later he washed his face.'
- b. zyon wa marii ni miti de guuzen deatte tikaku no
 TOP LOC street LOC accidentally run-into-TE nearby GEN
 kissaten de sono hanasi o sita.
 coffee-shop LOC that talk ACC did
 'John ran into Mary in the street and talked about it (with her) in a coffee shop nearby.'

Gray, working in the framework of RRG, attributes the effect of these adjuncts to the difference in level of juncture; she suggests that Kuno's claim may be valid only when the linking is at core level. However, in the current version of RRG, there is no evidence for the claim that (41) and (44) involve different levels of juncture. In an earlier version of RRG (e.g. Foley and Van Valin 1985), it was assumed that the peripheral constituents, e.g. setting locative and temporal phrases, must all be part of the outermost unit and therefore have all linked cores in their scope.¹⁸ In the current version of RRG, the

¹⁸ Researchers working in the framework of RRG were aware of counterexamples, e.g. 'Yesterday, Fred persuaded John to wash his car in the river tomorrow'. However, such sentences were considered to be exceptions, 'licensed in some way by the constituent structure which English has overlaying the more basic layered structure' (Van

periphery is considered to be linked to the core as a kind of modifier, but not to be superior to the core. Thus, possession of an independent periphery is no longer taken to be a diagnostic for the level of juncture. See Watters (1987) and Van Valin (1987) for further discussion.

In (41), the first core does not hold any adverbial relation to the second, and the only naturally inferrable semantic relation is SEQUENCE. Contrary to the widely accepted claim, I contend that SEQUENCE per se cannot be naturally expressed by TE-linkage by itself — a topic to be discussed in detail in Chapter 6. It is the addition of *zyuppun-go ni* ‘ten minutes later’ in (44a), and not TE-linkage alone, which indicates a SEQUENCE relation, and thus the sentences are perceived as natural. In (44b), *tikaku no kissaten de* ‘at a nearby coffee shop’ implies a change of location and, in turn, a SEQUENCE relation. It is because TE-linkage itself does not have the ability to express a SEQUENCE relation that TE-linkage with such a semantic relation creates an awkward impression, as observed in (41).

5.5. CONCLUSION

A small number of predicates can take a TE-marked core as an argument. With such predicates, the linkage type is, by definition, core subordination. The semantic relation between the conjuncts in core subordination is determined solely by the semantics of the matrix predicate, just as with predicates which take a clausal complement.

Core coordination is utilized when the linked cores are to denote independent situations, while core cosubordination is used when the first core functions as an adverbial modifier of the second. In both core subordination and core coordination, the TE-junct can be independently negated by the core-level operator *naku-te*; in core cosubordination it cannot be. The characteristics of these three nexus types may be summarized as follows:

Valin 1987:2).

CORE SUBORDINATION TE-LINKAGE

Syntax: Core Subordination

Semantics: The TE-marked core is an argument of the matrix core.

CORE COORDINATION TE-LINKAGE

Syntax: Core Coordination

Semantics: The TE-linked cores denote separate propositions which share the subject referent.

Pragmatics: The clause implicates a SEQUENCE, CAUSE, REASON or CONCESSION relation.

CORE COSUBORDINATION TE-LINKAGE

Syntax: Core Cosubordination

Semantics: The TE-marked core functions as an adverbial modifier.

Pragmatics: The clause implicates a LOCATION, MEANS, MATERIAL, MANNER, or MEASURE relation.

CHAPTER 6

TE-LINKAGE WITH CLAUSAL JUNCTURE

6.1. INTRODUCTION

In this chapter we examine TE-linkage at the clause level. Section 6.2 discusses the distinction between core-level and clause-level TE-linkage, and §6.3 the distinction between coordination and cosubordination nexus at the clause level. Section 6.4 is concerned with the CAUSE relation, one of the most salient semantic relations typically expressed by TE-linkage. The topic of §6.5 is *perceived intention*, another potential motivation for utilizing TE-linkage. Section 6.6 argues at a more abstract level that the function of TE-linkage is to express the speaker's abductive interpretation of surrounding reality. Section 6.7 is devoted to a discussion of the adclausal nature of the first conjunct, a phenomenon which is generally observable in multi-clausal sentences. Section 6.8 concludes the chapter.

As in Chapter 5, the term *situation* will be used to refer to whatever the core or clause in question signifies. Situations are either static or dynamic. Static situations will be referred to as *states*.¹ Dynamic situations are further divided into *actions* if the subject plays the role of agent, and *events* otherwise.

6.2. CLAUSAL VS. CORE JUNCTURE WITH NON-EMBEDDED NEXUS

RRG posits a distinction between core and clausal juncture. With subordination nexus, the distinction is clear. Core subordination is lexically determined, i.e., the lexicon must

¹ Note that the same term has been used earlier in the categorization of verbals according to their inherent aspectual properties. As such lexical properties will not be discussed in this chapter, no confusion due to this dual usage should arise.

supply information as to (i) which predicates take an entire core as argument, and (ii) which connective (or complementizer) must be utilized. If the second predicate does not take a core as its argument, the juncture is at the clause level. In addition, clausal subordination is usually signaled by a subordination conjunction, e.g. *because*, *while*, and *before*. In this subsection I will examine the non-embedded nexus types (coordination and cosubordination) in both core and clausal juncture.

In Japanese, ellipsis — and in particular subject ellipsis — is very common. Since the presence vs. absence of an overt subject is central to the issue of clausal vs. core juncture, a brief digression is in order regarding the treatment of ‘empty categories’ in RRG. RRG does not posit empty categories. Rather, it assumes that covert arguments are *semantically* supplied by the interpreter from the linguistic or real-world context. Consider, for example, (1), with no overt subject.

- (1) *migoto desu ne.*
 splendid COP-NPST PRT
 ‘(That/It) is splendid, isn’t (it)?’

Because the interpreter knows that *migoto desu* ‘is/are splendid’ is predicative of some entity, *s/he* naturally seeks out the subject referent intended by the speaker. Note that *is splendid* is not an acceptable sentence in English; hence I have supplied *that/it* in the gloss of (1). The missing entity in Japanese, or whatever *that/it* refers to in English, may be deictic or anaphoric. When anaphoric, it may refer to the preceding argumentation, speech act, or linguistic expression as well as an NP in a previous utterance. As Gensler (1977) argues, such anaphora is in principle non-syntactic, for the antecedent need not belong to the same syntactic category as the anaphoric pronoun or even be a ‘syntactic’ category at all. He points out:

We certainly cannot “syntax-ify” non-syntactic anaphora by analyzing *it/this/that* as in some sense derivable (by deletion?) from something like “this situation”, “what you said”, “things”, etc. Such an approach not only embroils you in defending a particular word-choice (why “situation” and not “state?”), but also passes the anaphoric buck from *it/this/that* to a marginally “fuller” and more specified NP. In fact, such phrases don’t even come near

covering the huge semantic range of non-syntactic anaphora. (ibid. 324)

In RRG, the semantic valency of a predicate must be fully stated in its logical structure; but covert arguments are not considered to be present in the syntactic structure. If a construction involves a control phenomenon, e.g. EQUI or Raising, RRG analyzes it in such a way that the overt argument is shared by both predicates, rather than positing an empty category which is coreferential with the overt NP. With regard to the non-embedded nexus types, if there is argument sharing, the linkage is stipulated as core juncture; if not, as clausal juncture.

The basic diagnostic test for the core-clause distinction is thus whether or not each linked clause has its own syntactic subject. At a first level of approximation, this applies straightforwardly to TE-linkage in Japanese. When both subjects are present, e.g. (2), the linkage is unproblematically determined to be at the clause level.²

- (2) a. zyoon ga gitaa o hiite zyoon ga utau.
 NOM guitar ACC play-TE NOM sing-NPST
 ‘Joan will play the guitar, and Joan will sing.’
- b. zyoon ga gitaa o hiite hiro ga utau.
 NOM guitar ACC play-TE NOM sing-NPST
 ‘Joan will play the guitar, and Hiro will sing.’

However, because Japanese permits fairly unrestricted ellipsis, either or both clauses may lack overt subject NPs. In such cases, the determination of clausal vs. core juncture depends heavily upon the possibilities of (non)coreferential interpretation of the two subjects. In principle, nothing forces such elliptical sentences to be construed as having coreferential subjects; thus although there is no overt subject in (3), the semantics of the linked clauses forces the interpreter to construe the subjects having disjoint reference. (Note that the two clauses in (3) are not TE-linked.)

² Unlike English, it is more natural in Japanese to repeat the NP in the second clause, as shown in (2a), than to use an anaphoric pronoun.

- (3) setumee suru to nattoku simasita.
 explanation do CONJ compliance do(POL)
 '(I) explained, and (s/he) understood (it).'

With TE-linkage, however, such disjoint-reference construal is ordinarily prohibited when one (or both) of the subjects is missing; the subjects must be interpreted as co-referential. For example, while (4a) having two overt subjects is grammatical, (4b, c, d) are not.³

- (4) a. zyoon ga setumee site hiro wa nattoku simasita.
 NOM explanation do-TE TOP compliance did(POL)
 'Joan explained, and Hiro understood (it).'
- b. #zyoon ga setumee site nattoku simasita.
 NOM explanation do-TE compliance did(POL)
 'Joan explained, and (he) understood (it).' (Intended)
- c. #setumee site hiro wa nattoku simasita.
 explanation do-TE TOP compliance did(POL)
 '(She) explained, and Hiro understood (it).' (Intended)
- d. #setumee site nattoku simasita.
 explanation so-TE listen-CAUS-TE compliance did(POL)
 '(She) explained, and (he) understood (it).' (Intended)

Thus, with TE-linkage, it is generally the case that if both subjects are present the juncture is at the clause level and disjoint reference is permitted; if either or both of the subjects is missing, the juncture is at the core level and disjoint reference is prohibited. Therefore, presence of both subjects vs. absence of either of them is the most salient indicator of clausal vs. core juncture.

There is one salient exception to this generalization. If the subject is a human, Japanese provides several morpholexical means for delimiting the potential subject referents, thereby allowing or indeed requiring noncoreferential interpretation even when

³ Sentence (4b) can be acceptable if the covert subject of the second clause is construed as coreferential with the discourse topic. This phenomenon will be discussed later in §6.7.

no overt subject is present. For example, as shown in (5a), if an honorific form of the verbal is used, the subject is not the speaker or his/her insider (cf. §3.4.5), whereas if a psych-predicate (cf. §1.3.3) is used, (5b), the subject must be the speaker. In (5) a switch in subject reference is explicitly signaled by the choice of predicate, and such sentences can accordingly be taken as representing clause-level juncture even in the absence of an overt second subject.

- (5) a. zyoon ga setumee site nattoke nasaimasita.
 NOM explanation do-TE compliance did(POL, Honorific)
 ‘Joan explained, and (he) understood (it).’
- b. zyoon ga nattoke site hotto simasita.
 NOM compliance did-TE be-relieved(POL, Psych-Pred)
 ‘Joan understood (it), and (I) was relieved.’

This only holds, however, for these ‘special’ predicate types. With ‘ordinary’ predicates, the covert subject must be coreferential with the overt subject or the other covert subject, and thus the linkage is at the core level. These facts are summarized in the following table. The asterisks in parentheses indicate that the combination is ungrammatical with ‘ordinary’ predicates.

1st Subject	2nd Subject	Coreferential	Non-Coreferential
Present	Absent	CORE	CLAUSE (*)
Absent	Present	CORE	CLAUSE (*)
Absent	Absent	CORE	CLAUSE (*)
Present	Present	CLAUSE	CLAUSE

Table 1: Core vs. Clausal Juncture

6.3. NEXUS TYPES

Let us now consider when there is and is not operator dependency at the clause level. If there is, the nexus type is uniquely determined to be cosubordination; if not, the nexus is either subordination or coordination. As remarked earlier (§2.4), there are four kinds of

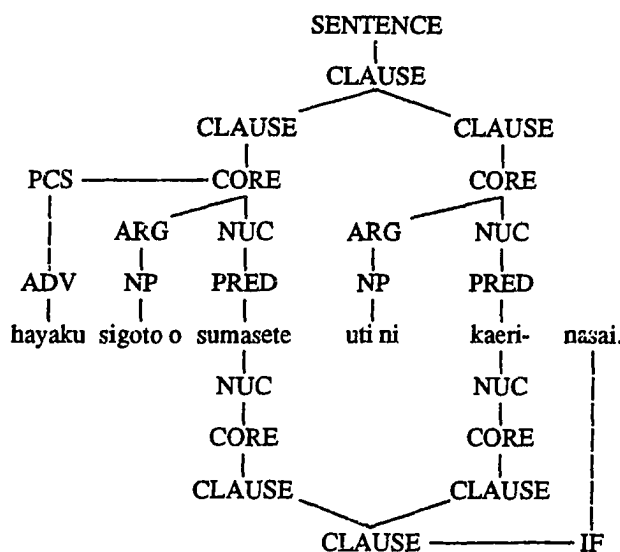
clausal operators — status (epistemic modals, external negation), tense, evidential, and illocutionary force (declarative, interrogative, imperative). With regard to tense, we have seen in §1.2.3.4 that clause-level juncture need not require operator dependency; this is illustrated in (6) (reproduced from §1.2.3.4). Even though the first clause is grammatically tenseless, it does not take its semantic tense from the second clause.

- (6) maki wa kinoo oosaka e itte hiro wa asita oosaka kara
 TOP yesterday ALL go-TE TOP tomorrow ABL
 kaette kuru.
 return-TE come
 ‘Maki went to Osaka yesterday, and Hiro will return from Osaka tomorrow.’

It is important to stress that a cosubordination nexus need not exhibit dependency with respect to *all* relevant operators. If there is dependency regarding at least one operator at the given juncture level, the nexus is determined to be cosubordination. In this section, the imperative operator *nasai* has been chosen to test clause-level operator dependency. It turns out that with TE-linkage, both clauses must be inside the scope of *nasai*. In (7a), for example, both finishing the work and going home are understood to be orders. The anomaly of (7b, c) is due to the fact that although the first clause is part of a command, it does not denote an action controllable by the addressee.

- (7) a. hayaku sigoto o sumasete uti ni kaeri- nasai.
 quickly work ACC finish-TE home LOC return IMP
 ‘Finish (your) work quickly, and go home!’
- b. #zyoon ga kite uti ni kaeri- nasai.
 NOM come-TE home LOC return IMP
 ‘Because Joan came, go home!’ (Intended)
- c. #atukute mado o ake- nasai. (Morita 1980)
 be-hot-TE window ACC open IMP
 ‘Because (it)’s hot, open the window!’ (Intended)

The results of the diagnostic test with *nasai* indicate that the clauses linked by TE are neither in subordination nor in coordination, but in cosubordination. Figure 1 illustrates clause-level TE-linkage.



'Finish (your) work quickly, and go home!' (= 7a)

Figure 1: Clausal Cosubordination

6.4. CAUSE RELATION

6.4.1. Temporal Sequence

It is frequently claimed in the literature that one of the major functions of TE-linkage is to express temporal sequence or consecutiveness (Matsuo 1936, NLRI 1951, Negishi 1970, Kuno 1973, Takahashi 1975, Morita 1980, Endo 1982, Konoshima 1983, Narita 1983, Hamada 1985, Matsuda 1985, inter alia). In this section, it is argued that temporal sequence (SEQUENCE) per se cannot be expressed by TE-linkage.

As discussed in Chapter 1, given appropriate pairs of clauses, a SEQUENCE relation can always be implicated by parataxis of two clauses, e.g. (8).

- (8) a. watasi wa tatiagatta. mado ga aita.
 I TOP stood-up window NOM opened
 'I stood up. The window opened.'

- b. watasi wa kaizyoo ni tuita. kooen ga hazimatta.
 I TOP meeting-place LOC arrived lecture NOM began
 'I arrived at the place. The lecture began.'

However, the same SEQUENCE relation cannot be implicated when such pairs of clauses are linked by TE.⁴

- (9) a. #watasi ga tatiagatte mado ga aita. (Yoshikawa 1980)
 I NOM stand-up-TE window NOM opened
 'I stood up, and the window opened.'

- b. #watasi ga kaizyoo ni tuite kooen ga hazimatta.
 I NOM meeting-place LOC arrive-TE lecture NOM began
 'I arrived at the place, and the lecture began.' (Endo 1982, Modified)

Note that in (9), if the connective *to* or *tara* were utilized instead of TE, the unnaturalness would not emerge and the sentences would permit SEQUENCE interpretations. This indicates that there is nothing inherently anomalous about conjoining the two clauses in each pair in (9) — i.e., the anomaly is not purely pragmatic, as would be the anomaly in 'Joan ate sushi, and the tower collapsed'.

On the other hand, substitution of (9'a) and (9'b) for (9a) and (9b) will enhance the naturalness.

- (9') a. watasi ga oogoe o dasite mado ga aita.
 I NOM loud-voice ACC emit-TE window NOM opened
 'I screamed, and the window opened.'
- b. koosi ga kaizyoo ni tuite kooen ga hazimatta.
 lecturer NOM place-of-meeting LOC arrive-TE lecture NOM began
 'The lecturer arrived at the place, and the lecture began.'

Changing *tatiagar-* 'stand up' in (9a) to *oogoe o das-* 'scream' in (9'a) slightly improves the naturalness because an extremely loud sound can, in principle, cause windows to

⁴ Sentences like (9) can express a SEQUENCE relation, but only if such adverbials as *sugu ni* 'soon' and *5-hun-go ni* '5 minutes later' are inserted between the clauses. The point is that TE-linkage by itself is not sufficient to implicate SEQUENCE.

open. In (9b), replacement of the subject *watasi* 'I' with *koosi* 'lecturer' makes the sentence perfectly natural because it is precisely the arrival of the lecturer that enables the lecture to begin.⁵ If native speakers of Japanese are forced to interpret (9), they read in some sort of CAUSE relation, rather than mere SEQUENCE — e.g., the speaker has the magical power to open windows by standing up.⁶

It has been claimed that TE links two constituents more 'tightly' than does *to* or *tara* (Kuno 1973, Matsuda 1985). Of course, many interpretations could be given to the word 'tight'; but if we choose to interpret 'tightly' as the involvement of some notion of causation, this characterization provides a partial account of the inappropriateness of TE in the sentences in (9), in which the pairs of clauses fail to show any obvious CAUSE relations. From the anomalies observed in (9), I conclude that mere incidental SEQUENCE cannot be expressed by the use of TE-linkage. The question, then, becomes *what makes sequences of situations nonincidental*. As suggested above, the notion of causation plays a central role. The next two subsections will discuss what is generally meant by the term *causation*, and how these considerations contribute to our understanding of TE-linkage.

6.4.2. Causation

According to Taylor (1967), who summarizes the philosophical controversies over causation, the notions of power and necessity were central in the debates over causation prior to David Hume's *An Enquiry Concerning Human Understanding*. Some thinkers considered a cause to be that which has the power to produce the change in question — and first and foremost the divine power of God.⁷ Others assumed there was a certain

⁵ Even if the speaker himself/herself is the lecturer, (9b) is still anomalous. This type of anomaly will be discussed later in this chapter (§6.7).

⁶ I owe this observation to Derek Herforth.

⁷ In his *Essays on the Active Powers of the Human Mind*, Thomas Reid claims that the causation of voluntary actions by an agent is the paradigm example of causation, and that the relations between successive states of inanimate things can be called causal only in a metaphorical sense (Taylor 1967). This 'generative' view of causation has recently gained increasing support, e.g. Harré and Madden (1975), Shultz (1982), Langacker

necessary connection between any cause and its effect. Hume took a different approach. Although he did not deny that humans have an idea of a necessary connection between cause and effect, he claimed that such a connection is found only in human habits of expectation, not between causes themselves and their effects. In other words, causal relations exist only in human cognition.

One universally accepted characteristic of causation is that causes cannot occur after their effects. Based on this conception, Hume defined causal relations as *invariable sequences*. Two spatially contiguous changes or sets of changes, *A* and *B*, are in a causal relation if *A* is immediately followed by *B* and if situations similar to *A* are always immediately followed by situations similar to *B*. The notion of similarity is crucial here because without it, the human conception of causation between specific situations cannot be accounted for. Suppose, for example, that Smith was beheaded and died. This sequence of situations can occur only once in history, and yet we recognize a causal relation because we 'know' that anyone who is beheaded invariably dies. As Russell (1917) cautions, however, similarity is itself a difficult concept to define.

Many recent researchers consider that there is some sense of necessity in causation: a cause is said to be the (set of) necessary condition(s) for the situation in question to occur. In other words, 'A is the cause of B' indicates that had A not occurred, B would not have occurred (Dowty 1972, Lewis 1973, Mackie 1974).⁸ This definition of causation in terms of counterfactual conditionals emphasizes the importance of considering what would have happened under some hypothetical situation different from the actual one. Let *P1* and *P2* represent the first and the second proposition, respectively. For Dowty, 'P1 causes P2' is formalized as $P2 \ \& \ (-P2 \ \Box \rightarrow \ -P1)$, where $P \ \Box \rightarrow \ Q$ symbolizes the relationship such that in the closest worlds in which *P* is true, *Q* is also true. For example,

(1990).

⁸ This analysis was suggested by John Stuart Mill in his *System of Logic* (Mackie 1974).

(10) Because the gardener didn't water them ($P1$), the roses died ($P2$).

is paraphrased as 'The roses died, and in the closest worlds in which they did not die, the gardener watered them'.⁹

Such an analysis amounts to a reduction of causation to conditional logic. But this cannot account for the asymmetrical relation between cause and effect. If $P1$ is a necessary condition for $P2$, then $P2$ is by definition a sufficient condition for $P1$ — which leads to many conceptual anomalies. We are reluctant to conclude that because the beheading of Smith has been established as a sufficient condition for his death, his death was a necessary condition for his being beheaded.

Another problem with the conditional analysis is that it also applies to cases which are considered to involve no CAUSE relation at all (on this, see Abbott 1974). For example, in (11), it is true that Joan stole the vase and in the closest worlds in which Joan didn't steal it, Joan didn't come to the speaker's house. And yet, we are reluctant to admit that these two situations are related causally.

(11) Joan came and stole the vase.

On the other hand, Dowty's analysis does conform to our understanding of (12): Joan broke her leg, and she wouldn't have broken her leg only if she hadn't fallen.

(12) Joan fell and broke her leg.

As we have seen so far, although there is little dispute that the idea of causation is indispensable in understanding the human cognitive faculty, there is no universally accepted sense of 'causation'. As Hume argues, causation does not exist as part of

⁹ One might feel that it would be more accurate to paraphrase the sentence as 'The roses died, and in the closest worlds in which the gardener watered them, they didn't die', i.e. $P2 \ \& \ (-P1 \ \Box \rightarrow \ -P2)$. However, it would also be true that if someone other than the gardener had watered the roses, they also wouldn't have died. The intended meaning in (10) is 'The roses wouldn't have died only if the gardener had watered them'. (Recall that ' P only if Q ' is symbolized as $-Q \rightarrow -P$.) Therefore, Dowty's representation is closer to this causal relationship. See McCawley (1976) for further discussion.

objective reality. Rather, causation exists in relation to our *interpretation* of reality. Thus attempts to represent causation independently of the interpreter, e.g. in terms of formal logic, inevitably fail to capture the full meaning of causation. The most general idea of a cause seems to be something or some situation which produces, and thus is felt to *account for*, some change. Hart and Honoré (1959:26) contend: 'There is not a single concept of causation but a group or family of concepts. These are united not by a set of common features but by points of resemblance, some of them tenuous.' The notion *resemblance* is again cognitive and cannot be represented without recourse to an interpreter of reality.

Humans do not perceive the physical world as a constantly changing stream of coincidental and arbitrary happenings but, rather, as situations occurring in organized patterns over specific spans of time (Minsky 1975, Schank and Abelson 1977, Bullock et al. 1982, Shultz 1982, *inter alia*). Bullock et al. (1982:209) claim that the fundamental basis whereby humans establish boundaries of discrete situations is 'provided by our tendency to perceive or infer cause-effect relations.' In the act of cutting bread, for example, we regard the parting of the bread to be caused by the knife's action, rather than two simultaneous but disconnected sequences of knife movements and bread movements. As Bullock et al. note:

First, by imposing a causal connection, we efficiently collapse a series of temporally successive motions into a single event. Second, by this bracketing into causal events, we not only separate meaningful, coherent patterns from all that goes on around us, but also impart structure to the world. When we attribute the parting of the bread to the knife's action, we relate actions to results, transformations to outcomes, and thus construct our own physical reality (*ibid.* 210).

Bullock et al. posit three principles underlying causal attribution by language users: (i) *determinism*, (ii) *priority*, and (iii) *mechanism*. First, people are reluctant or unwilling to allow causeless occurrences. Even if they cannot identify the cause, they are likely to believe that it exists. Second, causes necessarily precede or are coincidental with their effects. Events that follow the 'effect' are not considered to be candidate 'causes'. As for mechanism, speakers assume that causes bring about their effects by transferring

causal impetus, directly or through a chain of intermediary events. It is by attempting to make causal attributions that humans learn how the objects in their environment characteristically work, and they use such knowledge to predict, influence, and explain actions.

In analyzing TE-constructions in Japanese, we need to keep in mind that the semantic relation CAUSE is fundamentally interpretive: it signifies the speaker's interpretation of a succession of events and, in turn, the hearer's confirmation of such an interpretation.

Now we turn to a detailed analysis of TE-linkage which expresses a CAUSE relation. One important generalization is that a causal interpretation is not possible when TE-linkage joins two *actions* (in the sense of §6.1) that are performed by the same individual.¹⁰ Causal interpretations *are* possible between two events, two states, an event and a state, or a state and an event, as illustrated by the following examples. (All the a-sentences in (13) - (20) involve clausal juncture, and the b-sentences core juncture.)

(13) Event + Event

- a. kome ga ketteeteki-na dageki o ukete kiki ga semaru.
 rice NOM fatal blow ACC get-TE crisis NOM approach
 'Because rice production will suffer a fatal blow, a crisis will approach.'
 [Ame]
- b. kome ga ketteeteki-na dageki o ukete zenmetu suru.
 rice NOM fatal blow ACC get-TE annihilation do
 'Because rice production will suffer a fatal blow, (it) will be totally destroyed.'

(14) State + State

- a. kyoo wa atukute totemo hasirenai. (Matsuda 1985)
 today TOP be-hot-TE very cannot-run
 'Because it's hot today, (I) can't possibly run.'
- b. kono kuruma wa takakute urenai.
 this car TOP be-expensive-TE sell-POT-NEG-NPST
 'Because this car is expensive, (it) cannot sell.'

(15) Event + State

¹⁰ This is certainly true for TE-linkage, and very likely for causation in general.

- a. zyoon ga siken ni ukatte watasi wa totemo uresii.
 NOM exam LOC pass-TE I TOP very be-happy-NPST
 'Because Joan passed the exam, I'm very happy.'
- b. zyoon wa okane o nusumarete komatte iru.
 TOP money ACC steal-PASS-TE be-in-trouble-TE be-NPST
 'Because Joan had money stolen, (she) is in trouble.'

(16) State + Event

- a. keeki ga warukute situgyooritu ga agatta.
 economic-situation NOM be-bad-TE unemployment-rate NOM increased
 'Because the economic situation is/was bad, the unemployment rate increased.'
- b. kono kuruma wa yasukute yoku ureta.
 this car TOP be-inexpensive-TE well sold
 'Because this car is/was inexpensive, (it) sold well.'

When one of the TE-linked constituents refers to an action, a CAUSE interpretation emerges if the other constituent refers to a state/event.

(17) State + Action¹¹

- a. kyuuryoo ga yasukute tensyoku sita.
 salary NOM be-cheap-TE changing-a-job did
 'Because (my) salary was low, (I) changed jobs.'
- b. kanasikute yake-zake o nonda.
 be-sad-TE desperate-drink ACC drank
 'Because (I) was sad, (I) drank out of desperation.'

(18) Action + State

- a. kuruma o katte okane ga nai.
 car ACC buy-TE money NOM be-NEG-NPST
 Lit. 'Because (I) bought a car, there is not any money.'
 'Because (I) bought a car, (I) don't have any money.'

¹¹ All the a-sentences in (17, 18, 19) permit disjoint reference for the covert subject even though the predicates do not belong to the special categories discussed at the end of §6.2 above. Such construal seems to be permitted if the referent of the missing subject is understood to be in a 'possessor' relation (loosely conceived) to the overt subject, i.e. *my* salary, money, friend.

- b. *konna mono o katte kookai site iru.*
 this-kind thing ACC buy-TE regret do-TE be-NPST
 'Because (I) bought this kind of junk, (I) regret (it).'

(19) Event + Action

- a. *tomodati ga ziko ni atte byooin ni turete itta.*
 friend NOM accident LOC meet-TE hospital LOC take-TE went
 'Because a friend of mine had an accident, (I) took (him/her) to the hospital.'
- b. *[d]ikku wa suuzan ni susumerarete syutuzyoo sita. (NLRI 1951)*
 TOP DAT be-advised-TE enter-an-event
 Lit. 'Because Dick was advised by Susan, (he) entered the event.'
 'Dick entered the event at the advice of Susan.'

(20) Action + Event

- a. *zyoon ga kuruma o katte minna yorokonda.*
 NOM car ACC buy-TE everyone get-delighted-PST
 'Because Joan bought a car, everyone got delighted.'
- b. *tomodati o izimete sensee ni sikarareta. (Endo 1982)*
 friend ACC pester-TE teacher DAT scold-PASS-PST
 'Because (I) pestered my friend, (I) was scolded by the teacher.'

Even when both conjuncts denote actions, a CAUSE interpretation is possible if the subjects are overt and distinct.

(21) Action + Action (Different Subjects)

- a. *zyoon ga kite biru ga kaetta.*
 NOM come-TE NOM went-home
 'Because Joan came, Bill went home.'
- b. *zyoon ga kuruma o katte biru ga okane o haratta.*
 NOM car ACC buy-TE NOM money paid
 'Because Joan bought a car, Bill paid (for it).'

The following table summarizes the possible CAUSE interpretations with TE-linkage. C1' and C2' symbolize the semantic content of the first and the second conjunct, and SUBJ1' and SUBJ2' the referents of the subjects in C1 and C2.

C1'	C2'	Is a CAUSE interpretation possible?
State	State	Yes
State	Event	Yes
State	Action	Yes
Event	State	Yes
Event	Event	Yes
Event	Action	Yes
Action	State	Yes
Action	Event	Yes
Action	Action	Yes, only if SUBJ1' ≠ SUBJ2'

Table 2: CAUSE Interpretation with TE-Linkage

The formula in (22) represents these potential interpretations procedurally.

(22) TE-Linkage Interpretation Principle (Provisional)

$$\text{if } \{ \text{-Action (C1') } \vee \text{-Action (C2') } \vee (\text{SUBJ1' } \neq \text{SUBJ2' }) \}$$

$$\text{CAUSE (C1', C2')}$$

6.4.3. Causes and Reasons

When C2' is an action, we perceive some CAUSE relation if C1' is an event or an action with a distinct agent. However, this type of CAUSE relation is significantly different from those observed between other combinations of events, states, and actions. We are inclined to consider C1' a REASON, rather than a CAUSE in its ordinary sense.

It has been pointed out that reasons are causal in nature. Ordinary language sometimes employs a word corresponding to *cause* and frequently a word corresponding to *because* where reasons are involved. Also, there are clear regularities obtaining between reasons and actions, and similar regularities also lie at the heart of CAUSE relations in the Humean conception of causation. Donnellan (1967:86), however, argues that while appeal to such facts 'may shift the burden of proof to the other side, it does little to establish that reason explanations are straightforward causal explanation. The word "because" may have a different use in these circumstances, or it might only be a way of

emphasizing, somewhat metaphorically, the “compelling” nature of the reason.’ He also argues that ‘while regularity is the core of the causal relation for Hume, it must be a regularity of a certain kind: an empirical regularity. Whether the connection between reasons and actions is merely empirical has been strongly questioned’ (ibid.).

As for the differences between reasons and causes, Donnellan points out the following. First, the agent seems to have a privileged position concerning the reasons for his/her own actions. In the normal case, the agent need not appeal to evidence and empirical investigation to establish what the reasons are. Second, humans seem to accept reason explanations, without supposing the necessity for some generalization of the relationship between the reason and the action to a larger class of cases. These two characteristics are foreign to causal explanation. Third, while causal explanation depends on the empirical and contingent nature of the causal connection, there is a more than contingent relation between reasons and actions. An action is performed because the actor desires the outcome of the action. Giving a reason is to indicate, explicitly or implicitly, such wanting. However, wanting is nothing but a tendency to act; to want to do something is to be prepared under certain circumstances to take the necessary steps.¹² If wanting is conceived as a tendency to action, then by that very token there is a *logical* (analytic) connection between wanting and action; thus it would be odd to count wanting as a cause of action and to construe its relation to action as merely contingent.

Hart and Honoré (1959:39), who have investigated causation in judicial contexts, note that ‘a voluntary human action intended to bring about what in fact happens, and in the manner in which it happens, has a special place in causal inquiries ... when the question is how far back a cause shall be traced through a number of intervening causes, such

¹² One might argue that there are some actions a person may want to perform, but s/he would under no circumstances actually do, e.g. killing someone. However, if this is a genuine desire and not an idle wish, it should be supposed that the action is to some degree tempting to the person. In such a case, Donnellan argues, we will have to include a weakening of one’s moral inhibitions as part of the set of circumstances under which one would be prepared to do the act.

a voluntary action very often is regarded both as a limit and also as still the cause even though other later abnormal occurrences are recognized as causes.' For example:

If unusual quantities of arsenic are found in a dead man's body, this is up to a point an explanation of his death and so the cause of it: but we usually press for a further and more satisfying explanation and may find that someone deliberately put arsenic in the victim's food. This is a fuller explanation in terms of human agency; and ... we speak of the poisoner's action as the cause of the death; though we do not withdraw the title of cause from the presence of arsenic in the body — this is now thought of as the "mere way" in which the poisoner produced the effect. Once we have reached this point ... we have something which has a special *finality* at the level of common sense: for though we may look for and find an explanation of why the poisoner did what he did in terms of motives like greed or revenge, we do not regard his motive ... as the cause of the *death* ... We do not trace the cause *through* the deliberate act. (ibid. 39-40)

Like Donnellan, Buss (1978) also argues against the reason-as-cause analysis. He claims that causes and reasons are logically distinct categories for explaining different aspects of behavior, and that causes are that which brings about a change, whereas reasons are that for which a change is brought about. Causes and reasons are both required for an adequate explanation of human action. Reason explanations of actions are given in light of causal explanations of what has happened to the individual, i.e. when talking about the non-action that an individual has 'suffered' (Buss, apud Skinner 1972).

From a linguistic point of view, it seems apparent that when we describe or explain a situation involving a person, we make a distinction between those situations in which the person *acts intentionally* (i.e. the person is an agent) and those in which s/he has no control over (or suffers, to use Skinner's term) what happens. Language provides a rich vocabulary for distinguishing the agentive and nonagentive roles of the person as a participant in the described situation (cf. Fillmore 1968; Lyons 1968, 1977; Talmy 1976).

When we perceive a person as an agent, we expect his/her behavior to be a succession of rational, purposeful actions. For example, if someone with whom I am walking suddenly stops, I will automatically think that there is a reason for her action. If I find that she is looking at something, I will understand that she stopped because she wanted to see that object. If the reason is not obvious, I will ask her what happened (asking for a

reason explanation). If she does not explain and says 'nothing', then I will think the reason was trivial and ignore it. However, if she keeps stopping, I will then start worrying and will ask her if she is sick (asking for a causal explanation). If she still does not explain, I will think that she is bizarre and that my 'rational' expectations do not work in her case.

These considerations are relevant to the semantics and pragmatics of TE-linkage. TE-linkage is used to express nonincidental sequence of situations; and such sequences include those in which humans perceive causation, and those in which one situation is regarded to be the reason for the action. The principle in (22) must thus be revised as (23). Note that unlike a CAUSE relation, which uniquely signifies the *speaker's* interpretation of the two situations, a REASON relation involves two individuals, viz. the agent and the speaker, who interprets and explains the action. Thus REASON should be a three-place predicate: 'REASON (SUBJ2', C1', C2')' symbolizes the relationship that C1' is SUBJ2''s reason for C2'.¹³

(23) TE-Linkage Interpretation Principle (Revision 1)

if { -Action (C1') v -Action (C2') v (SUBJ1' ≠ SUBJ2') }
 CAUSE (C1', C2')
 if Action (C2')
 if { -Action (C1') v (SUBJ1' ≠ SUBJ2') }
 REASON (SUBJ2', C1', C2')

which is equivalent to:

if Action (C2')
 if { -Action (C1') v (SUBJ1' ≠ SUBJ2') }
 REASON (SUBJ2', C1', C2')
 else CAUSE (C1', C2')

¹³ I owe this three-place representation of REASON to Charles Fillmore.

6.5. PERCEIVED INTENTION

What is excluded from Principle (23) are those cases in which both C1' and C2' are actions performed by the same agent,¹⁴ e.g. (24).

(24) a. basu ni notte kaerimasu. (Morita 1980)
 bus LOC ride-TE go-home(POL)
 Lit. '(I) ride a bus and go home.'
 '(I) go home by bus.'

b. teepu o kiite rensyuu simasu. (Morita 1980)
 tape ACC listen-TE practice do
 '(I) listen to a tape and practice (it).'

As Bullock et al. (1982) claim, humans 'bracket' sequences of discrete situations in certain ways. The fundamental use of TE-linkage is to express such bracketed situations — which reflect our innate perception of physical and psychological reality. In the previous subsections, two independent principles for such bracketing were discussed, viz. causation and reason. In this section, I introduce another principle, viz. *intention* of the same individual. In (24), we do not perceive any causation, nor do we consider C1' a reason for C2'. However, we do not consider that C1' and C2' are incidentally aligned in time, either. These situations are nonincidental because they have both been brought about through the intention of some individual.

We have intuitive ideas about our own actions, and under normal circumstances we perceive other people's actions as directed toward achieving various goals or bringing about various states of affairs. In other words, we perceive the other's actions by analogical reasoning from our own actions. This is made possible because humans have an innate awareness of the similarities between themselves and others (Miller and Johnson-Laird 1976:101-2). Human infants display a special interest in the human face and the human voice. In fact, every species has some mechanism for recognizing its own members, for obvious biological reasons (*ibid.*).

¹⁴ The linkage type discussed in this section is thus at the core level.

Human intentional actions are goal-oriented. One salient example is actions which yield a MEANS-END relation, e.g. (24a,b); with these sentences, the reason for performing C1' is to achieve C2'. Or, human beings may plan to perform their actions in a certain sequence, e.g. (25); here, however, the motivation for the use of TE-linkage is the agent's intention perceived by the speaker, not temporal sequence per se.¹⁵

- (25) a. ohuro ni haitte syukudai o sita.
 bath LOC enter-TE homework ACC did
 '(I) took a bath and did my homework.'
- b. zyoon wa asa-gohan o tabete gakkoo ni itta.
 TOP breakfast ACC eat-TE school LOC went
 'Joan ate breakfast and went to school.'

Principle (23) is revised accordingly as (26).

- (26) TE-Linkage Interpretation Principle (Revision 2)
- if Action (C2')
 if { -Action (C1') v (SUBJ1' ≠ SUBJ2') }
 REASON (SUBJ2', C1', C2')
 else INTEND (SUBJ1', (C1' & C2'))
 else CAUSE (C1', C2')

The first else-condition, which applies to the cases where Action (C1'), Action (C2'), and (SUBJ1' = SUBJ2'), states that the interpretation should be that C1' and C2' are intended by SUBJ1'. If none of the relations (REASON, INTEND, CAUSE) are consistent with the interpreter's belief world, the sentence will be judged unnatural.

Recall Kuno's controllability constraint on TE-linkage (§5.4.3). He considers that the following sentences are ungrammatical.

¹⁵ *Ohuro ni hair-* 'enter the bath' in (25a) metonymically refers to taking a bath. It can also refer to the action of entering the bath: the sentence then is construed as 'I entered the bath and did my homework there.'

- (27) a. zyon wa asa me o samasite kao o aratta.
 TOP morning wake-TE face ACC washed
 'John woke up in the morning and washed his face.'
- b. zyon wa hikoozyoo ni tuite ie ni denwa sita.
 TOP airport LOC arrive-TE home LOC telephone did
 'John arrived at the airport and called home.'
- c. zyon wa marii ni guuzen deatte sono hanasi o sita.
 TOP LOC accidentally meet-TE that talk ACC did
 'John met Mary accidentally and talked about it.'

In all the sentences in (27), C1' is a non-action, while C2' is an action, and (SUBJ1' = SUBJ2'). According to Principle (26), then, C1' must be construed as SUBJ2's reason for C2'. The anomaly in (27) boils down to what is and is not an acceptable reason explanation. Consider the following conversations:

- (28) a. A: Why did you wash your face?
 B: Because I woke up.
- b. A: Why did you call home?
 B: Because I arrived at the airport.
- c. A: Why did you talk to Mary about it?
 B: Because I accidentally met her.

While all three conversations are somewhat strange to me, (28a) sounds the worst and (28b) the best, and the differences reflect the varying plausibility of the reasons presented in the three sequences. Interestingly, there seems to be a correlation between these judgments regarding acceptable reasoning and the grammaticality judgments of (27). I feel that (27b) slightly better than the others, and that (27a) is the worst of all. In general, if C1' counts as an acceptable reason for performing C2', a disagreement in controllability should not affect the acceptability of the sentence. The sentences in (29) confirm this prediction.

- (29) a. saihi o nakusite tomodati ni okane o karita.
 purse ACC loose-TE friend LOC money ACC borrowed
 '(I) lost (my) purse and borrowed money from a friend.'

- b. kega o site isya ni itta.
 injury ACC do-TE doctor LOC went
 '(I) got injured and went to see a doctor.'

Thus Kuno's controllability constraint cannot be upheld as a syntactic principle. Rather, the awkwardness of his original sentences is due to the discrepancy between the TE-Linkage Interpretation Principle and the interpreter's standard regarding what counts as a reason.

6.6. ABDUCTIVE INTERPRETATION OF REALITY AND CONTRAST RELATION

Comparing the usages of the connectives TE and *to*,¹⁶ Hamada (1985:177) proposes an interesting generalization for TE-linkage. Although her formulation is rather vague,¹⁷ it seems possible to interpret it as follows: while *to* is utilized when the speaker reports two successive situations from a mere observer's point of view, TE is utilized when the speaker has internalized ('digested', as Hamada puts it) the situations. In other words, the speaker has *abductively*¹⁸ determined the *principle* which governs the two situations and expresses them in the light of his/her own interpretation.

The abductive mode of inference differs significantly from traditional deduction and induction, and thus requires clarification. Deduction applies a principle (law) to an observed case and predicts a result, e.g. (30); induction proceeds from observed cases to establish a principle, e.g. (31).

¹⁶ For a detailed analysis of the connective *to*, see Fujii (1991a, b).

¹⁷ Her original claim reads, '*to* no bun de wa, tuzuite okoru zen-kooken o, hanasite wa autosaidaa-teki ni mite iru no ni taisite, *te* no bun de wa, sono kotogara o, hanasite ga zisin no utigawa de syooka site hatuwa site iru no de aru. (With a *to*-sentence, the speaker is looking at the succession of events from an outsider's point of view, whereas with a *te*-sentence, s/he presents the events after s/he has digested them.)' (translation mine)

¹⁸ The notion of *abduction* was originally proposed by Charles S. Peirce and introduced to linguistics circles by Andersen (1973).

- (30) All linguists are sarcastic.
 Ali's wife is a linguist.
 Therefore, she must be sarcastic.
- (31) Beth is a linguist and sarcastic.
 Chris is a linguist and sarcastic.
 Doris is a linguist and sarcastic.
 Therefore, all/most linguists are sarcastic.

By contrast, 'abduction proceeds from an observed result, invokes a law, and infers that something may be the case' (Andersen 1973:775). The reasoning in (32), for example, involves an abductive inference.

- (32) This article is nasty.
 All/Most linguists are nasty.
 Therefore, this article might have been written by a linguist.

Note that a given situation (result) can evoke many different principles. One might, for example, invoke the principle that people usually becomes nasty when they are hungry; then the conclusion would be that the writer might have been hungry when s/he wrote it. The crucial step lying at the heart of all abductive reasoning is the choice of some *particular* principle, a choice which is inevitably subjective.

With TE-linkage, the speaker observes two situations which evoke some familiar principle. S/he then conjoins the situations with TE, assuming that they will evoke the same principle in the addressee's mind. For example, in (16a), restated as (33), the speaker has observed a bad economic situation and an increase in the unemployment rate; these two situations have evoked in his/her mind the principle that bad economic situations cause the unemployment rate to increase; the speaker now presents the two situations with TE-linkage, assuming that the addressee will interpret the clauses as holding a CAUSE relation.

- (33) keeki ga warukute situgyooritu ga agatta.
 economic-situation NOM be-bad-TE unemployment-rate NOM increased
 'Because the economic situation is/was bad, the unemployment rate increased.'

Had the speaker failed to recognize a CAUSE relation between the bad economic situation

and the increase in the unemployment rate, s/he would simply report the co-occurrence as such, using not TE but the conjunction *to*:

- (33') keeki ga warui to situgyooritu ga agatta.
 economic-situation NOM be-bad CONJ unemployment-rate NOM increased
 'When the economic situation was bad, the unemployment rate increased.'

Interestingly, (33') can also be used if the speaker thinks the addressee may be unaware of the CAUSE relation, even though the speaker him/herself is quite aware of it. It seems that this avoidance of TE counts as a very subtle means of expressing politeness. This politeness principle can be illustrated with an example that has nothing to do with TE. Compare (33) with (34). In (34a), the sentence-final particle *ne* indicates the speaker's presupposition that the information is part of shared knowledge; in (34b), by contrast, the particle *yo* indicates that the speaker considers the information new to the addressee.

- (34) a. sono koto wa kanto ga itte imasu ne.
 that fact TOP Kant NOM has-said PRT
 'Kant has said that, hasn't he?'
- b. sono koto wa kanto ga itte imasu yo.
 that fact TOP Kant NOM has-said PRT
 '(I tell you) Kant has said that.'

To assume the addressee's ignorance of certain information can be impolite. Thus the speaker may choose (34a) even if s/he knows that the addressee does not have the information.

The same strategy of politeness can be involved in (33'), but applied differently. The speaker assumes that the naive addressee is not aware of the CAUSE relation between a bad economic situation and a high unemployment rate, and hence s/he too pretends not to be aware of it. Hamada's generalization, therefore, does not always hold straightforwardly in social interaction; however, the very fact that the connective *to* can, but TE cannot, be used to express such subtle politeness supports the claim that the use of TE necessarily presents the situations as the result of some abductive process, and hence as

filtered through the speaker's interested awareness.

One example of this abductive interpretation of reality is the CONTRAST relation. The speaker observes two situations, e.g. Joan loves Hiro and hates Maki, and they invoke the principle that love and hate are in CONTRAST. As Cruse (1986:197) points out, it is paradoxical that humans conceive oppositeness as a salient relation. He notes, 'Of all relations of sense that semantics propose, that of oppositeness is probably the most readily apprehended by ordinary speakers.' TE-linkage can be used to express the speaker's conception of CONTRAST, as exemplified in the following sentences.

- (35) a. aosingoo de hito ya kuruma wa susunde aka de teesi suru.
 blue-light LOC people and car TOP proceed-TE red LOC stop
 'People and cars move on at the blue light and stop at the red light.' [Amerika]
- b. zimintoo wa antee-tasuu o kakuho site syakaitoo wa teeraku
 LDP TOP firm-majority ACC hold-TE JSP TOP decline
 ga tuzuita. [Kiken]
 NOM continued
 'The Liberal Democratic Party secured a firm majority, as the Japan Socialist Party continued its decline.'
- c. takikata hitotu de yasui kome ga oisiku natte
 way-of-cooking one PRT cheap rice NOM be-tasty become-TE
 takai kome mo mazuku naru. [Meegaramai]
 expensive rice PRT be-unappetizing become
 'Depending on how the rice is cooked, cheap rice can be tasty and expensive rice can be unappetizing.'

Kuno (1973:195-96) claims that the sentences in (36) are ungrammatical.

- (36) a. zyon wa zibun o nikunde hito o nikunda.
 TOP self ACC hate-TE people ACC hated
 'John hated himself and hated others.'
- b. zyon wa marii o nikunde zyeen o aisite iru.
 TOP ACC hate-TE ACC is-loving
 'John hates Mary and loves Jane.'

While (36a) is indeed unacceptable,¹⁹ (36b), which involves a CONTRAST, is perfectly acceptable to me.

To sum up, by the use of TE-linkage the speaker presents the two situations as being *related* in some principled way: causation, reason for an action, intention of a single individual, or contrastiveness. This, in fact, is the central usage of TE-linkage.

(37) TE-linkage Interpretation Principle (Revision 3)

```

if Action ( C2' )
  if { -Action ( C1' ) ∨ ( SUBJ1' ≠ SUBJ2' ) }
    REASON ( SUBJ2', C1', C2' )
  else INTEND ( SUBJ1', ( C1' & C2' ) )
else { CAUSE ( C1', C2' ) ∨ CONTRAST ( C1', C2' ) }

```

6.7. SETTING AND THE ADCLAUSAL NATURE OF THE FIRST CONJUNCT

So far, it has been pointed out that mere incidental SEQUENCE is incompatible with TE-linkage. Thus (38) is anomalous.

(38) #*watasi ga uti o dete ame ga hutte kita.* (Endo 1982)
 I NOM home ACC leave-TE rain NOM fall-TE came
 'I left home, and it began raining.'

However, the reverse order of clauses and the use of *wa* with *watasi* make the sentence slightly better.²⁰ Those who consider (39) acceptable are likely to have a REASON relation in mind.

(39) ?*ame ga hutte kite watasi wa uti o deta.*
 rain NOM fall-TE come-TE I TOP home ACC left
 'It began raining, and I left home.'

¹⁹ The use of TE-linkage is extremely awkward when the same predicate is repeated. See Hasegawa (1990) for details.

²⁰ Substitution of *wa* for *ga* in (38) does not affect the naturalness.

Furthermore, replacing the first clause in (38) (action) with a natural event makes the sentence perfectly acceptable, as shown in (40).

- (40) hi ga kurete ame ga hutte kita.
 sun NOM set-TE rain NOM fall-TE came
 'The sun set, and it began raining.'

The difference in naturalness between (38), on the one hand, and (39, 40) on the other is due to the fact that the first subject in (38), viz. the speaker, is more *topic-worthy* than those of (39, 40), viz. rain and the sun, respectively.

Determination of topic-worthiness involves several factors: the natural topic hierarchy of Hawkinson and Hyman (1974), Givón's case hierarchy (1976) and intrinsic topicality (1979), the agency hierarchy of Silverstein (1976) and Comrie (1981), and the topic acceptability scale of Lambrecht (1986). Other things being equal, the following hierarchy of topic-worthiness generally holds:

- (41) Human (first/second person) > Human (third person) > Animate Nonhuman >
 Inanimate

Furthermore, in general, the subject of the first clause must not be more topic-worthy than the subject of the second clause. This asymmetry between conjuncts is based on the universal tendency to place heavier weight on the second conjunct in conjoined structures. Van Dijk (1977) points out that the general meaning of connectives is to connect C1 and C2 in such a way that C1 specifies the situation under which C2' is true. Therefore, sentences which violate this relation will result in anomaly, e.g. '#We played in the waves and were at the beach'. He also argues that in order to make sense out of merely juxtaposed clauses, it is usually necessary to supply a context which specifies the 'when, where, or why' of the conjuncts. For example, in order to interpret 'Mary knitted, and the fire was burning', the interpreter needs to presuppose some proposition which specifies a general topological identity for C1' and C2' such as 'I came into *the room*'.

Recall that the anomalous sentence (38) has no obvious relation between C1' (the speaker's leaving home) and C2' (onset of rain), and further that the subject of C1 is

highest on the topic-worthiness hierarchy. The anomaly is thus due to the unnaturalness of providing a framework (or background information) for C2 by referring to the most topic-worthy entity. In other words, selecting first or second person whenever possible as subject of C2 makes the discourse more cohesive and more acceptable because first/second person is the most topic-worthy entity among all event participants. Hopper and Thompson (1980:286) state a similar idea: ‘The prominence of the properties of Agency and Volitionality in foregrounding derives from the fact that story lines are typically advanced by people who perform actions, and especially by people who deliberately initiate events.’

When a TE-linked C1 supplies a framework for C2, the relevant semantic contribution of C1 is to introduce a spatio-temporal setting or an intrasentential topic entity. I call this relation *SETTING*, as exemplified by the following sentences.

- (42) a. *tuite atari o mimawasu to toritome mo nai hirosa*
 arrive-TE vicinity ACC look-around CONJ boundless vastness
datta. [Amerika]
 COP-PST
 ‘Arriving (there), (I) looked around and found unbounded vastness.’
- b. *meezi ni haitte hanebuton no gyoosya ga ahoodori*
 Meiji-Era LOC enter-TE feather-bedding GEN maker NOM albatross
o bokusatu sita. [Hogochoo]
 ACC clubbed-to-death
 ‘In the beginning of (lit. entering) the Meiji Era, makers of bedding clubbed the albatrosses to death (for their feathers).’
- c. *sinzyuku o hyoosite “kono mati wa sirokuzi-tyuu dokoka*
 ACC comment-TE this town TOP always somewhere
de kanarazu me o aite iru...” to itta no wa sizin
 LOC necessarily eye ACC is-opening QUOT said NMLZ TOP poet
kusano sinpee de aru. [Beni-san]
 COP be-NPST
 ‘Commenting on Shinjuku, it was poet Shimpei Kusano who said, “This town always has its eyes open somewhere around the clock.”’

- d. ubamegasi nado no kurai midori no naka ni atte sakura
 ilex and-alike GEN dark green GEN inside LOC be-TE cherry
 dake wa botto akarui. [Izu]
 only TOP dimly bright
 'Amid the dark green of the ilex, the cherry blossoms were dimly bright.'

In fact, C1 is *adclausal* to C2 in most TE-constructions. That is, C1 functions inter-clausally vis-à-vis C2 in a similar way to the intraclausal functioning of an adverbial vis-à-vis its verb. C1 provides the CAUSE or REASON or SETTING for C2.

6.8. CONCLUSION

TE-linkage with *core* or clause juncture indicates that the speaker has interpreted the two situations as unified by some abductively identifiable principle, not as a mere succession in time. As with other linkage types, the second conjunct has heavier weight in terms of topicality, and thus the first conjunct is *adclausal* to the second. The major decision in the interpretation of such linkages seems to be based on the agentivity of the second predicate. If it is agentive (i.e. action), then the interpreter considers whether or not the first conjunct also indicates an action and whether or not the two subjects are identical. If the first denotes a nonaction or the subjects are distinct, the unmarked interpretation is that the first conjunct indicates the REASON for the action as conceived by the speaker. If both conjuncts denote actions and have identical subjects, the unmarked interpretation is that the speaker's motivation for using TE-linkage is that both actions were INTENDED by the subject referent. If the second conjunct does not refer to an action, then three possibilities emerge: the conjuncts hold a CAUSE or CONTRAST relation, or the first conjunct is intended to supply the SETTING in which the second conjunct is to be interpreted. This procedure is summarized in (43).

(43) TE-Linkage Interpretation Principle (Penultimate Version)

```
if Action ( C2' )
  if { -Action ( C1' ) v ( SUBJ1' ≠ SUBJ2' ) }
    REASON ( SUBJ2', C1', C2' )
  else INTEND ( SUBJ1', ( C1' & C2' ) )
else { CAUSE ( C1', C2' ) v CONTRAST ( C1', C2' ) v SETTING ( C1', C2' ) }
```

CHAPTER 7

CONCLUDING REMARKS

In this dissertation I have investigated the syntactic, semantic, and pragmatic properties of TE-linkage. This final chapter will summarize my findings and return to the issues raised in Chapter 1. Because many TE-constructions play a significant role in the grammar of Japanese, they have been investigated by numerous researchers. However, the objective of most previous studies has been to investigate either a single TE-construction in isolation, e.g. the TE I- construction,¹ a subset of those TE-constructions with nuclear juncture,² or only TE-constructions with core or clausal juncture.³ Most such studies were also conducted mainly from a purely syntactic⁴ or a purely semantic/pragmatic perspective.⁵ To my knowledge, the present study is the first attempt to describe, and to some extent account for, *all* types of TE-linkage, with a special focus on the relationship between their syntax and semantics. Needless to say, TE-linkage encompasses a wide variety of semantic relations. However, close examination of the syntax of TE-linkage has revealed that there are clear correlations between its syntax and semantics, and that the semantics is in large part determined by the syntactic type of the conjuncts. Such correlations have been obscured in previous studies because they did not investigate TE-linkage as a set of *grammatical constructions* which are pairings of form and meaning.

¹ Teramura (1969), Ota (1971), Fujii (1976), Kindaichi (1976), T. Takahashi (1976), Yoshikawa (1976), Okura (1977), Jacobsen (1979, 1982, 1991), Kamiya (1979), Sekine (1983), S. Takahashi (1984), K. Matsumoto (1985), *inter alia*.

² Watanabe (1970), Makiuchi (1972), Inoue (1974), Toyoda (1974), Moriguchi (1975), Miyara (1981), Ishikawa (1985), McCawley and Momoi (1986), Lee (1989), Sells (1990), *inter alia*.

³ NLRI (1951), Negishi (1970), Kuno (1973), Endo (1982), Narita (1983), Matsuda (1985), *inter alia*.

⁴ Inoue (1974), Shibatani (1978), Nakajima (1981), Miyara (1981), Ishikawa (1985), McCawley and Momoi (1986), Lee (1989), Y. Matsumoto (1990b), Sells (1990), *inter alia*.

⁵ NLRI (1951), Fujii (1976), Okura (1977), Morita (1980), Endo (1982), R. Hamada (1985), M. Hamada (1989), Matsumoto (1990a, c), Hasegawa (1992a, b), *inter alia*.

The present study has demonstrated that grammatical constructions must be regarded as central to linguistic analysis and description, and that they can easily be incorporated into the RRG formalism.

Implicit in many of the previous studies is the common assumption that TE is an inflectional (gerundive) suffix. However, as this study has demonstrated, when the first conjunct is negated, TE is suffixed to the negative morpheme, not directly to the predicate, forming *nai-de* or *naku-te*. Inflectional suffixes cannot be separated from the stem in this way. Thus TE must be considered to be a connective suffix.

TE is the most versatile connective in Japanese, for it is the only device which can link units at all three juncture levels. Theoretically, then, most TE-constructions can be ambiguous as to which units are conjoined, and many researchers have claimed that TE-linkage is only a syntactic device without any semantic content (*implicature-only analysis*, §1.3.2). However, actual ambiguities rarely emerge because when native listeners encounter a TE-construction, their tacit linguistic knowledge enables them to detect subtle cues for identifying which juncture is intended by the speaker. In this thesis, we have discussed such cues — among them phonological phrasing, argument structure, scope of potential operators, and agentivity of the predicates.

7.1. NUCLEAR JUNCTURE

In Chapters 3 and 4 we investigated TE-linkage with nuclear juncture. Whereas when two cores or clauses are linked, the semantics of the TE-linkage is a relationship between the two propositions, when two nuclei are linked, the semantics is a relationship between the denotations of the two predicates. In this respect, nuclear juncture is significantly different from the other linkage types. This distinction is represented in both traditional grammar and many contemporary syntactic theories in such a way that all second nuclei are ‘auxiliaries’. Such ‘auxiliaries’, however, do not behave uniformly: one type does not affect the valence of the TE-predicate, but a second type does. Therefore, two distinct types of linkage must be recognized.

In a RRG analysis of TE-linkage with nuclear juncture, the linked nuclei must be either in coordination or subordination. In coordination both nuclei jointly specify core arguments. The selection of core arguments from those appearing in the Logical Structure of linked predicates is idiosyncratic, and thus must be stated separately for each nuclear coordination TE-construction. In subordination the matrix nucleus alone determines the core-argument structure, and the subordinate nucleus modifies the matrix core, as an adverbial clause does *vis-à-vis* the matrix clause. The main functions of a TE-linked subordinate nucleus overlap those posited in RRG for nuclear *operators*; thus nuclear-subordination TE-constructions are considered in this thesis to be operator constructions. In either coordination or subordination, the first nucleus can be independently negated by the nuclear-level operator *nai-de*, whereas the core operator *naku-te* can never intervene between the linked nuclei.

Nuclear juncture is the tightest verbal linkage in syntax, and linked nuclei denote a single concept. Therefore, semantically they resemble lexical compounds. Syntactically, however, nuclear linkage and lexical compounds exhibit distinct characteristics. While some particles as well as *nai-de* can intervene between linked nuclei, no intervention is permitted between the lexically compounded constituents. Nuclear juncture thus must be kept separate from core or clausal juncture on the one hand, and from lexical compounds on the other.

There are twelve verbals which can appear as a second predicate in nuclear juncture with TE. Four of them were examined in this study — *simaw-* ‘put into an appropriate place’ and *ar-* ‘be located (inanimate)’ (Chapter 3), and *k-* ‘come’ and *ik-* ‘go’ (Chapter 4). *Simaw-* is always linked with the TE-predicate in nuclear subordination. Thus *simaw-* never affects the valence of the matrix TE-predicate, but modifies its aspect and/or agentivity. It may also simultaneously imply the speaker’s regret or surprise regarding the proposition or speech act. On the other hand, *ar-*, *k-*, and *ik-* can be linked with the TE-predicate in either subordination or coordination. When in subordination, they qualify the aspect and/or directionality of the TE-predicate: when in coordination, they license a *ni*-marked locative to appear inside the core. Although not examined in

this thesis, three ‘donatory’ verbs — *age-*, *kure-* ‘give’, and *moraw-* ‘receive’ — are always linked to the TE-predicate in nuclear coordination, typically adding to the core a goal or beneficiary argument (with *age-* and *kure-*) or a source argument (with *moraw-*).

When two predicates are adjacent and the second is one of the twelve predicates compatible with nuclear TE-linkage, the unmarked parsing is with nuclear juncture. However, because Japanese permits a high degree of ellipsis, two predicates may appear side by side even when the linkage is actually at the core or clause level. With such an elliptical sentence, the speaker must provide a cue for a marked (i.e. core or clausal) parsing, generally by the insertion of a major-phrase boundary.

7.2. CORE JUNCTURE

Chapter 5 examined TE-linkage with core juncture. At the core level, TE can link cores with all three nexus types — subordination, coordination, and cosubordination. In core subordination, the TE-marked core as a whole is an argument of the matrix core. A small number of verbals, e.g. *i-* ‘be permitted’, *sum-* ‘be settled’, and *daizyoobu* + COP ‘be all right’, take such an argument. The information as to which predicate can take a TE-marked core argument is not predictable solely from the predicate’s semantics, and thus must be stated in the lexicon. The semantic relation between the linked cores is determined by the matrix core (just with complement subordination at the clause level).

In core coordination, the conjuncts denote two independent propositions which share the argument encoded as the subject. The semantics of such TE-linkage depends in large part on the agentivity of the conjuncts. If both denote actions, the speaker’s motivation for the use of TE-linkage is that both actions are intended by the same individual. If, on the other hand, the first denotes a non-action and the second an action, the intended semantic relation is REASON. Otherwise, the intended semantic relation should be a CONCESSION, CAUSE, CONTRAST, or SETTING⁶ according to the meanings of the conjuncts.

⁶ The CONTRAST and SETTING relations were presented and discussed in Chapter 6.

This fact is in accordance with the claim that coordinated cores are syntactically and semantically independent of each other; these semantic relations are what humans perceive between two separable situations, not between two aspects of a single situation. When both cores denote dynamic situations, the sentence conversationally implicates a SEQUENCE relation. In core coordination, the first conjunct can be independently negated by *naku-te*, and the negative operator appearing on the second predicate has scope only over the second core.

In core cosubordination, by contrast, the conjuncts denote two aspects of a single situation, and the first core serves as an adverbial modifier of the second. Potential semantic relations include LOCATION, MEANS, MATERIAL, MANNER, and MEASURE. These relations (as well as CAUSE, which requires core coordination nexus) can be expressed by a *de*-marked NP if the NP and the predicate jointly supply sufficient information to determine which semantic relation is intended. If the negative operator appears on the second predicate, its scope ranges over both conjuncts, negating the semantic relation obtaining between them. Such negation is descriptive, not metalinguistic, i.e., it does not negate the assertability of a previous utterance. Thus LOCATION, MEANS, MATERIAL, MANNER, and MEASURE must be considered semantic properties of core-cosubordination TE-linkage. Whether or not to exclude from the semantic description of TE-linkage those relations discussed in this thesis, by considering them as (conventional or conversational) implicature, depends on the analyst's conviction regarding what is to count as 'semantics'. If one adheres to truth-functional semantics, those semantic relations properly belong to pragmatics; if one subscribes, as the present author does, to what Fillmore (1985b) advocates as the *semantics of understanding*, these semantic relations must be stated in the semantic description of TE-linkage.

7.3. CLAUSAL JUNCTURE

Chapter 6 was devoted largely to clausal juncture, but was also concerned with coordination nexus at the core level. In TE-linkage, if both subjects are present, the juncture is at

the clause level. If either or both of the subjects are missing, the juncture is usually at the core level and disjoint reference is prohibited. However, there are several morpholexical means in Japanese for delimiting potential human subject referents, e.g. the use of an honorific predicate or psych-predicate. With such a predicate, a switch in subject reference is explicitly signaled by the choice of predicate even when there is no overt subject, and accordingly the juncture must be at clause level. With 'ordinary' predicates, by contrast, the covert subject must be coreferential with the preceding/following overt or covert subject, and thus the linkage is at core level.

At the clause level, TE-linkage always involves cosubordination, because all clause-level TE-constructions exhibit operator dependency (e.g. with respect to imperative operators). Using the imperative operator *nasai* as a diagnostic, we confirmed that both clauses are in fact in the scope of this operator. At the clause level, the conjuncts and TE jointly implicate a CAUSE, REASON, CONTRAST, or SETTING relation, again according to the semantics of the conjuncts.

7.4. TE-LINKAGE INTERPRETATION PRINCIPLE

If we attribute all semantic relations compatible with TE-linkage to the TE-linkage itself, rather than considering them to be implicatures that must be worked out on the basis of some as-yet undiscovered pragmatic principles, the grammar of TE-linkage as a whole is greatly simplified; for many particular facts about the behavior of TE now fall out automatically as consequences of other, more general parts of the analysis. For example, the statement that LOCATION, MEANS, MATERIAL, MANNER, and MEASURE relations are semantic properties of TE-linkage entails that they can be expressed only by core cosubordination: the two TE-linked junctcs require identical subjects (part of the definition of non-embedded core linkage), and they do not denote two separate propositions (thus excluding a parsing with core coordination). And this entailment regarding juncture and nexus type in turn entails that the first conjunct can contain the nuclear operator *nai-de*, but it cannot be independently negated with the core-level *naku-te*. On the other hand,

because TE-linkage is not compatible with a SEQUENCE relation proper, SEQUENCE should not be included in the semantic description of TE, and those TE-sentences which do implicate a SEQUENCE must be taken care of by an appeal to general pragmatic principles (e.g. iconicity, Gricean Maxim of Manner).

As mentioned in various places in this thesis, TE is the most frequently occurring connective in Japanese. Even though a great many semantic relations are expressible by TE-linkage, the use of TE does not cause communicative difficulties. To be sure, discourse context provides a great deal of information about the intended relation, but it does not tell the whole story. TE and the conjuncts jointly narrow down the range of possible interpretations either by designating a particular relation or by filtering out irrelevant relations. I therefore reject the *implicature-only analysis*.

In Chapter 6, I proposed an interpretive principle of TE-linked clauses. To conclude this thesis, I will re-present it here in its final version. The principle requires reference to both syntax and semantics; this mixture of two kinds of concept is justified because in actual interpretation both are simultaneously available to language users.

(1) TE-Linkage Interpretation Principle (Final Version)⁷

- 1 if { Adjacent (PRED1, PRED2) & NJP (PRED2) & -MPB }
- 2 Nuclear-Linkage (PRED1, PRED2)
- 3 else if Action (C2')
- 4 if { -Action (C1') v (SUBJ1' ≠ SUBJ2') }
- 5 REASON (SUBJ2', C1', C2')
- 6 else if Cosubordination (CORE1, CORE2)
- 7 { LOCATION (C1', C2') v MEANS (C1', C2') v
- 8 MATERIAL (C1', C2') v MANNER (C1', C2') v
- 9 MEASURE (C1', C2') }
- 10 else INTEND (SUBJ1', (C1' & C2'))
- 11 else { CAUSE (C1', C2') v CONTRAST (C1', C2') v SETTING (C1', C2') }

⁷ NJP stands for *Nuclear Juncture Predicates*, i.e. the set of predicates which can appear as second predicate in nuclear juncture. MPB stands for *Major-Phrase Boundary*.

Lines 1 and 2 refer to nuclear TE-linkage: if two predicates are juxtaposed without a major-phrase boundary and PRED2 is one of those which can appear as second predicate in nuclear juncture, then the linkage is at nuclear level. The interpreter must employ the lexical knowledge of PRED2 to identify the intended semantic relation.

Lines 3 and following refer to core or clausal TE-linkage. Lines 3 - 5 state: if C2' is an action and C1' a non-action or if C2' is an action and SUBJ1' and SUBJ2' have disjoint reference, then C1' is the reason for SUBJ2' performing C2'.

Lines 6 - 9 abbreviate: if C2' is an action and SUBJ1' and SUBJ2' are coreferential, then parse the sentence with cosubordination, unless there is specific evidence to the contrary — e.g. the occurrence of *naku-te*, signaling core coordination, or occurrence of an emphatic major-phrase boundary, e.g. a H tone on TE itself or longer pause. With this parsing, the semantic relation is understood to be a qualification of C2' by C1' — LOCATION, MEANS, MATERIAL, MANNER, or MEASURE. More explanation for this strategy in parsing (lns. 6 - 9) will be given shortly. Line 10 states: if parsing with cosubordination results in unacceptable interpretation, the intended semantic relation is likely to be that both C1' and C2' are related by virtue of being performed by the same individual.

When the sentence is ambiguous, Japanese speakers ordinarily interpret CORE1-TE CORE2 as cosubordination rather than coordination. An anecdotal example is: in a project on Japanese clause linkage, (2) was unanimously translated as A by six native speakers of Japanese, including the present author (Hasegawa 1990).

- (2) gomukan o pintikokku de tomete hi o kesu.
 rubber-tube ACC pinch-cock PRT choke-off-a-flow-TE fire ACC extinguish
 [Rika, Modified]
 A: 'By pinching the rubber tube by a pinch-cock, extinguish the flame.'
 (Cosubordination Parsing)
 B: 'Pinch the rubber tube by a pinch-cock, and extinguish the flame.'
 (Coordination Parsing)

The sentence in (2), taken from a high-school science textbook, is part of an experiment procedure. In this experiment, two rubber tubes are used: one connecting a gas pipe and

a burner, and the other a flask and a glass tube. After careful consideration, we recognized that A instructs the students to turn off the gas frame by an unusual and dangerous means, a means which should not appear in a science textbook. Thus we rejected A and construed *gomukan* 'rubber tube' with the one connecting the flask and the glass tube. Note that when we first translated (2), we were totally aware of these linguistic and extralinguistic contexts, and yet employed the unmarked parsing strategy (cosubordination) because pinching the tube *can* extinguish the flame. That is, A is neither semantically nor pragmatically anomalous, but is rejected on the basis of inappropriateness. This episode conveys how strong the tendency of cosubordination parsing is. Note also that with cosubordination parsing, more specific information can be obtained, for LOCATION, MEANS, MATERIAL, MANNER, and MEASURE are hyponyms of INTEND.

The last line in (1) states that if the juncture is core or clause level and C2' is not an action, then the conjuncts holds a CAUSE, CONTRAST, or SETTING relation. As observed in (1), in core or clausal TE-linkage, agentivity of C2 is the most important feature in interpreting the sentence. This is reasonable in the light of the universal tendency to place heavier weight on the second conjunct.

To be sure, the utility of TE-linkage ponderously depends on the human faculty of abductive inference. However, it is over-simplification to claim that *all* semantic relations compatible with TE-linkage are inferred. If one utilizes TE-linkage indiscriminately, the resultant sentence may be anomalous or, worse, misunderstood.

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REFERENCES

ABBREVIATIONS

- BLS n* *Proceedings of the n-th Annual Meeting of the Berkeley Linguistics Society.* Berkeley: University of California.
- CLS n* *Papers from the n-th Regional Meeting of the Chicago Linguistic Society.* Chicago: University of Chicago.
- KRS* *Kokugogaku Ronsetsu Shiryoo.* Tokyo: Ronsetsu Shiryoo Hozonkai.
- NLRI* National Language Research Institute (Kokuritsu Kokugo Kenkyuujō), Tokyo.

- Abbott, Barbara. 1974. Some problems in giving an adequate model-theoretic account of CAUSE. In C. Fillmore, G. Lakoff, and R. Lakoff (eds.), *Berkeley Studies in Syntax and Semantics* 1, 1-14.
- Alfonso, Anthony. 1966. *Japanese Language Patterns: A Structural Approach.* Tokyo: Sophia University.
- Akmajian, Adrian. 1984. Sentence types and the form-function fit. *Natural Language and Linguistic Theory* 2, 1-23.
- Andersen, H. 1973. Ein Methodischer Vorschlag zur Unterscheidung von Ergänzung und Angabe im Rahmen der Valenztheorie. *Deutsche Sprache*, 49-63.
- Andersen, Henning. 1973. Abductive and deductive change. *Language* 49, 765-93.
- Aoki, Haruo. 1986. Evidentials in Japanese. In W. Chafe and J. Nichols (eds.), *Evidentiality: The Linguistic Coding of Epistemology*, 223-38. Norwood, N.J.: Ablex Pub. Corp.
- Banfield, Ann. 1982. *Unspeakable Sentences: Narration and Representation in the Language of Fiction.* Boston: Routledge & Kegan Paul.
- Beckman, Mary, and Janet Pierrehumbert. 1986. Intonational structure in Japanese and English. *Phonology Yearbook* 3, 255-310.
- Benveniste, Emile. 1966. *Problèmes de linguistique générale.* Paris: Gallimard.
- Bloch, Bernard. 1946. Inflection. *Journal of the American Oriental Society* 66, 97-109. Reprinted in R. Miller (ed.), *Bernard Bloch on Japanese* (1970). New Haven: Yale University Press.
- Bloomfield, Leonard. 1933. *Language.* New York: Holt, Rinehart and Winston.
- Brinker, Klaus. 1972. *Konstituentenstrukturgrammatik und Operationale Satzgliedanalyse: Methodenkritische Untersuchungen zur Syntax des Einfachen Satzes im Deutschen.* Frankfurt am Main: Athenäum.

- Brugman, Claudia M. 1988. The syntax and semantics of HAVE and its complements. Ph.D. dissertation, University of California, Berkeley.
- Bullock, Merry, Rochel Gelman, and Renée Baillargeon. 1982. The development of causal reasoning. In W. Friedman (ed.), *The Developmental Psychology of Time*, 209-54. New York: Academic Press.
- Buss, Allan R. 1978. Causes and reasons in attribution theory: A conceptual critique. *Journal of Personality and Social Psychology* 75, 1311-21.
- Chafe, Wallace. 1976. Givenness, contrastiveness, definiteness, subjects, topics, and point of view. In C. Li (ed.), *Subject and Topic*, 25-55. New York: Academic Press.
- Chafe, Wallace. 1987. Cognitive constraints on information flow. In R. Tomlin (ed.), *Coherence and Grounding in Discourse*, 21-52. Amsterdam: John Benjamins.
- Chomsky, Noam. 1965. *Aspects of the Theory of Syntax*. Cambridge, Mass.: MIT Press.
- Coleman, Linda, and Paul Kay. 1981. Prototype semantics: The English verb *lie*. *Language* 57, 26-44.
- Comrie, Bernard. 1976. *Aspect*. Cambridge: Cambridge University Press.
- Comrie, Bernard. 1981. *Language Universals and Linguistic Typology*. Chicago: University of Chicago Press.
- Cruse, D.A. 1986. *Lexical Semantics*. Cambridge: Cambridge University Press.
- Cutrer, Michelle L. 1987. Theory of obligatory control. *Davis Working Papers in Linguistics* 2, 6-38. Linguistics Program, University of California, Davis.
- Dik, Simon C. 1968. *Coordination*. Amsterdam: North-Holland.
- Donnellan, Keith S. 1967. Reasons and causes. In P. Edwards (ed.), *The Encyclopedia of Philosophy* 7, 85-88. New York: Macmillan.
- Dowty, David R. 1972. Studies in the logic of verb aspect and time reference. Ph.D. dissertation, University of Texas, Austin.
- Dowty, David R. 1979. *Word Meaning and Montague Grammar: The Semantics of Verbs and Times in Generative Semantics and in Montague's PTQ*. Dordrecht, Holland: Reidel.
- Ducrot, Oswald. 1972. *Dire et ne pas dire*. Paris: Hermann.
- Emons, Rudolf. 1974. *Valenzen Englischer Prädikatsverben*. *Linguistische Arbeiten* 22. Tübingen: Niemeyer.
- Endo, Yuko. 1982. Setsuzoku-joshi TE no yoohoo to imi. *KRS* 19, 39-45.
- Erteschik-Shir, Nomi, and Shalom Lappin. 1979. Dominance and the functional explanation of island phenomena. *Theoretical Linguistics* 6, 41-85.
- Fillmore, Charles J. 1968. The case for case. In E. Back and R. Harms (eds.), *Universals in Linguistic Theory*, 1-88. New York: Holt Rinehart.

- Fillmore, Charles J. 1971. Santa Cruz lecture on deixis. Indiana: Indiana University Linguistics Club.
- Fillmore, Charles J. 1972. How to know whether you're coming or going. *Studies in Descriptive and Applied Linguistics: Bulletin of the Summer Institute in Linguistics* V, 3-17. Tokyo: International Christian University. Reprinted in K. Hyldgaard-Jensen (ed.), *Linguistik* (1972), 369-79.
- Fillmore, Charles J. 1973. May we come in? *Semiotica* 9, 97-116.
- Fillmore, Charles J. 1975. Alternative to checklist theories of meaning. *BLS* 1, 123-31.
- Fillmore, Charles J. 1979. Innocence: A second idealization for linguistics. *BLS* 5, 63-76.
- Fillmore, Charles J. 1982a. Towards a descriptive framework for spatial deixis. In R. Jarvella and W. Klein (eds.), *Speech, Place, and Action*, 31-59. New York: Wiley.
- Fillmore, Charles J. 1982b. Frame semantics. Linguistic Society of Korea (ed.), *Linguistics in the Morning Calm*, 111-37. Seoul: Hanshin.
- Fillmore, Charles J. 1985a. Linguistics as a tool for discourse analysis. In T. van Dijk (ed.), *Handbook of Discourse Analysis* 1, 11-39. London: Academic Press.
- Fillmore, Charles J. 1985b. Frames and the semantics of understanding. *Quaderni di Semantica* 6, 222-53.
- Fillmore, Charles J. 1986a. Pragmatically controlled zero anaphora. *BLS* 12, 95-107.
- Fillmore, Charles J. 1986b. On grammatical constructions. MS. Department of Linguistics, University of California, Berkeley.
- Fillmore, Charles J. 1988. The mechanisms of "Construction Grammar". *BLS* 14, 35-55.
- Fillmore, Charles J., Paul Kay, and Mary C. O'Connor. 1988. Regularity and idiomaticity in grammatical constructions. *Language* 64, 501-38.
- Foley, William A., and Robert D. Van Valin, Jr. 1984. *Functional Syntax and Universal Grammar*. Cambridge: Cambridge University Press.
- Fujii, Seiko Y. 1991a. On the clause-linking *TO* construction. In P. Clancy (ed.), *Japanese/Korean Linguistics*. Stanford: CSLI. To appear.
- Fujii, Seiko Y. 1991b. Frame-setting constructions in Japanese: When conditionals interact with temporals. Paper presented at the Second International Cognitive Linguistics Conference at the University of California, Santa Cruz.
- Fujii, Tadashi. 1976. Dooshi + TE IRU no imi. In H. Kindaichi (ed.), *Nihongo dooshi no asupekuto*, 97-116. Tokyo: Mugi Shoboo.
- Gazdar, Gerald. 1979. *Pragmatics: Implicature, Presupposition and Logical Form*. New York: Academic Press.

- Gensler, Orin D. 1977. Non-syntactic antecedents and frame semantics. *BLS* 3, 321-34.
- Givón, Talmy. 1976. Topic, pronoun and grammatical agreement. In C. Li (ed.), *Subject and Topic*, 149-88. New York: Academic Press.
- Givón, Talmy. 1979. *On Understanding Grammar*. New York: Academic Press.
- Gray, Nerida. 1983. Clause linkage with the “-TE” form in Japanese. Honor’s thesis. Department of Linguistics, Australian National University.
- Grice, H. Paul. 1975. Logic and conversation. In P. Cole and J. Morgan (eds.), *Syntax and Semantics 3: Speech Acts*, 41-58. New York: Academic Press.
- Günther, Hartmut. 1978. Valence in categorial syntax. In W. Abraham (ed.), *Valence, Semantic Case, and Grammatical Relations*, 127-56. Amsterdam: John Benjamins.
- Haiman, John. 1980. The iconicity of grammar. *Language* 54, 565-89.
- Haiman, John. 1985. Symmetry. In J. Haiman (ed.), *Iconicity in Syntax*. Amsterdam: John Benjamins.
- Haiman, John, and Sandra A. Thompson. 1984. “Subordination” in universal grammar. *BLS* 10, 510-23.
- Halliday, Michael A.K., and Ruqaiya Hasan. 1976. *Cohesion in English*. London: Longman.
- Hamada, Mariko. 1989. IKU/KURU and -TE-IKU/-TE-KURU in Japanese. *Sophia Linguistica* 27, 47-56.
- Hamada, Rumi. 1985. Setsuzoku no TO to TE no aida. *KRS* 22, 176-178.
- Haraguchi, Shosuke. 1977. *The Tone Pattern of Japanese: An Autosegmental Theory of Tonology*. Tokyo: Kaitakusha.
- Harré, Rom, and Edward H. Madden. 1975. *Causal Powers: A Theory of Natural Necessity*. Oxford: Blackwell.
- Hart, Herbert L.A., and Anthony M. Honoré. 1959. *Causation in the Law*. Oxford: Clarendon.
- Hasegawa, Yoko. 1988. Question pull: A diagnostic test for the complement/adjunct distinction in Japanese. *BLS* 14, 66-77.
- Hasegawa, Yoko. 1989. Japanese WA as a categorical statement marker revisited. MS. Department of Linguistics, University of California, Berkeley.
- Hasegawa, Yoko. 1990. TE-setsuzoku to ren’yoo-setsuzoku no hikaku kenkyuu (A comparative study of TE-linkage and ren’yoo-linkage). In *Project Report of the First Term to Nippon Telegraph and Telephone Corporation*. Department of Linguistics, University of California, Berkeley.
- Hasegawa, Yoko. 1992a. On the ambiguity between the perfect and the resultative: Evidence from V-te ar- constructions in Japanese. *BLS* 18. To appear.

- Hasegawa, Yoko. 1992b. Prototype semantics: A case study of TE K-/IK- constructions in Japanese. *Language and Communication*. To appear.
- Hata, Kazue, and Yoko Hasegawa. 1992. A study of F0 reset in naturally-read texts in Japanese. *Proceedings of the International Conference on Spoken Language Processing*, Banff, Canada. To appear.
- Hawkinson, Annie K., and Larry M. Hyman. 1974. Hierarchies of natural topic in Shona. *Studies in African Linguistics* 5, 147-70.
- Helbig, Gerhard, and Wolfgang Schenkel. 1973. *Wörterbuch zur Valenz und Distribution Deutscher Verben*. Leipzig: VEB Verlag Enzyklopädie.
- Herbst, T. 1982. Some remarks on the application of valency theory to the description of English. Paper presented at the Linguistic Association of Great Britain Spring Meeting.
- Hirata, Kayoko. 1987. Temporal properties in Japanese. Ph.D. dissertation, University of Arizona.
- Hirose, Kyoko. 1991. From a bound morpheme to a freer morpheme: The historical development of the homophonous particle *ga* in Japanese. MS. Department of Linguistics, University of California, Berkeley.
- Holisky, Dee A. 1987. The case of the intransitive subject in Tsova-Tush (Batsbi). *Lingua* 71, 103-32.
- Hopper, Paul L., and Sandra A. Thompson. 1980. Transitivity in grammar and discourse. *Language* 56, 251-99.
- Horn, Laurence R. 1985. Metalinguistic negation and pragmatic ambiguity. *Language* 61, 121-74.
- Huang, C.-T. James. 1984. On the distribution and reference of empty pronouns. *Linguistic Inquiry* 15, 531-74.
- Imai, Shiro, and Noboru Suto. 1981. Setsuzoku joshi no setsuzoku kinoo ni tsuite (The connective function of conjunctive auxiliary word). *Shinrigaku hyoron* 24, 137-54. Reprinted in *KRS* 21 (1984), 75-86.
- Inoue, Kazuko. 1983. Bun no setsuzoku. In K. Inoue (ed.), *Kooza gendai no gengo I: nihongo no kihon koozoo*, 127-51. Tokyo: Sanseido.
- Inoue, Kazuko. 1989. Fukugoo-jutsugo no bunpoo: bunpoo kankei to meishiku no imi yakuwari. *Proceedings of the Symposium on 'gengoriron to nihongo kyooiku no soogo kasseeka'*, 39-46. Tokyo: Tsudajukukai.
- Inoue, Masako. 1974. A study of Japanese predicate complement constructions. Ph.D. dissertation, University of California, San Diego.
- Ishigaki, Kenji. 1955. *Joshi no rekishiteki kenkyuu*. Tokyo: Iwanami Shoten.
- Ishikawa, Akira. 1985. Complex predicates and lexical operations in Japanese. Ph.D. dissertation, Stanford University.

- Jackendoff, Ray S. 1976. Toward an explanatory semantic representation. *Linguistic Inquiry* 7, 89-150.
- Jacobsen, Wesley. 1979. Transitive verbs, dynamic verbs, and aspect in Japanese. *CLS* 15, 160-71.
- Jacobsen, Wesley. 1982. Vendler's verb classes and the aspectual character of Japanese TE-IRU. *BLS* 8, 373-83.
- Jacobsen, Wesley. 1991. *The Transitive Structure of Events in Japanese*. Tokyo: Kuroshio Shuppan.
- Jespersen, Otto. 1924. *The Philosophy of Grammar*. New York: Norton.
- Johnson, Mark. 1987. A new approach to clause structure in Role and Reference Grammar. *Davis Working Papers in Linguistics* 2, 55-59. Linguistics Program, University of California, Davis. Reprinted in R. Van Valin (ed.), *Advances in Role and Reference Grammar*, 1992. Amsterdam/Philadelphia: John Benjamins. In press.
- Kameyama, Megumi. 1985. Zero anaphora: The case of Japanese. Ph.D. dissertation, Stanford University.
- Kameyama, Megumi. 1988. Japanese zero pronominal binding: Where syntax and discourse meet. In W. Poser (ed.), *Papers from the Second International Workshop on Japanese Syntax*, 47-74. Stanford: CSLI.
- Kamiya, Eiji. 1979. TE IRU ni tsuite. *KRS* 16, 155-59.
- Karttunen, Lauri, and Stanley Peters. 1976. What indirect questions conventionally implicate. *CLS* 12, 351-68.
- Kay, Paul. 1984. Linguistic competence and folk theories of language: Two English hedges. *BLS* 9, 128-37.
- Kay, Paul. 1991. Constructional *Modus Tollens* and level of conventionality. *CLS* 27. To appear.
- Kibrik, Aleksandr Je. 1988. The resultative in Archi. In V. Nedjalkov (ed.), *Typology of Resultative Constructions*, 167-81. Amsterdam: John Benjamins.
- Kindaichi, Haruhiko. 1950. Nihongo dooshi no ichi-bunrui. *Gengo kenkyuu* 15, 48-63. Reprinted in H. Kindaichi (ed.) *Nihongo dooshi no asupekuto* (1976), 5-26. Tokyo: Mugi Shoboo.
- Kindaichi, Haruhiko. 1976. Nihongo dooshi no tensu to asupekuto. In H. Kindaichi (ed.) *Nihongo dooshi no asupekuto*, 27-62. Tokyo: Mugi Shoboo.
- Kinjo, Katsuya. 1992. Japanese nante: Its modality and pragmatic extension. Paper presented at the 66th Annual Meeting of the Linguistic Society of America, Philadelphia.
- Kiparsky, Paul, and Carol Kiparsky. 1970. Fact. In M. Bierwisch and K. Heidolph (eds.), *Progress in Linguistics*, 143-73. The Hague: Mouton. Reprinted in D.

- Steinberg and L. Jakobovits (eds.), *Semantics: An Interdisciplinary Reader* (1971). Cambridge: Cambridge University Press.
- Kitagawa, Chisato. 1976. NAKUTE to NAIDE. *Nihongo kyooiku* 29, 57-67.
- Komatsu, Kozo. 1981. Setsuzokujoshi no honshitsu. *Bungakushi kenkyuu* 21, 27-37.
- Konoshima, Masatoshi. 1966. *Kokugo joshi no kenkyuu: Joshi-shi sobyoo*. Tokyo: Oofuusha.
- Konoshima, Masatoshi. 1983. *Jodooshi joshi gaisetsu*. Tokyo: Oofuusha.
- Kozinskij, Isaak S. 1988. Resultative: Results and discussion. In V. Nedjalkov (ed.), *Typology of Resultative Constructions*, 497-525. Amsterdam: John Benjamins.
- Kubozono, Haruo. 1987. The organization of Japanese prosody. Ph.D. dissertation, University of Edinburgh.
- Kubozono, Haruo. 1989. Syntactic and rhythmic effects on downstep in Japanese. *Phonology* 6, 39-67.
- Kuno, Susumu. 1970. Theme, contrast, and exhaustive listing — *wa* and *ga* in Japanese. *Mathematical Linguistics and Automatic Translation*, NSF 24, 323-51. Cambridge, Mass.: Harvard Computation Laboratory.
- Kuno, Susumu. 1973. *The Structure of the Japanese Language*. Cambridge, Mass.: MIT Press.
- Kuno, Susumu. 1978. *Darwa no bunpoo*. Tokyo: Taishuukan.
- Kuno, Susumu, and Etsuko Kaburaki. 1975. Empathy and syntax. *Harvard Studies in Syntax and Semantics* 1, 1-73. Department of Linguistics, Harvard University. Reprinted in *Linguistic Inquiry* 8 (1977), 627-72.
- Kuroda, Shigeyuki. 1965. Generative grammatical studies in the Japanese language. Ph.D. dissertation, MIT.
- Kuroda, Shigeyuki. 1972. The categorical and thethetic judgment. Evidence from Japanese syntax. *Foundations of Language* 9, 153-85.
- Kuroda, Shigeyuki. 1973. Where epistemology, style and grammar meet: A case study from Japanese. In S. Anderson and P. Kiparsky (eds.), *Festschrift for Morris Halle*, 377-91. New York: Holt, Rinehart and Winston.
- Kuroda, Shigeyuki. 1990. Cognitive and syntactic bases of topicalized and nontopicalized sentences in Japanese. In H. Hoji (ed.), *Japanese and Korean Linguistics*, 1-26. Stanford: CSLI.
- Kuryłowicz, Jerzy. 1964. *The Inflectional Categories of Indo-European*. Heidelberg: Carl Winter Universitätsverlag.
- Ladd, D. Robert. 1984. Declination: A review and some hypotheses. *Phonology Yearbook* 1, 53-74.

- Lakoff, George. 1972. Linguistics and natural logic. In D. Davidson and G. Harman (eds.), *Semantics of Natural Language*, 545-665. Dordrecht, Holland: Reidel.
- Lakoff, George. 1976. Syntactic amalgams. *CLS* 10, 321-44.
- Lakoff, George. 1986. Frame semantic control of the coordinate structure constraint. *Berkeley Cognitive Science Report* 37. Also in *CLS* 22.
- Lakoff, George. 1987. *Women, Fire, and Dangerous Things: What Categories Reveal about the Mind*. Chicago: University of Chicago Press.
- Lakoff, George, and John R. Ross. 1976. Why you can't do so into the sink. In J. D. McCawley (ed.), *Syntax and Semantics 7: Notes from the Linguistic Underground*, 101-11. New York: Academic Press.
- Lakoff, Robin. 1971. If's, and's, and out's about conjunction. In C. Fillmore and D. Langendoen (eds.), *Studies in Linguistic Semantics*, 114-49. New York: Holt, Reinhart and Winston.
- Lakoff, Robin. 1984. The pragmatics of subordination. *BLS* 10, 481-92.
- Lambrech, Knud. 1986. Topic, focus, and the grammar of spoken French. Ph.D. dissertation, University of California, Berkeley.
- Lambrech, Knud. 1987. Sentence focus, information structure, and the thetic-categorical distinction. *BLS* 13, 366-82.
- Lambrech, Knud. 1988. When subjects behave like objects: A markedness analysis of sentence focus constructions across languages. MS. University of Texas, Austin.
- Langacker, Ronald W. 1990. *Concept, Image and Symbol: The Cognitive Basis of Grammar*. Berlin: Mouton de Gruyter.
- Lee, Nagiko I. 1989. Complementation in Japanese: A lexicase analysis. Ph.D. dissertation, University of Hawaii.
- Leech, Geoffrey N. 1983. *Principles of Pragmatics*. London: Longman.
- Levinson, Stephen C. 1983. *Pragmatics*. Cambridge: Cambridge University Press.
- Lewis, David. 1973. Causation. *The Journal of Philosophy* 70, 556-67.
- Liberman, Mark, and Janet Pierrehumbert. 1984. Intonational invariance under changes in pitch range and length. In M. Aronoff and R. Oehrle (eds.), *Language Sound Structure*, 157-233. Cambridge, Mass.: MIT Press.
- Longacre, Robert E. 1965. Some fundamental insights of tagmemics. *Language* 41, 65-76.
- Lyons, John. 1968. *Introduction to Theoretical Linguistics*. Cambridge: Cambridge University Press.
- Lyons, John. 1977. *Semantics*. Cambridge: Cambridge University Press.

- Mackie, John L. 1974. *The Cement of the Universe: A Study of Causation*. Oxford: Clarendon.
- Makiuchi, Masaru. 1972. A study of some auxiliary verbs in Japanese. Ph.D. dissertation, University of Illinois at Urbana-Champaign.
- Makkai, Adam. 1972. *Idiom Structure in English*. The Hague: Mouton.
- Martin, Samuel E. 1975. *A Reference Grammar of Japanese*. New Haven: Yale University Press.
- Maslov, Jurij S. 1988. Resultative, perfect, and aspect. In V. Nedjalkov (ed.), *Typology of Resultative Constructions*, 63-85. Amsterdam: John Benjamins.
- Matsuda, Takeshi. 1985. TO, TE, TARA ni tsuite. *KRS* 22, 98-103.
- Matsumoto, Keiji. 1985. A study of tense and aspect in Japanese. Ph.D. dissertation, University of Southern California.
- Matsumoto, Yo. 1990a. Constraints on the 'intransitivizing' resultative *-te aru* construction in Japanese. In H. Hoji (ed.), *Japanese and Korean Linguistics*, 269-83. Stanford: CSLI.
- Matsumoto, Yo. 1990b. On the syntax of Japanese "intransitivizing" *-te aru* construction: Non-lexical function changing. *CLS* 26:1, 277-91.
- Matsumoto, Yō. 1990c. Abstract change expressions in Japanese and their cognitive and linguistic bases. MS. Department of Linguistics, Stanford University.
- Matsuo, Sutejiro. 1936 [1961]. *Kokugo hooronkoo*. Tokyo: Hakuteisha.
- McCawley, James D. 1968. *The Phonological Component of a Grammar of Japanese*. The Hague: Mouton.
- McCawley, James D. 1971. Tense and time reference in English. In C. Fillmore and D. Langendoen (eds.), *Studies in Linguistic Semantics*, 96-113. New York: Holt, Rinehart, and Winston.
- McCawley, James D. 1976. Remarks on what can cause what. In M. Shibatani (ed.), *Syntax and Semantics 6: The Grammar of Causative Constructions*, 117-29. New York: Academic Press.
- McCawley, James D., and Katsuhiko Momoi. 1986. The constituent structure of *-te* complements. *Papers in Japanese Linguistics*, 1-60.
- McGloin, Naomi H. 1972. Some aspects of negation in Japanese. Ph.D. dissertation, University of Michigan.
- McGloin, Naomi H. 1976. Negation. In M. Shibatani (ed.), *Syntax and Semantics 5: Japanese Generative Grammar*, 371-420. New York: Academic Press.
- Michaelis, Laura A. 1991. The semantic structure of the English perfect. MS. Department of Linguistics, University of California, Berkeley.

- Miller, George A., and Philip N. Johnson-Laird. 1976. *Language and Perception*. Cambridge, Mass.: Harvard University Press.
- Minami, Fujio. 1964. Fukubun. *Kooza gendaigo* 6. Tokyo: Meiji Shoin.
- Minsky, Marvin. 1975. A framework for representing knowledge. In P. Winston (ed.), *The Psychology of Computer Vision*, 95-128. New York: McGraw-Hill.
- Miyagawa, Shigeru. 1987. *Wa* and the WH phrase. In J. Hinds, S. Maynard, and S. Iwasaki (eds.), *Perspectives on Topicalization: The Case of Japanese WA*, 185-217. Amsterdam: John Benjamins.
- Miyagawa, Shigeru. 1989. *Structure and Case Marking in Japanese*. San Diego: Academic Press.
- Miyara, Shinsho. 1981. Complex predicates, case marking, and scrambling in Japanese. Ph.D. dissertation, University of Massachusetts.
- Moriguchi, Koichi. 1975. IKU, KURU, IRU ni kansuru ichi koosatsu. *KRS* 12, 89-95.
- Morita, Yoshiyuki. 1968. IKU, KURU no yoofoo (The usage of *iku* and *kuru*). *Kokugogaku* 75, 75-85.
- Morita, Yoshiyuki. 1980. *Kiso kooza nihongo* 2. Tokyo: Kadokawa Shoten.
- Nakajima, Naoki. 1981. 'Shite'-kei setsuzoku to sono koozoo. *Nihon bungaku shiyoo* 25, 58-72.
- Nakau, Minoru. 1973. *Sentential Complementation in Japanese*. Tokyo: Kaitakusha.
- Nakau, Minoru. 1976. Tense, aspect, and modality. In M. Shibatani (ed.), *Syntax and Semantics 5: Japanese Generative Grammar*, 421-82. New York: Academic Press.
- Nakau, Minoru. 1979. Modari[t]ji to meedai. In *Eigo to nihongo to: Hayashi Eiichi kyooju kanreki kinen ronbunshuu*, 223-50. Tokyo: Kuroshio Shuppan.
- Nakau, Minoru. 1992. Modality and subjective semantics. MS. Institute of Literature and Linguistics, University of Tsukuba.
- Narita, Tetsuo. 1983. Dooshi no 'te'-kee no fukushiteki yoofoo. In M. Watanabe (ed.), *Fukuyoo no kenkyuu*, 137-58. Tokyo: Meiji Shoin.
- Nedjalkov, Vladimir P., and Sergey Je. Jaxontov. 1988. The typology of resultative constructions. In V. Nedjalkov (ed.), *Typology of Resultative Constructions*, 3-62. Amsterdam: John Benjamins.
- Negishi, Masazumi. 1970. Setsuzoku-joshi 'te (de)' no yoofoo no buntaironteki koosatsu (A stylistic study on the uses of conjunctive particle "te (de)"). *KRS* 7, 108-13.
- Nichols, Johanna. 1984. Functional theories of grammar. *Annual Review in Anthropology* 13, 97-117.
- NLRI. 1951. *Gendaigo no joshi, jodooshi: Yoofoo to jitsuree* (Bound Forms in Modern Japanese: Uses and Examples). Tokyo: Shuei Shuppan.

- NLRI. 1964. *Gendai zasshi 90-shu no yoogo yooji* (Vocabulary and Chinese Characters in 90 Magazines of Today), vol. 3. Tokyo: NLRI.
- Okura, Miwako. 1977. TE IRU no imi to dooshi bunrui: Doosa, sayoo o arawasu dooshi ni tsuite (Aspectual features of verbs and the meaning of the “-te iru” form: Verbs expressing action). *Oosaka gaigo daigaku gakuhoo* 39, 281-95. Reprinted in *KRS* 14, 7-14.
- Ohuri, Toshio. 1991. Clause linkage in Japanese: A synopsis. M.S. Department of Linguistics, University of California, Berkeley.
- Ohuri, Toshio. 1992. Diachrony in clause linkage and related issues. Ph.D. dissertation, University of California, Berkeley.
- Okawa, Hideaki. 1990. Tense and time in Japanese. Ph.D. dissertation, University of Illinois at Urbana-Champaign.
- Olson, Michael L. 1981. Barai clause junctures: Toward a functional theory of inter-clausal relations. Ph.D. dissertation, Australian National University.
- Ono, Tsuyoshi, and Ryoko Suzuki. 1992. The development of a marker of speaker's attitude: The pragmatic use of the Japanese grammaticized verb *shimau* in conversation. *BLS* 18. To appear.
- Ooe, Saburoo. 1975. *Nichi-eigo no hikaku kenkyuu: shukansee o megutte*. Tokyo: Nan'undoo.
- Ota, Akira. 1971. Comparison of English and Japanese, with special reference to tense and aspect. *Working Papers in Linguistics* 3/4, 121-64. University of Hawaii.
- Palmer, Frank R. 1986. *Mood and Modality*. Cambridge: Cambridge University Press.
- Pierrehumbert, Janet, and Mary Beckman. 1988. *Japanese Tone Structure*. Cambridge, Mass.: MIT Press.
- Pollard, Carl, and Ivan A. Sag. 1987. *Information-based Syntax and Semantics*. Stanford: CSLI.
- Poser, William J. 1984. The phonetics and phonology of tone and intonation in Japanese. Ph.D. dissertation, MIT.
- Pullum, Geoffrey K. 1990. Constraints on intransitive quasi-serial verb constructions in modern colloquial English. *Working Papers in Linguistics* 39, 218-239. Department of Linguistics, Ohio State University.
- Quirk, Randolph, Sidney Greenbaum, Geoffrey Leech, and Jan Svartvik. 1985. *A Comprehensive Grammar of the English Language*. London: Longman.
- Reddy, Michael. 1979. The conduit metaphor. In A. Ortony (ed.), *Metaphor and Thought*, 284-324. Cambridge: Cambridge University Press.
- Roberts, John. 1988. Amele switch-reference and the theory of grammar. *Linguistic Inquiry* 19, 45-64.

- Rosch, Eleanor. 1975. Cognitive representations of semantic categories. *Journal of Experimental Psychology* 104, 192-233.
- Rosch, Eleanor. 1978. Principles of categorization. In E. Rosch and B. Lloyd (eds.), *Cognition and Categorization*, 27-48. Hillsdale, N.J.: Lawrence Erlbaum Associates.
- Ross, John R. 1967. Constraints on variables in syntax. Ph.D. dissertation, MIT.
- Russell, Bartland. 1917. *Mysticism and Logic*. London: Allen and Unwin.
- Sadock, Jerrold M. 1978. On testing for conversational implicature. In P. Cole (ed.), *Syntax and Semantics 9: Pragmatics*, 281-97. New York: Academic Press.
- Saeki, Tetsuo. 1975. *Gendai nihongo no gojun*. Tokyo: Kasama Shoboo.
- Saito, Mamoru. 1985. Some asymmetries in Japanese and their theoretical implications. Ph.D. dissertation, MIT.
- Sasse, Hans-Jürgen. 1987. The thematic/categorical distinction revisited. *Linguistics* 25, 511-80.
- Schank, Roger C. 1975. *Conceptual Information Processing*. Amsterdam: North-Holland.
- Schank, Roger C. 1980. Language and memory. *Cognitive Science* 4, 243-84.
- Schank, Roger C., and Robert P. Abelson. 1977. *Scripts, Plans, Goals, and Understanding*. Hillsdale, N.J.: Lawrence Erlbaum.
- Schank, Roger C., and Christopher K. Riesbeck. 1981. *Inside Computer Understanding*. New Haven: Yale University, Computer Science Dept.
- Selkirk, Elisabeth, and Koichi Tateishi. 1988. Constraints on minor phrase formation in Japanese. *CLS* 24, 316-36.
- Selkirk, Elisabeth, and Koichi Tateishi. 1991. Syntax and downstep in Japanese. In C. Georgopoulos and R. Ishikawa (eds.), *Interdisciplinary Approaches to Language: Essays in Honor of S.-Y. Kuroda*, 519-44. Dordrecht: Kluwer.
- Sekine, Yukiko. 1983. The aspectual verb system of Japanese: The *site iru* form. Ph.D. dissertation, Georgetown University.
- Sells, Peter. 1990. VP in Japanese: Evidence from *-te* complements. In H. Hoji (ed.), *Japanese and Korean Linguistics*, 319-33. Stanford: CSLI.
- Shibatani, Masayoshi. 1978. *Nihongo no bunseki*. Tokyo: Taishukan.
- Shibatani, Masayoshi, and Taro Kageyama. 1988. Word formation in a modular theory of grammar. *Language* 64, 451-84.
- Shinzato, Rumiko. 1981. A study of adverbial clauses in Japanese. *Working Papers in Linguistics* 13, 91-107. Department of Linguistics, University of Hawaii.
- Shiraishi, Daiji. 1956. *Nihon koogo bunpoo*. Tokyo: Hoosei Daigaku Shuppan.

- Shultz, Thomas R. 1982. *Rules of Causal Attribution*. Chicago: University of Chicago Press.
- Silverstein, Michael. 1976. Hierarchy of features and ergativity. In R. Dixon (ed.), *Grammatical Categories in Australian Languages*, 112-71. Canberra: Australian Institute of Aboriginal Studies.
- Skinner, Quentin. 1972. "Social meaning" and the explanation of social action. In P. Laslett, W. Runciman, and Q. Skinner (eds.), *Philosophy, Politics and Society*. New York: Barnes and Noble.
- Slubin, Dan I., and Ayhan A. Aksu. 1982. Tense, aspect, and modality in the use of the Turkish evidential. In P. Hopper (ed.), *Tense-Aspect: Between Semantics and Pragmatics*, 185-200. Amsterdam: John Benjamins.
- Smith, Donald L. 1970. A study of Japanese sentence complement constructions. Ph.D. dissertation, University of Michigan.
- Somers, Harold L. 1984. On the validity of the complement-adjunct distinction in valency grammar. *Linguistics* 22, 507-30.
- Sperber, Dan, and Deirdre Wilson. 1986. *Relevance: Communication and Cognition*. Oxford: Blackwell.
- Steinitz, Renate. 1969. *Adverbial-syntax*. *Studia Grammatica* 10. Berlin: Akademie Verlag.
- Sugioka, Yoko. 1984. Interaction of derivational morphology and syntax in Japanese and English. Ph.D. dissertation, University of Chicago.
- Suzuki, Hideo. 1976. NAKU(TE) to NAIDE to ZU(NI) no yoo hoo no idoo ni tsuite. *KRS* 13, 328-44.
- Sweetser, Eve. 1990. *From Etymology to Pragmatics: Metaphorical and Cultural Aspects of Semantic Structure*. Cambridge: Cambridge University Press.
- Takasaki, Midori. 1984. 'Nai' ni tsuite. *KRS* 21, 270-79.
- Talmy, Leonard. 1976. Semantic causative types. In M. Shibatani (ed.), *Syntax and Semantics 6: The Grammar of Causative Constructions*, 43-116. New York: Academic Press.
- Talmy, Leonard. 1978a. Figure and ground in complex sentences. In J. Greenberg (ed.), *Universals of Human Language*. Vol. 4: *Syntax*, 625-49. Stanford: Stanford University Press.
- Talmy, Leonard. 1978b. Relations between subordination and coordination. In J. Greenberg, C. Ferguson, and E. Moravcsik (eds.), *Universals of Human Language*, 487-513. Stanford: Stanford University Press.
- Takahashi, Sadao. 1984. English 'BE + verb-ing' vs. Japanese 'Verb-tei'. *KRS* 21:1, 225-39.

- Takahashi, Taroo. 1975. *Yooji-go no keetaiteki na bunseki: dooshi, keiyoooshi, jutsugo-meishi* (A morphological analysis of verbs, adjectives and predicative nouns in children's speech form 3 to 6). Tokyo: NLRI.
- Takahashi, Taroo. 1976. Sugata to mokuromi. In H. Kindaichi (ed.), *Nihongo dooshi no asupekuto*, 117-154. Tokyo: Mugi Shoboo.
- Taylor, Richard. 1967. Causation. In P. Edwards (ed.), *The Encyclopedia of Philosophy* 2, 56-66. New York: Macmillan.
- Teramura, Hideo. 1969. Katsuyoogobi, jodooshi, hojodooshi to asupekuto I. *KRS* 6, 53-61.
- Teramura, Hideo. 1984. *Nihongo no shintakusu to imi* II. Tokyo: Kuroshio Shuppan.
- Tokunaga, Misato. 1986. Affective deixis in Japanese: a case study of directional verbs. Ph.D. dissertation, University of Michigan.
- Toyoda, Toyoko. 1974. Hojo-dooshi 'YARU, KURERU, MORAU' ni tsuite. *KRS* 11, 49-58.
- Traugott, Elizabeth C. 1982. From propositional to textual and expressive meanings; some semantic-pragmatic aspects of grammaticalization. In W. Lehmann and Y. Malkiel (eds.), *In Perspectives on Historical Linguistics*, 245-71. Amsterdam: John Benjamins.
- Traugott, Elizabeth C., and Ekkehard König. 1991. The semantics-pragmatics of grammaticalization revisited. In E. Traugott and B. Heine (eds.), *Approaches to Grammaticalization*, 189-218. Amsterdam: John Benjamins.
- van Dijk, Teun A. 1977. Connectives in text grammar and text logic. In T. van Dijk and J. Petöfi (eds.), *Grammars and Descriptions*. Berlin: Walter de Gruyter.
- Van Valin, Robert D., Jr. 1984. A typology of syntactic relations in clause linkage. *BLS* 10, 542-58.
- Van Valin, Robert D., Jr. 1987. Recent developments in Role and Reference Grammar: The layered structure of the clause and juncture. *Davis Working Papers in Linguistics* 2, 1-5. Linguistics Program, University of California, Davis.
- Van Valin, Robert D., Jr. 1990. Semantic parameters of split intransitivity. *Language* 66, 221-60.
- Van Valin, Robert D., Jr. 1992. A synopsis of Role and Reference Grammar. In R. Van Valin (ed.), *Advances in Role and Reference Grammar*. Amsterdam/Philadelphia: John Benjamins. In press.
- Van Valin, Robert D., Jr., and William A. Foley. 1980. Role and Reference Grammar. In E. Moravcsik and J. Wirth (eds.), *Syntax and Semantics* 13, 329-52. New York: Academic Press.
- Van Valin, Robert D., Jr., and David P. Wilkins. 1992. The case for 'effector': Case roles, agents and agency revisited. MS. Department of Linguistics, State University of New York at Buffalo.

- Vater, Heinz. 1978. On the possibility of distinguishing between complements and adjuncts. In W. Abraham (ed.), *Valence, Semantic Case, and Grammatical Relations*, 22-45. Amsterdam: John Benjamins.
- Vendler, Zeno. 1957. Verbs and times. *Philosophical Review* 66, 143-60. Reprinted in Z. Vendler *Linguistics in Philosophy* (1967). Ithaca, New York: Cornell University Press.
- Vennemann, Theo. 1973. Explanation in syntax. In J. Kimball (ed.), *Syntax and Semantics* 2, 1-50. New York: Seminar Press.
- Watanabe, Yoshio. 1970. -SHITE IRU to no kanrei ni okeru -SHITE ARU. *KRS* 7, 98-102.
- Watters, James K. 1987. An investigation of Turkish clause linkage. *Davis Working Papers in Linguistics* 2, 130-41. Linguistics Program, University of California, Davis.
- Wetzel, Patricia J. 1984. Uchi and soto ("in-group and out-group"): Social deixis in Japanese. Ph.D. dissertation, Cornell University.
- Wetzel, Patricia J. 1985. In-group/out-group deixis: Situational variation in the verbs of giving and receiving in Japanese. In J. Forgas (ed.), *Language and Social Situations*, 141-58. New York: Springer-Verlag.
- Wilson, Deirdre. 1975. *Presupposition and Non-truth-conditional Semantics*. New York: Academic Press.
- Yamada, Takao. 1954. *Narachoo bunpoo-shi*. Tokyo: Hooburukan.
- Yoshikawa, Taketoki. 1976. Gendai nihongo dooshi no asupekuto no kenkyuu. In H. Kindaichi (ed.), *Nihongo dooshi no asupekuto*, 155-328. Tokyo: Mugi Shoboo.
- Yoshikawa, Taketoki. 1980. '-Te kara' o meguru shomondai (Some problems concerning '-te kara, —'). *KRS* 17, 69-75.
- Zwicky, Arnold M., and Jerrold M. Sadock. 1975. Ambiguity tests and how to fail them. In J. Kimball (ed.), *Syntax and Semantics* 4, 1-36. New York: Academic Press.