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Grammar and Semantics of Adnominal Clauses in Japanese

By

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Grammar and Semantics of Adnominal Clauses in Japanese

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Yoshiko Matsumoto

Abstract

One crucial but rarely emphasized characteristic of Japanese noun modification by adnominal clause (e.g. relative clauses, noun complement clauses) is that the semantic function of the head noun with respect to the predicate in the modifying clause is not explicitly indicated. Despite the difficulties that this creates for any purely syntactic or structural analysis, the role of semantics and pragmatics has received little attention.

This study focuses on the construal of Japanese adnominal clauses, and has as purpose (1) to demonstrate that a purely syntactic analysis modelled on analyses of English relative clauses cannot account for Japanese Noun-Modifying Constructions (NMCs), (2) to show that semantics and pragmatics play a crucial role in the construal of clausal NMCs in Japanese, and (3) to suggest a framework that can account for a wide range of naturally-occurring NMCs. The proposed framework involves both semantic *frames* evoked by linguistic clues given in the constructions and construers' expectations based on their *world-view*. In the proposed framework, NMCs are classified into three groups depending on which constituent functions as the *host* for the purpose of the semantic integration of the clause and the head noun. The three types are the CLAUSE HOST (CH) TYPE, the NOUN HOST (NH) TYPE, and the CLAUSE AND NOUN HOST (CNH) TYPE; these can be illustrated by the examples (1) (CH) *[[tabeta] mise]* 'ate shop', (NH) *[[tabeta] hanasi]* 'ate story', (3) (CNH) *[[tabeta] kaeri]* 'ate return' ((1) 'the shop (at which)() ate ()', (2) 'the story (that) () ate ()', (3) 'the way back (from) eating'). The CH-type includes what have usually been called "relative clauses", but also includes a wider range of examples than previous analyses have attempted to treat.

This study reveals characteristic features of Japanese that cannot be treated without reference to semantics and pragmatics; the existence of such features argues strongly for the formulation of linguistic theories in which syntax, semantics and pragmatics all have their proper place.

Robin T. Canoff

Charles J. Fillmore

For number sequence only

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Yoshiko Matsumoto

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LIST OF ABBREVIATIONS

ACC	- accusative marker	INST	- instrumental marker
COMIT	- comitative marker	LOC	- locative marker
COMP	- complementizer	NEG	- negative marker
COP	- copula	NMLZ	- nominalizer
DAT	- dative marker	NOM	- nominative marker
EMPH	- emphatic marker	OCOMP	- object of comparison
EVID	- evidential marker	QP	- question particle
GEN	- genitive marker	QT	- quotative marker
HON	- honorific marker	SFP	- sentence-final particle
IMP	- imperative marker	TOP	- topic marker

O Oral data

W Written data

W:A Written: advertisement

W:C Written: cartoon

W:F Written: fiction

W:L Written: letter

W:N Written: newspaper article

W:T Written: title (of article, book, etc.)

If not specified, examples are either elicited or modified versions of at-tested examples.

Chapter 1

Introduction

This study deals with Japanese noun modifying constructions (NMCs) in which a noun or a noun phrase is modified by an adnominal subordinate clause to form a complex noun phrase. In order to focus on modification by adnominal clauses whose main constituent is a verb, an adjective, or a noun phrase followed by a copula, I have excluded from consideration noun modification by a determiner (e.g. *kono hon* 'this book'), by another noun (e.g. *manga bon* 'comic book'), or by a noun followed by the genitive case marker *no* (with or without a case marker of the modifying noun) (e.g. *kodomo no hon* 'a child's book', *kodomo kara no tegami* 'a letter from a child'). The study of NMCs in Japanese presents problems of a very different nature than does the study of similar phenomena in English, and it is these which will constitute the focus of this study.

To orient the reader, it will be useful at the very outset to present a few general characteristics of the structure of Japanese. Japanese is a rigidly verb-final language with relatively free word order of NPs within clauses. Case relations are represented by postpositional expressions, mainly by particles (case markers), although some particles can be omitted under certain conditions. Verbs do not inflect according to person and number, yet arguments of verbs are often omitted. Modifiers precede what they modify (that is, there is left-branching); therefore an adnominal clause in Japanese precedes its head noun.¹

The two typical examples of noun-modifying constructions are what have often

been referred to as “relative clauses” and “noun complement constructions”; these can be illustrated by the examples [*watasi ga kinoo atta*] *hito* ‘the person whom I met yesterday’, and [*tikyuu ga marui*] *zizitu* ‘the fact that the earth is round’. Clausal noun-modifying constructions in Japanese of the form just illustrated can correspond to various forms of clausal noun modification in English; namely, modification by a finite, infinitival, or participial clause. Thus, the expressions *the book which the student bought*, *things to do*, *the result of skipping breakfast*, and *burnt toast* correspond in Japanese to the single form of construction, i.e. to a head noun modified by a clause in finite form.² It is this single construction in Japanese which is the subject of the present study.

Noun modification by a clause has been one of the central issues in linguistic research on account of the complex structure constituted by a clause and a noun which unite to form a noun phrase. Linguists of different disciplines — structuralists, generative (transformational) grammarians and their descendents, typologists, and others — have made a great variety of claims about the formation and characteristics of the type of noun-modifying construction that is the focus of this study. This fact alone would qualify noun modification as being well worth studying. More importantly, however, the clausal noun-modifying construction affords an insight into the characteristic features of Japanese, while providing a convincing illustration of the inter-dependence of syntax, semantics, and pragmatics.

The examination of naturally-occurring noun-modifying constructions in Japanese demonstrates, as we will see in the following pages, that the construal and the generation of Japanese noun-modifying constructions are controlled by a fundamentally different principle from that usually proposed for English and many other languages. The category “relative clause construction” in English, for example, is a *syntactically* defined structure, characterized by the existence of a reference-binding relationship between the head noun and either a relative pronoun or (in relative clauses without relative pronouns) a syntactic gap in the modifying clause. Within relative clauses

introduced by relative pronouns (or relative-pronoun-phrases, such as *with whose friends*) the remnant of the clause following the relative expression can always be seen as having an unfilled position which could be filled by an expression of the category represented by the relative expression. Thus, for example, in the noun phrase *the book the student bought*, the semantic relationship of the head noun to the relative clause *the student bought* is strictly determined by the syntax of the relative clause. The structure of relative clauses contrasts with that of noun complement clauses, which present no gap, as in *the fact that the student bought the book*.

In Japanese, there is no such syntactic dichotomy between the two constructions. The first, and most telling, reason for this is that, as briefly mentioned at the beginning of this chapter, there is no rule in Japanese requiring all the arguments of a verbal to be present in a sentence; there may, therefore, be missing arguments even in a non-relative sentence. For example, *katta* '() bought ()' can be a grammatical sentence, even though no arguments are present, if the buyer and the goods are understood from the prior linguistic or extra-linguistic context. Hence, unlike English, the apparent "absence" of an "expected" argument tells us nothing about whether the clause is a main clause or a relative clause or a noun complement clause. The second reason for the lack of any clear-cut syntactic dichotomy in Japanese between relative clauses and noun complements is the existence of constructions that do not correspond either to relative or to noun complement clauses in English. These two points, which will be discussed along with others in the following chapters, together form the basis for the perspective taken in this study of Japanese noun-modifying constructions, which differs significantly from that of previous analyses, and especially from purely syntactic accounts.

To describe the perspective of this study, let us first briefly examine two straightforward examples of noun-modifying constructions, (1a) and (2a), which are the kind usually referred to as relative clause constructions. In both examples, the (b)-sentences give a non-relative paraphrase of the complex noun phrase (a).

- 1a) [[hon o katta] gakusei] wa doko desu ka.
 book ACC bought student TOP where is QP
 'Where is the student (who) bought a book?'
- 1b) *Gakusei ga hon o katta.*
 student NOM book ACC bought
 'A student bought a book.'
- 2a) [[gakusei ga katta] hon] wa doko desu ka.
 student NOM bought book TOP where is QP
 'Where is the book (which) a student bought?'
- 2b) *Gakusei ga hon o katta.*
 student NOM book ACC bought
 'A student bought a book.'

These examples exhibit three salient characteristics of Japanese "relative clause" constructions. First, the modifying, or relative, clause precedes the head noun (*gakusei* in (1a), *hon* in (2a)) – a common characteristic of verb-final languages (Andrews 1975, Keenan 1985, etc.). Secondly, the relativized position is not marked. Moreover, the semantic relationship between the head noun and its relative clause is not lexically or morphologically specified. The head nouns in (1a) and (2a), *gakusei* and *hon*, while holding different grammatical roles with respect to the predicates of the relative clauses, are not themselves marked differently, nor are there different markings on the verbs in the relative clauses. Thus, there is no relative pronoun, and the nominative case marker present in the non-relative paraphrase (1b), does not appear in the relative construction (1a). Thirdly, the verb in the modifying clause is in finite form, which, according to Keenan (1985), is exceptional among languages with prenominal relatives.

The above phenomenon — the absence of any marking of the head noun to reflect its grammatical/semantic role in the relative clause — holds true not only for subject and direct object. This is illustrated in (3 - 10).

- 3a) [[Taroo ga hon o kasits] hito]
 Taroo NOM book ACC lent person
 'the person (to whom) Taroo lent a book'
- 3b) Taroo ga sono hito ni hon o kasita
 NOM that person DAT book ACC lent
 'Taroo lent a book to that person.'
- 4a) [[Mari ga sunde-iru] uti]
 Mari NOM living-is house
 'the house (in which) Mari lives'
- 4b) Mari ga sono uti ni sunde-iru.
 NOM that house LOC lives
 'Mari lives in that house.'
- 5a) [[Taroo ga kaisya e iku] kuruma]
 Taroo NOM company GOAL go car
 'The car (which) Taroo goes to (his) company (in)'
- 5b) Taroo ga kuruma de kaisya e iku.
 Taroo NOM car INSTR company GOAL go
 'Taroo goes to (his) company in the car.'
- 6a) [[paatii ga atta] heya]
 party NOM was room
 'the room (in which) the party was (held)'
- 6b) Sono heya de paati ga atta.
 that room LOC party NOM was
 'The party was held in that room.'
- 7a) [[hannin ga kane o nusunda] ginkoo]
 criminal NOM money ACC stole bank
 'the bank (from which) the criminal stole money'

- 7b) Hannin ga *ginkoo kara* kane o nusunda.
 criminal NOM bank ABL(from) money ACC stole
 'The criminal stole money from the bank.'
- 8a) [[Taroo ga toosareta] heya]
 Taroo NOM was ushered room
 'the room (into which) Taroo was ushered'
- 8b) Taroo ga sono *heya e* toosareta.
 NOM that room GOAL was ushered
 'Taroo was ushered into that room.'
- 9a) [[Taroo ga kekkonsita] tomodati]
 Taroo NOM married friend
 'the friend (to whom) Taroo married'
- 9b) Taroo ga sono *tomodati to* kekkonsita.
 NOM that friend COMMIT married
 'Taroo married to that friend.'
- 10a) [[otooto ga byookidearu] Tanaka-san
 younger brother NOM is sick Mr. Tanaka
 'Mr. Tanaka (whose) younger brother is sick'
- 10b) *Tanaka-san no* ootoo ga byookidearu.
 GEN younger brother NOM is sick
 'Mr. Tanaka's younger brother is sick.'

Despite the absence of an overt marking of the semantic role of the head noun with respect to the predicate in the modifying clause, as well as the fact that there is not necessarily a missing argument that is syntactically linked with the head noun, many of the analyses of Japanese relative clauses that will be discussed in Chapter 2 are modelled on the syntactic analysis of English relative clauses. These analyses

try to explain the construction in terms of a syntactic “gap” in the modifying clause which is bound with the head noun. There are many problems with such an analysis. One very obvious difficulty is that the same construction may carry different meanings according to the context.

- 11) [[hon o katta] gakusei]
 book ACC bought student
- 11a) ‘the student (who) bought a book’
 11b) ‘the student (for whom)() bought a book’
 11c) ‘the student (from whom)() bought a book’

(11) is the same complex NP as in (1a). However, in addition to the interpretation given in (1a, b), and repeated as (11a), those of (11b) and (11c) may also be chosen, depending on the context. The influence of context and of other factors that can affect the choice of interpretation is discussed in sections 3.1 and 4.1. One conclusion we may draw, however, is that the syntax in and of itself does not explain context-dependent variation in interpretation.

Even more problematic for a purely syntactic or structural analysis are constructions such as (12).

- 12a) [[atama ga yokunaru] hon]³
 head NOM gets better book
 ‘the book (by reading which) your head gets better’

(W:T)

- 12b) kono hon o yomeba atama ga yokunaru.
 this book ACC if one reads head NOM gets better
 ‘If one reads this book, one’s head will get better.’

In (12a), unlike in the (a)-examples of (1) - (10), the head noun cannot be linked to an argument or even, in the usual sense, an adjunct of the predicate of

the modifying clause, nor can a corresponding non-relative constructions be given simply by assigning a case marker to the head noun and “re-inserting” into the clause.

In spite of the great number of attested noun-modifying constructions similar to (12a), such examples have received virtually no attention in previous analyses. Exceptions to this inattention are Mikami (1963) and Teramura (1976). Mikami mentions (12a) as an example in which the relationship between the head noun and the modifying clause is particularly complicated (1963:106); Teramura provides the paraphrase given here as (12b), with a brief discussion of this and several similar examples. He does not propose an analysis for the construction other than to describe the examples as “truncated” (*tanraku*), in that they are formed by the deletion of not only a case marker but also other linguistic elements when a noun in a sentence “moves out” (*tensyutu-suru*) to be a head noun (1976:34-35, 75-78).

The paraphrase (12b) provided for (12a) is not the only one imaginable, and it would not be possible to analyze (12a) simply in terms of the deletion of certain lexical items. In terms of construal, what is recoverable from (12a) is not deleted *words* but the more abstract notion that the relation between the clause and the head noun is that of consequence and condition. This and other examples are discussed in detail in sections 3.1 and 4.2, where it is argued that the principles governing examples such as (12a) provide insights into the role of semantics and pragmatics in the construal of examples such as (1a) - (10a). The relevance of examples such as (12a) to the analysis of (1a)-(10a) is illustrated by the following.

13a) [[atama ga yokunaru] hon]
head NOM gets better book
‘the book (by reading which) your head gets better’

13b) [[atama ga yokunaru] kodomo]
head NOM gets better child
‘the child (whose) head gets better’

- 13c) [[atama ga yokunaru] saiminzyutusi]
 head NOM gets better hypnotist
 ‘the hypnotist (by seeing whom)(one’s) head gets better’ OR
 ‘the hypnotist (whose) head gets better’
- 13d) ?? [[atama ga yokunaru] kuruma]⁴
 head NOM gets better car
 ?? ‘the car (by driving which) (one’s) head gets better’

The different interpretations given in (13a) - (13d) are the result of the different semantic knowledge and pragmatic expectations associated with each of the head nouns.

The constituent structure of the constructions that we have considered above, which will constitute the focus of this study, consists of a clause preceding a noun. Underlying the interpretation of these constructions is the assumption that the clause and noun are in some way relevant to each other; the hearer’s task is to discover the connection. In Japanese, unlike in English, the connection is not determined by the structure, but, rather, relies on a semantic and pragmatic understanding of the noun and clause. Given a semantic description of the head noun and of the elements of the modifying clause, the choice of the most likely or “natural” connection between the clause and noun depends on pragmatic expectations which form the “world-view” of the interlocutors. The degree of elaboration in the part of the world-view that must be shared by the interlocutors in order for the communication to succeed varies from little more than a common understanding of the semantic content of the lexical items to a detailed set of shared expectations. In all cases, however, semantic/pragmatic acceptability is a requirement for successful understanding of the construction, to a much greater extent than is the case in English.

The semantic and pragmatic dependence in these constructions is most evident when they are considered in terms of construal rather than of generation. For this reason, most of the discussion will center on how the head noun and modifying

clause can be integrated semantically in the construal process.

What the study will point to is the need for a theory of grammar that unites syntax, semantics, and pragmatics, and which can accurately predict the acceptability and the interpretation of sentences. This study, though it will not attempt to formulate such a general theory, will provide considerable evidence of the need for such a theory, at least for languages such as Japanese, and will propose a working framework (in 3.2) for treating a wide variety of noun-modifying constructions in a manner that embraces semantics and pragmatics.

The working framework developed to treat examples like (1a)- (13a) can encompass a larger variety of noun modification by adnominal clauses, including noun complement constructions and certain relational clauses, all of which share the same constituent structure. These include constructions such as the following.

- 14) 1960 wa [[Taroo ga Tookyoo e kita]
 TOP NOM Tokyo GOAL came

 yokunen] dearu.
 next-year is

‘1960 is the year after Taroo came to Tokyo.’

- 15) [[tabako o katta] oturi] ga aru.
 cigarettes ACC bought change NOM exists
 ‘There is the change from buying cigarettes.’

- 16) [[sakana o yaku] nioi] ga suru.
 fish ACC grill smell NOM there is
 ‘There is a smell of fish grilling.’

- 17) [[*ippan no simin ga husyoo-sita*] *zizitu*] *ga aru.*
general GEN citizen NOM were injured fact NOM exists
'There is the fact that ordinary people were injured.'

Constructions of these kinds will be analyzed in Chapter 5 in the light of the framework being proposed.

Most of the examples of noun-modifying constructions cited in this study are naturally-occurring, and were collected from fictional and non-fictional writing, from columns, feature articles, titles, advertisements and letters in newspapers, from personal letters, narratives and colloquial speech;⁵ examples constructed by introspection are also included.

As this study concentrates on the fundamental question of construal, some other interesting aspects of noun modification are either relegated to future studies or play a subordinate role in this study. For example, constructions with "formalized" headnouns (e.g. *tame* 'for the purpose of', *yoo* 'in the manner of'), in which the entire complex NP tends to behave as an adverbial clause within the main clause, will not be covered here. (Martin 1975 and Teramura 1978 provide a valuable overview of this issue.) Another topic not treated here in detail is that of the discourse function of modifying clauses with respect to the main clause.⁶ This point relates to the important questions of why adnominal rather than other constructions are chosen in the first place,⁷ and of the distinction between restrictive and non-restrictive relative clauses.⁸ It is hoped, however, that a study of noun-modifying constructions from a new perspective like the one offered in this study will aid in future analyses of such questions.

1. For more characteristics of the Japanese language, see Kuno (1973); for a detailed description of the language, see Martin (1975).
2. This is true of modern (colloquial) Japanese, with one exception: when the predicate in the modifying clause is an “adjectival noun” or a noun + copula in the non-past form, these assume an “adnominal” form in NMCs. In literary language reminiscent of classical Japanese, other adnominal forms can occur. (For details, see Martin 1975.)
3. (12a) was originally *atama no yokunaru hon*, in which *no* is used instead of the regular nominative marker *ga*. This phrase was first mentioned, to my knowledge, by Mikami (1963). Replacement of *ga* with *no* is often possible, especially in relative clauses. (For a more detailed discussion, see Martin (1975: 659-664). For discussion in terms of a transformational rule, see Inoue (1976: 227-233)).
4. The grammaticality judgments of constructions are indicated throughout this study by the symbols ?, ??, and *, specifying an increasing degree of unacceptability. The symbol % is used to indicate that the judgment varies among speakers.
5. Martin (1975), Teramura (1975-78) and Takahashi (1979) also provide helpful collections of data.
6. Some of the constructions that I have discussed elsewhere (Matsumoto 1986b) in this regard are:

- i) [[hi no kure ni tikai] Maruzen
 day GEN dusk TIME near
- no nikai] ni wa ...
 GEN second floor LOC TOP

(lit.) ‘On the second floor of Maruzen, which was close to dusk’
 (= ‘On the second floor of Maruzen, with dusk approaching ...’)

(W:F; cited by Teramura 1976)

- ii) [[kimoti ga omoi] sekihan] o tabete-iru to ...
 feeling NOM heavy festive rice ACC is eating when
- (lit.) ‘when (I) am eating the festive rice (which) the feeling is heavy ...’
 (= ‘when (I) am eating the festive rice depressedly ...’)

(W:F; cited by Teramura 1976)

In (i), a temporal setting is given by a clause which appears to modify a noun phrase in the same way that a relative clause modifies a head noun. On the surface, the modifying clause modifies the NP that follows it; semantically, however, it qualifies the whole sentence. The effect of this juxtaposition of the NP and the modifying clause expressing the temporal setting is to create the psychological impression that what is specified in the clause is a particular aspect of the referent NP.

Although the structure of (ii) is identical to what would be considered an ordinary relative construction, the clause seems not to modify semantically the succeeding noun, but modifies the implicit subject of the verb. In other words, what or who is depressed is not the festive rice but the person eating it. What is expressed in the clause is a feeling held by someone towards the referent of the succeeding noun phrase. For comparison, we might think of the expression in English *He lit a thoughtful cigarette*. See Langendoen (1970) and Thompson (1971) for related questions in English.

7. Inoue et al. (1985) conjecture that that relative clause construction is useful in “packaging” a message into a short space, so as not to distract attention in the main part of the sentence. Their analysis also agrees with my own observations that clausal noun modification is especially common in broadcast news, on dust-jackets of books, etc., where information has to be condensed and the most crucial part highlighted. I have suggested (in Matsumoto 1986b) that this characteristic can be exploited to include, surreptitiously, even important (and new) information in a modifying clause, which is reminiscent of a function of the *it*-cleft discussed by Prince (1978).
8. For a description of the difference between restrictive and non-restrictive use of relative clauses, see Inoue (1976: 164-168). Okutsu (1974: 73-73) emphasizes the common properties of restrictive and non-restrictive relative clauses, a point with which I am in agreement.

Chapter 2

Background of the Study

As an overview, it is probably fair to describe the (modern) studies of adnominal clauses in Japanese as belonging to either of two major groups. One group consists of the syntactic studies inspired by generative (transformational) grammar. The other group is comprised of those who emphasize description and the classification of constructions into types and sub-types. The studies included in the latter group have as a goal to classify a wide spectrum of naturally-occurring noun-modifying constructions (*rentai syuusyoku*). The studies of syntacticians, on the other hand, aim at describing syntactic rules which, within the framework of the particular grammatical theory being espoused, are sufficient to generate the relative clauses or noun complement clauses being considered. In this group, I include also functional syntactic accounts of relative clauses. These have mainly been in the spirit of syntactic theories, though in some respects they come close to the semantic and pragmatic analysis expounded in this study.

Despite the fundamental differences in the approach of these two groups of studies, they both seem to share the opinion that the type of noun-modifying constructions often referred to as relative clauses can be analyzed adequately in structural terms. For syntactic theories, this is described in terms of a “relativization” transformation, which is a syntactic operation determined either by a movement rule or by a deletion rule. The descriptive studies generally assume a (purely) structural explanation, which is expressed either by saying that a noun is “extracted” from

a sentence to become the head noun, which is modified by the rest of the clause (or sentence), or, from a slightly different viewpoint, that the head noun of the construction can, with an appropriate case marker, fit into the modifying clause to compose a sentence. An exception to the general approach of descriptive studies is Takahashi (1979), which is a descriptivist work couched in purely semantic terms.¹

In these studies, semantics and pragmatics have not usually been treated as playing an important role, except for the limited sense in which discourse factors are involved in the parallelism, claimed in functional syntax, between relativization and thematization. My analysis departs from both the syntactic and the descriptive approaches in two respects. One is that I do not assume that a complex noun phrase, in which the clause modifies the head noun, is the result of a transformation (in a syntactic sense or otherwise). The second point of difference is that semantics and pragmatics play a crucial role in my account of "relative clause" constructions. My approach will be described in detail in the following chapters. In this chapter I will survey previous analyses with special emphasis on accounts of "relative clauses", since previous treatments of these constructions contrast most sharply with the account I will present in this study. The treatment of other types of clausal noun-modifying constructions will also be touched upon when relevant, but not extensively.

2.1 Syntactic Studies

2.1.1 Transformational Grammar based Accounts

Relative clauses have been studied extensively in the framework of transformational grammar, and have had a deep impact on Japanese linguists' studies of Japanese relative clauses.² In the generative transformational framework, Japanese relative clauses are most often analyzed in terms of coreference between the target and the head noun, with the target, along with its case marker undergoing deletion in the embedded sentence (Nakau 1971, Okutsu 1974, Inoue 1976, Shibatani 1978). The

main reason put forward for the adoption of the deletion hypothesis is that Japanese does not obey island constraints, posited by Ross (1967), which were originally proposed and have been considered as constraints on movement rules,³ and no trace of movement (such as a relative pronoun) is found (cf. Nakau 1971). Among these transformational studies, Inoue (1976) gives the most extensive survey, referring to a wide spectrum of complex noun phrases. She also treats the typological question of the accessibility of different cases with regard to relativization. Her modification of Keenan and Comrie's (1977)⁴ accessibility hierarchy is:

Subject \geq Dir. Object \geq Ind. Obj. \geq Locative *ni* \geq Loc. *o* \geq Goal *ni*
 or *e* \geq Loc. *de* \geq Instrument *de* \geq Standard *de* \geq Ablative \geq Gen. \geq
 Source \geq Comitative \geq Reason \geq OComp. (1976:187)

Okutsu (1974), in a similar vein, examined the question of which sorts of Noun + Case-marker can be deleted under coreference with the head noun. Neither Inoue nor Okutsu, however, made clear how the deletion transformation on the target noun and the hierarchy of cases interact. It is interesting to note that their studies focus on the deletability of an NP according to its case marker, rather than according to whether it is an argument or an adjunct of the predicate in the modifying clause.

Relative clauses have been treated mainly in terms of a deletion transformation of some sort, but recently some linguists working within the framework of the Government and Binding theory have started to postulate relativization as a movement rule (Hasegawa 1981, Saito 1985, Kuroda 1986). They treat relativization as involving NP-movement, rather than a WH-movement, as postulated for English relative clause formation, and they follow Kuno in relating relativization to topicalization, which is also considered as the result of a Move-NP transformation. There has been, to my knowledge, no extensive work on relativization under this movement hypothesis, and the proposed analyses in the above-mentioned literature do not present a uniform treatment. For this reason, I will not at this stage elaborate on the movement hypothesis on relativization, but will proceed to offer an overview of Kuno's

hypothesis on the linking of relativization and thematization.

2.1.2 Functional Syntax Accounts

A theoretical framework for the apparent connection between relativization and thematization was advocated by Kuno (1973),⁵ who argues that relativization involves theme⁶ deletion rather than just the deletion of a coreferential NP; more specifically, in the strong version of his theory, what is relativized in a relative clause is a thematic NP (i.e. NP + topic marker *wa*), not just NP + case marker (with or without *wa*) (1973:Ch.21). This claim is supported by four points of parallelism between relativization and thematization: (1) the deletability of case-particles — the topic marker *wa* can replace a case marker rather than being adjoined to it, and this property of deletion of particles is shared by relatives; (2) both constructions allow resumptive pronouns in certain circumstances (circumstances that Kuno admits are difficult to define); (3) both constructions can involve elements in adverbial clauses, complex noun phrases, and sentential subjects; (4) some of the topic constructions for which there are no corresponding topic-less sentences have corresponding relative clauses.

Kuno, on the basis of the parallelism given above, proposes the following derivations for relative clause constructions (Kuno 1973a, 1973b).

11a) Deep Structure

[*sono hon wa* [Taroo ga *sono hon o yonda*]_S]_S hon⁷
that book TOP NOM that book OBJ read book

11b) Obligatory deletion of the embedded noun under identity.

(topic-copy deletion)

[*sono hon wa* [Taroo ga \emptyset yonda]_S] hon⁸

11c) Relativization (Theme deletion)

[\emptyset Taroo ga yonda] hon

If there is no coreferential noun in the embedded clause, then only theme deletion applies.

12a) Deep Structure

[*buturigaku wa syuusyoku ga taihen da*] buturigaku
physics TOP employment NOM difficult COP physics

12b) Obligatory deletion of the embedded noun under identity

(topic-copy deletion)

Not Applicable

12c) Relativization (Theme deletion)

[\emptyset *syuusyoku ga taihen na*] buturigaku

Commenting on Kuno's hypothesis, McCawley (1976(1972)) argues that the observed parallelism between topicalization and relativization "merely reflects some constraint on deletability of case markers that has nothing directly to do with *wa* ..." A strong counterexample to Kuno's account would be, he claims, a case where an NP could be relativized but could not be topicalized with or without deletion of the case marker.⁹

Muraki (1970) offers two types of counter-examples to Kuno's hypothesis: (1) instances in which case markers can be deleted upon thematization, but in which relativization is not possible; (2) instances in which relativization is possible, but in which case markers cannot be deleted upon thematization. An example of the first of these is:

14a) *Amerika wa kariforunia ni itta*
America TOP California LOC went
'Speaking of America, (I) went to California'

14b) * [*Kariforunia ni itta*][*amerika*]
'America (as for which I) went to California'

Kuno (1973) argues that the unacceptability of (14b) “seems to be due, not to any syntactic reason, but to a semantic reason,” (Ibid: 256) and states that (14b) would be acceptable in the context of a list of countries and places visited. Such examples, he states, occur when the clause is non-restrictive, and when the head noun is either a proper noun or a generic NP. McCawley (1976) further argues this point, distinguishing between “range topic” and “instance topic” to account for this sort of counter-example to Kuno’s theory. I will not elaborate on these discussions now, but will return to them briefly in 4.2.

Muraki’s second type of counterexample to Kuno’s hypothesis — that is, his examples in which relativization is possible in situations where case markers cannot be deleted on thematization, mainly involve *de* (in some of its functions) and the dative *ni*. Two examples are (15) and (16).

- 15a) Sono naihū ?*de* / *∅ wa Hanako ga Taroo o sasita
 that knife INSTR TOP NOM ACC stabbed
 ‘Hanako stabbed Taroo with that knife.’
- 15b) [Hanako-ga Taroo-o sasita][naihū]
 ‘the knife (with which) Hanako stabbed Taroo’
- 16a) Sono isya ni/*∅ wa Taroo ga Ziroo o syookaisita
 that doctor DAT TOP NOM ACC introduced
 ‘Taroo introduced Ziroo to that doctor.’
- 16b) [Taroo ga Ziroo o syookaisita][isyā]
 ‘The doctor (to whom) Taroo introduced Ziroo’

In fact, the thematic *wa* in (15a), even with *de*, would sound a little odd unless there were a context that made a contrastive expression necessary. Indeed, acceptability judgments of thematic sentences seem to vary considerably among speakers. Nonetheless, Muraki’s observation casts doubt on Kuno’s analysis and, together with the arguments of McCawley and others, points to the conclusion that topic

and relative constructions, while they share some notable characteristics, cannot be accounted for by a single principle.

Akatsuka (1979), taking a different point of view, adds conditions to Kuno's hypothesis. She argues that the parallels that Kuno (1973) observed between *wa* thematization and relativization in Japanese can be accounted for in terms of the recoverability of the missing postpositional phrases, and she draws supporting examples from Old English, Basque (based on deRijk, 1972) and Korean (based on Tagashira, 1972) as well as from Japanese. She claims that the deletion posited by Kuno for both of these rules is not applicable in either case if the postposition attached to the target NP is complex (e.g. *no tame ni* 'for, because of, for the sake of' or *ni mukatte* 'towards'). This, she explains, is a consequence of the fact that there is no way to recover the semantic role of the original phrase after it has undergone deletion.

Akatsuka's arguments, though interesting, leave some unsolved problems. First, she claims that complex postpositions undergo neither relativization nor thematization or clefting. This observation, however, is open to challenge because of attested grammatical examples such as *zibun-ga hara-o itameta musume* 'the daughter (for the sake of (whom)) I hurt my womb,' *zimuin-ga zisatsu-sita keiri* 'the accounting procedure ((because of) which) the clerk committed suicide' (mentioned in Teramura (1976). In paraphrases of these, the head nouns would take the complex postposition *no tame ni* 'for the sake of' 'because of.' The judgment of whether or not it would be acceptable to make the head noun in the above examples into the theme may differ among speakers, but clefting seems unproblematical. These examples contradict Akatsuka's recoverability criterion. She states (though without giving evidence) that "I believe that 'complex postpositions' are simply syntactic reflections of internal semantic complexities. That is, even if there is an SOV language in which 'towards' is lexically materialized as a 'simple' postposition, the relativization of 'toward NP' in this language will be just as unacceptable as in the

above three languages.” (Ibid. p.47.) This is not likely to be true, as is evidenced by the relativizability of NP-*e*, where *e* is a simple postposition in Japanese meaning ‘towards.’ Thirdly, it is not clear how Muraki’s (1970) counterexamples to Kuno’s hypothesis can be explained by her proposal.

Kuno (1976) extended his 1973 hypothesis to a more general principle which can also account for phenomena in English. He posited a constraint on relativization, which was actually the basic underlying hypothesis for his earlier proposal. He claimed his constraint to be indisputable, and to be independent of the correctness or otherwise of his earlier syntactic analysis.¹⁰ The constraint he introduced is “The Thematic Constraint on Relative Clauses”, and states that “a relative clause must be *a statement about its head noun*.” (Ibid, 420).¹¹ Kuno states his belief that many syntactic phenomena are controlled by non-syntactic factors, and that semantic explanations from the functional point of view should be sought for the syntactic facts that are probably superficial and “almost correct” manifestations of non-syntactic factors (Ibid: 438). In Kuno (1987), Kuno maintains his view on relativization that “only a constituent that qualifies as the topic of a relative clause can be relativized” (Ibid: 14). He claims that, if the remainder of a clause does not qualify as “an attribute (i.e., as a comment)” of the theme, then neither such a thematic sentence nor a corresponding relative construction is acceptable (Ibid: 15).

Kuno’s hypothesis within functional syntax has advantages over purely syntactic accounts. One is that it can explain the existence of relative constructions which have no corresponding themeless sentences, i.e. whose head noun, in a non-relative paraphrase, must be marked by the topic marker *wa*.¹² Another advantage over generative-grammar-based accounts is that it more easily accommodates the non-uniform relativizability of nouns in terms of the cases that they hold.

It is certainly intuitive and attractive to attempt to explain two linguistic phenomena under one principle, as Kuno proposes. His proposal, however, is not free

of problems, of which the following four points that should be noted.

One problem with Kuno's hypothesis is the well-known counter-examples to the strict parallelism between topicalization and relativization such as those pointed out by Muraki (1970), which, as Kuno admitted, make the strong version of his hypothesis difficult to maintain (Kuno 1973:259).

Another problem is that the notion of "topic", which is not clearly defined in his hypothesis, is not yet well understood. It is not, therefore, an ideal candidate as a base for the analysis of another construction. For instance, it is not clear whether all occurrences of NP + *wa* can be assumed to be thematic NP's in Kuno's sense.¹³ Among the examples that Kuno provides of thematic sentences without non-thematic counterparts, there is a sentence (originally from Mikami 1960) which does not allow relativization either as a restrictive or as a non-restrictive relative clause; this seems to contradict Kuno's hypothesis (1973:253).

17a) *sinbun o yomitai hito wa, koko ni arimasu*
newspaper ACC read-want people TOP here LOC exist
'Speaking of those who want to read newspapers, they(=newspapers)
are here.'

17b) * [*koko ni aru*] [*sinbun c yomitai hito*] ¹⁴

In (17a) the NP-*wa* functions as a vocative. The unacceptability of (17b) raises the question of whether one can always identify NP + *wa* as a theme, or whether there is a finer subdivision of topics than that proposed by McCawley, in which a certain kind of topic does not allow relativization.¹⁵

Thirdly, topicalization and relativization cannot be identical in function. Relative Clauses represent attributive modification, and qualify (or restrict) the meaning of the head noun,¹⁶ by a presumably presupposed state of affairs,¹⁷ while topic constructions are predicative modification, in which the topic is followed by a non-presupposed comment.

The last point to mention is about the range of constructions treated by Kuno. In Kuno (1976), he analyzes Ross' constraints on the basis of his thematic constraint, but he refers only to relative clause constructions, and not to noun complements which are included in Ross' account. Since Kuno does not base his analysis on the deletion of a target NP under identity, there is the possibility to extend his hypothesis to include noun complements. He does not, however, provide a comparison between themes and noun complement constructions.

The above are four points of difficulty that Kuno's theory raises. Thematization and relativization obviously share some characteristics, which involve, as I see it, the fact that both require inferences to be made on the semantic relationship between a noun and the rest of the construction, since there is no structural indication of the grammatical relationship.¹⁸ This alone, however, does not guarantee that the two constructions can be explained by one principle. My approach could be said to pursue the spirit of Kuno's proposals, in that non-syntactic factors are viewed as controlling syntactic phenomena. The present study takes the position that, although what is expressed in the relative clause is interpreted as *about* the referent expressed by the head noun, it is too early to decide that the topic and relative clause constructions can be explained by one principle. This study will, therefore, concentrate on clarifying the grammar of noun modification by adnominal clauses in Japanese, rather than on comparing them with topic constructions.

2.2 Descriptive Approach

Teramura's work on noun modification (1970, 1975-78, 1980) has little reference to current developments in syntactic theories in the U.S., or to the possible theoretical implications of his study, yet it shows considerable theoretical influence from pre- or non-generative grammarians and from works by traditional Japanese linguists, such as Sakuma, Tokieda, Watanabe, and, especially, Mikami. Teramura emphasizes the need to be aware of characteristics of Japanese that are not in conformity with

frameworks developed to treat European languages.

Teramura (1975-78) develops an analysis in which the relations that hold between the “base noun” (i.e. head noun) and the modifying clause are classified into two major types: *uti no kankei*, “inner relationship” and *soto no kankei*, “outer relationship”. The main difference between the two types is that a construction with an inner relationship is such that the base noun and the modifying clause would compose a sentence, which they would not in the case of an outer relationship, where, instead, the clause supplements the content of the meaning designated by the base noun. A minimal pair of the two types is (a: inner relationship) [*sakana-o yaku*][*otoko*] ‘a man who bakes a fish,’(lit.) ‘fish baking man’; (b: outer relationship) [*sakana-o yaku*][*nioi*] ‘the smell of baking fish’, ‘(lit.) fish baking smell.’ Teramura states further that the existence condition for constructions exhibiting an inner relationship is solely structural, and that such constructions are comparable with the relative clause construction in English. In contrast, he claims that the outer relationship requires a semantically special type of base noun. As I mentioned earlier, I do not share his opinion that NMCs should be divided into purely structurally-controlled and semantically sensitive types.

Teramura suggests sub-types of the “outer relationship” -type, based on structural and semantic features of those constructions. They are constructions expressing (1) content of speech or thought, (2) *koto* (abstract events or objects) (3) content of general and abstract actions, events, or states, (4) content of cognition, and (5) relational concepts. These should be compared with my classifications given in Chapter 5.

The above is a summary of the main argument that runs through his series of articles on noun modification, but it should be noted that Teramura admits, though does not discuss, that the distinction between the inner and outer relationship is not clear-cut, and that there are “truncated” constructions, such as [*atama-no yoku naru*][*hon*]¹⁹ ‘the book (by reading which)(one’s) head gets better’, that cannot be

classified into either category (Teramura, in fact, treats them as “truncated” inner relationship cases). As we will see in the following chapters, these “truncated” types provide insights into noun modification in general.

Martin (1975), in his chapter on “Adnominalizations”, classifies nouns that become *epithemes* (i.e. head nouns) into two major groups: those that are “extruded” from the sentence, and those that are “intruded”, which he names post-adnominals. In regard to the first group (similar to relative clauses, and to Teramura’s inner relationship type), he states that “a noun phrase referring to the time (when), the place (where), the agent (who or by whom), the object (that or which is affected), the beneficiary (for whom), the reciprocal (with/against whom), the instrumental (with which), the ablative (from what/whom), etc., is *pulled out* to be embedded as an adjunct to a new predicate” (1975: 619)(Emphasis added). He provides naturally occurring examples of extruded adnominalizations, classified according to the cases that the “epithematized” nouns take.

Epithemes that are “intruded”, i.e. that “come from outside the adnominalized sentence” are classified into three sub-types: summational (or synoptic), resultative (or creational) and transitional (or relational, or conjunctive). The summational epithemes, according to Martin, refer to a situation, a fact, a report, an experience, a similarity, a hope, a thought, a sense, etc., and the situation or fact (etc.) is elaborated in the adnominalized sentence. The resultative epithemes refer to a resultant thing or state, a product, a percept, etc., and the adnominalized sentence is the creative (or perceptive) process from which the result stems. A transitional epitheme refers to relative time or place, to a cause or reason, a purpose, or a degree, etc. These three sub-types occupy more-or-less the domain of Teramura’s *soto no kankei* (outer relationship) type, and will be discussed in Chapter 5.

As mentioned earlier, one shortcoming shared by both Martin’s and Teramura’s studies is that their treatments of extruded or inner-relationship type (which correspond to what are often called relative clause constructions) are structural, in

contrast to their semantic treatment of the other types. This is in accord with both traditional and current analyses of relative clauses. For Teramura, relativizability of a noun is determined by its case marking. This approach has the advantage of allowing the hierarchy of noun relativizability according to case, but leaves unexplained some constructions, such as the “truncated” example [*atama-no yoku naru*][*hon*] ‘the book (by reading which)(one’s) head gets better’, mentioned earlier, in which more than a case marker has been deleted. Teramura mentions these as problematical examples, and they figure prominently in the present study.

Notes to Chapter 2

1. Takahashi (1979) rejects all structural considerations, and classifies NMCs by how “the verb phrase” (i.e. the modifying clause) relates to the (head) noun. He gives five major relations: (1) *kankei-zuke no kakawari* (connection of relating), (2) *zokusei-zuke no kakawari* (connection of attribution), (3) *naiyoo-zuke no kakawari* (connection of giving content), (4) *tokusyuka no kakawari* (connection of specializing), and (5) *gutaika no kakawari* (connection of materializing). According to his examples, those in (1) have a “relation to the verb phrase” of the sort which can be labeled, for example, “actor”, “instrument”, “place”, etc. The complex noun phrases included in (1) have, in more generally-used terminology, *specific reference*, while those in (2) have *generic reference*. The clauses in (1) can be described as having a referential function, as opposed to those in (2), which are attributive. A clause in (3) provides the content of the head noun. In Takahashi’s terminology, a clause in (4) expresses a subordinate concept “specializing” the meaning of the noun. A clause in type (5) gives a specific instance of the meaning of an abstract noun (when such a noun is the head noun). I agree with Takahashi’s contention that the semantics of the construction is very important, but it is not at all clear that a classification into five types of relationship between the clause and the noun constitutes an adequate explanation of the clausal noun modifying construction. Takahashi’s somewhat idiosyncratic terminology, and his implicit assumption that the interpretation of the constructions is uniquely determined and unproblematic, may make his discussion seem to some readers somewhat opaque and not entirely to the point, but, as with other descriptive accounts, he offers a wide and valuable range of data.
2. Andrews (1975) and Peranteau, Levi and Phares (1972) provide an overview of typological and syntactic issues regarding relative clauses. More recent accounts can be found in Chomsky (1977), Chomsky (1981), Chomsky and Lasnik (1977), and Sells (1985). For constraints of relativization, see Ross (1967).
3. This ceases to be a valid argument for the deletion theory if one accepts the arguments, given by Perlmutter (1972) and Morgan (1972), that island constraints are also sensitive to deletion rules, or, even, that they are sensitive *only* to deletion rules. Perlmutter (1972) proposed a tentative solution for Japanese relativization consistent with his claim on island constraints.
4. As part of a description of the universal properties of relative clauses, Keenan and Comrie propose a hierarchy of cases in terms of the degree to which a noun holding that case in a simplex main clause can become the head noun of an RC. Their *Accessibility Hierarchy* (AH) is:

SU > DO > IO > OBL > GEN > OCOMP

They also posit three universal constraints on relative clause formation:

The Hierarchy Constraints:

- (a) A language must be able to relativize subjects.
- (b) Any RC-forming strategy must apply to a continuous segment of the AH.
- (c) Strategies that apply at one point of the AH may in principle cease to apply at any lower point.

and a further set of constraints:

The Primary Relativization Constraints:

- (a) A language must have a primary RC-forming strategy.
 - (b) If a primary strategy in a given language can apply to a low position on the AH, then it can apply to all higher positions.
 - (c) A primary strategy may cut off at any point on the AH.
5. Some commonality between the formation of clausal noun modification and that of topic constructions in Japanese that are marked with the postposition *wa* has also been observed by Mikami (1963), Teramura (1970 (1969)) and Martin (1975). Mikami points out that, in both constructions, a noun central to the constructions is designated in one instance as a topic and in the other as a base noun (Mikami's term for a head noun). (1963:107). Teramura draws attention to the similarity of the two constructions in terms of the omittability of postpositions (1970:67). Martin's claim is based on his consideration of their role in discourse.
 6. The terms 'theme' and 'topic' are used interchangeably.
 7. It is not clear from his description what the deep structure should be. According to his theory, the postpositions present in this string must be provided by transformations, rather than being present in the deep structure, except for the theme marker *wa*, which he claims to exist at the deep structure level (1973a:253).
 8. In his description of this string (Kuno 1973b), \emptyset is placed between *sono hon wa* and *Taroo*. I changed it to the current position for the sake of clarity as to what was deleted.
 9. Such counterexamples can be found among constructions that include *N-de* where the *de* is used to indicate that the N refers to a reason, result, or cause. I will discuss a related issue in Chapter 5 of this study.

10. The deep structure of Japanese relative clause constructions given in the 1976 paper differs from what Kuno proposed in 1973. In the 1976 version, no noun coreferential with the theme is deleted from the embedded clause, in contrast to the situation in the original 1973 version. It is the 1973 version that is described in Kuno (1987).
11. In order to illustrate the force and the importance of this perhaps inconsequential-sounding constraint, Kuno first reanalyzes Ross' constraints (1967), and concludes that Ross' purely syntactic analyses can be derived from thematic constraints. Kuno also demonstrates the parallelism between theme and the hierarchy of cases with respect to relativizability that was proposed by Keenan and Comrie (1977); and he provides instances in which the speaker's degree of empathy with the situation described is an important factor for determining the degree of grammaticality of sentences including RC constructions.
12. A proposal for treating this type of constructions by an NP-movement is given by Kuroda (1985).
13. This issue obviously depends on how one defines theme, and relates to the point raised by McCawley (1976) with regard to the two types of topic. Hinds, Maynard and Iwasaki (1987) is a collection of studies on *wa*.
14. The predicate *arimasu* (polite form) in (17a) is changed to *aru* (plain form) in the relative clause (17b). It is a general rule that the predicate form in a relative clause is normally (but not always) in the plain form.
15. Kuno qualifies the correspondence between the themeless sentences and relative constructions by saying that "for *some* of these [themeless] sentences, it is possible to construct corresponding relative clause expressions" (p.250) (Emphasis added). This statement weakens the claim that all relative sentences have thematic sentences as their source, and denies a full parallelism between the two constructions.
16. The difference between the two constructions may be considered as analogous to Bolinger's (1967) argument against the transformational treatment of generating attributive adjectives from relative clauses.
17. Givón (1982) would describe this as non-challengeable.
18. Except in those instances where a topicalized NP retains its case marker.
19. This construction was also mentioned by Mikami (1963)

Chapter 3

Construal of Noun Modifying Constructions: Description and Framework

3.1 Construal and the Variety of Constructions

This section offers an overview of the varieties of clausal noun modification in Japanese. An examination of their characteristic features and of mechanisms for their construal will show that these constructions do not follow the model of their English counterparts in terms of the degree of reliance on syntactic clues for construal. Accordingly, a new approach is needed if we are to explain how clausal noun-modifying constructions in Japanese can be construed.

3.1.1 “Relative Clause” and “Relative-like” Constructions

Most previous theoretical studies have been, as we observed in the last chapter, syntactically oriented, either conforming with the generative model or choosing the functional approach. As such, they have focused on the generation of the constructions rather than on their construal. Since generation and construal of the sentences of a language are two sides of the same coin, we can approach the understanding of the system of a certain construction from a study of mechanisms for its construal; the examination of the construal mechanism for noun modifying constructions in Japanese reveals very basic aspects of the constructions which are characteristically

different from their English counterparts, yet which have been relatively neglected by linguists.

We first examine so-called relative clause constructions, which are the most often studied instances of clausal noun modification. The complex NPs in the (a)-sentences in (1 - 4) are examples of this type of construction; the (b)-sentences give a non-relative paraphrase of the relative clause construction in (a).

1a) [[hon o katta] gakusei] wa doko desu ka.
book ACC bought student TOP where is QP
'Where is the student (who) bought a book?'

1b) *Gakusei ga* hon o katta.
student NOM book ACC bought
'A student bought a book.'

2a) [[gakusei ga katta] hon] wa doko desu ka.
student NOM bought book TOP where is QP
'Where is the book (which) a student bought?'

2b) *Gakusei ga* hon o katta.
student NOM book ACC bought
'A student bought a book.'

3a) [[hannin ga kane o nusunda] ginkoo] wa
criminal NOM money ACC stole bank TOP
doko desu ka.
where is QP

'Where is the bank (which) the criminal stole money (from)?'

3b) *Hannin ga ginkoo kara* kane o nusunda.
criminal NOM bank ABL(from) money ACC stole
'The criminal stole money from the bank.'

4a) [[Taroo ga kaisya e iku] kuruma] wa
 Taroo NOM company GOAL go car TOP

doko desu ka.
 where is QP

‘Where is the car (which) Taroo goes to (his) company (in)?’

4b) Taroo ga kuruma de kaisya e iku.
 Taroo NOM car INSTR company GOAL go
 ‘Taroo goes to (his) company in the car.’

It is noticeable from the above examples that Japanese differs from English, and many other languages, in the absence of an overt marker (e.g. a ‘relative pronoun’ or a ‘resumptive pronoun’) of the grammatical or semantic role of the head noun with respect to the predicate in the modifying clause. We find neither a relative pronoun (like the WHICH of the glosses in examples (2a, 3a, 4a) nor any indicator of the semantic function of the head noun (such as the FROM of example (3a)). The nominative case marker *ga*, present in the non-relative paraphrase sentence (1b), does not appear in the relative construction in (1a). The same is true when the noun corresponding to the head noun in the non-relative paraphrase (which, for the ease of exposition, we will refer to in what follows as the Corresponding Noun) is followed by an accusative case marker as in (2a - b); moreover, this remains true when the corresponding noun takes an oblique case marker as in examples (3b) and (4b). In English, as in the translation of (3a) and (4a), the preposition cannot be omitted when the corresponding noun takes an oblique case in the paraphrase. It would not be correct to conclude, however, that Japanese case markers lack semantic content, and are freely omissible since, with the exception of the markers of the nominative and accusative cases, case-marking postpositions in Japanese are usually not omissible in non-relative sentences, even in colloquial speech.¹ Taking into consideration also the fact that Japanese verbs do not inflect according to number or person, it is evident that there is no explicit marker of the grammatical or

semantic role (θ -role) of the head noun in relation to the predicate in the modifying clause. This relation, then, must be determined by something other than an overt marking, if it is explicitly encoded at all.

The first place to look for a clue to the grammatical role of the head noun with regard to the predicate of the modifying clause would normally be the predicate argument structure or subcategorization of the predicate. If the modifying clause is missing exactly one of the arguments² of its predicate, and if the head noun designates something capable of filling that role, then the role of the head noun with regard to the modifying clause can be identified as that of the missing argument or the “gap”. This seems plausible enough, and can serve as a powerful tool in the analysis of relative clause constructions in English and many other languages. But its applicability to Japanese is limited for two reasons. First, there may be more than one argument missing from the clause as in example (5):

- 5) [[\emptyset \emptyset yondeiru] kodomo] wa doko desu ka.
 be calling child TOP where is QP
 ‘Where is the child (who) is calling (someone)?’ OR
 ‘Where is the child (whom) (someone) is calling?’

Since both the subject and the object of the verb *yondeiru* ‘be calling’ are absent from (5), only some extra-linguistic context can determine whether the referent of the head noun is doing the calling or is being called by someone. Such an extra-linguistic context could be, for instance, the sound of an adult’s voice calling a name: in such a context the head noun in (5) would be the caller. Given an appropriate context of that sort, the modifying clause in (5) is acceptable as an independent sentence. That is, there is no independent evidence that a syntactic gap exists in the clause. Therefore, the existence of a missing argument does not guarantee its automatic linking to the head noun.

The second reason for the limited utility of predicate argument structures in

Japanese is that the corresponding noun can be an “adjunct” of the subordinate verb, even if a so-called argument is missing in the clause. In the following example, none of the “arguments” of the verb *tabeta* ‘ate’ are present in the modifying clause.

- 6a) [[Kinoo ∅ ∅ tabeta] resutoran] wa kondeita.
 yesterday ate restaurant TOP was crowded
 ‘The restaurant (at which) (I) ate yesterday was crowded.’

Since there are two missing arguments, a syntactic analysis based on the predicate argument structure (or subcategorization) may wrongly predict that the head noun is coreferential either with the subject or with the object of eating. Furthermore, if only one of the arguments remains unmentioned as in (6b),

- 6b) [[Watasi ga kinoo ∅ tabeta] resutoran] wa kondeita
 I NOM yesterday ate restaurant TOP was crowded
 ‘The restaurant (at which) I ate yesterday was crowded.’

then, a naive theory based on the predicate argument structure would predict the construal of the corresponding noun as the object of the verb *tabeta* ‘ate’. This is not, however, what Japanese speakers would understand (6a - b) to mean; *resutoran* would always be understood as the location rather than as the object of the eating.³ This interpretation is not syntactically governed but is based on the semantics of the head noun and on the hearer’s knowledge that, in real life, restaurants are usually locations and not objects of eating. If, instead of (6a) or (6b) we had (6c), in which the subject and object arguments of the verb *tabeta* are given, then *resutoran* would have to be associated with one of the “adjuncts” of the verb, such as ‘instrument’, ‘location’, or ‘reason’.

6c) [[watasi ga kinoo kani o tabeta] resutoran]
 I NOM yesterday crab ACC ate restaurant
 wa kondeita.
 TOP was crowded

'The restaurant (at which) I ate crabs yesterday was crowded.'

Again, however, no explicit clue is given as to which adjunct position can be filled by the head noun. That the head noun is construed as a location relies on the construer's knowledge of what a restaurant is. In all three of these examples, the role of the head noun with respect to the predicate in the modifying clause is not determinable from the predicate argument structure of the modifying clause, yet (6a) is unambiguous to native speakers of Japanese.

As was illustrated by examples (6a - c), one difficulty for any theory of relative clauses in Japanese based on the predicate-argument structure is the selection of one of many cases that are potentially held by adjuncts. The most straightforward approach to such a problem is to construct a hierarchy of cases, as has been proposed by Inoue (1976), inspired by the typological study by Keenan & Comrie (1977).⁴ Such a hierarchy could allow the prediction of the correct case role in many instances, but it is not sufficient to account for all, as it was evident in (6a-c). Verbs of motion are also problematic for an approach based on a hierarchy of cases. To illustrate, let us consider example (7):

7) [[syoonen ga kita] mati]
 boy NOM came town
 'the town (to/from) (which) the boy came'

As the English translation suggests, (7) may be ambiguous between (8a) and (8b), the possible paraphrases of (7).

- 8a) Syoonen ga mati e kita.
 boy NOM town GOAL(to) came.
 'The boy came to the town.'
- 8b) Syoonen ga mati kara kita.
 boy NOM town ABL(from) came
 'The boy came from the town.'

Several Japanese linguists (e.g. Okutsu 1974, Teramura 1976, Inoue 1976) have discussed instances involving the verb *kuru* > *kita* 'come' > 'came' in terms of the relativizability of a noun depending on its case marker. One method of recovering the case (marker) in examples along the lines of (7) is to treat verbs of motion or of transition as intrinsically deictic. Thus, according to Teramura (1976), *kita* 'came' focuses on the goal of the movement; in consequence, *mati* 'town' in (8a) can be the head noun of a relative clause, yielding (7), while in (8b) it cannot. This is true to some extent, especially if the deictic property of the verb is enhanced: if *kita* 'came' in (7) is replaced by *yatte-kita* 'came a long way', and especially if the adverb *harubaru* 'for a long distance' is added, as in (9a), then the interpretation with the locative (Goal) *e* as in (8a) would be chosen. Most of the examples that one finds discussed are of this type. If, however, the subject of the verb were replaced by *watasi* 'I' as in (9b), it would be much more natural to take the interpretation as in (8b), in which the town is the departure point. This choice of interpretation is even more likely if the speaker and the addressee are both in the same place at the time of the speech.

- 9a) [[syoonen ga harubaru yatte kita] mati]
 boy NOM long distance came a long way town
 'The town (which) the boy came (to) a long distance.'
- 9b) [[watasi ga kita] mati] wa hito ga oosugite
 I NOM came town TOP people NOM too many
 'the town (which) I came (from) has too many people'

In fact, according to Okutsu (1974), the original discussion of this type of sentence was by Yoshio Yamada (1908) in connection with the phrase *kimi-no kitareru sato*, which is interpreted as 'the village you came from'. The head noun being *sato* 'village' rather than *mati* 'town' may well be the reason that Yamada chose the interpretation with *-kara* 'from': general knowledge of demography would suggest movement from village to town. This again shows that an interpretation can be chosen only after considering the meaning of the head noun as well as the elements in the modifying clause.

Incidentally, Akatsuka (1979) touches on, but does not pursue, the same issue in connection with Kuno's (1973) claim that when the sentence preceding the relative clause enables the relationship of the head noun to the verb in the relative construction to be inferred unambiguously as the origin, then such a reading (i.e. (9b)) is grammatical. Akatsuka writes that "even without the preceding context, my judgment is greatly influenced by the semantic relationship between the head NP and some of the elements in the relative clause alone" (1979:33).

Implicit, or sometimes explicit, in any analysis based purely on the structure is the existence of one specific case marker which reflects the grammatical/semantic role of the head noun with regard to the clause, and the assumption that this case marker is recoverable. Proponents of such an analysis can illustrate their theory by giving examples of relative clauses and non-relativized counterparts. The case marker attached to the corresponding noun in the non-relativized phrase can be claimed to be deleted in the relative clause construction. Such analyses, however, cannot give a satisfactory explanation, consistent with the purely structural theory, of how those case markers can be recovered from the relativized construction. In reality, even syntacticians use their pragmatic knowledge to determine the missing case markers. (6a) is an instance where it would be extremely difficult to claim that the case marker *de* (LOC) is recoverable.

The importance of pragmatics and semantics to noun modification in Japanese

is most evident in the construal of constructions, such as examples (11 - 18), in which there is no apparent syntactic gap in the modifying clause; that is, in which there is neither a missing argument of the modifying clause predicate to be linked with the head noun, nor a case marker which, in a non-relative paraphrase, could mark the case of the corresponding noun.

- 11a) [[atama ga yokunaru] hon]
 head NOM gets better book
 'the book (by reading which) (one's) head gets better.'
- iib) Kono hon o yomeba atama ga yokunaru.
 this book ACC if (one) reads head NOM get better
 'If (one) reads this book, (one's) head gets better.'
- 12) ?? [[atama ga yokunaru] kuruma]
 head NOM gets better car
 'the car (by driving which) (one's) head gets better'
- 13) % [[genki ga deru] kuruma]
 energy NOM rise-up car
 'the car (by driving/owning which) (one's) energy rises'
- 14) [[yoru toire ni ike-naku-naru] hanasi]
 night bathroom GOAL cannot-go-become story
 'the story (because of which) (one) cannot go to the bathroom at night'
- 15) [[toire ni ike-nai] komaasyaru]
 bathroom GOAL cannot-go commercial
 'commercials (because of which) (one) cannot go to the bathroom'

- 16) [[gakkoo ga yasumini-natta] yuki]
 school NOM closed-became snow
 'the snow (because of which) the school was closed'
- 17) [[paatii ni korare-nakatta] syukudai]
 party GOAL could-not-come homework
 'the homework (because of which) (you, etc.) could not
 come to the party'

If one is unfamiliar with Japanese, it may not be easy to construe, from the gloss alone, phrases such as (11 - 17). In (11a), for instance, the verb in the modifying clause is intransitive, and its subject is the noun *atama* 'head'. This leaves no apparent gap coreferential with the head noun, *hon* 'book'. In this example, a non-relative paraphrase cannot be made simply by assigning an appropriate case marker to the head noun and inserting it into the modifying clause, as it could in (1 - 4).⁵ In (11a), not only a case marker, but also a verb in a conditional form — *yomeba* 'if one reads' — which appears in a possible paraphrase, (11b), are absent.⁶ This presents grave difficulties for any syntactic account based on deletion. The choice of a particular linguistic form that could specify, in a paraphrase, the relation between the head noun and the clause is not of primary importance either for the hearer's understanding or for the linguistic analysis. In (11b), for instance, other conditional forms of the verb *yomu* 'to read', such as *yomuto*, or *yondara* could be substituted for *yomeba* in this context without changing the conveyed relation between the clause and the head noun.

(14 - 17) are examples similar to (11a), all of which fail to be accounted for, or often even to figure in, purely syntactic accounts of relative clauses. These are, however, not out of the ordinary in Japanese; moreover, as with regular "gapped" relatives such as (1 - 4), the head noun can be inserted into the modifying clause in a non-relative paraphrase. The only difference is that, in the constructions such as

(11a), there is not a specific case marker that can express the relation of the head noun to the clause.

The fact that more than just a case marker is “missing” from examples (11 - 17) makes impossible any purely syntactic analysis of the constructions. A close examination of these examples will be given in Chapter 4. For the moment, it suffices to say that the construal of (11a), for instance, involves two separate but related steps: one is the association of ‘book’ with an action which has a special affinity with the book; namely, the action of reading; the other is the choice of the likely relation between ‘reading a book’ and ‘one’s head improving’ as that of condition and consequence, or cause and effect. Note that the second of these steps requires the interlocutors to have, to some degree, shared social and cultural knowledge. I will argue, in other words, that the hearer can construe the meaning of the construction because the situation invoked by, or inferred from, what is expressed in the two constituents of the construction is plausible in light of the hearer’s knowledge of the world, and, on the other hand, that the speaker, in producing such an utterance, is tacitly appealing to that shared or assumed background knowledge. This implies that there are constraints on what constructions can be produced and construed in a given situation. The unacceptability of (12) in normal situations, for instance, is due to the absence of a commonly perceived link between, say, driving or owning a car and the improvement in one’s mental faculties, while the clause in (13) suggests a situation with which a car can readily be associated. Only as long as the interlocutors share the idea that a car can be a source of psychological energy, can a unified picture, so to speak, be formed from what is conveyed by the two elements of the construction, rather than leaving two unmatched fragments, as in (12).

The examples presented in this section exhibit a wide range in the degree of reliance on shared knowledge for construal. In terms of the amount of shared knowledge required, (14) and (15) are near one end of a scale of which (1a) and (2a) may represent the opposite end. In (1a) and (2a), the relation between the head noun

and the predicate in the modifying clause requires little shared knowledge and inference to construe. In (1a), the head represents the agent and, in (2a), the patient of the predicate. In neither case is the relation overtly marked, but in each case the predicate has an unfilled argument position which is readily associated with the head noun. Thus, the head noun *gakusei* 'student' in (1a), which is repeated as (18), denotes a person and, consequently, a possible agent of the action of buying. If the head noun in (18) were *mise* 'store', as in (19a), then the head noun would be typically interpreted as denoting the location, rather than the agent, of the action unless the context in which (19a) were uttered provided a metonymical interpretation of *mise* 'store'. If the head noun in (18) were *isi* 'stone', as in (19b), then the phrase would not be comprehensible to most speakers of Japanese unless it were used in very special context such as, for example, in a fairy tale.⁷

18) [[hon o katta] gakusei] wa doko desu ka.
 book ACC bought student TOP where is QP
 'Where is the student (who) bought a book?'

19a) [[hon o katta] mise] wa doko desu ka.
 book ACC bought store TOP where is QP
 'Where is the store (at which) (you, etc.) bought a book?'

19b) ?? [[hon o katta] isi] wa doko desu ka.
 book ACC bought stone TOP where is QP

The examples we have looked at illustrate that English and Japanese differ crucially in that, while in English the understanding of relative clauses is guided by the syntax of the construction, in Japanese, the absence of an explicit marker specifying the relation between the head noun and the clause requires a higher reliance on the semantics and pragmatics. English speakers are usually forced to accept the single syntactically allowed interpretation, whereas, in Japanese, hearers must seek

the most plausible interpretation from the given linguistic clues and from comparison with what they know about the world. In this sense, the responsibility for the success of linguistic communication in Japanese is on the hearers' side, whereas in English, the speaker is in principle expected to produce utterances in which relations between the constituents are explicitly encoded.⁸ Speakers of Japanese are pragmatically constrained in that they must make a correct assessment of the interlocutors' knowledge of the world in order to be able to transmit the message. We will consider these and other examples in detail in the following chapter.

3.1.2 Other types of noun modifying constructions.

There are constructions that have been considered, especially by descriptive linguists, to be semantically sensitive because they cannot be converted into sentences, and because of the semantic restrictions on the head noun in these constructions.

Martin (1975) refers to these as constructions with "intruded" epithemes, while Teramura (1975-78) describes them as modifying constructions with a "*soto no kankei*" 'outer relation'. While leaving a detailed discussion to Chapter 5, in this section I introduce some examples, following Teramura's (1975-1978, 1981) classification of head nouns (with outer relations).

(A) Content of speech and thought:

<i>kotoba</i> 'words'	<i>tegami</i> 'letter'
<i>meirei</i> 'order'	<i>iken</i> 'opinion'
<i>kessin</i> 'decision'	etc.

(20) Kyuu-ni kunimoto kara [[“kaere” toiu] dempoo]
 suddenly home from(ABL) “come back” COMP telegram

o ukettota
 ACC received

'Suddenly, I received a telegram from home (saying) "come back".'

- (21) [[tizi-sen ni deru] ki] wa motte-inai
 gubernatorial election DAT run idea TOP have-not
 'I do not have the intention to run in the gubernatorial election'

(B) Expressions of *koto* (abstract event or object):

hanasi 'story' *ziken* 'event, accident'

kioku 'memory' *kanoosei* 'possibility'

- (22) [[ippan-no simin ga husyoo-suru toiu] ziken]
 general citizen NOM be injured COMP accident

ga atta.
 NOM existed

'There was an accident in which ordinary people were injured.'

(C) Content of general and abstract actions, events, and states:

kuse 'habit' *kako* 'past'

sigoto 'job'

- (23) [[Me o patipati-to-yaru] kuse] ga aru
 eyes ACC blink habit NOM exist
 '(He) has the habit (of) blinking (his) eyes.'

(D) Content of cognition:

oto 'sound' *nioi* 'smell'

sugata 'figure' *bamen* 'scene'

- (25) [[dareka ga doa o tatau] oto] ga suru
 someone NOM door ACC knock sound NOM make
 'There's the sound of someone knocking on the door.'

(E) Relational concepts:

ue 'top' *mae* 'front' *riyuu* 'reason'

kekka 'result' *kaeri* 'return'

kanasimi 'sorrow' *otsuri* 'change'

- (25) 1960-nen wa [[Taroo ga Tookyoo e kita]
year TOP NOM GOAL came

yokunen dearu
next year is

'1960 is the year after Taroo came to Tokyo.'

- (26) [[kazi ga hirogatta] gen-in] wa kuuki ga
fire NOM spread cause TOP air NOM

kansoo-site-ita koto da
dry-was that is

'The cause of the fire's spreading was that the air was dry.'

- (27) [[tabako o katta] oturi]
cigarettes ACC bought change (=balance of money)
'the change from buying cigarettes'

Notice that in (25) the modifying clause preceding *yokunen* 'the next year' does not describe the content of, or a feature of, that year; rather, the head noun *yokunen*, which is coreferent with the topic of the main clause, '1960', describes the relation between the topic and the event described in the modifying clause. Thus, Taroo came to Tokyo in 1959, not 1960. In (27) the modifying clause is analyzed as representing the cause for the existence of the referent of the head noun. Similarly, in (26) it is not that the head noun *gen-in* 'cause' is explained by *kazi-ga hirogatta* 'fire spread'; the explanation is, rather, in the main clause. (28a), below, is another interesting example.

- 28a) [[kare ga syukke-sita] dooki] wa ...
 he NOM became a priest motivation TOP
 'the motivation for his becoming a priest ...'
- 28b) kare ga sono dooki de syukke-sita
 that CAUSE
 'He became a priest with that motivation.'

The existence of a paraphrase such as (28b) suggests that (28a) should be classed as a regular relative construction, having an "inner relationship" in Teramura's terms. (28a) is, however, strikingly similar, in terms of the semantic relation between the head noun and the modifying clause, to (26), an example of an "outer relation". Teramura claims that this difficulty arises only when the head noun is related to the clause in a manner that, in a non-relative paraphrase, would be denoted by *de*. He leaves it open as to why it is constructions with *de* that are most difficult to categorize. We will come back to this question also in Chapter 5.

3.2 Frame semantics and a framework for the present study

I have argued in the previous section that the framework of syntax is inadequate to describe the construal mechanism of Japanese noun modifying constructions. As the examples have illustrated, semantics and pragmatics play a crucial role in construal. We need, therefore, to have a framework in which we can incorporate semantic and pragmatic factors into the grammar of noun-modifying constructions. The concepts that the examples suggest as useful in constructing such a framework have been introduced in theories of frame semantics. In this section, I will first give an overview of the relevant concepts of frame semantics, and then outline how these concepts can be combined in a working framework for the analysis of clausal noun modification. A detailed analysis of the constructions in terms of this new framework will be presented in the next chapter.

3.2.1 Frames and related concepts

Terms such as “frame”, “script”, and “schema” have been used in describing the functioning of extra-linguistic knowledge in linguistic behavior. All of these terms refer to roughly the same concept, which is the organization of experience, expectation and knowledge of the world, but the choice of term, as well as the exact meaning given to that term, varies according to the field of study and according to the individual writer’s preference. These terms recur in the writings of scholars from disciplines as varied as linguistics, anthropology, psychology, and artificial intelligence. A useful sketch of the history and the state of these works is given in Tannen (1979). To give a very simplified idea of how these terms are used, following Tannen’s description, “schema” has been used by psychologists, such as Bartlett (1932), a pioneer in this regard, and Rumelhart (1975), who has recently become more associated with artificial intelligence, and by a linguist, Chafe (1977a,b). Schank and Abelson (1977), who work in the field of AI, use the term “script”. “Frame” is probably the most widely used term, and is found in the anthropological/sociological works of Bateson (1972 (1955)), Fraake (1977), Hymes (1974) and Goffman (1974), as well as in Minsky’s (1975) work in AI. Fillmore (1975, 1976) has used the notion of “frame” in his research on lexical semantics and on discourse.

I will not elaborate much further on how the concept enters each of the disciplines mentioned above, since that would lead us away from the topic of the present study, but I would like to remark on two points. First is that it is evident that scholars in diverse fields have realized the importance of concepts such as “frame”. Secondly, the terminology and the definitions vary according to the writer’s focus. Bartlett and Chafe, for example, focus on the organization of memory and its reflection in speech. Researchers in the field of AI are generally interested in models for the understanding of stories and of social behavior. Scholars with anthropological and sociological background tend to focus on interactions and on the knowledge that interlocutors must share. In linguistics, the concept of “frame” is considered

particularly useful to illustrate how crucial it is to relate knowledge of the world to the structure of a language.

Among the works mentioned above, those in which the description of “frames” is most directly relevant to the construal mechanism of Japanese noun modification are the works of Fillmore (1975, 1976, 1978, 1982, 1985). In the first of these, Fillmore used the term “frame” to refer to “any system of linguistic choices . . . that can get associated with prototypical instances of scenes” (1975:124), but in recent years it has acquired a general sense as in the following:

By the term ‘frame’ I have in mind any system of concepts related in such a way that to understand any one of them you have to understand the whole structure in which it fits; when one of the things in such a structure is introduced into a text, or into a conversation, all of the others are automatically made available. I intend the word ‘frame’ as used here to be a general cover term for the set of concepts variously known, in the literature on natural language understanding, as ‘schema’, ‘script’, ‘scenario’, ‘ideational scaffolding’, ‘cognitive model’, or ‘folk theory’. (1982: 111)

In both, the earlier and the more recent studies, however, the fundamental motivation for this kind of approach is for “the description of meaning-bearing elements in a language according to which words (etc.) come into being only for a reason, that reason being anchored in human intuitions” (1982:135).

Fillmore’s notion of “frame”, unlike those employed in other fields, traces back to the use of syntagmatic frames in the description of lexical structure. This developed into the concept of the “case frame” of a verb (in “case grammar”), which is a deep-structure valence description with case roles such as ‘Agent’, ‘Patient’, ‘Instrument’, etc. (1968). These case frames relate descriptions of situations with underlying syntactic representations, and were considered as “characterizing a small abstract ‘scene’ or ‘situation’, so that to understand the semantic structure of the verb it

was necessary to understand the properties of such schematized scenes" (1982). The latter point relates to a claim that a linguistic element (e.g. a verb) is interpreted in the larger context which it "evokes". This is illustrated in Fillmore (1978), where he clarifies the relation among the verbs 'buy', 'sell', 'cost', etc., by referring to the larger context, that is, to the frame of a "commercial event", which is the general "scene" that these verbs evoke. The elements of this scene include the buyer, the seller, the goods and the money; focus on different elements distinguishes the related yet different verbs.

The concept of "frame" also provides a new perspective for traditional semantic notions such as ambiguity, prototype, metaphor, antonym, etc. (For a detailed discussion, see Fillmore 1978, 1982; G. Lakoff 1986).

In the following section, I will propose a working framework for the construal of Japanese noun modification. The notions introduced in the framework are not necessarily identical to those sketched above, yet share the same basic idea.

3.2.2 A framework for the present study

Let us now focus on the concepts associated with 'frames' that we will use in analyzing clausal noun modification in Japanese. The concepts are necessarily semantic/pragmatic since, as we have seen, syntax provides only minimal information on the relation between the two constituents of the construction (except for the fact that the clause is subordinate to the head noun).

The concepts (1) *simple frame* (2) *host or construal frame* and (3) "*world-view*" will be useful in discussing the construal of Japanese NMCs. *Simple frame* and "*world-view*" are intended as general concepts of wide application to semantics/pragmatics, while *host* (or *construal frame*) is specific to constructions that are like Japanese NMCs (e.g. English N + N compounds). To explain these terms, I will discuss some of their properties and functions.

The first characteristic of a notion of "frame" is that it should be a structure

which expresses semantic relationships, and which has positions that can be indexed (or filled in) by certain words or expressions. By *simple frame* I mean the frame that is evoked by a word or an expression. For example, the verb *katta* 'bought' (< *kau* 'buy') evokes a frame (i.e. a simple frame) of "buying", or more inclusively, a frame of the "commercial event".⁹

Such an evoked simple frame contains slots or positions for possible *participants*. In the frame of the "commercial event", possible participants would include the "buyer", "goods", "seller", "money", and also "purpose", "beneficiary", "byproducts" (e.g. the change one may receive). The concept of a simple frame resembles Fillmore's case frames (Fillmore 1968), but with the modification (as in more recent studies using frame semantics) that the frame models a generalized situation or scene, rather than being strictly linguistic. The crucial property of the simple frame evoked by a lexical item is that some participant roles can be indexed (or filled) by linguistic elements given in the rest of the construction.¹⁰

The influence of the occasion, purpose of speech, etc., is to determine a perspective or highlighting of elements of the frame. The number and the nature of participant roles in a simple frame may differ depending on the language and the culture, and the number of highlighted or relevant positions will depend on the context of the speech event. However, some elements may be more easily construed as a participant of the frame than others. For example, one could assume almost automatically that there must be a buyer and goods in the frame of "buying", but the purpose or the resulting balance of money, for instance, may not be noticed until brought to attention. It would in general be impossible to attempt to list all possible relations implicitly or potentially present in any given simple frame. It is an intriguing question as to whether there is a hierarchy in accessibility or semantic intrinsicness. I will have more to say later about the question of such a hierarchy.

Construal of an NMC relies on coherence between the two constituents — the modifying clause and the head noun. This coherence is expressed in the framework

presented here by saying that there is a *host* (or *construal frame*). When the frame evoked by one of the two constituents of the NMC is interpreted as integrating what is expressed by the other constituent, we say that the frame is *host* to the other constituent. (In other words, this frame is understood as providing a *construal frame* for the other constituent to fit in; that is, it provides a frame which can model how the construction is construed). Frames evoked by the main predicate of the modifying clause, and frames evoked by certain (“frame-evoking”) head nouns, are the frames that most frequently function as hosts.¹¹

Before we discuss the concept of “world-view”, let us focus more closely on the role of the construal frame in the analysis of Japanese clausal noun-modifying constructions. Japanese NMCs are classified into three major types according to which constituent (or constituents) plays the role of host in the construal of the construction. The three types are (1) constructions in which *the modifying clause* hosts the head noun (the Clause Host (CH) type), i.e., constructions in which a member of the category denoted by the head noun participates in a frame evoked by the main predicate of the modifying clause (other participants may also be indexed by other elements of the modifying clause),¹² (2) constructions in which *the head noun* hosts the modifying clause (the Noun Host (NH) type), and (3) constructions in which both *the modifying clause* and *the head noun* host reciprocally (the Clause and Noun Host (CNH) type), i.e., in which the head noun can evoke a frame containing a slot for what is expressed by the modifying clause, while the frame evoked by the modifying clause in turn contains a possible participant role to be filled by the denotatum of the head noun.¹³

(29) is an example of the CH type.

29) [[hon o katta] gakusei] wa doko desu ka.
 book ACC bought student TOP where is QP

‘Where is the student who bought a book?’

The simple frame evoked by *katta* ‘brought’ (< *kau* ‘buy’) has a position, the ‘goods’, that can be indexed by *hon* ‘book’ followed by the accusative case marker *o*. Such an indexed simple frame as a whole functions as a host for what is denoted by the head noun, *gakusei* ‘student’. The head noun is incorporated by indexing the position of the buyer in the construal frame.

In (30) (= (11a)), the construal is not as straightforward as in (29), but the same principle applies.

- 30) [[atama ga yokunaru] hon]
 head NOM gets better book
 ‘the book (by reading which) (one’s) head gets better.’

At first sight, there is no obvious position in which the head noun can be hosted by the frame evoked by the clause. If, however, we consider the head noun *hon* ‘book’ in association with the action of reading, it can index the position of ‘cause’ which is available in the evoked frame. In the following chapter, I will discuss this and similar examples, and consider the limits of what can be integrated into a frame.

The construal frame is not always given by the modifying clause, as we see in example (31), which is an example of an NH-type construction.

- 31) [[kane o nusunda] zizitu] ga akirakaninatta.
 money ACC stole fact NOM became-clear
 ‘the fact that (s/he, etc.) stole money was revealed.’

The simple frame evoked by *nusunda* ‘stole’ potentially has positions at least for the agent (“thief”) and the patient (“stolen goods”). *Kane* ‘money’ followed by *-o* indexes the stolen goods, so that, if one of the other possible positions could be indexed by the head noun, the modifying clause would be the host for the head noun. This, however, does not seem possible; in particular, *zizitu* ‘fact’ is not a

likely candidate for the thief. The head noun, *zizitu* ‘fact’, on the other hand, is a “frame-evoking noun”: it evokes a simple frame in which it labels or encapsulates a proposition. This semantic characteristic of the head noun *zizitu* ‘fact’ allows it to provide the construal frame for the entire construction; in other words, what is described in the modifying clause can be hosted by the frame evoked by the head noun. This type of NMC will be discussed in detail in 5.1.

The third possibility is illustrated by example (32), in which both the clause and the head noun host reciprocally.

- 32) [[*kinoo tabesugita*] *kekka*], *kyoo nanimo taberarenai*
 yesterday overate result today anything cannot eat
 ‘(As) a result (of) having overeaten yesterday, (I) cannot eat
 anything today.’

Because of the semantic nature of the head noun *kekka* ‘result’, it evokes a frame which has a slot for the *cause* of the result. In (32) the cause is described in the modifying clause. Therefore, the head noun hosts the clause. On the other hand, the frame evoked by the modifying clause can also host the head noun as the participant, the “result” (of the action). A detailed discussion of this type will be offered in 5.2.

The examples considered earlier, namely (29) and (31), differ from (32) in that only one constituent can be the host. In (29), the semantics of the head noun *gakusei* ‘student’, unlike that of *zizitu* ‘fact’ or *kekka* ‘result’, do not provide a simple frame in which a position can be filled by the content of the modifying clause. In (29) also, the head noun *gakusei* ‘student’ does not function as a capsule for the proposition expressed by *hon-o katta* ‘bought a book’.

The three types I briefly described above are the major types of NMCs in Japanese. From the more detailed discussions in Chapters 4 and 5, it will become clear that the three types are not disjoint groups: there are prototypical instances of each type and those that share features of more than one type.

Before we start an examination of the various constructions, we should consider the third concept, the “world-view”, that will be needed in the analysis. The construal of (29) is successful because the head noun can index an obvious participant role, the “buyer”, in the evoked frame. Moreover, such a situation as a whole also conforms to the construer’s “world-view”; in other words, the construer judges it *plausible* that (the referent of) the head noun should fit into the construal frame. The term “world-view” can be understood as a “structure of expectation”, a concept, according to Tannen (1979), that was introduced by R.N. Ross (1975). She writes that “based on one’s experience of the world in a given culture (or combination of cultures), one organizes knowledge about the world and uses this knowledge to predict interpretations and relationships regarding new information, events, and experiences” (Tannen:1979).

An example of instances where an NM construction is not acceptable or not construable is given in (12) above, repeated below as (33).

- 33) ?? [[atama ga yokunaru] kuruma]
 head NOM gets better car
 ‘the car (by driving which) (one’s) head gets better’

Although (33) is structurally similar to acceptable constructions (e.g. (29)), it is rejected because our regular “world-view” does not provide a clue for the relation between the two constituents; in other words, the head noun cannot participate in the frame evoked by the clause.

The unacceptability of a construction such as (19b), repeated as (34), is conventionally explained in terms of its violation of a selectional restriction. This could also be described in terms of a failure of the construer’s world-view to allow the inanimate referent of the head noun *isi* ‘stone’ to index the position of the buyer in the frame associated with a commercial event.

34) ?? [[hon o katta] isi] wa doko desu ka.
book ACC bought stone TOP where is QP

One could reach the interpretation of the head noun *isi* 'stone' as the agent of buying if one discarded the regular or "default" world-view, and considered the construction with the world-view of, say, a fairy tale.

The three concepts of *simple frame*, *host* (or *construal frame*) and *world-view* are not independent of one another. To determine which constituent functions as the host, the simple frames evoked by nouns and predicates in the construction must be known, and the world-view is needed in order to establish the framing. In the following chapters, we will consider in more detail how these concepts relate to one another and produce a construal.

Notes to Chapter 3

1. In contrast, the case markers *ga*, *o* can be omitted in colloquial speech.
2. By 'arguments', I am referring to what are generally regarded as 'obligatory' arguments of a predicate, as opposed to 'optional arguments', also referred to as 'adjuncts'. As becomes clear later in this study, this distinction is dubious, at least in Japanese, but I borrow this terminology when a discussion becomes easier with this term, especially when I allude to a syntactic treatment of linguistic phenomena.
3. It is interesting that (Japanese) linguists I talked to, who are likely to be aware that a naive predicate-argument structure-based theory would predict that the head noun *resutoran* is the object of the verb *tabeta*, never offered such an interpretation of the construction.
4. Okutsu (1974) and Teramura (1976) also examine the constructions according to which case allows the noun to be the head of a noun-modifying construction.
5. The case marker *-de* 'with, by' in its function as a marker of an instrument or a cause/reason could possibly be attached to the head noun to yield non-relative counterparts of (11 - 17), yet this would not be fully appropriate in that *-de* should mark a noun whose referent is a *direct* instrument of cause, as illustrated in (i) below (cf. (11)).
 - ia) [[atama ga yokunaru] kusuri]
head NOM improve(v.i.) medicine
'the medicine (by) which (one's) head improves'
 - ib) Kono kusuri de atama ga yokunaru.
this medicine INSTR head NOM improve
'By this medicine one's head will improve.'
6. Teramura (1976) discusses (11a) as an "abridged" relative clause (*uti no kankei* "inner relation noun modification" in his terminology). (11a) was also mentioned by Mikami (1963).
7. A reading, in a more likely context than the fairy tale reading, of (19b) would be 'where is the stone (on the subject of) which (I) bought a book'.
8. For an interesting discussion of the question of hearer's responsibility vs. speaker's responsibility, see R. Lakoff (1984).
9. The basic idea analogous to this in English is discussed in detail in Fillmore (1976).

10. Hinds (1982), in his analysis of ellipsis in Japanese, claims that native speakers recognize instances of ellipsis because they have knowledge of an "obligatory surface case frame" associated with each verbal (1982: 32). He claims that, in "neutral contexts," a verbal requires the obligatory noun phrases to be specified. The question of obligatoriness of NPs in Japanese deserves more serious attention than to be just mentioned as it is in the present study. I would like, however, to draw attention to the fact that the concept of *simple frame* introduced here is semantic/pragmatic rather than concerned with "surface cases", and does not entail the obligatory specification by a noun phrase of any possible participant role in the frame.
11. Nouns that are not usually "frame-evoking" can also function as hosts. This will also be discussed in Chapter 5.
12. I benefitted very much from the conversation I had with Pamela Downing on the definition of CH-type NMCs.
13. Sowa (1987), writing in the field of Artificial Intelligence, provides an analysis of English noun-noun compounds, which is analogous to the framework discussed here. He proposes four types of compounds according to which constituent gives the frame (or "canonical graph" in Sowa's term) for the other to fit into. The following are the types and examples.
 1. The head noun: *philosophy teacher, jewelry thief, dog house*.
 2. The modifying noun: *mother hen, pet cat, maintenance man, discussion topic*.
 3. Both: *employee compensation, bus ticket, discussion leader*.
 4. Neither: *gold bar, cat people*.

My approach does not exactly parallel his in that, for example, my framework has no type corresponding to his fourth type, which, it is interesting to note, is the most problematical in terms of construal. The similarity between the types of NMCs in Japanese and English N + N compounds is, however, quite striking.

For studies of generation of English noun-noun compounds, see Downing (1977) and Levi (1978).

Chapter 4

Analysis of Noun Modifying Constructions I: CH type

In the last chapter, we argued that a satisfactory understanding of the clausal noun-modifying construction in Japanese requires an analysis which gives an important role to semantics and pragmatics. A working framework, utilizing concepts related to the notion of “frame”, was proposed to account for the constructions. This framework offers the advantage that it allows a unified treatment of the diverse NMCs (as opposed to treatments which classify them into distinct groups, making a dichotomy between relative clauses and noun complements).¹ Another advantage is that it can provide a coherent explanation for judgments of acceptability of the constructions, which allows the prediction of which constructions are likely to be considered acceptable.

As mentioned in the last chapter, the clausal noun modifying construction in Japanese can be divided, in the light of a frame-based analysis, into three major types. The three types are distinguished by which constituents play the role of “host” in the construal of the constructions. The three types are (1) constructions in which the modifying clause “hosts” the head noun (Clause Host type; CH-type) that is, constructions in which a member of the category denoted by the head noun participates in a frame evoked by the linguistic elements in the modifying clause; (2) constructions where the head noun hosts the modifying clause (Noun Host type; NH-type); that is, constructions where what is described in the modifying clause

is construed as a complement of what is denoted by the head noun; and (3) constructions in which both the modifying clause and the head noun host reciprocally (Clause and Noun Host type; CNH-type), i.e., constructions in which the head noun can evoke a frame containing a slot for what is expressed by the modifying clause, while the frame evoked by the modifying clause in turn contains a possible participant role to be filled by the denotatum of the head noun. It should be pointed out, however, that these types should not be considered as disjoint categories into which all NMCs are to be classified, but should be understood as providing guidelines that assist in the construal. Among various NMCs analyzed in this study under the headings of these three major types, the discussion in this chapter will focus on the constructions belonging to the CH-type.

4.1 “Straightforward” Constructions

Many of the constructions which we analyze as CH-type are those that are conventionally classified as relative clauses. As was discussed in the previous chapter, such constructions are instances of this more general type, which we are calling the CH-type constructions.

4.1.1 “Straightforward” Constructions

Let us first consider a straightforward example of the CH-type.

- 1) [[hon o katta] gakusei] wa doko desu ka
 book ACC bought student TOP where COP QP

‘Where is the student (who) bought a book?’

(= (1a) in Ch. 3.)

As was mentioned in 3.2.2., the construal of (1) involves the following. The verb *katta* ‘bought’ (< *kau* ‘buy’) first evokes a simple frame of “buying” (which is a part

of the more inclusive frame of “commercial event” though that does not matter to the present analysis at this stage). The noun in the modifying clause *hon* ‘book’ is followed by the accusative case marker *o* which gives the interpretation of *hon* ‘book’ as the object of *katta* ‘bought’; in terms of the frame, *hon* identifies the merchandise, or the object of buying. The frame resulting from the integration of the elements of the modifying clause into the given simple frame, which for convenience I refer to as a *composite frame*, can function as a “host” for the head noun, or, to be more precise, for a member of the category denoted by the head noun. The reasons that it does so are as follows. First, the role of “buyer” in the composite frame remains unindexed; as with any frame evoked by a predicate, the role of buyer, which corresponds to the agent, is important for the understanding of the sentence. *Gakusei* ‘student’ satisfies whatever selectional restrictions we would place on the “buyer”, and is thus plausibly “hosted” by the given composite frame. A second point which supports this interpretation is that *gakusei* ‘student’ is not one of those special nouns, such as *fact*, *story*, etc., which label or envelope a proposition (as in the NH-type). Thirdly, it is consistent with a fairly general “world-view” that students buy books rather than, say, that something buys books in, at, or with students.

The construal of (1) — more specifically, the construal of the relationship between the two constituents of (1), the modifying clause and the head noun — is thus unlikely to be problematic since the denotatum of the head noun² is eligible without difficulty to index an element in the frame which is a crucial component of the meaning of the verb, namely, the “agent” of buying or the “buyer”. This linking between the two constituents is straightforward not only in terms of frame analysis but also in a syntactic analysis; the missing argument of the verb is exactly linked with the head noun of the construction. In other words, (1) is analyzable from a purely syntactic viewpoint, as well as from semantics/pragmatics.

The following are some more examples of relatively straightforward constructions.

- 2) [[kaze ni yureru] konoha] no kage o
 wind by tremble leaves GEN shadow ACC

situyooni otta.
 tenaciously followed

‘(He) tenaciously followed the shadows of [the leaves [(which) were trembling in the wind]].’

(W:N)

- 3) [[tyabudai no ue ni aru] ramune no
 dining table GEN top LOC exist lemonade GEN

akibin] no iro ni mo kokoro o kubaru
 empty bottle GEN color LOC also heart ACC pay attention

‘(He) paid attention to the color of the [empty lemonade bottle [(which) was on the dining table]].’

(W:N)

- 4) *Muhoomatu* wa ... [[Miyagawa Kazuo san ga
 TOP Mr. Kazuo Miyagawa NOM

satuei-sita] sakuhin] datta.
 photographed piece-of-work was

‘*Muhoomatu* was ... a piece (which) Mr. Kazuo Miyagawa photographed.’

(W:N)

- 5) [[go-zisin NOM kaita] *Kyamaraman Itidai*] ni
 HON-self NOM wrote cameraman life LOC

konna hanasi ga dete-kuru.
 this kind story NOM appear

‘This episode appears in [*Life of a Cameraman* [(which) was written by him (lit. himself).]]’

(W:N)

6) Tanaka moto-syosyoo wa imamo [[giin-bazzi
 Ex-Prime-Minister Tanaka TOP even now Diet member's badge

no tuitei-nai] sebiro] wa ki-nai ...
 GEN attached-not suit TOP wear-not

'Even now, former Prime Minister Tanaka never wears [a suit [(on which
 (his) Diet member's badge is not pinned]].'

(W:N)

7) [[omide tumatta] kinu no zyuban]
 memory gathered together silk GEN under-kimono garments

'[silk under-kimono garments [(in which) memories have gathered]]'

(W:N)

In (2) *yureru* 'tremble' evokes a frame, into which *kazeni* 'in the wind' inserts a qualification. The resulting composite frame can "host" the head noun *konoha* 'leaves' since the frame contains an unindexed position which is easily associated with a member or members of the category denoted by the head noun. As in example (1), this interpretation is supported by the fact that the head noun can assume the role corresponding to the patient of the verb, by the fact that conversely, it cannot function as a host for the clause, and by the fact that the situation of leaves trembling in the wind is in accord with everyday experience. As it happens, the construction can also be analyzed in syntactic terms in that it is possible to link the head noun to the subject of the verb *yureru*).

Likewise in (3), the frame evoked by the modifying clause hosts a member of the category denoted by the head noun. The predicate of the clause *aru* 'exist' activates a simple frame into which the expression of location *tyabudai no ue* 'top of the table', which is followed by the locative *ni*, fits. Such a composite frame hosts the participation of a member of the category denoted by the head noun; there is no doubt as to the relevance to the generalized situation activated by the linguistic element *aru* 'exist' of the object that exists there is doubtless. It may be

useful to note that the head noun is understood as *ramune no akibin* '(lit.) empty bottle of lemonade' rather than *ramune*, *akibin* or *ramune no akibin no iro* '(lit.) color of the empty bottle of lemonade'. Thus, what we have referred to as a head noun may include internal modification in itself; more precisely, it can be a head NP, consisting of a noun which is modified by other elements in the NP. I will, nonetheless continue to use the terminology "head noun" (rather than "head NP") in order to distinguish it from the NP consisting of the head noun modified by the clause. Moreover, the construer of (3) needs to realize that *iro* 'color' is not included in what can participate in the frame, although there is no explicit indication of this in the sentence.

In (4) and (5), the construer would have no trouble relating the two constituents of the NMCs since what is denoted by each head noun easily fits into the frame as a product of the activity denoted by the verb in the modifying clause. What distinguishes (5) from the other examples is that the head noun is a proper name, the title of the book. This type of construction exemplifies what is regularly referred to as a non-restrictive relative clause construction, whose discourse characteristics should be studied at length in comparison to those of restrictive kinds (although in Japanese there is no formal distinction between the two types). In the present framework, the distinction is not denied, yet I will not investigate it in detail here. Suffice it to say that, in terms of the construal of how the two constituents of an NMC are related, the denotatum of the head noun in (5) can be a participant in the general frame evoked by the modifying clause, insofar as it is understood (given a suitable "world-view") as the title of a book, and, thus, as a reasonable object of writing.

In (6), the frame evoked by the verb *tuiteiru* (< *tuku* + *teiru*) 'being attached' includes, as characterizing components, the thing attached and the place to which it is attached. Since *gin-bazzi* 'Diet member's badge' is followed by *no*, which functions as a nominative case marker in a noun-modifying clause of CH-type, and since it

represents something that is typically attached to something else, the participation of *sebiro* 'suit' as the place of attachment is easy to understand from semantic and general real world knowledge.

Similarly, a member of the category denoted by the head noun in (7) *kinu no zyuban* can be a plausible place where someone's memories in a metaphorical sense gather, and the frame evoked by the clause functions as the host of the head noun. Notice that the noun inside the modifying clause *omoide* 'memory' is not accompanied by a case marker, so that the role of the noun in the frame is undeterminable from the form alone. The construer must consider the meaning of the noun in the clause and of the head noun by using a plausibility to interpret the sentence.

The examples discussed above all present instances of NMCs where the denotatum of the head noun matches the specifications of a single very obvious available participant in the composite frame of the clause. These are examples whose acceptability is beyond doubt and which could be accounted for by a purely syntactic or structural analysis.

4.1.2 Superficially "Straightforward" Constructions 1

The construal of NMCs relies crucially on the construer's ability to infer a relationship between the two constituents, since no formal indication of the relationship is present; likewise the generation of acceptable sentences depends on the inferrability or plausibility of the relationship. We have briefly considered this point in 3.1.1. and 3.2.2. with the example repeated below.

8) ?? [[hon o katta] isi] wa doko desu ka
book ACC bought stone TOP where is QP

?? 'Where is the stone (which) bought the book?'

(= (19b) and (25) in Ch. 3)

This is similar to the following example.

9) ?? [[tookyoo o tabeta] tomato]
Tokyo ACC ate tomato

?? '[the tomato [(which) ate Tokyo]]'

As the English translation shows, the English counterpart of (9) has one indisputable reading; namely, that in which the tomato is the diner and Tokyo is the meal. Given this syntactically imposed interpretation, the construer is invited to imagine a world in which these conditions are satisfied, possibly a world of a horror movie. The interpretation of the tomato as the agent and of Tokyo as the patient of the eating is dictated by the grammar of the sentence: it is not influenced by the selectional restrictions associated with the verb *eat* or by whatever difficulties the construer might have in achieving the necessary envisionment.

The construal of (9) in Japanese presents a very different picture. Since there is no explicit marking of how the head noun is linked to the predicate of the modifying clause, the construer needs to infer the semantic relationship between the two elements. In informal interviews, I presented example (9) to ten native speakers of Japanese. None gave the voracious tomato reading as the first response. Since the interviews were conducted informally and on a very small scale, the results have little statistical validity; yet the responses will illustrate how Japanese deal with examples such as (9). Upon hearing (9), all hesitated before responding. About half then said that they did not know what (9) meant, and the rest asked whether it was meant to be *tookyoo-de* 'in Tokyo' rather than *tookyoo-o*. If it were *tookyoo-de*, as some of the interviewees wished, (9) could provide the plausible reading of referring to a tomato which someone (presumably the speaker, though it is not explicitly given in the phrase) ate in Tokyo. After being assured that such was not the intention, about half decided that (9) was uninterpretable, while the rest finally reached the intended reading. It is interesting to contrast the construal process in English and Japanese in light of this example. In English, one is first aware of the reading that the syntax

of the construction imposes although some may feel that their world-view does not support that interpretation. In Japanese, on the other hand, hearers construe the relationship between the two constituents only after they first discard their ordinary or "default" world-view and adopt one of fiction, in particular of horrific or comic fantasy. Unless the situation activated by the construction is plausible, interpretation will be at best hesitant, and often impossible. Judgments of grammatical acceptability, then, rely on appropriateness in terms of the construer's world-view as much as, if not more than on his/her knowledge (unconscious though it may be) of the valency description (or predicate-argument structure) of a predicate. In other words, the well-formedness of NMCs depends on pragmatic, semantic and syntactic aspects of the construction as a unified whole, not on only one of them.

The following is another example illustrating the phenomenon that a missing argument in the modifying clause does not induce an automatic, syntax-driven linking with the head noun, but that a successful construal must be supported by the plausibility of the situation.

10) [[midori o musibamu] ze]
 greenery ACC eat (like a worm) tax

‘[a tax [(which) eats away at greenery]]’

(W:N)

(10) occurred in the title of a newspaper feature. Informal interviews again elicited various responses. Some judged this phrase as incomprehensible and unacceptable, some interpreted it as referring to a tax which was imposed on the act of damaging trees and forests, in analogy with taxes imposed on eating, drinking, etc. There were also some who interpreted it as a tax which has had the effect of causing forests to be destroyed. On reading the article accompanying the title, it is clear that the tax in question is a very high inheritance tax on mountainous land. In order to avoid paying this high tax, people develop the mountains, transforming

green forests to more productive land on which the tax-rate is low. The respondent whose interpretation was closest to the writer's intention was aware of the existing problems of the inheritance tax. Those who could identify a member of the category denoted by the head noun as a possible participant in the frame evoked by the modifying clause did so with the help of their knowledge of the society, with reference to taxation. Those who do not have such knowledge could not understand the connection between tax and the destroyed forests. The varied interpretations of (10) are interesting in relation to theories based on syntax and on the accessibility hierarchy of cases since, in such theories, relativization of the subject of the verb is predicted to be the most unproblematic. In this instance, the fact that the understanding of the described situation was not widely shared interfered with the construal.

The extraction of an element from the noun phrase in (10) is unlikely to be acceptable, as in (11) below, even though it is the extraction of the subject, which, in syntactic theories of relative clause construction, is claimed to be possible. (See Kuno 1973, Inoue 1976, Hasegawa 1981, Kuroda 1986, etc.)

- 11) ?? [[[[\emptyset_i \emptyset_j musibamu] midori;] ga yomigaetta] zei;]
 eat away at greenery NOM revived tax

In contrast, when the evoked situation requires less special knowledge to construe, the extraction from the NP of even lower cases in the supposed hierarchy becomes possible. We will come back to this point later.

In both examples (9) and (10), if the head nouns denoted animate objects (fictitious or not), especially ones which are known to consume cities or greenery as in (12) and (13), the construal in which a member of the category denoted by the head noun is the agent of eating would be uniformly given.

12) [[tokyoo o tabeta] gozira]
Tokyo ACC ate Godzilla

'[Godzilla, [(who) ate Tokyo]]'

13) [[midori o musibamu] imomusi]
greenery ACC eat (like a worm) caterpillars

'[the caterpillars [(which) eat away at the greenery]]'

Extension of the agent to an inanimate object as in (9) and (10) requires a different world-view or a metaphorically extended meaning (e.g. *musibamu* 'eat like a worm > undermine, affect').

The discussion in this section leads us to consider the old question of whether one can or should distinguish between syntactic (or structural) grammaticality and semantic/pragmatic acceptability in the judgment of linguistic data. There are certainly instances in which the form of a construction alone is sufficient to judge illformedness as in (14 a,b).

14) [[hon o katta] gakusei]
book ACC bought student

14a) * [[hon o *katte*] gakusei]
buy:Gerund

14b) * [[hon o *katta wa*] gakusei]
bought SFP

The main predicate in a modifying clause must be in the adnominal form (which in modern Japanese is mainly identical to the declarative form), while the main verb in (14a) is not. The verb in (14b) is in declarative form but is followed by a

sentential final particle, which makes the verb form non-adnominal. In judgments on, say, the “relativizability” of a noun, however, it is, as we have seen above, difficult to separate syntactic/structural from semantic/pragmatic acceptability. In many cases the determination of the grammatical/semantic role of the head noun with respect to the subordinate predicate is dependent on the semantics of the lexical items and on the availability of a possible (generalized) situation into which all the constituents can be successfully associated. This reliance on semantics and pragmatics is inevitable in making acceptability judgments, since syntax alone does not determine the construal.

4.1.3 Superficially “Straightforward” Constructions 2

The above are not the only examples in which the meaning of lexical items and knowledge of the real world play a crucial role in construal. One such example, which was discussed in 3.1.1. is the following.

15) [[watasi ga kinoo kani o tabeta]
 I NOM yesterday crab ACC ate

resutoran] wa kondeita.
 restaurant TOP was crowded

‘The restaurant (at which) I ate crab yesterday was crowded.’

(= (6a) in Ch. 3)

It was pointed out in 3.1.1. that the head noun is construed as referring to the location of the activity described in the modifying clause. This relies on the construer’s knowledge of what a restaurant is in the real world. In the absence of such knowledge, it could as easily be interpreted as, for example, an expression of time, or as an instrument; that is, as a different so-called adjunct. In a framework that takes account of semantics, however, this difficulty does not occur. The host

frame, in which two participants, the eater and the food, are already indexed by elements in the modifying clause, can offer a slot available for a member of the category denoted by the head noun. Furthermore, the situation suggested by these linguistic elements is likely to agree with the construer's (ordinary or "default") world-view.

The following are more examples of this kind.

- 16) [[yosino-sugi no oisigeru] syamen] ga ...
 Yoshino-cedar NOM grow thickly slope NOM

'[the slope [(on which) Yoshino cedars grow thickly ...]

(W:F)

- 17) [[kenmin puuru ga aru] wakaba-yama da ...
 prefecture residents pool NOM exist Mt. Wakaba is

'(It) is [Mt. Wakaba [(at which) there is a pool for the residents of the prefecture]] ...'

(W:F)

- 18) [[zi no nai] seikatu] desu kara ne.
 letters NOM exist not life is because SFP

'because (it was) [a life (in which) letters didn't exist]]'

(O)

The head nouns in the following examples denote time, rather than places.

- 19) [[tenoo ga enu-zii dasita]³ hi] ni wa
 Emperor NOM mistakes made day TIME TOP

tokuni negirai ga atukatta wake-da-yo
 especially thanks NOM was cordial SFP

'So, on [the day [(on which) the Emperor made mistakes] (his) thanks were especially cordial.'

(O)

20) kotira wa tokiori [[tumetai kaze no huku]
here TOP occasionally cold wind NOM blow

hi] mo arimasu ga ...
day also exist but

'Here there are also [days [(on which) a cold wind blows]], ...'

(L)

21) [[aki-bare no tuzuita] tosi] ni wa dooka-sayoo
autumn-sunny NOM continued year TIME TOP assimilation

sunde ...
progress:GER

'In the year (in which) the autumn sun has continued to shine,
(plant) assimilation is progressing and ...'

(W:N)

There are also constructions in which "arguments" are absent in the modifying clause yet in which the head noun is not associated with any one of them. An example of this kind, which we considered in 3.1.1. is repeated again below as (22).

22) [[Kinoo ∅ ∅ tabeta] resutoran wa kondeita.
yesterday ate restaurant TOP was crowded

'The restaurant (at which) (I) ate yesterday was crowded.'

(= (6a) of Ch. 3)

The construal of (22) in the framework of this study is basically the same as that of (15) and is analyzed as follows. First, what is denoted by the head noun can not be a host for the modifying clause since the semantics of the head noun does not permit it to take a proposition as its content. In the modifying clause, the

verb *tabeta* 'ate' evokes a frame of eating in which many elements can potentially participate. The additional information given by *kinoo* 'yesterday' and the verb in the past form facilitate understanding the reference of the complex NP in real speech contexts. One of the possible participants in the evoked frame can be associated with the head noun because the construer has the semantic knowledge that a restaurant is a commercial establishment where people eat food. That is, the frame given by the clause functions as a host for the head noun. Thus, among possible elements in the frame, the location is filled in, and the integrated frame is consonant with the construer's world-view. The complex NP in this example describes a certain restaurant by specifying a situation, a particular instance of eating, in which it is relevant.

It is not the task of NMC construal to index all possible elements of the frame or even only those that are considered to be crucial participants (often referred to as arguments) of the frame. In (22), for example, the agent of eating or the subject of the verb is not explicitly provided within the modifying clause. In this example the eater is determined externally to the construction itself. This determination relies on the information provided in the real speech context where (22) is produced — the eater may be already mentioned in the prior context or, if not, may be the speaker or a group of people including the speaker.⁴ In the same fashion, the object of eating, which is absent from the clause, can be interpreted in the light of information that is external to the NMC. Depending on the speech context, it may be already known or understood as simply food. Other possible participants may also have been introduced in the prior context or may not be brought into attention in the context.⁵ Unlike in English relative clause constructions, there are not in Japanese NMCs "missing arguments" or "gaps" that are obligatorily linked with the head noun; furthermore, this characteristic of Japanese NMCs also explains why the meaning of the head noun, and not just the argument structure of the predicate, is important and why the construal of NMCs is more dependent on

semantics and pragmatics.

The following are some examples of the sort discussed above where some participants of the frame are inferrable or (textually or situationally) evoked (in Prince's (1981) term).

- 23) [[Kodomo no toki kara sodatta] Simabara] no
child GEN time since grew up Shimabara GEN

tikei o kangaeteta tte no yo
landscape ACC was thinking HEARSAY NMLZ SFP

'(He told me that) (he) was thinking of the landscape of
Shimabara (in which) (he) grew up since (his) childhood.'

(O)

- 24) [[suupu no okawari no dekita] mise] nado
soup GEN second-serving NOM can-do shop etc.

omoidasi ...
remember

'(I) was remembering [the shop (at which) (we) could have
seconds of soup ...']

(L)

- 25) [[otto to tomoni ayunda] naga-nen] no
husband COMMIT together walked long-years GEN

kuroo ga sinobareru.
hardship NOM remind-(one)-of

'(It) reminds (one) of the hardships of [the long years [(during which)
(she) walked (=lived together) with (her) husband]]'

(W:F)

- 26) [[narenai daidokero de sikuhakku-suru] mainiti]
 not-accustomed kitchen LOC struggle everyday
 'everyday (in which) (I) struggle in the kitchen (I am) not used to'

(L)

- 27) sankagetu-kan [[“sitai o kazoeru] mainiti”] o
 three-month-period corpse ACC count everyday ACC

sugosite kaettekita.
 spent returned

'(lit.) (We) returned after spending everyday (in which) (we)
 counted corpses for three months.'

(W:N)

- 28) ... mama no te o gyutto nigitte [[basu
 mother GEN hand ACC tightly hold bus

de mukae-ni-kuru] sensei] ni dakareru-yooni-site ...
 INSTR come-to-meet teacher AG be-carried-EVID-do:GER

'(while she is) holding (her) mother's hands tightly, (she) is almost
 carried by the teacher (who) comes to meet (her) by bus ...'

(L)

- 29) [[amari hanasi nado kawasita koto-no-nai] ootoo
 very-much talk etc. exchanged have-not younger-brother

dearu.
 is

'(This is) the younger brother, (with whom) (I) scarcely conversed.'

(W:F)

- 30) nadare to zyumoku no kankei wa
 avalanches and trees GEN relationship TOP

[[korekara mo tuikyuu-subeki] ten] da ga ...
henceforth also should-investigate point is but

‘the relationship between avalanches and the trees is a point
(which) (one) should further investigate, but ...’

(W:N)

31) [[syoogaitomo nakamutumazii] hanryo]
for-life affectionate companion

‘a companion (with whom) (we) are affectionate for life’

(W:N)

32) [[syooga-ziru o kuwaeta] su-zyooyu] o kuwaemasu
ginger-juice ACC added vinegar-soy sauce ACC add

‘add the vinegar-soy sauce (to which) ginger juice was added.’

(W:N)

Another point to be noticed in (22)

22) [[Kinoo ∅ ∅ tabeta] resutoran wa kondeita.
yesterday ate restaurant TOP was crowded

‘The restaurant (at which) (I) ate yesterday was crowded.’

(= (6a) of Ch. 3)

is that its construal is relatively straightforward in comparison to a construction such as (33), in which the verb in the modifying clause is *yonda* ‘read’ instead of *tabeta* ‘ate’.

33) ? [[kinoo yonda] resutoran] wa kondeita.
yesterday read restaurant TOP was-crowded

‘the restaurant (in which) (I) ate yesterday was crowded.’

A reason for the relative unacceptability of (33), in contrast to (22), is that a restaurant is easily understood as a location when the action in question is “eating”; thus, easily fits into the frame evoked by the modifying clause verb *tabeta* ‘ate’ in (22). In (33), in contrast to (22), the frame of “reading” does not very well host the head noun *resutoran* as a location. As we might expect, if *tosyokan* ‘library’ were the head noun of the complex NP in (33), the construal would be less difficult. Otherwise, it may be interpreted as ‘the restaurant (which) (I) read (about)’. This interpretation is probably more likely if one has the expectation that people are apt to read restaurant reviews, rather than that restaurants are simply places where any random activity may be performed.

It is not the case, however, that the NMC in (33) is incomprehensible in all situations. If it is established among the interlocutors, for instance, that the speaker is an avid reader, who reads in all sorts of places, (33) could be a plausible utterance. In other words, the successful construal of (33) is heavily reliant on background knowledge that is shared by a restricted number of people; whereas the construal of (22) requires only a general shared background, and the connection between the activity and the place is more intrinsic. This difference is the reason that the NMC in (33) could also allow the interpretation as ‘the restaurant (which) (I) read (about) yesterday.’

The construer’s social/cultural knowledge about a situation (knowledge which the speaker/writer depends on) can sometimes provide an unambiguous interpretation for an otherwise ambiguous situation.

34) *konotokoro kyuuni samuku-natta seika ...*
 these-days suddenly cold-became probably-due-to

[*atuginisite-kuru akatyan*]] *ga medatimasu.*
 bundle-up-come baby NOM is-noticeable

‘(lit.) Probably because it suddenly became cold these days, ...
 babies (whom) (their mothers) bundle up (to visit us) are noticeable.’

(34) is the first line of a short newspaper article on a page dealing with “home” related matters, entitled *Akatyan to tanosiku* ‘Having a good time with baby’. From the (complex) verb in the modifying clause, a frame is evoked which includes at least two participants; namely an agent of putting lots of clothes on someone (or something) and the patient of such action. Since both are animate or, indeed, human, their identification is possibly ambiguous. The likely construal is that what is denoted by *akatyān* ‘baby’ identifies the patient of the action of bundling up with clothes rather than the agent; furthermore, it is likely that the construer will interpret the agent as being the baby’s mother, although there is no mention of a mother either in the text or in the title. This illustrates that the construal is, to a significant extent, dependent on social/cultural knowledge associated with lexical items and with the situation evoked. If a construer does not have such a world-view, then the interpretation given in (34) is not guaranteed.

In passing, a possible ambiguity in an NMC can be exploited to create a feeling of camaraderie with those who share the background needed for successful construal. It was reported to me that the same headline (35)⁶ was used in different areas of Japan to convey two different interpretations.

- 35) [[yaburu] kyozin]
 beat the Giants (baseball team)
- 35a) ‘[the Giants, [(who) will beat (every team)]]’
 35b) ‘[the Giants, [(whom) (our home team) will beat]]’

(35) was used in a Tokyo paper (Tokyo is the home ground of the Giants) for an article whose content could be summarized by the reading (a), whereas it was used with reading (b) in a newspaper based in the area of one of the Giants’ main rivals. The readers of each paper presumably understood the meaning of the headline before

they read the article, although it would not be true for people who have no interest in baseball.

To discuss the degree to which shared knowledge, over and above that possessed by all native speakers of a language, and the speech context affect construal, it is of interest to consider sentences uttered in the context of least assumed knowledge, in contrast with the same sentence uttered in the context of some additional shared knowledge. For example, suppose (36) and (37) were spoken to the construer totally out of the blue (if, say, (36) were uttered by a stranger encountered in the street, who suddenly pointed to a store, or if (37) were asked by a stranger in a bookstore.

36) koko ga [[watasi ga katta] mise] desu.
 here NOM I NOM bought store is

36a) 'Here is the store (which) I bought.'

36b) 'Here is the store (at which) I bought (it).'

37) [[hon o katta] gakusei] wa doko desu ka.
 book ACC bought student TOP where is QP

37a) 'Where is [the student (who) bought a book?]

37b) 'Where is [the student (for whom) (you, etc.) bought a book?]

37c) 'Where is [the student (from whom) (you, etc.) bought a book?]

In such a context, we may conjecture that the interpretation given in the (a) English translation in each example, where the denotatum of the head noun participates in the frame evoked by the modifying clause as "goods" in (36) and as "buyer" in (37), would be preferred over the (b)s, although both interpretations are perfectly possible from a regular world-view.

In (36), the head noun *mise* 'store' can be understood either as real estate or as a commercial establishment where one buys merchandise; the (a) reading is based

on the former. The frame evoked by the elements of the modifying clause hosts the denotatum of the head noun as one participant; namely, as the “goods” purchased. The (b) reading is taken if the focus is on the store as the location of the activity, “buying”. In this sense, the NMC in (36) is ambiguous and the second interpretation is not completely precluded. If (36) were not uttered out of the blue by a stranger, and if, instead, the interlocutors had been discussing what the speaker bought, then the (b) interpretation is much more likely than (a).⁷ These decisions rely on social/cultural assumptions that the construer has in relation to the evoked situation. If we can say that the (a)-reading of (36) is more likely, it is probably because the (a)-reading seems to require fewer extra assumptions to make in construal.

The point is even more clearly illustrated by (37). Unless the interlocutors in (37) have the contextual knowledge that a book was bought for the benefit of a certain student, or from a certain student, the second and the third interpretations are difficult to obtain. The (b)- and (c)-interpretations require considerably more shared background knowledge than the (a).

This observation leads us to suspect that there is a hierarchy of preference in construal. In the situation “commercial event” which is evoked in (36) and (37), some participants, such as the buyer and the goods, are more easily associated with the head noun than others, such as the location or the beneficiary, and these interpretations are the most likely in the context in which they are used out of the blue or used in a context where the least cultural and situational background is assumed. It may thus be claimed that the buyer and the goods are more crucially associated with, or more strongly characteristic of, the situation of a commercial event than are the location and the beneficiary. Incidentally, this distinction, at least in the given case, coincides with the distinction made in syntactic analyses between arguments and adjuncts. It should be noted, however, that the hierarchy of preference neither entails the hierarchy of case roles nor, especially, an obligatory association of the head noun with an unindexed crucial element in the frame. As we

considered earlier in discussing *[[kinoo tabeta]resutoran]* ‘[the restaurant [(at which) (I, etc.) ate]’, if the meaning of the head noun provides a clear direction as to how a member of the category denoted by the head noun can participate in the evoked host frame, then it can participate in that manner even though the position in the frame that is indexed is not that of a “crucial element”. The influence of a hierarchy of preference operates, rather, when a member of the category denoted by the head noun could participate in the frame in more than one capacity; in which case the construer would tend to associate it with the more “crucial” or more “salient” role in the frame, especially if the speaker is not in the position of being able to call on very specific shared background assumptions. In short, in a construction such as those in (36) and (37) where more than one association between the two constituents of the NM is possible, the principles of construal allow the construer to make any plausible association (i.e. the construction can be considered as ambiguous), yet there will be a preference for the interpretation which involves the fewest special assumptions.

4.1.4 Complexity of Construal

We have considered a general construal mechanism for CH-type NMCs. As we observed, an unambiguous, successful construal is achieved when the role of the denotatum of the head noun as a participant in the host frame is uniquely determinable in accordance with the construer’s world-view. The construal mechanism is largely dependent on a varied degree of inference on the relationship between the frame evoked by the linguistic clues and the head noun. In this regard, the task of construal is easier when more clues are provided. If the NMC in (33), which we considered earlier, had more information filled in, as in (38), then the participation of the denotatum of the head noun in the frame as representing the location of the activity described by the verb in the modifying clause is more tenable.

38) [[kinoo tomodati kara no nagai tegami o
 yesterday friend ABL(from) GEN long letter ACC

yonda] resutoran] wa kondeita.
 read restaurant TOP was-crowded

'the restaurant (at which) (I) read a long letter from (my)
 friend was crowded.'

We may say that when the activity is described in more detail in the modifying clause, the content becomes more "focused". The construer then needs fewer inferences in order to understand the connection between the two constituents.

An NP followed by a case marker is not the only linguistic clue which can further specify the content of the frame. Another device by which the speaker can give a further clue is the use of an adverb. In the following examples, (40a) is normally considered to be unacceptable, whereas (39a) is good.

39a) [[taroo ga kekkonsita] onna-no-hito] wa asoko
 Taroo NOM married woman TOP there

ni imasu.
 LOC exists

'The woman (whom) Taroo married is there.'

39b) Taroo ga sono onna-no-hito to kekkonsita.
 Taroo NOM that (DET) woman COMMIT married

'Taroo married the woman.'

40a) * - [[taroo ga benkyoosita] onna-no-hito] wa asoko
 Taroo NOM studied woman TOP there

ni imasu.
LOC exists

40b) Taroo ga sono onna-no-hito to benkyoosita.
Taroo NOM that (DET) woman COMMIT studied

'Taroo studied with the woman.'

The two examples have been contrasted in the literature (Kuno 1973, Inoue 1976, Teramura 1976, Okutsu 1974) in order to illustrate the fact that even though the shared noun is accompanied by the same case marker *to* in two constructions, the *to* which represents "partner" is "relativizable" but not the *to* meaning "co-actor". However, as has also been noticed, if an adverb *issyoni* 'together' is added to the modifying clause as in (41), the construction becomes acceptable.

41) [[taroo ga issyoni benkyoosita] onna-no-hito]
Taroo NOM together studied woman

'the woman (with whom) Taroo studied together'

While this fact has been noted, it has not been incorporated into the analyses and has not changed the claim that *to* meaning "co-actor" is not relativizable, (presumably this is because the focus of the analyses was simply on the relativizability of a noun accompanied by a case marker). In the present analysis based on the frame evoked by the clause and the participation of the denotatum of the head noun in the frame, the difference in acceptability between (40) and (41) is predictable in terms of the extra information in the frame which is provided by the adverb and which guides the construal.

The situation activated by the elements of the modifying clause in the NMC of (40) does not necessarily include a co-actor as a typical participant, unlike that of

the NMC in (39a), where its typical state is to have two participants in the activity described. Thus, the inference on how the denotatum of the head noun should be hosted by the frame evoked by the clause is difficult to make from the given linguistic and cultural clues.⁸ The linguistic clue provided by *issyoni* 'together' in (41) points to a real-world context and a composite frame where 'co-studying' is done together by more than one person. Given this frame, the identification of a member of the category denoted by the head noun as a participant of the frame, occupying the role of co-actor, becomes straightforward and plausible. The more information is given about the situation in which the denotatum of the head noun is to be hosted, the easier it becomes to construe the NMC.⁹

The following are similar examples. (42a) is from Teramura (1976).

42a) * [[taroo ga tuyoi] hito]
 Taroo NOM strong person

42b) [[taroo no hoo ga tuyoi] hito]
 Taroo GEN side NOM strong person

'(lit.) [the person [(than whom) Taroo is stronger]]'

In (42b), *no hoo* following *taroo* expresses the idea of a comparison.

When the relativizability of a noun in terms of its case receives varying acceptability judgments, the judgments are in many cases influenced by the plausibility of the situation alluded to by the whole NMC or by how clearly the situation is set up by the linguistic clues. This specification of the situation can be accomplished by the use of a predicate with a restricted meaning which can be used only in a limited type of situation (e.g. *kyooensuru* 'co-act' rather than *enziru* 'act'), or by explicitly identifying more participants in the situation, as we have just observed in (41) and (42). Therefore, the acceptability cannot be simply decided by the surface

case marking that the “corresponding noun” takes or by any all-around hierarchy of cases that is assumed to hold.

The degree of plausibility from the construer’s world-view of the situation described or alluded to plays a non-negligible role in making acceptability judgments. In syntactic analyses, the extractability of a noun from a complex NP is employed to illustrate that fact that subject-non-subject asymmetry in that extraction out of an NP in subject position is allowed, while the extraction out of an NP in non-subject position is not (Hasegawa 1981, Saiki 1986). Furthermore it is claimed that not only must the “gap” be a subject, but also that the complex NP itself must be the subject of the larger sentence.

This contention, however, is not true; counter-examples have already been presented in earlier syntactic analyses of relative clauses by Inoue (1976), where grammatical examples in which the complex NP is in the object position are provided. Inoue (1976), however, claims that extractability of a noun is very restricted, and provides two unacceptable examples, one of which is given below.

43a) * [[[[sensei ga okutta] hon] ga nakunatta] gakusei]
 teacher NOM sent book NOM got lost student

43b) [Sensei ga *gakusei ni okutta*] hon] ga nakunatta.
 teacher NOM student DAT sent book NOM got lost

‘the book (which) the teacher sent to the student got lost.’

The inner complex NP is in the subject position, but the “gap” is the indirect object of *okutta* ‘sent’, as suggested in the paraphrase (b).

The following has the identical syntactic specification, yet the acceptability is very high, if not perfect.

44a) [[[[watasi ga okutta] o-tyuugen] ga kowareteita]
 I NOM sent HON-summer-gift NOM was-broken

tokuisaki] ga aru n desu ga ...
 client NOM exist NMLZR is but

‘(lit.) There is a client (to whom) the summer gift (which)
 (I) sent, was broken but ...’

44b) [watasi ga tokuisaki ni okutta] o-tyuugen] ga
 I NOM client DAT sent HON-summer-gift NOM

kowareteita.
 was-broken

‘(lit.) the summer gift (which) (I) sent to a client was broken.’

The content of (43b) and (44b) are very similar, but the situation called to mind by (44b) is more easily imaginable and therefore more plausible to a construer, if we suppose that s/he is familiar with the custom in Japan of sending gifts to acquaintances, including clients, in summer. This is likely to be a component of one’s world view that is shared by all members of the society/culture, while the situation that one must assume in order to comprehend (43a) is hardly a customary one, making it difficult to discover how the denotatum of the head noun can participate in the frame. A plausible situation from the construer’s world-view and the associated linguistic frame, which models the situation and in which a member of the category denoted by the head noun should participate is evidently an important factor for any NMC to be acceptable. It is also true that if the denotatum of the head noun and the predicate of the modifying clause have a strong association to each other in the regular (or “default”) world-view (e.g. *resutoran* ‘restaurant’ and *taberu* ‘eat’), then relatively less elaboration on the elements of the frame and on the details of the situation are necessary for the construal to be successful.¹⁰

What we have been observing here may be summarized as follows: there are several determining factors in the construal of CH-type NMCs; one is a range of preference of semantic roles of the denotatum of the head noun with respect to the frame evoked by the elements of the modifying clause; this will depend on that frame and, in particular, on the main predicate in the modifying clause. Another factor is the variation in the degree to which the situation activated by the construction is generally seen as plausible. If the participant role is very accessible and the evoked situation is plausible, then the NMC presents no difficulty in construal; if neither of these holds, it will be unconstruable in most or all speech contexts; in the mixed case, acceptability varies. The example [*tookyoo o tabeta*] *tomato* shows that, even though the semantic role of the head noun ranks high in the hierarchy, the interpretability becomes doubtful as the plausibility of the situation decreases. As we saw in (41) [*taroo ga issyoni benkyoosita*] *onna-nohito*, the construability can be high if an appropriate linguistic clue is given even if the participant role taken by the head noun is one that would generally not be considered accessible. A similar fact was also observed in the instance of “extractability” of a noun from a complex NP. The plausibility of a situation is highest if it requires least social and cultural knowledge that cannot be supposed to be shared by more than a limited number of people; and a situation is not plausible to the construer when it does not conform with any sort of world-view. There is some variation in the hierarchy of semantic roles of the category denoted by the head noun proposed in previous studies, but there is general agreement that roles that are crucial to the composition of the meaning of the predicate (e.g. agent, patient) are in the highest group, and those that are often called “circumstantials” (e.g. time, place) and the object of comparison are lowest. As we have seen, there is actually more than a single hierarchy to consider. A strict characterization of all of the factors and of the weights that should be assigned to each would be difficult to determine, yet the examples we have seen make it evident that NMCs in Japanese depend on the sum of various linguistic factors rather than

being attributable to a single phenomenon.

We have been considering the CH-type of Japanese NMCs from a fundamentally different perspective from that of most previous studies. A central question motivating previous studies on relative clauses was to determine which NPs in a sentence are relativizable. The perspective of the present study is that one way of modifying a noun is to qualify it by a clause and that to understand the construction one must discover the role of a member of the category denoted by the head noun as a participant in the situation activated by the modifying clause. Unlike previous accounts, the present approach does not assume that a clausal NMC is derived through a transformation and, consequently, does not seek to restrict the possible relationships between the head noun and the modifying clause to what is expressible by adjoining a case marker to the corresponding noun. The necessity for this approach is demonstrated by the wide range of phenomena that previous analyses cannot account for. This should become even clearer in the following discussion.

4.2 Other Possible Relationships between Noun and Clause

There are a number of CH-type NMCs that cannot be accounted for by purely syntactic or structural analyses, as was mentioned in the discussion of examples (11) - (17) in 3.1.1. and in 3.2.2. Such NMCs have been ignored in previous analyses, with the exception of Teramura (1976) which mentions the existence of some problematic cases. This section offers a detailed examination of such NMCs in the light of the present framework. The construal mechanism for the examples to be examined in this section is basically identical to that for the examples given in 4.1. The difference is that the semantic role of the head noun with regard to the predicate of the modifying clause goes beyond what can be explained by a regular valency description of the predicate. This poses a problem for conventional analyses, since not only can the head noun not index an argument of the predicate, but it can even fail to index what would usually be acknowledged as an adjunct. Notwithstanding these inconveniences for structural explanations, in the examples we discuss, a member of the category denoted by the head noun does participate in the frame evoked by the linguistic elements of the modifying clause. In the following discussion, the examples will be grouped according to the type of semantic relationship between the head noun and the clause of the NMCs. It is unlikely that there is a listable set of such possible relationships, and there is variation in the degree of preference. The relations presented here represent examples that are either attested or have been judged to be possible by native speakers of Japanese. The types of semantic relationship found are: (1) condition and consequence; (2) purpose and requisite; (3) simultaneous actions or events; (4) actions or events in simple temporal sequence; (5) "topic" and "comment"; and (6) part and whole. Among these, the relationship (1), condition and consequence, is the most commonly observed, and we will begin our discussion with this type.

4.2.1 Condition and Consequence

Condition-to-consequence relations between the head noun and the modifying clause can occur either when the head noun plays the role of the condition, and what is expressed by the modifying clause is the consequence, or when the head noun identifies the consequence within the frame evoked by the clause, while the clause conveys the condition for the expressed consequence. In the following discussion, analyses of this type of NMC will be given in the order [[consequence] condition], [[condition] consequence], followed by the related [[eventuation] offset].

[[consequence] condition]

In 3.2.2., the following example was briefly analyzed as an instance in which construal was not as straightforward as that of those CH-type NMCs that were discussed earlier.

- 45) [[atama no yokunaru] hon]
head NOM get better book
'The book (by reading) (which) (one's) head gets better.'

As with the construal of other CH-type NMCs, the frame evoked by the modifying clause functions as host for the head noun. In NMCs such as (45), however, the way that the head noun is hosted by the frame evoked by the clause is less direct or less intrinsic to the frame than in the cases discussed earlier. What is hosted by the evoked frame is not simply a member of the category denoted by the head noun, but the noun in association with a prototypical action or event evoked by the head noun. That is to say, in (45) the relation is not simply between 'a book' and 'one's head improving' but between 'reading a book' and 'one's head improving'. The successful accomplishment of this inference is the first requirement for successful construal. The second inference that the construer must draw is of the type

of relation obtaining between, say, reading a book and mental improvement. The identification of that relationship relies heavily on the listener's world-view, which provides a plausible connection between the frame evoked by the clause and the head noun. In other words, if the construer did not share the conventional view that one's mental faculties can be improved as a consequence of reading books, then the construction would not be construable. It is this world-view that allows the construer to infer the semantic connection between the clause and the head noun as one of condition and consequence. Thus, the judgment of (45) as acceptable relies on the existence of certain components of the hearer's world-view.¹¹ As was mentioned earlier, the dependence on components of the world view can be illustrated by varying the head noun. Compare (45) with the (normally uninterpretable) (46):

- 46) ?? [[atama ga yokunaru] kuruma]
 head NOM get better car
 ?? 'The car (by driving which)(one's) head gets better.'

(= (12); 3.1)

No contingency relation between, say, 'driving a car' and one's improving intelligence is inferrable from a normal world view. Thus, (46) would usually be judged unacceptable, unless there were a strong context established which could indicate the connection. It should be emphasized that the difference in degree of acceptability between (45) and (46) is made intelligible in the present framework, but cannot be accounted for by purely syntactic or structural analyses.

The acceptability judgments assigned here to (45) and (46) would probably be unexceptionable to the majority of Japanese speakers. In (47), however, I would expect acceptability to vary in accordance with the significance of automobiles to the construer's sense of well-being.

- 47) % [[genki ga deru] kuruma]
 energy NOM rise up car
 'The car (by driving/owning which) (one's) energy rises.'

This would be judged to be acceptable only by those for whom owning or driving a car is a possible source of psychological fulfillment or energy. To others, it would be judged to be unacceptable. This illustrates the point that successful construal or, relatedly, the judgment of an NMC as acceptable relies on social and cultural assumptions and on a particular world-view that must be held by the hearer.

In all of the examples (45-47), there is no explicit indication of the role that the head noun should play in the frame, and the construal must depend on inferences based on semantic and pragmatic factors. If the construer cannot imagine a way in which what is designated by the head noun can participate in the situation described in the clause, the construction is uninterpretable. If an action or state of affairs associated with the head noun can be seen as relevant to the situation invoked by the clues in the modifying clause, then the construction is interpretable and grammatical. The relation that the simple frame potentially contains a participant role "condition" accompanies the judgment of the construction as acceptable. In other words, a potential participant role, "condition" is discovered when the construer reaches the interpretation of the construction.

The magnitude of the assumptions and inferences required for a successful construal varies with how intrinsic or direct the connection is between the frame evoked by the clause and the meaning of the head noun and also varies with how widely a certain world-view is shared. In the following example (originally cited by Martin (1976)), the connection between the medicine referred to by the head noun and what is expressed by the clause is more direct than that in (45), which differs from (48) only in the head noun.

- 48) [[Atama ga yokunaru] kusuri]
 head NOM get better medicine
 'The medicine (because of which) (one's) head gets better.'

In a 'regular' world-view, which is presumably widely shared, it is understood that medicines are used to remedy physical ailments. With such an understanding, the connection between the situation described in the modifying clause (someone's head improves) and an instance of the category denoted by the head noun (medicine) is relatively direct. The relation between the frame and a possible participant becomes even more transparent in (49):

- 49) [[kaze ga yokunaru] kusuri]
 cold NOM get better medicine
 'The medicine (by which) a cold gets better.'

Knowing that a cold is a physical disorder that people usually seek to remedy, and that certain kinds of medication are manufactured for that purpose, the construer understands the relevance of the medicine, and has little need for any special inferences. The semantic relationship between what is conveyed by the clause and the head noun in (49) is that of (expected) consequence to condition, as with (45) or (47), but it is possible to paraphrase (49) with the case-marker *de* (instrument, or cause), as in (50), whereas such a paraphrase would be unnatural for the other examples (as shown in (51)) in that it would convey that the state described in the clause is a direct effect induced by what is expressed by the head noun.

- 50) Kono kusuri *de* kaze ga yokunaru
 this medicine INSTR cold NOM get better
 'With this medicine, a cold will get better.'
- 51) ?? Kono hon *de* atama ga yokunaru
 this book INSTR head NOM get better
 ?? 'With this book, one's head will get better.'

In conventional analyses, (49) would be treated as a “relative clause” construction, while (45) would be treated as something else or, more probably, not at all. Nonetheless, the difference between (49) and (45) — the fact that only one is paraphrasable with an appropriate case marker — derives from a difference in the naturalness of the relation between what is conveyed by the clause and the head noun, rather than from a difference in kind. The fact that examples such as (45) and (49) seem to differ only in degree argues further for a framework that can encompass both of these constructions, rather than maintaining analyses that dichotomize them into RCs and “something else”.

As already noted in the discussion of (47), certain relations can be inferred without any special knowledge beyond that shared by all speakers of a language. Others, however, require more or less specialized background knowledge, as will be illustrated in examples (51' - 56), which require increasingly specialized knowledge to construe.¹²

51') [[hyakuman en tamaru] tyokinbako]
 million yen accumulate (v.i.) savings box
 ‘A savings box (by using which) a million yen accumulates.’

52a) [[yaseru] onsen]
 become slim hot spring
 ‘The hot spring (by soaking in which)(one) becomes slim.

52b) [[utukusikunaru] onsen]
 become beautiful hot spring
 ‘The hot spring (by soaking in which) (one) becomes beautiful.’

(W:T)

(51') is the name under which an item was advertised in a store that specializes in clever designs; (52 a,b) were headings in a feature in a women's magazine. In (51') the first and simplest point to note is that the head noun *tyokinbako* ‘savings box’ is not one of the “special” nouns that can be the head in an NH-type construction,

so the construction must belong to the CH-type. The predicate in the clause is the intransitive verb *tamaru* 'accumulate'. *Hyakuman en* 'a million yen' can be treated either as the subject of *tamaru* 'accumulates', or, as is more likely, as an adverb expressing the degree to which something (money) accumulates. In light of one's knowledge of what a savings box is, the most plausible interpretation of (51') would be that in which *tyokinbako* 'savings box', is either the location for accumulating money or a possession which inspires the accumulation of money. If the interpretation is as a cause, then it is not a direct cause, since the savings box does not automatically accumulate money. Although it is not necessary to rule out any of these interpretations, the context of a shop display suggests that the intention is to claim that the savings box is an indirect cause of the accumulation of money.

In (52a), as in (51'), the construction is easily determined (by default) to be of CH-type. The predicate of the clause — which, as it happens, is the only explicit linguistic clue given in the clause — is *yaseru*, 'become slim', and the interpretation of the construction involves the participation of a hot spring in the frame evoked by *yaseru*. *Onsen*, 'hot spring', is both semantically and pragmatically unsuitable as a subject of the verb *yaseru* 'become slim' in its normal meaning. The possibility that *yaseru* is used metaphorically (to mean, for example, 'to become depleted of minerals') is not well supported in the context where (52a) occurred, namely preceding (52b). For (52a) to be acceptable, then, the construer must have in his world view a plausible relation between hot springs and a person's becoming slim. The relation of condition to consequence seems the most likely.

In the above examples (51') and (52a,b), though some knowledge of the world is required for successful construal, still the world view that supports the construal is very likely to be shared by the vast majority of speakers. The construal of the following examples, on the other hand, is more dependent on the interlocutors' more extensive knowledge of the society and culture.

53) [[*yoru toire ni ik-e-naku-naru*] *hanasi*]
 night bathroom GOAL go-can-not-become story
 'The story (because of hearing which)(one) cannot go to the bathroom
 at night.'

54) [[*toire ni ik-e-nai*] *komaasyaru*]
 bathroom GOAL go-can-not commerical
 'The commercial, (because of wanting to watch which) (one)
 cannot go to the bathroom.'

(O)

55a) [[*moteru*] *sake*]
 be popular with the opposite sex liquor
 'The (way of drinking) liquor (by which) (you) will
 be popular with the opposite sex.'

(W:A)

55b) [[*syusse suru*] *sake*]
 be successful liquor
 'The (way of drinking) liquor (by which) (you) will
 be successful.'

(W:A)

56) [[*Kookan o motareru*] *tegami no hon*]
 good impression ACC is had letter GEN
 'The book about letters (which if you write) (you)
 will make a good impression.'

(W:T)

(53) is a fairly common expression to describe the degree of scariness of a story. It is readily understood by native speakers of Japanese, who know that, in Japan, bathrooms are traditionally isolated and quite dark at night, with the effect that one does not want to go there alone after hearing a scary story. A simple frame is evoked by the predicate of the clause, the complex verb *ik-e-naku-naru* 'go-can-not-become' (= 'become unable to go'); *toire*, 'bathroom', followed by *ni* (GOAL) fills the role of the goal of the motion. This partially filled frame can function as host for what is conveyed by the head noun if the interlocutors share the above-described

world view or background knowledge. The story is not inherently or directly the condition for the consequence described in the clause, and how it indirectly brings about the consequence must be inferred from one's knowledge of the culture and of the speech situation. Thus it may be hearing, reading or watching the story on TV that causes the consequence expressed in the modifying clause. Regardless of the communicative channel, what is important is that the head noun, together with an associated action, participates in the frame evoked by the clause to provide a condition for which the situation described by the clause is a consequence.

(53), in fact, allows another interpretation, in which it becomes an NH-type construction. The frame of the head noun *hanasi* 'story' can accommodate a complement representing the content of the 'story'. That is, the frame of the head noun can host the clause rather than conversely. With this interpretation, (53) describes a story whose content is that someone becomes unable to go to the bathroom at night. This is in contrast to the first construal (as a CH-type) in which the clause does not express the content of the story.

(53), therefore, is ambiguous between two different construal possibilities. The speech context of (53) will determine which interpretation is appropriate; more precisely, the construer must make his decision upon considering the factors in the speech context.

In (54), the head noun also represents the condition whose consequence is that someone is unable to go to the bathroom, but the operation of the cause is different from that in (53). The background knowledge required to construe (54) can be summarized by noting that in recent years, Japanese TV advertisements have improved in quality to the extent that television viewers, who would otherwise wish to take advantage of commercial breaks in order to visit the bathroom, now are reluctant to interrupt their viewing. With this background knowledge, the relevance of what is denoted by the head noun to the frame evoked by the clause is made clear. Lack of this particular world view would hinder construal.

The construal of (55a,b), which was the title of a feature article in a magazine, depends even more heavily on cultural (or subcultural) knowledge. First of all, the semantic nature of the head noun *sake* 'liquor' in (55a) does not allow it to be the head of an NH-type construction, so, in the construal of (55a), the frame evoked by the clause hosts what is conveyed by the head noun. The verb in the clause, *moteru*, is intransitive, and means 'be popular', often suggesting popularity with the opposite sex. There is no other linguistic clue to inform the construal.

There are at least three possible interpretations. The first, and syntactically the simplest, is that the head noun *sake* is the subject of *moteru*, 'be popular'. In this interpretation, the phrase would refer to a specific liquor which enjoys wide popularity. There is nothing implausible in this interpretation from the point of view of a fairly regular 'world view'. One piece of evidence against this interpretation is that (55a) was followed in context by (55b), which also has *sake* 'liquor' as its head but in which the verb in the modifying clause *syusse-suru* 'become successful' can take only animate subjects. Since *sake* in this second phrase cannot, therefore, be the subject, the juxtaposition of (55b) with (55a) suggests that *sake* in (55a) may also not be the subject. This leads us to a second possible interpretation of (55a).

In the second interpretation, the phrase in (55a) refers to a special brand of liquor by drinking which one will become popular with the opposite sex. An analogous interpretation would apply for (55b). In this interpretation, the action of drinking a particular brand of liquor is viewed as a condition for the consequence '(one) becomes popular'. This would be plausible within a regular world view. Since the phrase is the title of a feature article, however, rather than part of an advertisement, this interpretation is not the most likely.

The third interpretation, which is supported by the content of the article, requires more knowledge of the significance of drinking in Japanese (especially male) culture. Social drinking occasions are very common in Japanese society, and it is not rare for one's personality to be judged by how one behaves in such situations, where

one's innermost nature is believed to be revealed. Knowledge of this connotation of drinking would suggest that (55a,b) refer to a manner of drinking, or to a behavior while drinking, that leads to popularity and success.

All three interpretations are reasonable in terms of the possibilities of NMC construal. The construer's choice of interpretation, however, is likely to be influenced by his/her world-view and by the context of its use. The producer of an NMC that depends to such an extent on pragmatic factors needs to be aware of the addressee's experience in culture and society in order for his communication to be successful.

The NMC in (56), which is the title of a book advertised in a newspaper, is construed analogously to (55a,b). The cultural background knowledge which this assumes is that one's personality is often judged by how one writes letters. With this background knowledge, and in the context of an advertisement for the book, the likely interpretation of (56) is that it refers to a book, reading which will make one's letters create a better impression.

In each of the examples above, the predicate in the modifying clauses was in the non-past tense. Tense in verbs in modifying clauses in Japanese expresses aspect. (For detailed studies of tense and aspect of noun modifying clauses, see Josephs (1976), and Nakau (1976)). The relation of condition and consequence can also be observed in NMCs in which the modifying predicate is in the past form; such constructions describe events or states which have already occurred as a result of what is conveyed by the head noun. It is no coincidence that such constructions tend to be used when the speaker is reminding the addressee of a specific instance of what is denoted by the head noun. The following are some examples.

- 57) [[paatii ni kor-are-nakatta] syukudai]
party GOAL come-could-not homework
'The homework (because of having to do which) (you, he, etc.)
couldn't come to the party.'

(0)

- 58) [[gohun de netyatta] eiga]
 five minutes by fell asleep movie
 'The movie (by seeing which) fell asleep in five minutes.'

(O)

The relation of cause and effect, or condition and consequence, is expressed indirectly in the examples we have seen, and requires pragmatically based inferences to construe. In many cases, there are linguistic devices available that could indicate the cause/effect relation more clearly and, thus, would require less dependence on inferences. Perhaps surprisingly, however, such devices are often inappropriate, for they can suggest a stronger and more direct relation than is conventionally accepted. We see this in the following examples.

- 59a) [[Satoo-san ga *sinda*] kinoko]
 Mr. Sato NOM died mushrooms
 'the mushrooms (by eating which) Mr. Sato died.'
- 59b) ? [[Satoo-san o *korosita*] kinoko]
 Mr. Sato ACC killed mushrooms
 'the mushrooms (that) killed Mr. Sato.'
- 60a) ?? [[Satoo-san ga *sinda*] gootoo]
 Mr. Sato NOM died burglar
 'the burglar (because of whom) Mr. Sato died.'
- 60b) [[Satoo-san o *korosita*] gootoo]
 Mr. Sato ACC killed burglar
 the burglar (who) killed Mr. Sato.'

The complex NPs (59a) and (59b) are intended to refer to (the same) mushrooms which caused Mr. Sato's death, and the complex NPs (60a) and (60b) refer to the (same) burglar who killed Mr. Sato. The intransitive verb *sinda* 'died' is used in the (a) constructions, while the transitive verb *korosita* 'killed' is used in the (b) constructions. The verb *korosita* in Japanese is usually not used with a non-human

subject. Thus, (59b), in which the verb in the modifying clause is *korosita*, is questionable, even though, as a transitive verb, it makes transparent the relation of cause and effect. In (60), on the other hand, it is (60a), in which the verb in the modifying clause is intransitive (*sinda*), that is unnatural.

In (59a), the construer must infer that the relation between mushrooms and 'Mr. Sato died' is that the former brought about the latter. This requires some pragmatic knowledge on the untoward effects of eating certain mushrooms. Although (59b) makes the causal connection between the mushrooms and Mr. Sato's death easier to discover, it is awkward unless the intention is to express blame on the mushrooms, or unless it is understood, in the world view of a fairy-tale, as saying that the mushrooms deliberately killed him. This implied intentionality is precisely why non-human subjects do not usually co-occur with *korosita* 'killed'. In contrast, when "the causer" has brought about the result directly, such as by making someone die by killing him, (60b) would be the appropriate choice. What would be conveyed by (60a) is that, unlike in the situation described by (60b), the burglar did not murder Mr. Sato but was an indirect cause of his death. This would be appropriate if, say, Mr. Sato suffered a heart attack at the sight of the burglar.

(59a) is typical of the examples that we have been considering in this section. Unlike (60b), it cannot be converted into a corresponding full sentence simply by the addition of a single case marker; yet it conveys a similar cause/effect relationship between a member of the category denoted by the head noun and what is expressed in the modifying clause. This phenomenon is also evident in the following heading of a magazine article, originally cited by Teramura (1976)¹³:

61)	[[Onna-zimuin	ga	zisatu-sita]	Nitidai	no
	woman-clerk	NOM	committed suicide	Univ. of Japan	GEN
	husigina	keiri]			
	mysterious	accounting			

'The suspicious accounting at the Univ. of Japan (because of involvement in which) a woman clerk committed suicide.'

The NP *onna zimuin* 'woman clerk' in the modifying clause takes the role of the one who commits suicide in the frame evoked by the verb *zisatu-sita* 'committed suicide'. A point of note here is that the relationship between someone's suicide and an organization's suspicious accounting is not perceived as being as straightforward as the relation between, for example, someone's suicide and his/her debts. In the latter situation, one could use a full-sentence paraphrase with the (immediate) cause marker *de*, as in *onna zimuin ga syakkin DE zisatu-sita* 'woman clerk NOM debt CAUSE committed suicide': 'the woman clerk committed suicide because of debt'; but ?? *husigina keiri DE zisatu-sita*. This difference in the acceptability of the case marker *de* to express the relation of cause and effect (or condition and consequence) cannot be justified purely linguistically. It is simply that debts are conventionally acknowledged to cause suicides more than is suspicious accounting. This is, of course, a matter of degree and of pragmatic knowledge regarding the given linguistic clue.

The examples considered so far have illustrated a subgroup of CH-type NMCs in which the frame evoked by the clause hosts, in the role of a condition, a member of the category denoted by the head noun (in association with its relevant action or state). These constructions have been conventionally excluded from discussions of complex NPs because their behavior is not in conformity with the established analyses of complex NPs. We have observed, however, that the seeming distinction between NMCs that have been included in such analyses and those excluded is not a difference of kind, but one of degree. The difference in degree lies in the

relative amount of information that must be inferred from shared social and cultural knowledge for successful construal.

There is a limit to how much the construer can infer. (62) would hardly be interpretable if the construer were not familiar with a particular humorous story on which (62) is based.

62) ? [[okeya ga mookaru kaze]
cooper NOM make a profit wind
'the wind (because of which) the cooper makes a profit.'

The humorous story alluded to derives its humor from the length of the chain of (supposedly individually plausible) causal relations linking the blowing of the wind and the eventually consequent profit of the cooper. Only if the distant causal relation has become conventionalized in the construer's mind can the necessary inferences be made. Otherwise, (62) would simply not be understood. This again illustrates that the construal of Japanese NMCs is dependent on the sum of many factors, structural, semantic, and pragmatic.

[[condition] consequence]

There are NMCs in which the semantic relationship of what is expressed by the clause and by the head noun is the reverse of what we have just considered; in other words, the head noun denotes the consequence (for instance, the product or effect) of what is expressed in the clause. In NMCs of this type, the predicate in the modifying clause is in the past form, indicating that the action or event expressed in the clause preceded its consequence, or was completed before the consequence became apparent.

Let us consider an example.¹⁴

63) [[hon o utta] kane] de kutu o katta.
book ACC sold money by shoes ACC bought

(lit.) 'with [the money [(which resulted from) (I etc.) sold the book]]
(I etc.) bought shoes.'

'With the money from selling a book, (I etc.) bought shoes.'

Unlike head nouns of the NH- and CNH-types, *kane* 'money' is not of the semantically special type that can accommodate the content of a clause as a complement in its frame. Construal, then, involves fitting the category denoted by the head noun into the frame evoked by the clause.

The simple frame evoked by the predicate *uru* 'sell' in its past tense form (*utta*) in the modifying clause has one of its participants, the goods (or object of selling), indexed by *hon* 'book' (followed by the accusative case marker *o*). The situation associated with the evoked frame is that of a commercial event. In such a situation, from a 'regular' world-view, "money" is a reasonable participant. Note that the relationship between the money and the event of selling a book is perfectly understandable even though it cannot be expressed by a case marker.

In his thoughtful paper,¹⁵ Shirakawa (1986) examines (63) and related examples, and claims that such constructions must be treated as a kind of *soto no kankei* 'outer relation' noun modification (following Teramura's terminology). What he means by this is that the head noun cannot be made to stand in a case relation to the modifying predicate; that is, a corresponding sentence cannot be constructed simply by attaching a case marker to the head noun and inserting it into the modifying clause, and hence the connection between the head noun and the subordinate predicate must be explained solely in terms of their semantic relation (1986:2). The assumption underlying his claim is that *only* "outer relation" NMCs require semantic analyses, while "inner relation" NMCs are strictly structural and explainable by a case relation between the head noun and the predicate in the modifying clause.

This is not without theoretical difficulties for the theory of “inner” and “outer” relations: one difficulty is that the head noun in “outer relation” NMCs is usually supposed to be a special “content-taking” noun — *kane* ‘money’, the head noun in (63) is certainly not such a noun — another difficulty is that the relation in (63) is similar to that found in “inner relation” constructions, in that, as Shirakawa admits, the referent of the head noun participates in the situation provided by the modifying clause.

What we have argued in the discussion of (63) and of other NMCs, however, strongly indicates that the question of paraphrasability with the insertion of a case marker is not of special significance in the construal of NMCs, and that semantics and pragmatics are crucial factors in the construal of *any* type of NMC. If we accept the role of semantics in all NMCs, then (63) presents no such theoretical difficulty.

As Shirakawa (1986) correctly points out, the predicate of the modifying clause in examples like (63) does not have to be ‘sell’. (65) is from Shirakawa.

(64) [honyaku-sita] kane
 translation-did money
 ‘The money (which resulted after) (I etc.) translated (something).’

(65) [[Eigo o tyuugakusei ni osieta] kane]
 English ACC junior high student DAT taught money
 ‘the money (which resulted from) (my, etc.) teaching English to junior high students.’

The verbs in the modifying clauses, *tuuyaku-sita* ‘translated’ and *osieta* ‘taught’, do not necessarily entail money; but since both, in the larger sense, represent services provided, we can fit what is denoted by the head noun (money) into a frame evoked by the modifying clause.

A commercial event is not the only situation in which a [[condition] consequence] relation can be observed in NMCs. The following example, cited by Martin (1975) as a “resultative adnominal”, is one example.

- 66) [[Yuube ne-nakatta] tukare] ga dete ...
 last night sleep-did-not tiredness NOM came out
 'the fatigue (which resulted after) (I etc.) did not sleep came out ...'

The fact that the relation between the head noun and the clause is one of condition and consequence, with the head noun playing the role of the consequence, is derivable only from pragmatic knowledge.

The consequence resulting from the action or event described in the modifying clause can be a *product* of something. The following are some such examples.

- 67) [[beekingu paudaa to abura o mazekonda] koromo]
 baking powder and oil ACC mixed in batter
 o tukete ageru node ...
 ACC attach fry so

'(It is) fried with the batter (which is produced by) mixing baking powder and oil (into the flour), so ...'

(W:N)

- 68) [[dootai ni booringu no tama o noseta] himan-tai] de ...
 trunk DAT bowling GEN ball ACC put on stout body and
 '(He's got) the stout body (of the sort that would be produced by)
 putting a bowling ball on top of the trunk and ...'

(W:F)

In both examples knowledge of what is denoted by the head noun aids the inferences needed for construing the role of the head noun in the frame evoked by the clause. If the semantic characteristics of the predicate of the modifying clause are more specifically associated with the product, then fewer inferences are required for construal — as in the following, in which the head nouns can even be identified with a missing argument of predicate in the modifying clause.

69a) [[ai no nootan de otta] boozima no
indigo GEN light and shade with wove striped GEN

otokomono no kimono] wa ...
men's GEN kimono TOP

'The men's striped kimono (which) (someone) wove with indigo-colored light and shade is ...'

(W:N)

69b) boozima no otokomono no kimono o ai no
striped GEN men's GEN kimono ACC indigo GEN

nootan de otta.
light and shade with wove

'(Someone) wove the men's striped kimono with indigo light and shade.'

(W:N)

Verbs such as *horu* 'dig', *tukuru* 'make, cook' also semantically entail the products. Those predicates, unlike the ones we focused on earlier in this section, do not need to be in the past form to indicate the condition/consequence relationship:

70) [[kare ga *tukuru*] suupu] wa itumo oisii
he NOM *make* soup TOP always delicious
'the soup [he *makes*] is always good.'

The relation in such constructions is transparent, and the construal requires little in the way of inference or knowledge shared by only a limited number of people. On the other hand, there are constructions that are much more demanding in this respect.

The following, taken from Shirakawa (1986), are further examples in which pragmatic knowledge is required for construal.

- 71) [[hutatu no heya no sikiri o toriharatta]
 two GEN room GEN divider ACC removed

 wan-ruumu] ni natteiru
 one room DAT become

‘(It) has become [one room [(which resulted from) removing the divider between two rooms]]’

(W:F)

- 72) [[oodoburu o tairageta] karano siroi sara]] no ue
 hors d’oeuvres ACC ate up empty white plate GEN top

 ni ...
 LOC

‘On top of the empty white plate (which resulted after)(I etc.) ate up the hors d’oeuvres ...’

(W:F)

In (71), it is an obvious consequence that one room will result from the removal of the divider between two rooms. In (72), the white plate is empty because the hors d’oeuvres on it were all eaten. In both examples, a regular world-view highly favors the given interpretations over an interpretation in which the head noun indexes, for example, the agent or the instrument.

Dictionary definitions are conveniently expressed by this kind of “product” NMC. Shirakawa (1986) provides the following citation from a dictionary.

- 73) [[gyuunyuu, satoo, tamago no kimi o mazeawasete
 milk sugar egg GEN yolk ACC mix and

 kooraseta] mono]
 freeze thing

‘the thing (which is a product of mixing and freezing milk, sugar and egg yolk’

Since (73) is used as a definition, the head noun *mono* 'thing' is very general, but the 'thing' which is produced as a result of the operation described by the modifying clause is a more particular object, namely ice cream.

Similar to (73) are examples such as (74) and (75), which are also common. (The head noun in (74) and (75) *yatu* 'thing' is a colloquial version of *mono*).

- 74) [[ninniku o ootubu ni kitta] yatu] o ...
garlic ACC in large piceces chopped thing ACC
- suru n desu yo
grind NMLZ COP SFP

'(It is that you) grind the thing (which is produced from) chopping garlic into large pieces.'

(O)

- 75) [[nibosi no dasi o samasita] yatu]
dried small sardines GEN stock ACC cooled thing
'the thing (which is produced from) cooling the stock from dried small sardines'

(O)

The difference between (74,75) and (73) is that there is no conventional name for the categories that are referred to by the NMCs (while (73) can be referred to as 'ice cream') so that the resulting 'thing' could still be considered either as 'garlic' (in (74)), and 'dried fish stock' (in (75)), with a change in size or in temperature, as expressed by the predicates of the modifying clauses. The head noun, however, is not itself 'garlic' or 'dried fish stock', but rather denotes the product of the relevant food-processing activity. Since the head noun in each example is very general, its semantic content does not provide a strong clue to the construal. The interpretation, then, will be strongly influenced by other linguistic or nonlinguistic context. Nonetheless, the interpretation discussed above is undoubtedly one of the most plausible.¹⁶

For NMCs to be understood as intended, the producer of the NMCs must provide appropriate linguistic clues that draw on the addressee's world view. When the

consequence expressed by the head noun is inferrable as a conventional or naturally expected result (according to a widely shared world view) of what is expressed in the modifying clause, the construal meets little difficulty. (63) is a good example of such unproblematic NMCs. If, instead of ‘money’, however, the seller received, say, an umbrella, and if such an umbrella were described as:

- 76) ?? [[hon o utta] kasa]
 book ACC sold umbrella
 ?? ‘the umbrella (which resulted after)(I, etc.) sold the book’

the NMC would be very difficult to construe as intended, even if the construer knew about the transaction. If (76) is at all possible, a more likely interpretation would be that the seller received money by selling the book, and with that money bought an umbrella. Another such example is (77):

- 77) ?? [[tabako o katta] gan]¹⁷
 cigarette ACC bought cancer
 ?? ‘the cancer (which is resulted from) buying cigarettes’

One reason why (77) would not be successful is that the causal chain does not seem to be direct. The construer would know, given a regular world view, that the mere purchase of cigarettes does not in itself cause cancer.

Whether or not an NMC is taken as having a direct and plausible condition-consequence relation may depend on the construers and their world view. (78) is given by Shirakawa (1986:10) as an ungrammatical construction, though in my judgment it is acceptable.

- 78) % [[amai mono o tabe-sugita] musiba]
 sweets ACC ate-excessively cavity
 ‘the cavity (which resulted from) eating too much sweets’

Shirakawa explains that (78) is ungrammatical because a cavity does not appear instantaneously after eating sweets; I would consider that a cavity is a plausible consequence of eating sweets excessively, so that a dentist, looking at a child's tooth, might say *kore wa [[amai mono o tabesugita] musiba] da na* 'This is a cavity you got from eating too many sweets, isn't it?'

It is therefore just as much the speaker/writer's responsibility to judge how much is inferrable by the addressee (the construer), and to be aware of pragmatic constraints on the generation of NMCs, as it is the addressee's responsibility to infer the intended coherence between the two constituents of the NMC.

[[eventuation] offset]

In addition to the above two subgroups of the relation of condition and consequence, there is a third group, which may be called the eventuation and offset relation.

- 79) [[hutor-anai okasi] wa nai kasira
 don't-gain-weight sweets TOP NEG wonder
 '(I) wonder if there aren't any sweets (even though (one) eats which) (one)
 doesn't gain weight'
- (O)

- 80) [[yoru nemur-eru] koohii
 night can-sleep coffee
 'the coffee (even though (one) drinks which (one) can sleep at night'

- 81) [[syoorai okane ga kasege-nai] benkyoo] bakari siteru
 future money NOM cannot earn study only is doing
 '(you, etc.) are doing the study (even though (you, etc.) do which)
 (you) cannot earn money in the future.'
- (O)

Here, there is a presupposition associated with what is denoted by the head noun that is almost opposite to what is expressed in the modifying clause. What (80) conveys, for instance, is not that eating sweets causes one not to gain weight, but that

certain sweets do not make one gain weight *even though* one eats them. The tacit presupposition that sweets usually prompt some weight gain must be shared among the interlocutors in order to obtain the given interpretation. Analogous analyses apply to (80) and (81). The knowledge that coffee usually contains caffeine, which may make one stay awake if one drinks it, must be shared in (80); similarly, in (81), the belief that academic endeavor should bring in some money. Thus, the construal of each of these examples is again dependent on shared knowledge and beliefs – in other words, on shared components of the world view.

4.2.2 Purpose and Requisite

There are NMCs in which the semantic relation between what is expressed in the modifying clause and what is represented by the head noun involves the roles of Purpose and Requisite. This relation appears to be relatively accessible to informants, to judge from the informal interviews I conducted to ascertain which participant roles can be played by the head noun in the frame evoked by the clause.

[[Purpose] Requisite]

- 82) [[syotai o motu] heya] o sagasite-ita n
household ACC have room ACC was looking for NMLZ

desu
COP

‘(I) was looking for a room (which I need in order to be able to) have a household.’

(W:C)

- 83) [[amerika ni iku] biza]
America LOC go visa
‘the visa (which is necessary for (me, etc.)) to go to America’

- 84) [[simekiri ni maniawasu] hayai hituryoku]
deadline DAT make it meet fast the power of the pen
‘the brisk writing (which is necessary for) (one) to meet the deadline’

(W:N)

- 85) [[kore o nakus-anai] fairu kabaa] aru?
this ACC don't lose file cover is there
'Is there a file cover (which I need so as) not to lose this?'

(O)

In all these examples, what is denoted by the head noun is a requisite for achieving what is expressed by the modifying clause. In (82), the head noun, *heya* 'room' could also be interpreted as participating in the evoked frame simply in the role of location, without the further implication of "requisite". The present framework neither excludes nor compels such an interpretation; prior discourse and the construer's expectations would certainly influence the interpretation.

The relation of [[purpose] requisite] resembles that of [[consequence] condition] in that, before what is described as the "purpose" or "consequence" can be realized, the "requisite" or "condition", respectively, must exist. The difference between them is that the "consequence", in the latter, is a state that ensues as a natural course, while the "purpose", in the former, is a state that is the goal of someone's action. If we were to relate what is denoted by the clause and noun of (83) and (84), so that the head noun should denote the condition and the clause the consequence, the predicate of each NMC would have to be changed to something which implies less control of the actor, as in (83')(84').

- 83') [[amerika ni ik-eru] biza]
America LOC can go visa
'the visa (because of which/with which)(I, etc.) can go to America'
- 84') [[simekiri ni maniau] hayai hituryoku]
deadline DAT meet/be on time fast the power of writing
'the brisk writing (because of which)(it) will meet the deadline'

In an NMC construction in which the relation is that of purpose and requisite, like constructions involving the condition-consequence relation, semantic and

pragmatic knowledge associated with the given linguistic elements helps determine interpretability and acceptability. If, for instance, the head noun of (83) were *okasi* 'sweets' instead of *biza* 'visa', it would be very difficult to attain a reading similar to (83), or, indeed, any other reading, unless an elaborate context were set up.

In each of the NMCs (82-85), what is expressed by the clause and what is denoted by the head noun are relevant to each other. In (82), the connection is that having a household requires a new place, which may be a room (apartment) or house. A trip to a foreign country (e.g. America) involves a visa from that country (83); meeting deadlines calls for the ability to write fast (84). (85) may need the help of the non-linguistic context of the real utterance. If the addressee of (85) can see that the speaker is holding many loose sheets of paper, the function of the desired file cover becomes immediately evident.

[[Requisite]] Purpose]

- 86) [[*biza o totta*] *amerika-iki*
viza ACC obtained America-going
 'a trip to America (for which)(I, etc.) obtained a visa'
- 87) [[*yosyuu o sita*] *zyugyoo*
preparation ACC did class
 'the class (for which)(I, etc.) prepared'
- 88) [[*zibun ga hara o itameta*] *musume*] *niwa tigai nakatta*
self NOM womb ACC hurt(PAST) daughter was certainly
 '(she) was certainly the daughter (in giving birth to whom)
 (I, etc.) hurt (my, etc.) womb'

(W:F)

In (86-88), the role of what is denoted by the head noun with respect to what is expressed in the clause is opposite to that of (82-85). It is worth noting that the predicate of the modifying clause in each of the examples (86-88) is in the past tense, whereas it was in the non-past in the earlier examples (82-84). The encoding of the aspectual (i.e. perfective) relation accords with and facilitates construal of

the relation of “requisite” and “purpose” insofar as a requisite must be obtained or accomplished *before* the purpose can be realized. If the NMC, unlike those of (86-88), does not describe a specific past event, but, rather, a requisite that is generally required for a purpose, then the verb in the modifying clause need not be in the past tense. The non-past version of (87) given below maintains the “Requisite and Purpose” relationship, though now understood as referring not to one specific class that was already given, but to one in the future or to a general class.

- 87') [[yosyuu o suru] zyugyoo]
 preparation ACC do class
 'the class (for which)(I, etc.) prepare(s)'

The predicate in the following is also in the non-past form.

- 89) [[te o araw-anakute ii] oyatu] nai?
 hand ACC O.K. not to wash snack isn't there
 'Isn't there a snack (in order to eat which)(I) don't have to wash
 (my) hands'?

(O)

(89) could be said by someone wishing to eat but unable, for one reason or another, to wash his/her hands. The construal involves the presupposition that hands must be washed before eating.¹⁸ It may be somewhat misleading to call what is described by the modifying clause a “requisite”, because what it describes is in fact the absence of the expected requisite; in this sense, (89) is analogous to the special “eventuation-offset” type discussed at the end of section 4.2.1. However, the basic relationship between the two constituents is the same as in the other examples.

4.2.3 Simultaneity of Action/Event/State

If the relation between what is conveyed by the clause and the head noun in an NMC is simultaneity of actions, events, or states, then construal is relatively difficult. That is, if a sentence consisting of two clauses conjoined by the subordinate conjunction *nagara* 'while' or *aida(ni)* 'during' is converted into an NMC, the original relationship (i.e. simultaneity) is unlikely to be construed. The following are some examples of unsuccessful NMCs.¹⁹

- 90) ?? [[Tani-san ga terebi o mite-ita] gohan]
Mr. Tani NOM T.V. ACC was watching meal
?? 'the meal (while eating which) Mr. Tani was watching T.V.'
- 91) ?? [[watasi ga hon o yonde-ita] terebi]
I NOM book ACC was reading TV(program)
?? 'the TV program (while watching which) I was reading a book'
- 92) ?? [[Tani-san ga waratte-ita] hanasi]
Mr. Tani NOM was laughing story
?? 'the story (while listening to which) Mr. Tani was laughing'
- 93) ?? [[aruku] hon]
walk book
?? 'the book (while reading which) (one) walks'
- 94) ?? [[neru] syoosetu]
lie down novel
?? 'the novel (while reading which) (one) lies down'
- 95) ?? [[sinbun o yomu] asagohan]
newspaper ACC read breakfast
?? 'the breakfast (while eating which) (one) reads a newspaper'

None of the above are easy to interpret in the intended reading. If the construer were pressed to choose some sort of interpretation for (90-92), the likely choice would be that the clause describes something *about* what is denoted by the head noun.²⁰

If we slightly vary the NMCs in (90) and (95) while preserving the situations described, we can increase the interpretability, as illustrated in (96) and (97):

96) [[gohan o taberu] terebi]
meal ACC eat TV(program)
'the TV program (while watching which)(I, one, etc.) eat(s) a meal'

97) [[asagohan o taberu] sinbun]
breakfast ACC eat newspaper
'the newspaper (while reading which)(I, one, etc.) eat breakfast'

(96) could be used in a negative context with reference to a TV program whose content is unappetizing, as in, for instance, *kore wa gohan o taberu terebi zya nai wa ne* 'This is not the kind of TV program you want to watch while you're eating.' (97) may be said by someone who reads more than one newspaper a day, but always reads a specific one over breakfast.

The preference for (96) and (97) over (90) and (95) can be attributed to at least two factors. One is that watching TV or reading a newspaper can easily fit into the situation associated with the frame evoked by the clause, i.e. the scene of meal-time or of breakfast. From everyday experience, the majority of construers will know that watching TV or reading a newspaper is an activity that can typically accompany meals. The situations of watching TV and reading newspapers, on the other hand, seem less likely to evoke the activity of eating meals; even someone who always watches TV while eating is unlikely to always be eating while watching TV. Expectations of this sort will, of course, vary among construers. Another factor that makes (96) and (97) more construable than (90) and (95) is that it is easier to think of TV programs and newspapers that being qualified by a time or occasion, than it is to think of different meals according to their accompanying activities. This is

related to the issue of why and how an NM construction is chosen in the first place in preference to other types of linguistic expressions.

What we observed above confirms the importance of the concept “frame”, its associated situation, and how the given linguistic elements provide clues towards the construal. Except for relatively conventionalized instances, such as those given in (96) and (97), it seems that mere simultaneity of actions or events is too loose a relation to evoke any coherence between them in an NMC, since it is perfectly possible to have two otherwise unrelated actions or events coexist simultaneously (e.g. reading and walking). This makes it difficult for the elements of an NMC to be integrated into one frame.

It is worth remarking in passing that, if the head noun specifically denotes a *period* of time, such as *natuyasumi* ‘summer vacation’, then the relation of simultaneity is easily construed.

- 98) [[honya de hataraita] natuyasuni]
book store LOC worked summer vacation
‘the summer vacation (during which)(I, etc.) worked at a book store’

Note, however, that in an NMC such as (98), the head noun specifically denotes the time of the activity described in the clause, rather than representing an independent action, event, or state.

4.2.4 Simple Temporal Sequence

The relation of simple temporal sequence is also problematic for construal. Construal is probably most difficult when the NMC conveys nothing more than two independent actions or events occurring at distinct times:

- 99) ?? [ongaku o kiita] wain]
music ACC listened to wine
‘the wine (before/after drinking which)(I, etc.) listened to the music’

Even if the construer knew there had been a party in which people drank wine and listened to music sequentially, it would be difficult for (99) to be successfully construed. This is because the relation between the two activities is too fortuitous to easily form a single integrated situation. In other words, there is no conventionalized situation, in the construer's world view, which comprises the two activities in sequence. Moreover, the modifying clause, which evokes the frame that forms the basis for the construal, provides no clue to suggest such a situation. The relation of temporal sequence, then, does not satisfy the expectation of the construer that, in an NMC, there should be a close relation between what is expressed by the two constituents.

In fact, the relations of Condition and Consequence and Purpose and Requisite usually imply temporal sequentiality, but involve more than the simple order of events. Therefore, it is not sequentiality but the absence of any stronger associated relation that is difficult to construe. The distinction between simple sequentiality and a stronger associated relation is the same as that between symmetrical and asymmetrical *and* in English.²¹

One noteworthy example with regard to the sequential relation, although it does not represent two independent conjoined actions, is given in (100), originally cited by Teramura (1977) from a novel.

100) [[yonago ni tomatta] asa], watasi wa hayaku
 Yonago LOC stayed overnight morning I TOP early

okite ...

got up and

'the morning (after)(I) stayed at Yonago, I got up early and...'

(W:F)

The construal of the NMC in (100) involves many factors. The head noun *asa* 'morning' does not semantically require a complement; that is to say, 'morning' is understandable as it is without necessarily knowing what follows or preceded it.

This characteristic makes (100) different from NMCs of the CNH type, whose head nouns explicitly indicate the necessity for such a complement (e.g. *yokunen* ‘the following year’), — these we will discuss in detail later. It is important, however, that ‘morning’ is understood in relation to the cycle of day and night. The predicate of the modifying clause, *tomatta* ‘stayed overnight’, provides information that a night was spent somewhere, and the form of the verb indicates that this action was completed. *Yonago* fits into the participant role of the location, which is available in the simple frame evoked by the verb *tomatta* ‘stayed.’ The lexically expressed completion of an overnight activity, and the pragmatic knowledge that what follows night is morning, combine to make the NMC in (100) interpretable as denoting the morning *after* the night in which someone stayed at Yonago. If these elements were not present – that is, if the clause did not make explicit the time of the event that it describes and the fact that the event was completed, and if, furthermore, what is conveyed by the head noun were not something that conventionally follows the time indicated in the modifying clause – then the sequential relation would not be recoverable. This is illustrated by (101).

- 101) [[yonago de uzume-mesi o tabeta] yoru]
 Yonago LOC Uzume-rice ACC ate night
 ‘the night (*in which*) (I) ate Uzume-rice’

The head noun in (101) is likely to be interpreted as representing the time when the activity expressed in the modifying clause takes place. Construers are highly unlikely to infer a relation of sequentiality here.

The following example is similar to (100):

- 102) [[nomisugita] asa] wa zutuu ga hidoi
 drank too much morning TOP headache NOM terrible
 ‘In the morning (after) (I, etc.) drink too much, (I, etc.) have a terrible headache.’

The modifying clause can also represent a situation that precedes what is denoted by the head noun. Notice the non-past form of the predicates in the modifying clauses.

- 103) [[yonago ni tomaru] asa]
 Yonago LOC stay overnight morning
 'the morning (before the night at which) (I) stay at Yonago'
- 104) [[nyuugaku-siken o ukeru] yoru] wa nemurenai daroo
 entrance exam. ACC take night TOP cannot sleep EVID
 'the night (before) (I, etc.) take the entrance exam, I probably won't be able to sleep.'

Teramura (1977) treats examples such as (100 - 104) as NMCs whose head noun is a relational noun (similar to *yokunen* 'following year', or *mae* 'in front of'); in the present framework, NMCs with relational head nouns are classified as CNH-type. Shirakawa (1986) classifies (100) as an NMC representing a cause-effect relationship in which the clause provides the cause, and the head noun the effect; from this point of view, it belongs to the CH type. As the above discussion indicates, these two analyses are both to some extent justifiable. In the present analysis, these NMCs are classified with the CH-type rather than the CNH-type, because the head noun, although it resembles relational nouns, does not explicitly indicate a relation to something else.²²

4.2.5 "Topic" and "Comment"

It is commonly assumed that the head noun and the relative clause always stand in the relation of topic to comment; this point is particularly emphasized in Kuno's hypothesis on relativization (1973, 1976, 1987), as mentioned in Chapter 2. Kuno's hypothesis is that, in a relative clause construction, "what is relativized is not an ordinary noun phrase, but the theme (NP - *wa*) of the relative clause" (1973: 254). This hypothesis, Kuno argues, is especially advantageous in explaining the

relativizability of a thematic NP (NP - *wa*) in a sentence for which there is no corresponding themeless sentence, i.e. no sentence in which the NP is followed by a case marker.²³ Such relative clauses (with no corresponding themeless sentence) fall under the heading “topic and comment relation” — i.e. NMCs in which the only relation between the denotatum of the head noun and that of the modifying clause is that the latter is a comment *about* the former. This relation, however, is usually difficult to construe, and there are many problematic examples, such as the following, given by Muraki (1970) in his arguments against Kuno’s hypothesis.

105a) sakana wa tai ga ii
 fish TOP red snapper NOM good
 ‘Speaking of fish, red snapper is best.’

105b) * tai ga ii sakana
 ‘fish, as for which red snapper is the best’

106a) America wa California ni itta
 ‘Speaking of America, I went to California.’

106b) * California ni itta America
 ‘America, as for which I went to California.’

Noting that the head noun is either a generic NP or a proper noun in these examples, Kuno (1973) states that the unacceptability is due to a semantic reason; namely, that “one rarely characterizes something generic by some specific event or state ” (1973: 256). Kuno then points out that these constructions are acceptable in appropriate contexts, as in the following:

107) California ni itta America, Eiffel tower ni nobotta
 to went climbed

France, zoo ni notta Indo no koto
 elephant on rode India GEN matters

ga wasurerarenai.
cannot-forget

'I cannot forget about America, as for which I went to California, France, as for which I climbed the Eiffel Tower, and India, as for which I rode on an elephant.'

As (105 - 107) demonstrate, NMCs that convey a relationship of topic and comment between the head noun and the clause are awkward in the absence of special context.²⁴

The construal of (108) below, which is similar to (105b), includes several steps. Let us analyze these in terms of the framework presented in this study.

108) ?[[Akoodo ga yoku ureru] kuruma]
Accord NOM well sell (v.i.) car
'[Cars, [(as for which) Accords sell well]].'

The first thing to notice is that the semantics of the head noun makes (108) likely to be a CH-type NMC. The predicate of the modifying clause *ureru* 'sell (spontaneous)' evokes a simple frame. The subject of the predicate indexes a participant role of this frame; namely, what is being sold, the merchandise. Here, the subject is *Akoodo* 'Accord'; and if the construer knows that 'Accord' is the name of a car, it fits easily into the evoked frame. With the qualification expressed by the adverb *yoku* 'well', the frame can then host what is denoted by the head noun if there is an appropriate participant role in the frame that can be indexed by the head noun. It is here that the problem arises. If the construer knows what an 'Accord' is (if s/he does not, (108) makes much less sense), s/he realizes that what is expressed in the modifying clause describes a situation that concerns a specific make of car, while the head noun denotes cars in general. They are obviously relevant to each other, but that does not show how to fit what is denoted by the noun into the evoked frame. In other

words, even though the two constituents are unarguably *relevant* to each other, that alone does not determine which participant slot the head noun can index.

An additional difficulty with (108), and many other examples of this type, is that the head noun, *kuruma* 'car' is a hypernym of the noun *Akoodo* 'Accord' in the modifying clause. Thus, while, in terms of frames, the head noun should be *hosted by* the modifying clause, it denotes a concept that is *superordinate to* that denoted by one of the elements in the clause. This creates a conflict which seems to lie behind the general unacceptability of examples of this kind.

In Kuno's analysis, (108'), which is readily acceptable, is treated under the same principle as (108).

108') [[Satoo-san ga kau] kuruma]
Mr. Sato NOM buy car
'The car (which) Mr. Sato is going to buy'

In terms of frames, it is easy to see why this example is unproblematic: there is an obvious slot, the 'goods', in the frame evoked by *kau* 'buy' that can be filled by the head noun. Thus, this would not be classed as an NMC in which the relation is (simply) "topic and comment".

McCawley (1976 (1972)), in discussing Kuno's hypothesis and Muraki's apparent counterexamples, introduced the distinction between *instance* topics and *range* topics. Relative clauses in which the topic, in a corresponding thematic sentence, is an instance topic are usually acceptable, while those in which it is a range topic are not, except in certain contexts in the non-restrictive reading. McCawley cites (109), in which the topic in the corresponding thematic sentence would be an instance topic, as unproblematic, in contrast to (109'), which corresponds to a range topic, and which is unacceptable:

- 109) [syuto ga sumiyoi] kuni
 capital NOM good to live country
 'a country whose capital is a good place to live'
- 109') * [Tookyoo ga sumiyoi] kuni
 'a country whose Tokyo is a good place to live'

In terms of the present analysis, the relation in (109') is of the "topic and comment" type, which, as we have seen, is rarely acceptable. In (109), on the other hand, the relation is slightly different: the head noun represents a *whole*, of which a *part* is mentioned in the modifying clause. This "part-whole" relation is the next group we will consider.

4.2.6 Part and Whole

NMCs in which the modifying clause expresses an event or state involving something which is a part of the whole denoted by the head noun have been analyzed conventionally in terms of the genitive marker *no*. This is expressed, depending on the assumed linguistic theory, either by saying that the head noun is coreferent with an NP followed by the genitive *no* in the modifying clause, and that this *no* is eventually deleted under coreference, or, in a non-transformational approach, that, in these relative clauses, a non-relative counterpart is obtained by adding *no* after the head noun and inserting it into the clause. In NMCs under the heading "part-whole relationship", the head noun denotes the whole, while, in the modifying clause, there is an NP expressing some part of that whole.

- 110) [[otooto ga byooki no] Itoo-san]
 younger brother NOM sick COP Ms. Ito
 '[Ms. Ito, [(whose) younger brother is sick]].'
- 111) [[go-hun-kan de suzi ga ieru] kabuki] wa kirai
 five minutes by plot NOM can tell kabuki TOP dislike
 '(He) dislikes a [kabuki play [(whose)plot can be told in five minutes]].'

(W:N)

- 112) [[me ga ookii] hito]
eye NOM big person
'a [person [(whose) eyes are big]].'

Noun phrases denoting body parts (e.g. in 112) and kinship relations (e.g. in 110) are common in such NMCs. *Suzi* 'plot', in (111), cannot exist on its own; it can only be *part* of something that has a story.

There are also NMCs that represent the reverse relationship; the head noun denotes a part of the whole whose event or state is expressed in the modifying clause. These NMCs, where the semantic relationship between the head noun and the clause is not representable in a case relationship, have not been considered in previous studies, although (113) and (114) are cited by Teramura (1976) as problematic examples of "truncated" NMCs.

- 113) [[Isu ni kosikaketa] hiza] o binboo-yusurisase nagara ...
chair LOC sat knee ACC poverty-make-shake while
'While he was shaking his knees that were sitting in a chair ...'

(W:F)

- 114) Bookyaku to soositu to ga [[Singo no aruku]
oblivion and loss and NOM Shingo GEN walk

kubisuzi] ni aru kanzi datta.
nape LOC exist feeling COP-(PAST)

'It was a feeling of oblivion and loss in the walking nape of Shingo's neck.'
(i.e. It was a feeling of oblivion and loss in Shingo's neck as he walked.)

(W:F)

- 115) [[nuimono o suru] te] mo yasume-nai
sewing ACC do hand also does-not-rest
'(she) does not rest (her) hand that is sewing.'

In all three examples, a person (who is not mentioned in the NMC in (113) and (115)) sits, walks, or sews, but the head noun denotes only that part of the person which has some particular association with the action described in the clause: knees and sitting in (113), hand and sewing in (115). *Kubisuzi* 'nape' in (114) is not the first body part that one would associate with walking, though in the context of expressing oblivion and loss, it is an effective choice, since it provides the image of a person, head drooping, walking away from the observer. In other words, it is indeed plausible that knees, nape, or hands should participate in the respective situations associated with the frames, provided that such body parts can appropriately be highlighted. If the head noun denotes a body part which is not construable as relevant to the action, the NMC is unacceptable, as is illustrated by comparing of (113) with (116)

- 116) ??[isu ni kosikaketa] mimi o kak-inagara
 chair LOC sat ear ACC scratch-while
 'while (he) was scratching (his) ear (which is) sitting on a chair'

Note that the relationship of what is denoted by the head noun to its whole is similar to a metonymical relation (G. Lakoff, 1987). However, unlike regular metonymies, the metonymy in these examples works *only* in NMCs; following are not acceptable in normal situations:

- 113') * *hiza ga isu ni kosikaketa.*
 'The knees sat on the chair.'
- 114') *(Singo no) *kubi ga aruku*
 'Shingo's nape walks.'
- 115') * *te ga nuimono o suru*
 '(her) hand sews.'

4.2.7 Summary

We have considered six kinds of semantic relationship that may be construed between what is denoted by the head noun and the frame evoked by the modifying clause: (1) Condition and Consequence, (2) Purpose and Requisite, (3) Simultaneity of action/event, (4) Simple Temporal Sequence, (5) "Topic" and Comment, and (6) Part and Whole. In all these relations, the interlocutors' real-world knowledge and expectations associated with the linguistic elements in the NMCs were found to be crucial for determining the cohesion in an NMC.

In NMCs of group (5), "Topic" and Comment, and (6), Part and Whole, the cohesion is basically between what is denoted by the head noun and a relevant participant (whether explicitly mentioned or not) in the frame evoked by the clause. In this sense, the relations (5) and (6) are different from (1)-(4), in which the cohesion is based not simply on the relationship between two participants (one from the modifying clause, the other the head noun) but involves, typically, a characteristic action, event, or state associated with one of the participants.²⁵

When the relationship between the head noun and the modifying clause falls into one of the groups (1)-(4), the NMC must activate a plausible or imaginable situation (according to the construer's world-view) in order for the construction to be acceptable. All relations are not equally likely, however, and there is a noticeable tendency favoring (1) Condition and Consequence, and (2) Purpose and Requisite over (3) Simultaneity of events or (4) Simple Temporal Sequence. The situation associated with NMCs in groups (3) and (4) must be highly conventionalized in order that the referent of the head noun can be characterized or qualified by reference to an event or state that is related only with respect to temporality. The tendency towards priority of causal (1) or intentional (2) relations in NMCs may be attributable to the perception that such relations are more immediate, and more easily allow integration into the frame, than do simultaneity or temporal sequence.

We have considered six relations that may be construed as linking what is con-

veyed by the head noun and the frame evoked by the modifying clause. These six relations are not possible in all situations, because construal depends on the construer's ability to infer coherence between the two constituents of the NMC, using his/her linguistic and encyclopedic knowledge of the elements of the construction and pragmatic knowledge of the situation activated by the construction. If the knowledge required for a successful construal is of a sort that is widely shared among speakers of a language, i.e. if it is accepted in the world views of many people, then the NMC will be considered as easy to construe; whereas, if the required knowledge is shared by only a small number of people, then judgments of the grammaticality of the NMC are likely to vary among people. The reliance on semantics and pragmatics for construal, and the limited nature of the syntactic clues, suggest that the types of relations are likely to be fairly open-ended.

This does not imply that any relation at all is possible in Japanese NMCs. We have considered limitations on acceptable constructions. One clear case of an impossible relation is an implied negative, as in the following. (117a) could not convey the meaning indicated in (117b) or (117c).

117a) [[atama no yokunaru] hon]
 head NOM get better book

117b) 'If one *does not* read the book, one's head will get better.'

117c) 'One's head will get better without reading this book.'

Thus, a negative interpretation seems impossible in NMCs because of the lack of explicit indication of the negativity.

The following two attested examples illustrate that the six types discussed do not in fact exhaust the possible relations in an NMC.

- 118) [[Keiken o orosokani-suru] dokusyo] wa mukoo dearu
 experience ACC neglect reading TOP futile COP
 'Reading that neglects experience is futile.'

(W:N)

- 119) [[tirigakusya no me ga kirari-to-suru] [tanosii [sekai
 geographer GEN eye NOM shine enjoyable world

no tosi-meguri]]]
 GEN city-tour

'An enjoyable tour of the cities of the world (with) a geographer
 (whose) eyes are shining.'

(W:A)

Both constructions are likely to be intelligible to the majority of Japanese speakers, as evidenced by the fact that (118) is from a newspaper column, and (119) from an advertisement for a book. In (118), the head noun does not index the slot for the actor in the evoked frame, because, at least in Japanese, a non-animate abstract idea or behavior cannot take the role of a 'neglector of experience'. Instead, while it is the 'reading' that is 'futile', it is the reader (that is, the agent of the action associated with the noun *dokusyo* 'reading') that takes the role of agent in the modifying clause. The NMC is interpretable within a world view in which it is a conventional truism that, although reading is important to one's life, if one does not go out into the real world and experience many things, the knowledge from reading will not be useful.

In (119), the extra-linguistic context, namely, a book advertisement aimed at the general public, strongly influences the construal. The title of the book is *Tositizu no Tabi* 'City Map Travel'. Prior to the cited part, the advertisement invites readers to take a tour of world cities using the maps in the book, which give the readers, while seated at home, vivid impressions of streets and buildings. With this contextual knowledge, one way of interpreting (119) would be the following. In city tours of the

world, denoted by the head noun, the readers have an enjoyable time (expressed by the immediately adjacent modifying adjective *tanosii* 'enjoyable'). In view of what is expressed in the modifying clause, this enjoyment is probably because the readers will be exposed to interesting information about the cities during the tour. One can infer that *tirigakusya* 'geographer' denotes the author, from the fact that the advertisement is not in a specialized journal for geographers, but aimed at the general public, and from the fact that, in the surrounding text, the author is named with the title "professor". The shine, then, is in the author's eyes. It is also inferrable that, being an authority on city maps, the geographer is presumably able to give a knowledgeable account of cities and, thus, to provide enjoyable "tours" for the readers.

From the semantics and pragmatics of (119) as given above, the participation of what is denoted by the head noun in the frame evoked by the clause seems quite likely, yet it is difficult to pin down a clear and indisputable role that 'city tours of the world' plays in the evoked situation. It could be interpreted as the condition, or as the subject matter about which the author gets excited, or the occasion, among other possibilities. Since the relation is not conventionalized, there is a the multiplicity of possible interpretations, depending on the construers' judgments about the linguistic and non-linguistic clues.

As may be obvious from the discussion in this section, the construal of NMCs involves issues that are important also in the discussion of Noun + Noun compounds (Zimmer 1971, Downing 1977, Kay and Zimmer 1976, Levi 1978), absolute constructions (Thompson and Longacre 1985, R. Lakoff p.c.), nominalization (Comrie and Thompson 1985), and coordination (R. Lakoff 1971); and the interpretation of the relation between the constituents resembles the interpretation of adverbial clauses.

4.3 Summary and Conclusions on the CH type

We have examined NMCs of the Clause Host type. These, like other types of NMCs, are composed of two constituents, the head noun (or noun phrase) and the subordinate clause modifying the head noun, which semantically qualifies what is denoted by the head noun. The characteristic property of NMCs of the Clause Host type is that, in their construal, a frame evoked by the modifying clause (that is, the simple frame evoked by the predicate in the modifying clause, together with indexation of some of its participant roles by applicable elements in the clause) “hosts” what is denoted by the head noun as a plausible participant in the frame.

In construing how the denotatum of the head noun participates in the frame, semantic and pragmatic factors are appealed to. Notwithstanding claims to the contrary (either implicit or explicit) in purely syntactic or structural theories, a semantic and pragmatic analysis is essential, for the following reasons. There is no overt indication of the role of the head noun within the modifying clause, i.e. no morphological marking or change in word order to guide the construal. Nor can the construal rely on a missing obligatory argument of a verb, since virtually no arguments are obligatory in Japanese sentences (leaving aside the problem of what exactly are the “obligatory” arguments of a verb) and the omission of an argument does not guarantee its coreference with the head noun. Moreover, the form of the NMC does not determine whether the role of a head noun is as an “argument” or a “non-argument”. For all of these reasons, semantics and pragmatics of NMCs are crucial for the construal, and for judging the grammaticality of constructions.

The mechanism for the construal of CH-type NMCs can be recapitulated as follows.

1. The structure of an NMC makes the construer assume that the two constituents are semantically relevant to each other.
2. If the head noun is not of the special type that is semantically suited to taking

a clause as its complement, the NMC is likely to be of the CH type.²⁶

3. If what is denoted by the head noun can participate in the frame evoked by the predicate of the clause after any explicitly present elements of the clause have been integrated into the frame, then the NMC is a grammatical CH-type construction.

For step (3), the semantics of the elements of the NMC must first be understood; then, in order for the frame and the denotatum of the head noun to cohere, the construer's world view must suggest a possible situation associated with the evoked frame in which what is denoted by the head noun can participate.

The above process is common to all NMCs of the CH type. There are differences among NMCs in the degree to which assumptions and inferences are necessary in order to form a coherent interpretation. The fewer inferences required, the more accessible the construction. More inferences are necessary when, for example, not enough information is provided by the elements of a construction, or when the construal relies on socially and culturally dependent knowledge that is not universally shared.

One might think that those semantic relationships that can be expressed by case relations (or by a case marker, as traditional linguists of Japanese put it) are in general more acceptable than those which are not so expressible. However, the discussion has provided ample evidence illustrating that this is not always true, and that acceptability depends on the semantics and pragmatics of the linguistic elements in the construction as well as on the extra-linguistic context. The analysis has shown that the construability and acceptability of NMCs is not a matter of a dichotomy between acceptable and meaningless, but a continuum controlled by a variety of factors.

An interesting aspect of the construal process is that the role of the denotatum of the head noun in the frame is not immediately apparent, but is inferred as the construer envisions a situation associated with the evoked frame in which a member

of the category denoted by the head noun can participate. The fact that such a participation role is indeed relevant in the frame is revealed only in the course of the construal.

Notes to Chapter 4

1. Teramura (1975 - 1978, for example) proposes an integrated treatment of noun modification in Japanese, yet he separates relative clause constructions (*uti no kankei* 'inner relation' constructions) from the rest by virtue of being strictly structural as opposed to semantically sensitive constructions, *soto no kankei* 'outer relation' constructions. This classification or division, however, is not indicated by the construal mechanism we considered in Chapter 3, because semantic and pragmatic factors play an important role even in the grammaticality judgment of constructions which can be classified as belonging to the 'inner relation' constructions.
2. I will sometimes use the phrase "the denotatum of the head noun", or "what is denoted by the head noun" to mean "a member of the category denoted by the head noun".
3. The accusative marker *o* is absent after *ennu-zii* 'mistakes' because of the colloquial nature of the utterance.
4. The reference is most likely not generic in this particular example since the description of the situation points to a specific time and event in the past.
5. Although the question of how elements of the frame that are not linked with the head noun must be interpreted is a very important one, I will not discuss it at greater length in the present study except for pointing out its discursal and pragmatic nature, since it is not a direct concern to NMCs. (For references, see studies on ellipsis in Japanese and on given-new information; for example, Kuno 1973, Hinds 1982, Okamoto 1985; Kuno 1972, 1978, Chafe 1974, Clark & Haviland 1977, Prince 1981, etc.)
6. I owe this example to Yoshiaki Yanagisawa.
7. I must note that a reason why the (a)-interpretation is likely to be preferred when the sentence is uttered "out of the blue" may be due to some sort of conversational principle (such as the Gricean Principle). An utterance intended to convey (b) is less likely to be said out of the blue by a stranger.

Another point to note here is that although we are assuming an "out-of-the-blue" context for the sake of discussion, we must be aware that it is almost impossible to obtain an interpretation free of assumptions and inferences. In reality, the hearer of (36), for example, is likely to attempt to assess the speaker's capability of buying a shop. I would like to thank Shigeo Okamoto for her discussion, which helped clarify my thoughts on this point.
8. Since (40a) is acceptable in certain situations, for example if the interlocutors already know that Taroo studied with someone, it is not quite precise to treat it as ungrammatical.

9. Readers who are familiar with the game show "Wheel of Fortune" may be able to make an analogy between the construal of an NMC and finding the right answer to the sort of question posed in that show. In "Wheel of Fortune", if many letters are already shown and especially if those that are shown provide crucial information on the word or phrase given, the task of filling in the blanks and of coming up with the whole word or phrase is easier than otherwise. Similarly, if more information on the situation at issue is provided in the clause, the task of the construer of the NMC is less demanding.
10. It may be speculated that a reason why certain participants of the frame, for example, the agent (such as the "buyer" in a commercial event) of the action and the experiencer of an emotion, are, in many instances, more readily indexable with the head noun is probably also that such participants are inevitably associated strongly with the simple frame evoked by the predicate of the modifying clause. Those participants are very salient in frames evoked by many predicates, but it seems too strong a claim to propose that there are participant roles which are always the most salient, irrespective of the particular verb. In some languages such as English, there is a relatively clear notion of "arguments", which are crucial participants that are necessarily present linguistically. In Japanese, however, the situation is not so clear, and there seems to be a great deal of variation in what participant roles are considered most salient.
11. It is interesting to point out that this construal process is reminiscent of the understanding of coordination conjunctions, as discussed by R. Lakoff (1971) and of "bridging" proposed by Clark and Haviland (1977).
12. I owe examples (51') and (52) to Yuko Mogami.
13. Teramura cites this example as a "abridged" construction in which he states that many elements seem to be ellipted. Unlike Teramura, as I have been arguing, I do not consider constructions of this kind to be the product of ellipsis of linguistic elements.
14. (63) is a simplified version of a sentence in a novel, cited by Shirakawa (1986). Though the remainder of the sentence has been abbreviated, the NMC at issue is unchanged.
15. Shirakawa (1986) is based on his M.A. thesis, which was not available to me.
16. In relation to constructions whose head nouns are generic, NMCs of the following sort deserve mention:

- i) [[ringo ga sara no ue ni aru] no]
 apple NOM plate GEN top LOC exist
- o totte ...
 ACC took

'Taking the apple which is on the plate ...

Constructions of this and related types are discussed extensively by Kuroda (1974, 1975-6, 1976, 1976-7) as "pivot-independent relative clauses" which are, for our purposes, a restricted kind of "headless relatives". In his analysis, Kuroda treats *no* following the clause as a complementizer rather than as a pronominal, but the construction is a relative clause rather than a clause nominalized by *no*. (For details, see especially Kuroda (1976-7)). He claims that the semantic content of constructions such as (i) "must be pragmatically interpretable as directly relevant to the meaning of the matrix clause, while in the case of familiar relatives no such pragmatic restriction is required" (1976-7:158).

The head nouns in (74) and (75) can be replaced by *no* without changing the meaning. Putting aside the status of such *no*, there are interesting points to note. In both (i) and (74-75), the referents of the complex NPs can be denoted by the noun phrase in the modifying clauses (e.g. *ringo*, *ninniku*, but in (74), for example 'garlic' undergoes a change, while in (i) 'apple' does not, and only a certain aspect or state of the apple (being on the plate) is at issue. While the resulting state is the focus in the complex NP in (74), in (i) the focus is on a certain aspect of the referent that exists simultaneously with the event described in the main clause. This characteristic of focussing on one aspect is, I suspect, a shared feature with "non-restrictive RCs", in which one specific point of the referent is described in the modifying (relative) clause.

17. I thank Paul Kay for raising the question of the acceptability of (77).
18. Charles Fillmore has pointed out to me that in a particular dialect of American English (influenced by Norwegian) it is possible to have a construction similar to the quoted Japanese NMC, for example:

i) the snack that you don't have to wash your hands.

Robin Lakoff remarked that the use may be more widespread.

19. The sentences I used are altered versions of sentences gathered mainly from *Dictionary of Japanese Grammar* (Makino and Tsutsui (1986)). For example, (93) [[*aruku*] *hon*] was originally *hon o yomi-nagara aruku*, '(I, etc.) walk while reading a book.'

20. With regard to (93), it was reported to me by Yoko Hasegawa that there is a book entitled *[[tikyuu o aruku] hon]* 'the book (with which)(one) walks (around) the world,' which is a sort of travel guide. In the case of this title, the semantic relation between the two constituents is of the type *[[Purpose] Requisite]*, which we discussed in the previous section.
21. See R. Lakoff (1971) for a detailed discussion of the distinction and similarity between symmetrical *and* and asymmetrical *and*, where the latter implies a causal chain whereas the former does not.
22. It might be argued – as in Shirakawa (1986) – that *asa* 'morning' in (100) is similar to relational nouns like *kekka* 'result' that relate cause and effect (or condition and consequence). This does not seem tenable, however, since it is not that, for example, staying overnight at Yonago causes the morning to arrive, but that the sequence of morning following night in the daily cycle matches with the conveyed events.
23. The example given by Kuno (1973: 255) is the following:

(i) Syuusyoku ga taihen na buturigaku, sotugyoo
 employment difficult is physics graduation

ga taihen na gengogaku – dono gakumon mo
 difficult is linguistics every discipline

yooi de wa nai
 easy is-not

'Physics, where finding a job is difficult, and linguistics, where graduation is difficult – no discipline is easy'

Kuno claims that the RC constructions in (i) are derived from the following

(iia) *[[buturigaku wa]_{theme} syuusyoku ga taihen da]_S buturigaku*
 physics employment difficult is physics

(iib) *[[gengogaku wa]_{theme} sotugyoo ga taihen da]_S gengogaku*

But there are no corresponding themeless sentences.

(iiia) *[buturigaku *no/*de/*ni/*no-naka-de syuusyoku ga taihen da]*
 buturigaku

(iiib) *[gengogaku *no/*de/*ni/*no-naka-de sotugyoo ga taihen da]*
 gengogaku

24. It seems to be too strong to mark these constructions with asterisks as Kuno (1973) and Muraki (1970) do, since they are, as Kuno points out, acceptable in some contexts.
25. The difference between (5,6) and (1-4) is reminiscent of that between the two types of coordinate conjunctions, namely symmetric and asymmetric, in that, as described by R. Lakoff, "in symmetric conjunction, it is necessary for only parts of the conjoined sentences to be able to be related by the presupposition in order to insure that one can deduce a common topic; but with asymmetric conjunction, it is the two conjoined sentences as wholes that participate in the relationship, not parts of them" (1971:130-131).
26. Of course, even if the head is of such a semantically special kind, the NMC may still be of the CH type.

Chapter 5

Analysis of Noun Modifying Constructions II: NH-type and CNH-type

In this chapter, NMCs other than of Clause Host type, namely NMCs of Noun Host type and of Clause and Noun Host type, will be discussed for the purpose of comparison with the CH-type discussed in Chapter 4. Both Noun Host and Clause and Noun Host types share the property that it is the head noun which provides a frame into which what is expressed in the modifying clause can be integrated to effect the construal, rather than the modifying clause playing the role of host for the head noun of the construction. CNH-type NMCs differ from the NH-type in that the clause can also be the host of the head noun.

5.1 Noun Host type Constructions

NH-type NMCs have the characteristic feature that what is expressed by the modifying clause is a complement of what is denoted by the head noun; in terms of frames, it fits into the frame evoked by the head noun. The modifying clause typically represents the *content* of a head noun designating an event, a speech act, a fact, etc. In other words, the head noun functions to name and encapsulate what is expressed by the clause. An important point to notice in this regard is that, unlike the head noun of a CH-type or of a CNH-type NMC (the latter of which will be

discussed in 5.2), what is denoted by the head noun of an NH-type construction has no participation in the frame that is evoked by the modifying clause.

One of the most typical instances of this type of construction, which we will examine first, is that in which the head noun designates a speech act and the clause represents the content of such a speech act.

5.1.1 Speech Act Nouns as Head

The following is an example of an NH-type construction that falls under the above heading.

- 1) [[Rokugatu no sue ni kaette-kuru] toiu] hanasi
 June GEN end TIME come-back COMP story
 wa kiite-imasita keredo ...
 TOP had-heard but

‘I’d heard the story (that)(he) would be coming back at the end of June, but, ...’

(O)

At first sight, it might seem that the difference between NH and CH-type constructions is structural, determined by the presence or absence of *toiu*, which functions here as a complementizer. This is not the case, however, since the presence of *toiu* is neither necessary or sufficient to make an NH-type NMC. For example, (2) is of NH-type in spite of the absence of *toiu*.

- 2) [[toonyoo ga akka-site gan ni natta]
 diabetes NOM become aggravated cancer DAT become
 hanasi] nado tuizo kiita-koto-ga-nai
 story such as ever never heard of it

‘(I) have never heard of a story (in which) diabetes became aggravated to become a cancer.’

Moreover, the NMC in (3) is of CH-type.

- 3) [[Emiko ga yonda] *toiu*] hon wa dore desu-ka
 NOM read said book TOP which COP-QP
 ‘Which is the book (that) (Emiko/someone) says Emiko read?’

Rather, *toiu* (literally: *to* ‘that’, *iu* ‘say’) functions in an NH-type NMC to mark the complement as a quotation or quasi-quotation.¹ In this sense, *toiu* (and its associated forms) are not exactly like the English complementizer *that*. There is no precisely corresponding construction in English; but the italicized parts of the following may convey something comparable, although, unlike in English, there is nothing uncommon about such constructions in Japanese.

... the only reply the others will be able to think up will be one that terminates the interchange in a grumble, a meager excuse, a face saving *I-can-take-a-joke laugh*, or ...

Erving Goffman, *Interaction Ritual*: p25.

The second point to note in examples (1)-(2) is that the meaning of the head noun *hanasi* ‘story’ allows it to have a complement, or content expression. In this interpretation, the function of *hanasi* ‘story’ is to label or encapsulate² the content, which is expressed by the modifying clause. In terms of frames, we could say that the frame evoked by *hanasi* contains a slot into which can be put the content of the story. This semantic property of *hanasi*, however, does not automatically imply that an NMC of which it is the head is of NH-type. For example, in (3a), the story has a participation in the frame evoked by the clause, rather than vice versa.³

- 3a) [[Sattoo-san ga kiita] hanasi]
 Mr. Sato NOM heard story
 'the story (which) Mr. Sato heard'

To construe examples of the form (1), then, the construer must decide whether the frame evoked by the modifying clause has a slot that can be indexed by the head noun, or whether it is the frame of the head noun that can accept the content of the modifying clause. This decision is not determined solely by the structure or by the semantics, but relies also on the construer's knowledge of the world.

In (1), it is very unlikely from the semantics and pragmatics of the elements of the modifying clause that the story denoted by the head noun participates in a situation of someone's coming back in June, while it is plausible that the clause represents the content of what is denoted by the head noun. In other words, (1) is an NMC in which the head noun evokes a frame that hosts the clause by encapsulating it and designating it as a 'story'.

There are two further related points to note here. The first is in relation to the head noun. For nouns denoting speech acts, there are usually corresponding verbs that can take as their complements direct and indirect quotations. In (1), the head noun *hanasi* 'story' corresponds to the verb *hanasu* 'speak, tell, talk'. Secondly, as we have seen, NMCs of NH-type having speech act nouns as head often contain *toiu*.

⁴ It is worth noting in relation to the first point that, when an utterance is quoted either directly or indirectly as a complement of verbs indicating communication, the quotation is followed by *to*, which corresponds to English *that* in indirect speech and to quotation marks in direct speech. *Toiu* used in NH-type NMCs, however, is lexicalized, and functions as a unit. It is regularly treated as a complementizer rather than a combination of quotation marks and the verb 'say'. The convention of glossing *toiu* as COMP is adopted for convenience in this study; it is important, however, to remember the primary, etymological sense of *toiu* as 'that say'.

The construal process for (2) is similar to that of (1), but what is expressed in the clause is a more generalized form, rather than being, as in (1), a quasi-report of what is said by the speaker of the story. Notice also that, in (2), the clause is not the product of one specific person's speech, but of people's in general. The following example illustrates a construction in which the nature of the 'story' becomes more general, and the content of the clause is more like a summary than a quotation.

- 4) [[Kame ga Taroo o tasuketa] hanasi] o yonda
 turtle NOM ACC rescued story ACC read
 '(I) read the story (in which) a turtle rescued Taro.'

In (4), *hanasi* is used in the sense of a tale, and the content expressed in the clause is interpreted as a summary of the story. The implication that the whole story includes more than what is expressed in the clause is indicated syntactically in the English translation by treating (4) as a relative clause construction.⁵ Semantically, however, 'in the story' is not the location where a turtle helped Taro. The semantics of *hanasi* 'story' provides not a location but an alternative world (or *mental space*, in the sense of Fauconnier 1985) within which what is expressed by the clause is said to be true. Thus, one cannot answer the question 'where did the turtle rescue Taro?' by saying 'in the story', unless one is joking. In this sense, the NMC in (4) cannot be construed as a CH-type construction where what is denoted by the head noun participates in a situation evoked by the elements of the modifying clause, but should be construed as an NH-type construction where it is the head noun that evokes a frame to host the clause.

The following are some more examples of NH-type NMCs with speech act nouns.

- 5) [[Sannen-kan-de sono kazu wa 41-nin
 in 3 years that number TOP 41 persons

ninaru toiu] *hanasi*] ga honsi
amount to COMP story NOM this paper

Ishikawa ban ni rensai-sare-teita
edition LOC was reported serially

‘The story that in three years the number amounted to 41 (persons) was reported in a serial article in the Ishikawa edition of this newspaper.’

(W:N)

6) [“Sihoo wa mada-mada yokusei-sita handan o
Judicial branch TOP still restrain judgment ACC

siteiru” toiu] Eda syaminren daihyoo no
is doing COMP USD party representative GEN

hatugen ni bun ga aru
statement DAT reason NOM exist

‘The statement by Eda, representative of the United Social Democratic Party that “the judicial branch still gives a very restrained judgment” is still more reasonable.’

(W:N)

7) Syoogatu ninaru to [[moratta o-tosidama no
New Year become when received gift-money GEN

heikin ga ikura ikura, toiu] ginkoo no *happyoo*]
average NOM such and such COMP bank GEN announcement

ga simbun ni norimasu
NOM newspaper in be reported

‘When the New Year comes around, the announcement by banks that the average gift money received (by children)(is) such and such is reported in the newspaper.’

(W:N)

In all these examples, the head nouns have corresponding verbs: *hanasu* ‘speak, tell, talk’, *hatugen-suru* ‘state, speak’, and *happyoo-suru* ‘announce’, respectively. And it is indeed plausible that what is expressed in each modifying clause is the

content of a story, a statement, or an announcement. To be sure, the modifying clause qualifies the denotation of the head noun as in the case of NMCs of CH-type, but it does so in a different way; namely, by providing the whole content of a specific speech act denoted by the head noun, rather than by providing clues to evoke situations in which what is denoted by the head noun can fit. In this sense, the clause that represents a quoted content of a speech act in an NH-type NMC can be like a real utterance.

In each of the examples (5-7), the modifying clause presents indications in addition to the use of *toiu* that the clause is a quasi-direct quotation. In (6), the whole clause except for *toiu* is enclosed in quotation marks as if it were a direct quote of Eda's statement.⁶ The commas preceding *toiu* in (5) and (7), which are written analogs of pauses in speech, serve also to highlight the preceding clause as a unit, and, thus, as the content of speech. Note also that what precedes *toiu* and the comma in (7) contains no predicate, which indicates colloquiality.⁷

The occurrence of the topic marker *wa* in the modifying clause of (5) and (6) also suggests that the clause behaves like a direct quotation, since a topic marker usually occurs only in the main clause. In fact, in CH-type NMCs, *wa* can occur in the modifying clause only in its contrastive function. If *toiu* were not used in (5) and (6), thus attenuating the perception of the content of the modifying clause as a direct quotation, the topic marker *wa* in the modifying clause would be replaced by a case marker. Similarly, the question particle *ka*, and various sentence-final particles expressing the speaker's feeling toward the propositional content, the imperative and request forms of verbs, etc., also can appear in modifying clauses only when accompanied by *toiu*.

We have considered constructions whose head nouns are speech act nouns. There are, however, extended cases of such constructions, whose head nouns do not denote speech acts *per se* but objects entailing speech acts — nouns which, in their literal sense, however, do not provide frames similar to those of speech act nouns. The

modifying clauses in the first two examples below present forms of typical quasi-direct quotations, even though the head nouns are not speech act nouns. (In (11), *tono* is used instead of *toiu*.)⁸

- 8) [[“... are wa moo yamete-morai-tai to omou
that TOP already stop-receive-want COMP think

ga, ikagadesyoo ka” toiu] toosyo] o itadaita
but how is Q. P. COMP reader’s letter ACC received

‘(We) received a [letter from a reader (saying) ... “(I)’d like you to stop that, but what do you think?” ’

(W:N)

- 9) [[“kawa de asoboo” toiu] seito no koe de ...
river LOC play(volitional) COMP pupil GEN voice by
‘(inspired) by the pupils’ voices (saying) “Let’s play in the river” ...’⁹

(W:N)

- 10) [[rediisu komikku to yobareru manga-zassi ga
ladies comic QUOTE be called cartoon-magazine NOM

yoku urretiru toiu] kizi] ga atta
well is selling COMP article NOM existed

‘There was an article (saying) that cartoon magazines called *ladies comics* are selling well.’

(W:N)

- 11) [[mityaku no kozutumi ga tuita tonon]
not-yet-delivered GEN parcel NOM arrived COMP

denwa] o itadaite ...
telephone ACC receive

‘receiving [the telephone call (saying) that the undelivered parcel had arrived], ...

(W:L)

The head nouns *toosyo* 'reader's letter', *koe* 'voice', *kizi* '(newspaper) article' and *denwa* 'telephone (call)' may not have a ready-made semantic structure which provides a position for the clause to fit into. However, construers know that, in a regular world view, these nouns represent physical realizations of speech acts, and they understand that what is expressed by the modifying clauses is construable as the contents of associated speech acts, i.e., an indirect request in the form of a question in (8), a volitional form in (9), a statement in (10) and (11). Inferences about the relationship between the clause and the head noun based on this knowledge enable the construers to obtain a plausible interpretation of the constructions. That is, the head nouns can metonymically introduce a frame in which the content of the clause can fit.

It is worth remarking that it is unlikely that (8)-(10) would be construed as NMCs of CH-type in which the head nouns play the role of the subject of the verb *iu* 'say'. This is because, unlike in English, a non-animate NP does not co-occur with the verb *iu* 'say' when the complement clause of the verb has linguistic content (as opposed to onomatopoeic expressions). The producer of this linguistic content is understood here as the writer of the letter in (8), the pupils in (9), the journalist in (10), and the caller in (11).

Notice that the construal mechanism described above is reminiscent of that of those CH-type NMCs in which the relationship between the main predicate in the clause and the head noun goes beyond a regular valency relation. (See 4.2.) In both types, the English equivalents require explicit syntactic indications in order for them to be interpretable and grammatical, whereas the construal of the Japanese constructions relies on the construer's inferences based on knowledge on the semantics and pragmatics of the elements in an NMC.

There are constructions whose head nouns are even less typical of NH-type head nouns, yet in which the linguistic expression in the modifying clause nonetheless represents the content of what is denoted by the head noun.

- 12) [[mazui, tumetai, yuusyoku-zikan ga hayai toiu]
taste bad cold supper-hour NOM early COMP

san-aku] tuihoo no sentoo ni natta.
three-evils banishment GEN take the lead in

‘(He) took the lead in the banishment of the [three evils [(that are) an unappetizing, cold, and early supper]].’

(W:N)

- 13) [[“Ningen niokeru ke no sooryoo wa tuneni
humans LOC hair GEN total TOP always

hitosi” toiu] koosiki] ga naritatu n da.
constant COMP formula NOM establish NMLZ COP

‘[The formula (saying) that [“the total amount of hair on a human is constant”]] is established.’

(O)

- 14) aru oote-no toritugiten de wa [[zyuu-nen-kan-de
certain major agency LOC TOP in ten years

tyuumon no hon ga hangen toiu] sinkokuna
order GEN book NOM half COMP serious

suuzi] mo kiroku-sareteiru.
number also is recorded

‘ At a major agency, [the serious figures [(telling) that the number of ordered books has been halved in the last ten years] were recorded.’

(W:N)

(12) is an excerpt from a newspaper article about a hospital. The head noun in (12) denotes ‘three evils’, and the modifying clause lists three things: the first of these, *mazui* ‘bad tasting’, suggests both food and an evil; the second, *tumetai* ‘cold’, is, in a normal world view, easily thought of as an evil when it describes food; the third *yuusyoku-ga-hayai* ‘supper is early’ is clearly about food, and may plausibly be considered as a complaint. In sum, then, the semantics of the head noun *san-aku*

'three evils', viewed together with the semantics and pragmatics of the modifying clause, suggest that the construction is of NH-type and that the modifying clause expresses the content that is labelled by the head noun.

In (13), the 'formula', denoted by the head noun, is provided in the manner in which natural laws and theorems are stated. Thus, it is not difficult for the construer to infer that the modifying clause represents the *statement* of the formula.

(14) is from an article about a shocking decrease in the book-reading population. *Suuzi* 'numbers, figures' does not normally evoke a frame that can host what is expressed in a modifying clause. In (14), however, it is reasonable to think that numbers are the highlight of a report, and can thus, metonymically, represent the conclusion of the report. In this sense, *suuzi* can evoke a frame in which what is expressed by the clause fits as the propositional content.

The above examples illustrate a point which recurs over and over again in the construal of Japanese NMCs, namely, that a combination of linguistic and non-linguistic knowledge permits the construal of both typical and atypical constructions.

5.1.2 Nouns of Thoughts and Feelings as Head

Constructions with nouns of thoughts and feelings as head closely resemble those with speech act nouns, especially in that many nouns have corresponding verbs, and in that the content of thoughts and feelings can be expressed in the form of direct speech. The following are some examples.

- 15) [[kore wa moo yamituki-ni-naru na toiu]
this TOP EMPH become-infatuated-with SFP COMP

yokan] ga atta.
premonition NOM existed

'(I) had a premonition that (I) would become infatuated with this.'

(W:N)

16) [[bakana koto o sita naa, tte] ki]
 stupid thing ACC did SFP COMP feeling

ga mooretuni sita wake yo.
 NOM intensely did NMLZ SFP

‘(I) had an intense feeling that (I) had done something stupid.’

(O)

Preceding *toiu*, or its colloquial form *tte*, is *na(a)*, which is typically used sentence-finally to indicate that what is expressed is the speaker’s feeling. In (15), the speaker had a feeling in the past which the clause represents in the form of a direct quote; at the time of speech, he names this as a premonition.

The following are more examples with head nouns expressing feelings and thoughts.

17) [[yakusoku o hatasezuni hazi o miru hodo
 promise ACC without fulfilling shame ACC receive extent

naraba sinu, toiu] katai ketui] ga komerareteita
 if die COMP firm determination NOM was loaded

‘The firm determination that if (one) is put to shame for not carrying out one’s promise, (one must) die was inculcated.’

(W:N)

18) [[siri-tai toiu] yoku] ga aru wake da.
 want-to know COMP desire NOM exist NMLZ COP
 ‘(One) has the desire to know.’

(O)

19) [[Kore izyoo hage-taku-nai toiu] ganboo] ...
 this more than don’t want to get bald COMP wish
 ‘the wish [that (I) don’t want to get balder than now] ...’

(O)

- 20) [[kamawanai, tte] kanzi] yo.
 don't care COMP feeling SFP
 '(I have) the feeling that (I) don't care.'

(0)

In all these examples, the head noun (*ketui* 'determination', *yoku* 'desire', *ganboo* 'wish', *kanzi* 'feeling') evokes the frame in which the clause fits. Note that in (18) the clause includes *-tai* 'want to', which indicates one's desire; from this it is easy to associate with what is expressed in the clause 'wants to know' with the content of the 'desire' denoted by the head noun. Similarly for (19).

We have considered examples in which the proposition that fits in the frame evoked by the head noun is represented as if it were uttered. These one may call "quotative expressions"; they are marked by *toiu*, sometimes in conjunction with quotation marks, and sometimes contain pragmatic elements that only appear in real speech act situations. It is natural that such quotative expressions should occur in the modifying clause of speech act head nouns. In constructions with head nouns of thought and feelings, on the other hand, quotative expressions are used less frequently. In order for the construction to be structurally well-formed, *toiu* is obligatory when it follows pragmatic elements marking the clause to be a complete utterance (for example, a question particle, or sentence final particles). In the absence of such main clause phenomena, the occurrence of *toiu* is more subjective, and reflects the speaker's choice between quotative and non-quotative expression. The following are some examples where *toiu* is omitted.

- 21) [[kuitumeta] kanzi] no hito ga koo-tada
 without food feeling GEN person NOM just

 nantonaku tattetari-site sa
 for no reason be standing SFP

'People (who give) the feeling that (they) have no food
 are just standing there for no reason.'

(O)

22) Hisako-chan wa [[zibun o miru] omoi] de
TOP self ACC see thought with

mite-iku yoo desu.
see-go EVID COP

'Hisako seems to see (it) with the feeling of seeing herself.'

(W:L)

The distribution of quotative expressions in such constructions is difficult to specify, especially construction-internally. (See Josephs 1976, Terakura 1984 and Tonomura 1985 for the complexity of the issue, and for their views on *toiu*). Previous studies on this issue have focused on the relationship between *toiu* and possible head nouns, or on the relationship between *toiu* and the factivity of what is conveyed in the clause. From the point of view of the present framework, the presence or absence of *toiu* does not in itself affect the *construability* of constructions in terms of host-relationship, since, as was mentioned earlier, *toiu* does not automatically distinguish the construction as either NH- or CH-type. (Of course, this does not mean at all that the use of *toiu* makes no difference.) What is important to consider, rather, is when it is appropriate to describe the content of, for example, someone's feeling by a quotation rather than by a more regular descriptive expression. There is, thus, an interesting point as to how the content is presented: quotatively or descriptively. This, however, relates to the general issue of evidential expressions, such as *sooda* 'hearsay', *yooda* 'looks like', etc., rather than being purely a question about complements.

5.1.3 Proposition-taking nouns, etc. as Head

In this section, we will consider constructions whose head noun is not associated with speech acts, thoughts, or feelings, but which nonetheless evoke frames that provide a slot in which what is expressed by the clause fits as the content. These

nouns are of the type represented by *zizitu* 'fact', *ziken* 'event' *zizyoo* 'condition', *kuse* 'habit, peculiarity', and *unmei* 'fate'. The following are examples of this kind. (For more examples see especially Martin 1975 and Teramura 1977.)

- 23) [[kodomō ni otosidama o moraw-ase-nai] syugi]
 child DAT money gift ACC receive-let-not principle
 no oya mo iru.
 GEN parent also exist

'There are also parents (who have) the principle (that they) don't let (their) children receive money gifts.'

(W:N)

- 24) [[aakeedo ya dentyuu o tekkyo-site mati o
 arcade and electric pole ACC remove and town ACC
 issin-sasetal rei] mo aru.
 renovated case also exist

'there is a case (in which) (they) renovated the town (by) removing the arcades and the electric poles.'

(W:N)

- 25) [[gomi o yaku yori wa gomi o
 garbage ACC burn rather than TOP garbage ACC
 dasu na, mono o sutezuni mono
 produce IMP thing ACC not throwing away thing
 to tukia-e toiu] undoo] dearu.
 COMMIT get along with-IMP COMP movement COP

'(This is) a movement (whose slogan is) "Rather than burning it, don't produce garbage; instead of throwing them away, get along with things".'

(W:N)

- 26) [[sasimodisi o si, saido tyoosa irai
 referring back ACC do again investigation request

sinakereba-naranai toiu] sisutemu] dearu kara ...
 have to do COMP system COP since

'since (it has) the system whereby (they) refer (the case) back (to the police) and have to request a second investigation ...'

(W:F)

27) sorekara, boku wa ano, [[atama o tatakuj
 and I TOP um head ACC hit

kuse] ga aru desyoo?
 habit NOM exist (*tag Q.*)

'And, I, um, have the habit (of) hitting (my) head, don't I?'

(O)

The construal principle for these constructions is analogous to that of other NH-type constructions discussed already. Note, for example, that in (25), there is no semantic requirement that would prescribe that the "content" of a social movement should be described in a quotation. However, social experience would suggest that the principles of social movements are often advocated in the form of slogans.

There are other head nouns do not automatically evoke a frame that can host the clause as its content, yet which are perfectly acceptable in juxtaposition to a content-expressing clause. (26) is a typical example.

28) [[koinu no Torisu-kun ga ame no mati
 puppy GEN Toris (*p.n.*)-*dim.* NOM rain GEN town

ACC wander television commercial also existed
 o samayou] terebi CM] mo atia.

'There was a TV commercial (in which) a puppy (called) little Toris wanders around the town in the rain.'

(W:N)

The understanding of (28) is analogous to that of (4) discussed earlier, in which the head noun denotes a story.

Finally, there are constructions that are noteworthy in terms of the contrast with CNH-type constructions, which we will examine in the next section. In such examples, the head nouns are of “relational” type, but can be construed as either of NH- or of CNH-type depending on the modifying clause. The following are examples that are of NH-type.

- 29) [[kokoro atatamaru] kekka] ni sita no mo uresii.
 heart warm(verb) result DAT made NMLZ also be happy
 ‘(I)’m also pleased (that he) made (the ending) a result
 that is heart-warming.’

(W:N)

- 30) [[tannaru dekiokoro de joodan-hanbun-ni yat-tara nantonaku
 simple impulse by half-joking-ly did-when somehow
 san-oku-en goodatu ni sekiyoo-sita toiu] makotoni
 300 million yen robbery DAT succeeded COMP truly
 musekininna dooki]] sikanaku ...
 irresponsible motivation nothing but

‘It was nothing but a truly irresponsible motivation when doing (it)
 half-jokingly on a simple impulse, (he) somehow succeeded in a
 300 million yen robbery.’

(W:F)

- 31) [[Kimono no refoomu o tegaruni hikiukeru] sigoto]
 kimono GEN re-form ACC readily take on job
 ni mo noridasu ...
 DAT also set about

‘(She) will set about doing the job (of) readily taking on the
 re-fashioning of kimonos ...’

(W:N)

- 32) [[yuki o tamete-oite tikasui o huyasu]
snow ACC accumulate-keep underground water ACC increase
kuhū] o suru no mo risetu no
device ACC do NMLZ also use of snow GEN
hitotu da shi ...
one COP and

‘using the device (of) increasing underground water by accumulating snow is one use of snow, and ...’

(W:N)

In all these examples, the modifying clause qualifies the head noun, by describing the content of the result, the motivation, the job, or the device, respectively. Thus, for example, in (29), the result x is described in terms of what x is, rather than in terms of the condition y from which x resulted. examples (33) and (34) present, respectively, a CNH-type and an NH-type construction with *kekka* ‘result’ as head noun.

- 33) [[kinoo tabesugita] kekka], kyoo nanimo taberarenai
yesterday overate result today anything cannot eat
‘(As) a result (of) having overeaten yesterday, (I) cannot eat anything today.’

- 34) kinoo tabesugita node [[kyoo nanimo taberarenai]
yesterday overate because today anything cannot eat
kekka] ni natta.
result DAT became

‘Because (I) overate yesterday, it became the result that (I) can’t eat anything today.’

The result of overeating in (33) is described in the main clause, whereas it is described in the modifying clause of the NMC in (34). In the modifying clause of

(34), the head noun encapsulates what is expressed in the clause as the ‘result’; this does not involve the participation of the head noun in the situation evoked by the predicate *tabe-* and other elements of the modifying clause. On the other hand, the head noun in the NMC of (33) does not encapsulate the modifying clause and does not name it as the result. Instead, it participates in the frame evoked by the modifying clause, playing the role of the “result” or “consequence”; the result, however, is not described within the NMC. We will consider NMCs such as (33) in section 5.2 below.

5.2 Clause and Noun Host Type (CNH-type) Constructions

Among Japanese NMCs, there are constructions which I will call Clause and Noun Host type, in which the head noun and the modifying clause each provide a frame that can host the other constituent. In such CNH-type constructions, the semantic structure of the head noun is such that we can associate with it a frame which contains a position which can be filled by the content of the modifying clause; the frame evoked by the modifying clause in turn contains a participant role which can be filled by what is denoted by the head noun. This reciprocal relationship in CNH-type NMCs is manifested variously, as we shall see in the following discussion.

5.2.1 Relational Nouns as Head

In the last part of section 5.1., we contrasted two superficially similar complex noun phrases: (33) and (34). The NMC of (34) was of CNH-type; this example is repeated below as (35).

- 35) [[kinoo tabesugita] kekka], kyoo nanimo taberarenai¹⁰
 yesterday overate result today anything cannot eat
 ‘(As) a result (of) having overeaten yesterday, (I) cannot eat
 anything today.’

The head noun *kekka* ‘result’ evokes a frame which has a slot for the event which caused the result; in (35) this is the event expressed in the modifying clause. The meaning of the head noun is qualified in this example by the cause or condition that is responsible for some resulting state, not by the description of the that state. This illustrates an important characteristic of CNH-type NMCs with “relational” head nouns. A “relational” noun is a noun whose meaning is understood relative to some event or state. *Kekka* ‘result’ in (35) is such a noun: something can be called a result only if there is presupposed the cause or condition that brought it about. Such a relational noun has an associated frame – which I will call a “relational frame”, which has a slot for the event or state relative to which the meaning of that noun is to be understood. This contrasts with the “content frames” found in NH-type constructions; these latter have a slot that can be filled by the event or state that is labeled or encapsulated by the head noun.

Not only does the head noun in a CNH-type constructions evoke a frame having a slot filled by the embedded clauses; in addition, what is denoted by the head noun participates in the frame evoked by the modifying clause. In contrast, the head noun of an NH-type construction has no participation in the frame evoked by the modifying clause. If the head noun in a CNH-type construction is a relational noun, what is denoted by the noun participates in the frame evoked by the modifying clause in a special way: by *naming* a participant slot. In (35), for instance, *kekka* ‘result’ names, rather than occupies a slot in the frame evoked by the modifying clause *kinoo tabesugita* ‘yesterday (I) ate too much’. We can contrast this with CH-type constructions by recalling an example from 4.2.1, repeated here as (36), which is a CH-type NMC where the head noun actually does occupy the role of result or consequence in the frame evoked by the modifying clause.

- 36) % [[*amai mono* o *tabe-sugita*] *musiba*]
 sweets ACC ate-excessively cavity
 ‘the cavity (which resulted from) eating too much sweets’

Thus, CNH-type NMCs with relational head nouns differ from NH-type constructions in how the modifying clause participates in the frame evoked by the modifying clause. Conversely, these CNH-type constructions differ from CH-type NMCs both in the fact that the modifying clause participates in the frame evoked by the head noun and in the manner in which the head noun participates in the frame evoked by the clause.

If a construction has, as its head, a noun that has *two* types of frames, namely, a content frame and a relational frame, then the construer must discern which frame is the relevant one by considering what is expressed in the modifying clause and in the main clause. 'Result' is such a noun. In (35), for example, what is expressed in the embedded clause, yesterday's overeating, is a plausible cause for the result, today's inability to eat, which is provided in the main clause. Yesterday's overeating is not, however, a plausible content of the result (in contradistinction to (34)). Hence we pick the relational frame.

The following are more examples of CNH-type constructions with relational head nouns.

- 35) sorede, kono, [[sippai-sita] gen-in] wa da na
 and this failure-did cause TOP COP SFP
 'and, this, the cause for failing (it) is ...

(O)

- 38) [[zyosei ga hataraku] riyuu] wa samazama daroo
 women NOM work reason TOP various must be
 'the reasons (for) women to work must be various.'

(W:N)

- 39) [[kimuti hazimeta] dooki]?
 kimchee started motive
 '(my) motive (for) having started (making) kimchee?'

(O)

- 40) [[Nanika ga dekiru-yooni-naru] kikkake] wa, watasi-tati
 something NOM become able to do opportunity TOP we
 no mawari ni takusan korogatte-iru no yo
 GEN around LOC lots be lying about NMLZ SFP

'The opportunities (for us to) become able to do something
 are lying all around us.'

(W:N)

In each example, the modifying clause does not represent the content of what is denoted by the head noun, but represents the concept which can be paired relationally with that of the head noun and with respect to which the head noun is understood. For example, the modifying clause in (37) describes not the cause but the relational opposite of cause, the effect. Likewise in (38), the modifying clause does not express a reason, but the state of affairs which calls for a reason. In both examples, the denotation of the head noun is qualified by the paired concept that is relationally complementary to the meaning of the head noun. The same is true for (39) and (40).

The denotatum of the head noun in each example is also construed as being involved in the situation activated by what is expressed in the modifying clause. In (37), for instance, the head noun is construed as naming the participant slot, "cause" in the frame evoked by the modifying clause.

There are also examples of CNH-type constructions in which the semantic relationship between the modifying clause and the head noun is associated with that of Purpose and Requisite, which was discussed in 4.2.

- 41) [[syusyoo no za o arasou] zyooken]
 Prime Minister GEN position ACC contend requirement
 'the requirements (in order to) contend for the position of Prime Minister'

(W:N)

- 42) omae ni wa [[hito o aisuru] sikaku]
 you DAT TOP person ACC love qualification
 nanka nai hazuda
 EMPH not must be

'You do not have any qualification (to) love a person.'

(W:F, cited by Teramura 1977)

The head nouns in (41) and (42) denote a prerequisite for accomplishing what is expressed in the respective modifying clause. In (41), the semantic structure of *zyooken* 'requirement' evokes a relational frame which has a slot "requirement for achieving what?". Here the "requirements" are those involved in contending for the Prime Minister's position; the modifying clause in (41) expresses not the content of these requirements but their purpose. On the other hand, seen in terms of the frame evoked by the modifying clause, the head noun "requirements" can be construed as a plausible participant in the situation of contending for the Prime Minister's position. The head noun, in other words, does not encompass the whole situation evoked by the modifying clause, but designates a role or a participant with in that situation. The same is true for the NMC in (42). The following are related examples.

- 43) [[hyakuman-tyoozya to kekkon-suru] hoohoo]
 millionaire COMMIT marry way
 'the way to marry a millionaire'
 'how to marry a millionaire'

(W:T, cited by Teramura 1980)

- 44) [[hutari no kakeoti ni husawasii yasu-yado o
 both of us GEN elopement DAT appropriate cheap-inn ACC
 sagasu] saku] o neru koto-ni-sita
 look for scheme ACC ponder decided to do

'(We) decided to ponder a scheme for looking for
 an appropriate cheap inn for our elopement.'

(W:F)

- 45) [[kangohu-san o zatumu kara kaihou-suru] kuhuu]
nurses ACC miscellaneous duties from release device

mo atta
also existed

‘There was a device (to) release nurses from miscellaneous duties.’

(W:N)

- 46) [[tansu no naka de nemutte-iru kimono o
drawers GEN inside LOC is sleeping kimono ACC

huku ni yomigaeraseru] sagyoo] ni utikonde ...
(western) clothes DAT make it revive work DAT devote oneself

‘(I) devoted myself to the work (of) turning kimonos lying idle
in drawers into (western) clothes and ...’

(W:N)

(43) is a Japanese translation of the movie titled “How to marry a millionaire”. The modifying clause does not supply the content of what would be the ‘way’, but the desired goal to which some way must be found. As before, the head noun evokes a relational frame in which what is expressed in the modifying clause fits; and, on the other hand, what is denoted by the head noun indexes a position in the frame evoked by the modifying clause, by naming a participation role. (43) is a typical example of NMCs of this type, as is (44). Interestingly, (45) and (46) may be ambiguous between the NH and CNH types, since in both examples it is arguably as plausible to interpret what is described in the modifying clause as the content of the ‘device’ or the ‘work’ as it is to interpret it as the purpose or the goal of the ‘device’ or ‘work’. The choice between the two interpretations depends on the context of use.

Again, the construal of the relationship between head noun and modifying clause in (41) - (46) is inferred from semantic and pragmatic knowledge associated with the examples.

We may note in passing that some examples given in this section, e.g. (41), (42), (43), are considered by Teramura (1980, for example) and Tonomura (1986) to be ambiguous between “inner relationship” and “outer relationship” constructions: on the one hand, paraphrases can be made by adding the case marker *de* to the head noun and inserting the resulting *N + de* into the clause; while on the other hand, the head nouns are semantically special nouns and the modifying clause can be understood as providing content-like information about what is denoted by the head noun. This ambiguity is explainable in the present framework by the concept of the CNH-type, i.e., the reciprocity in terms of providing and filling in frames between the head noun and the modifying clause.

Similar to the constructions we have examined above are constructions having spatial or temporal relational head nouns. We will first consider NMCs with temporal and analogous relational nouns as head.

47) [[haha ga sinda] yoku-zitu] kara, watasi wa
 mother NOM died following-day from I TOP

haha o utokusiku kangaeru-yooni-narimasita no
 mother ACC beautifully became to think NMLZ

‘from the day (after) my mother died, I began to think my mother beautiful’

(W:F, cited by Teramura 1977)

48) Kenzi Sigemune Kiitiroo ga ... takai-sita
 public prosecutor Kiichiro Shigemune NOM deceased

no wa [[san-oku-en goodatu ziken no
 NMLZ TOP 300 million yen robbery case GEN

ziko ga seiritu-sita] hantosi-go] no
 statute of limitations NOM applied half year after GEN

koto deatta
incident was

'It was half a year after the statute of limitations applied to the 300 million yen robbery case when public prosecutor Kiichiro Shigemune died.'

(W:F)

49) Masako wa [[kaimono ni deta] kaeri] ni,
Masako TOP shopping GOAL went return TIME

... Genzidoo ni yotta.
Genjido LCC dropped by

'Masako dropped by Genjido on the way back (from) going shopping.'

(W:F, cited by Teramura 1977)

The semantics of the head nouns in (47), (48) and (49), *yokuzitu* 'the following day', *hantosi-go* 'half year after', and *kaeri* 'return' require a time or event as a basis, in order for what is denoted by the head noun to be understood. The morpheme *yoku-* 'the following' in the head noun of (47) and *-go* 'after' in (48) provide the relational information; *kaeri* 'return' in (49), which in fact denotes an action based on temporal sequence rather than simply denoting a time, presupposes the prior action of leaving. In (47) and (48), therefore, the head noun does not denote the time of the event expressed in the modifying clause; rather, it makes that time function as a reference time relative to which the events described in the main clause are to be understood. In the discussion of CH-type NMCs in 4.2, it was pointed out that the relation of a simple temporal sequence between the head noun and the modifying clause is difficult to construe unless the sequence is conventionalized and known to the interlocutors, or unless appropriate clues are given in the construction. In (47) - (49), construal is not problematical since the semantics of the head noun explicitly includes the information that the relevant participant slot in the frame of the modifying clause is being taken as part of a temporal sequence. This is reinforced by the aspectual information encoded in the past tense form of the predicate in the

modifying clause, which indicates that the time of the event or situation described in the modifying clause precedes the time or event given as the head noun.

When the predicate of the modifying clause is in the non-past form in a CNH-type construction with a temporal relational head noun, the situation evoked by the modifying clause is construed as either preceding or simultaneous with the time indicated by the head noun.

- 50) [[taiho-sareru] zen-zitu], sigatu 21-niti no yoru wa,
 be arrested previous day April 21-day GEN night TOP
 Sinzyuku ni ita.
 Shinjuku LOC was

‘(he) was in Shinjuku on the night of April 21st, the day before he was arrested’

(W:N, cited by Teramura 1981)

- 51) semete itido, semete [[sinu] mae] ni itido,
 at least once at least die before TIME once
 ‘at least once, at least once before (I) die,’

(W:F)

- 52) ... de, [[sono oya-bune ni kaeru] aida] sa,
 and the mother ship GOAL return during SFP
 naki-nagara sa, ...
 while crying SFP

‘... and, while (we are) going back to the mother ship, while (she) is crying ...’

(O)

- 53) [[hagesii ame no naka o zityensya ni
 heavy rain GEN in ACC bicycle DAT
 notte, zyuku kara kaeru] totyuu], ...
 ride cram school from return on the way

‘on the way back from a cram school, riding on a bicycle in heavy rain ...’

The head noun in (53) is not a temporal noun, yet, analogously to *kaeri* 'return' in (49), the example is included here because *totyuu* 'on the way' implies the temporal relation of simultaneity.

It must be noted that although the English glosses provided for the head nouns of (51) - (53) are in the form of adverbial phrases, not only the head noun of (50) but also those of (51) - (53) are considered to be nouns, since they can be followed by a case marker, can be preceded by a demonstrative or by a noun with the genitive case marker *no*, and since, when they are modified by an adjective, the adjective takes the adnominal form.

There are similar constructions involving head nouns that indicate spatial relations.

- 54) [[Humiko ga suwatta] usiro] no mado ni wa,
 Fumiko NOM sat behind GEN window LOC TOP
 'on the window behind (where)...

(W:F, cited by Teramura 1977)

- 55) [[minna ga taberu] mawari] o guruguru
 everyone NOM eat around LOC round and round
 aruki-mawatte n no
 is walking around NMLZ NMLZ

'(he) is walking around (the place where) everyone eats.'

(O)

The head noun in both NMCs evokes a relational frame that has a slot for the location relative to which the head noun is understood. This location is represented by the relevant state or event in the modifying clause. On the other hand, the locations denoted by the head nouns of (54) and (55) participate in the situation

activated by the modifying clause: it is reasonable to imagine that some space exists behind where someone sits, and, similarly, around where people eat. This participation is not completely direct, but involves a relational inference based on the contruer's knowledge of spatial relations. The mechanism for NMCs with spatial relational nouns as head is thus analogous to that of NMCs with other types of relational nouns.

5.2.2 Quasi-Relational Nouns as Head

There are also constructions whose head nouns are very much like regular non-relational nouns, but which nonetheless evoke frames that are comparable to relational frames. This is the type which we consider in the following. A representative example is (56), originally given in Teramura (1977).

- 56) [[*tabako* *o* *katta*] *oturi*]
 cigarette ACC bought change(=balance of money)
 'the change (from) buying cigarettes'

The head noun *oturi* 'change (balance of money)' (unlike the English word *change*) specifically designates the balance of money that the buyer in a commercial transaction receives when s/he has given a larger amount of cash than the price of the goods. That is, a commercial transaction involving cash is presupposed to precede and give rise to the "change". Therefore we could say that the semantic structure of the noun *oturi* evokes a frame which provides a slot for the presupposed situation that gives rise to the change. In (56), the modifying clause expresses such a required situation. Also, the predicate in the modifying clause, *katta* 'bought', evokes a frame associated with a commercial event in which the 'change' denoted by the head noun is inferrable within a regular world view. In this sense, both head noun and modifying clause evoke frames and mutually host each other. It is of interest to note that if the predicate of the modifying clause were in the non-past form, e.g. *kau* 'buy', (56)

would not mean ‘the change *from* buying cigarettes’ but ‘the change (from another transaction) (used) *to* buy cigarettes’. Thus, the aspectual information encoded in the subordinate predicate is as significant in this example as in CH-type NMCs.

The following examples are similar:

- 57) “[[sinzyuu-si-sokoneta] ato]” to, nuimono o suru
 failed to do love-suicide mark/trace QT sewing ACC

te mo yasume-nai
 hand even do not rest

‘(saying), “(this is) the mark (which was made when)(I) failed (in a) love-suicide”, (her) hand did not rest from sewing.’

(W:F)

- 58) [[kutibiru o ateta] yogore] mo aru kamosirenai
 lips ACC put (it) to stain also exist may
 ‘There may be a stain (which was made when)(she) put her lips to (it).’

(W:F, cited by Teramura 1977)

- 59) [[tuka o hotta] tatari] da toiu uwasa
 tomb ACC dug curse COP COMP rumor

ga hirogatta
 NOM was spread

‘The rumor was spread that (this is) the curse (from) digging a tomb.

(W:N, cited by Teramura 1977)

Construal of (57 - 59) may require more socio-culturally bound inferences than (56). In (57), the semantics of *ato* ‘mark, trace’ presupposes some action that leaves a mark; that is to say, the head noun evokes a frame that can host such a presupposed activity. The frame evoked by the predicate (complex verb) of the modifying clause is associated with a situation in which someone tried and failed in a love-suicide. In order to successfully construe the connection between the mark and the situation,

the construer needs to know, at least in part, what a love-suicide involves; given such knowledge, it is easy to imagine a scar resulting from an attempted suicide. Likewise *yogore* 'stain' in (58) evokes a frame which naturally accommodates the activity responsible for creating the stain, since a stain has existence only contingently on a cause. The modifying clause also evokes a frame that hosts the head noun since it is inferrable in the situation associated with the evoked frame that a stain may result from lips' touching against, say, a glass or a cup. (59) is construable in a similar way if the interlocutors share the belief that people who dig up tombs may be cursed by the dead. The head noun *tatari* 'curse' semantically requires a cause for the curse, which is provided by what is expressed by the modifying clause, which in turn provides a role that the head noun can be linked to.

We have considered only four examples of NMCs in this subsection, but constructions of this sort are quite common in Japanese. As mentioned earlier, the nouns we have been considering in this subsection, which may be called quasi-relational nouns, lie at intermediate points on a continuum between CH-type and more prototypical CNH-type constructions. Whether or not the head noun is considered to evoke a frame that hosts the content of the modifying clause is a matter of degree, depending on how strongly the semantics of the head noun intrinsically depends on its presupposed relational source, condition, etc.¹¹ What is important, however, is that a successful construal crucially depends on the semantics and pragmatics of lexical items and on the construer's ability to infer a coherence between the two constituents of the construction.

5.2.3 Nouns of Perception as Head

There are constructions whose the head noun is of a type that is often categorized as a noun of perception. A variety of nouns are included in this category; *oto* 'sound', *nioi* 'smell', *sugata* 'figure, appearance', *kansyoku* 'touch, feel', etc. The function of these nouns in Japanese is different from that of the English words given in

the translations. For instance, *nioi* 'smell' and *oto* cannot usually be used without some qualification.¹² Thus, (60) is not normally acceptable unless the interlocutors already share a knowledge of the source of the smell.

- 60) ? A, *nioi* *ga* *suru*
 oh smell NOM there is
 'Oh, there is a smell.'

The typical qualification that those "perception" nouns require is in terms of the cause or source of the perception. When such nouns are the head noun of an NMC, the modifying clause usually functions to fill in the source.

- 61) [[*sakana* *o* *yaku*] *nioi*] *ga* *suru*
 fish ACC grill smell NOM there is
 'There is the smell (of) grilling fish.'

- 62) [[*ki* *no* *eda* *ga* *reiki* *de* *oreru*]
 tree GEN branch NOM cold air by break

 oto] *da*
 sound COP

'That is the sound (of) a tree branch breaking because of cold air.'

(W:F, cited by Teramura 1977)

Thus, *nioi* 'smell' or *oto* 'sound' evokes a frame which provides a slot for the cause or the source of the smell or sound, and this slot can be filled by what is expressed by the modifying clause. On the other hand, in the situation of grilling fish or of a branch breaking, it is easily inferable from our experience in the world that these events are accompanied by an appropriate smell or sound. That someone is grilling fish is not what the smell is, or what is *labelled* as the smell, but is a situation

in which the 'smell' exists. Thus, the 'smell' or 'sound', unlike the head nouns of NH-type NMCs, participates in the frame evoked by the modifying clause. In this sense (61) and (62) are constructions of CNH-type, where the head noun and the modifying clause host each other reciprocally.

In both (61) and (62), the predicate of the modifying clause is in the non-past tense. This is because, even though the smell and the sound result from the activities described in the modifying clause, they are perceived to be simultaneous with those activities rather than sequential. (In contrast, change from buying cigarettes or traces from a suicide attempt appear subsequently to the respective events.) If the predicates were in the past form, as in (63) and (64), it would suggest that the smell and the sound remain after the activity is over.

63) [[sakana o yaïta] nioi] ga suru
 fish ACC grilled smell NOM there is
 'There is the smell (of) fish having been grilled.'

64) [[ki no eda ga reiki de oreta]
 tree GEN branch NOM cold air by broke
 oto] da
 sound COP

'(That) is the sound (of) a tree branch breaking because of cold air.'

(63) is a possible utterance by a speaker entering a house in which there is a lingering smell of grilled fish but where no sign of such activity is apparent. (64) is possible when it refers back to a sound just heard. If the head noun is *kodama* 'echo', the form of the predicate should usually be in the past tense since an echo is perceived as the product of a preceding activity.

65a) [[Taroo ga yahhoo to itta] kodama]
 Taro NOM yoo-hoo QUOTE said echo
 'the echo (of) Taro's saying yoo-hoo'

65b) ?? [[Taroo ga yahhoo to iu] kodama]
 says

Let us now consider examples with head nouns denoting less tangible perceptions.

66) [[sensei ni dakareru yoo-ni-site basu ni norikomu
 teacher by be held do as if bus LOC get on

sugata] o asa no syukkin totyuude
 figure ACC morning GEN going to work on the way

Hisako-tyan wa mite-iku yoo desu
 Hisako TOP see-go seems COP

'On (her) way to work in the morning Hisako seems to see the
 figure (of the girl's) getting on a bus almost being held by (her) teacher'

(W:L)

67) [[kangohu no kamisori ga waki o ugoku]
 nurse GEN razor NOM underarm LOC move

kansyoku] o ...
 touch ACC

'the touch (of) the nurse's razor moving (along my) underarm ...'

(W:F, cited by Teramura 1977)

68) [[sagaside-iru] kehai] o misete-kure-temo ...
 be searching sign ACC show-give-even
 'even to show (us) the sign (of) (someone)searching (us) ...'

(W:F)

Sugata can refer variously to one's physical figure, pose, or to one's manner. The perception here involves judgments about the appearance created by someone's state or activity. In (66) *sugata*, the appearance in question, is described in the modifying clause in terms of the activity that creates the appearance. It might be argued that *sugata* should be interpreted as an integral part of the person who is being held while getting on the bus alluded to in the situation evoked by modifying clause, and that (66) thus resembles NMCs of CH-type that present a [[whole] part] relationship, rather than being CNH-type. In fact, though, what is denoted by the head noun in (66) is not a concrete body part (such as a hand) but the total perception created by the state or activity of someone or something. *Sugata* evokes a frame which includes a slot for the event or state that created the perceived "figure", and this frame and slot host what is expressed by the modifying clause. As with hearing and smelling, the situation referred to by the modifying clause can be construed as a source of the perception which co-exists simultaneously with the perception itself.¹³ On the other hand, the perception is an outcome of (and exists simultaneously with) the activity described in the modifying clause. In this sense the frame evoked by the modifying clause can be considered as hosting what is denoted by the head noun.

(67) and (68) are construed in much the same way as (66), but what the head noun in (67) or (68) denotes is probably more abstract and more difficult to consider as a plausible participant in the situation evoked by the modifying clause. It may be more appropriate to say that the head noun designates perceptual phenomena that are concomitant with the activity or situation expressed by the modifying clause.

When the head noun is derived from an evaluative adjective, e.g. by the nominalizer *-sa*, it can be taken as designating how the speaker of the NMC judges or evaluates the situation described by the modifying clause.

- 69) [[kanzen-hanzai o yaritogeta] kakkoyo-sa] o moti ...
 perfect crime ACC accomplished cool-ness ACC have and
 '(he) has the coolness (of) carrying out a perfect crime and ...'

(W:F)

- 70) [[konna toki ni mo ... seiza-site-iru]
 this kind of time TIME also be sitting properly

kenage-sa] ga sanretusya no namida o sasotta
 praiseworthy-ness NOM attendants GEN tears ACC invited

'(her) praiseworthiness (which was observed from) (her) sitting properly
 at a time like this invited the attendants' tears.'

(W:F)

What is described in the modifying clause in these examples is the basis or condition for the judgment denoted by the head noun. In this sense both the head noun and the modifying clause mutually evoke frames for construal, a hallmark of the CNH type. However, it is also true that the head noun is a designation or label encapsulating this judgment; in this sense, the construal is akin to that of NH-type. In comparison to other CNH-type constructions, then, (69) and (70) are closer to the NH type.

Note, incidentally, that when the head noun denotes some feeling experienced not by the speaker but by a participant in the frame evoked by the modifying clause, the construction is likely to be construed in the manner of CNH-type NMCs with quasi-relational head nouns, because the feeling that the head noun denotes is the *result* of the situation evoked by the modifying clause — as in the following examples:

- 68) [[sikyuu-gan ga naotta] yorokobi]
 uterine cancer NOM cured joy
 'the joy (of) having uterine cancer cured'

(W:N)

- 69) [[taisyoku o semarareru] tura-sa]
 resignation from job ACC be urged painful-ness
 'the pain (of) being urged to resign from the job'

(W:N)

7. For a discussion of ellipsis of predicates, see Okamoto (1985).
8. *tono* is comprised of a quotation marker *to* and a genitive marker *no*. The status of *tono* may not be identical to that of *tc:u* but, for convenience, it is glossed here as COMP.
9. See also note 6
10. CNH-type constructions with *kekka* as head noun are most often used adverbially with respect to the main clause as in this particular example. They can, however, function as a predicate, a noun phrase followed by a case marker, etc. One example is:

i) [[kinoo tabesugita] kekka] ga kyoo no
 yesterday overate result NOM today GEN

 ituu da
 stomach-ache COP

‘the result of eating too much yesterday is today’s stomach-ache.’

11. In 4.2. we considered NMCs presenting a relationship of temporal sequence between the two constituents, for example, [[*yonago ni tomatta*] *asa*] ‘the morning (after) (I) stayed at Yonago’. *Asa* ‘morning’ does not semantically require information as to the event or source which caused it to be morning. It is, however, understood in terms of a daily cycle, and at least in this sense, this construction is more like a CNH-type construction with quasi-relational noun as head than are the other CH-type constructions discussed in that section.
12. The qualification does not have to be the source. *Henna nioi ga suru* ‘there is a strange smell’, or even *nanika nioi ga suru* ‘there’s some smell’ are acceptable utterances.
13. It is construed as simultaneous because the predicate of the modifying clause of (66) is in the non-past form. If the predicate were in the past form, it would be interpreted as the completed outcome of what is expressed in the modifying clause.

Chapter 6

Conclusion

In this concluding chapter we first summarize the discussion in the present study, and then consider implications which can be drawn from it.

6.1 Summary

In this study of Japanese adnominal clauses, or noun-modifying constructions, I have argued that a satisfactory understanding of those constructions requires an analysis which gives an important role to semantics and pragmatics. I have proposed a working framework employing the notions of frame semantics to account for naturally-occurring noun-modifying constructions of various sorts.

The constructions considered in this study are complex noun phrases in Japanese, in which the noun, modified by an adnominal clause, functions as the head of a complex NP. Among the kinds of adnominal clause constructions, relative clauses have received the most attention. With regard to such constructions, Japanese differs from English in the absence of an overt marker of the grammatical role or the semantic function (θ -role) of the head noun with respect to the predicate of the modifying clause, regardless of whether or not that role is a subcategorized argument. Thus, there is no equivalent of the relative pronoun (+ preposition) found in English relative clause constructions. Relative clauses have been examined by linguists of various traditions; in particular, from the viewpoints of generative (transformational) grammar and its descendants, from the theory of functional syntax and from

descriptive linguistics. The survey in Chapter 2 of such previous works makes clear that "relative clauses" have been uniformly treated as constructions that can be accounted for in strictly syntactic or structural terms. A notable exception is Kuno's (1973, 1976) functional approach, in which the observed parallelism between topicalization and relativization serves as the basis of his claim that what is relativized in a relative clause is a topic NP (i.e. an NP + topic marker *wa*, not an NP + case marker). This brings semantics and pragmatics into play since the topic construction is not explicable in purely syntactic terms. The present study takes the position that, although what is expressed in the relative clause is interpreted to be *about* the referent expressed by the head noun, it is too early to decide that the topic and relative clause constructions can be explained by one principle. I have concentrated, therefore, on clarifying the grammar of noun modification by adnominal clauses in Japanese, rather than on comparing them with topic constructions.

In Chapter 3, a variety of noun-modifying constructions (NMCs) were presented including many that occur naturally but have rarely been mentioned in previous studies and that are problematic for the existing purely syntactic or structural analyses. The approach taken in the present study was dictated largely by the circumstance, noted above, that the semantic relation between the head noun and the predicate in the modifying clause is not lexically or morphologically indicated. (This means that, for example, the head noun of a relative clause is not marked with the case marker that would be present in a non-relativized paraphrase; i.e., "less" information is present in the relative clause construction than in a full sentence paraphrase.) It seemed, therefore, most revealing to examine how relative clauses are construed, rather than how they are generated. Construal and generation are, of course, interdependent, but theories that may be unproblematic with respect to generation take on an altogether different appearance when viewed in the light of construal.

In order to account for the variety of naturally-occurring NMCs in Japanese, it

became clear that a framework that incorporates semantic and pragmatic factors into the grammar of noun-modifying constructions was necessary. In the second part of Chapter 3, a working framework was proposed to account for the various NMCs. The framework borrows from the fundamental ideas of frame semantics (for example, Fillmore 1976, 1982). The framework, which was originally devised to accommodate more general varieties of relative clauses than have been discussed in purely syntactic or structural analyses, is also useful for NMCs such as noun complement constructions, which are semantically different but similar in form to relative clauses in Japanese.

The proposed framework involves both semantic “frames” evoked by linguistic clues given in the NMCs, and the construers’ expectations based on their background knowledge. Three useful terms in the discussion of Japanese NMC construal were introduced: (1) *simple frame* (2) *host* or *construal frame* and (3) “*world-view*”.

Japanese NMCs are classified into three major types according to which constituent (or constituents) plays the role of host in the construal of the construction. The three types are (1) constructions in which *the modifying clause* hosts the head noun (the Clause Host (CH) type), i.e., constructions in which a member of the category denoted by the head noun participates in a frame evoked by the main predicate of the modifying clause (other participants may also be indexed by other elements of the modifying clause), (2) constructions in which *the head noun* hosts the modifying clause (the Noun Host (NH) type), and (3) constructions in which both *the modifying clause* and *the head noun* host reciprocally (the Clause and Noun Host (CNH) type), i.e., in which the head noun can evoke a frame containing a slot for what is expressed by the modifying clause, while the frame evoked by the modifying clause in turn contains a possible participant role to be filled by the denotatum of the head noun.

In Chapters 4 and 5, there is a detailed analysis of the three types of noun-modifying constructions with particular emphasis on the CH-type, which includes

the relative clause constructions. The goal of the analysis was not to classify NMCs into distinct groups but to develop an understanding of the nature of NMCs of various types and to determine the applicability of the proposed framework.

The discussion in Chapter 4 deals both with constructions that are regularly regarded as relative clauses, and with variants, such as the following, that are problematical for existing purely syntactic analyses.

- 1) [[atama ga yokunaru] hon]
head NOM becomes better book
'the book (by reading which) (one's) head becomes better'

(1) would be problematical for syntactic analyses because the intransitivity of the predicate in the modifying clause indicates that there is no syntactic gap in the clause that could be coreferential with the head noun. With the framework proposed here, the denotatum of the head noun is construed as participating in the frame evoked by the modifying clause, playing the role of the "cause" or "condition" of the event described in the modifying clause. Discovery of the coherence between the two constituents requires pragmatically-based inferences, but I show that this is not fundamentally different from what is needed to construe "regular" relative clauses.

In section 4.1, I showed that constructions that are usually referred to as "relative clauses", and that have been previously considered as simply the result of syntactic operations, are in fact highly sensitive to the semantics and pragmatics of the lexical items in the constructions and to the plausibility of the situation associated with the evoked frame. In 4.2, I examined constructions such as (1), which had largely been ignored in previous studies, and categorized them in terms of the semantic relationship between the two constituents. It is theoretically unlikely that there is an exhaustively listable set of such possible relationships, but among the NMCs in the data there was a preference for the relationships of (1) Condition and Consequence, and (2) Purpose and Requisite over those of (3) Simultaneous Actions or Events

and (4) Actions or Events in Simple Temporal Sequence. Relationships such as (5) "Topic" and "Comment" and (6) Part and Whole were also seen to be possible though they are subject to some constraints.

In Chapter 5, constructions of Noun Host type and Clause and Noun Host type were discussed to illustrate how these constructions are treated within the proposed working framework, and to compare them with Clause Host type constructions. The discussion of NH-type constructions was given under three headings according to the semantics of the head noun. The categories considered were (1) Speech act nouns, (2) Nouns of thoughts and feelings, and (3) Proposition-taking nouns, etc. CNH-type constructions were also divided into three groups according to the semantics of the head noun: (1) Relational nouns, (2) Quasi-relational nouns, and (3) Nouns of perception.

6.2 Implications and Conclusions

6.2.1 Characteristics of Japanese

It has been repeatedly pointed out throughout the study that the construal of Japanese NMCs is not syntactically guided but is dependent on the semantics and pragmatics of linguistic elements in the NMC. It should be stressed that this is true not only for the constructions of the Noun Host type and the Clause and Noun Host type, in which the importance of semantics had already been observed, for example by Teramura (1970, 1975-8), but also for Clause Host type constructions, which had previously been treated almost exclusively in syntactic or structural terms. Let us recall the following construction of CH-type.

- 5) [[gakusei ga katta] hon]
student NOM bought book
'the book (which) the student bought'

In English, as indicated in the translation of (2), the modifying clause *the student bought* is unacceptable as a sentence in that it lacks an obligatory object NP; the missing object NP is represented by the relative pronoun *which* and the semantic function of the head noun with regard to the subordinate verb is evident from the structure. In contrast, the modifying clause in Japanese *gakusei ga katta* ‘the student bought’ is acceptable as a sentence. That is, there is no evidence of a gap in the modifying clause at the syntactic level and, thus, no automatic linking with the head noun. Since *gakusei ga katta* ‘the student bought’ is grammatical as a sentence, one could speak of the notion of a “gap” only at the level of pragmatics.¹ The fact that there is no syntactic requirement for the head noun to be linked with any entity in the modifying clause makes it possible, in turn, to account for less “orthodox” NMCs such as the following.

- 3) [[atama ga yokunaru] hon]
 head NOM becomes better book
 ‘the book (by reading which) (one’s) head becomes better’

As we discussed, (3) cannot be explained by an analysis based on of coreference the head noun with a gap in the modifying clause. If we consider the relationship between the head noun and the modifying clause in non-syntactic terms, however, what should be considered as linked or identified are the denotatum of the head noun (sometimes in association with an action) and a possible participant in the frame evoked by the linguistic elements of the modifying clause. Thus, the linking is at the level of semantics and pragmatics, at which level the similarity between (2) and (3) becomes clear. In fact, constructions such as (3), which are discussed in detail in 4.2 and which apparently do not conform with previous analyses, provide important insights into the characteristics of Japanese NMCs of all types and, more generally, into the structure of Japanese as a whole. Specifically, they illustrate the fact that the understanding of constructions relies on not only syntactic but also,

or even more crucially, on semantic and pragmatic knowledge. A framework which can account for constructions such as (3) can also account for constructions such as (2), which have heretofore been treated purely syntactically; but a syntactic theory cannot account for examples such as (3).

It is worthwhile at this point to briefly survey the broader questions in Japanese grammar that are relevant to the issues raised in this study. A characteristic of Japanese that is manifested in the adnominal clause constructions examined in this study is that many constructions are (in comparison to other languages) syntactically under-specified, with the consequence that semantic and pragmatic information given by or inferred from the constructions plays a crucial part in construal. This phenomenon of syntactic under-specification is also manifested in ellipsis, which has been an important and very difficult problem within Japanese grammar. In Japanese, NPs can be absent even if they are subcategorized arguments of a verb. Since verbs are not marked for number and person, ellipted "arguments" are not recoverable from the form of the verb. Further, verb phrases can be absent — that is, there are acceptable utterances containing no verbs — and some case markers are ellipted in the presence of the topic marker or in colloquial speech. The problem of ellipsis is, thus, an unavoidable difficulty in an analysis of Japanese, one which cannot be treated comprehensively by syntax or, indeed, by any sentence-level analysis, but which requires consideration of socio-psychological and pragmatic factors. (See, for example, Clancy 1980, Hinds 1982, Kuno 1978, Okamoto 1985.)

The syntactic under-specification — relative to English, for instance — that is characteristic of Japanese relates also to the high degree of responsibility on the part of the hearer (or construer) for the success of the linguistic communication. That Japanese is a "hearer-based" language, as opposed to "speaker-based" languages such as English or other "western" languages, has been pointed out by R. Lakoff (1984). Of course, even within a speaker-based language some situations, such as advertisements, poems or titles of books, will tend to use more hearer-based

strategies (in Lakoff's sense). What is remarkable about Japanese, however, is that such hearer-based strategies are in no sense confined to such pragmatically special situations. The degree of reliance on the hearers' inferences does depend on the situation — it is higher in colloquial speech and in advertisements (because of real or pretended involvement of the interlocutors) — but we can say that, relative to English, normal linguistic communication in Japanese is highly dependent on hearers' inferring semantic relations from pragmatic knowledge associated with the linguistic expressions and the speech situation. One effect of this is that the hearer must assume that the speaker is acting cooperatively. This suggests that the framework described here could be used in conjunction with Grice's Cooperative Principle (Grice 1975).

The comparative under-specification in Japanese at the level of syntax does not, however, mean that everything is covertly or indirectly expressed in Japanese. Honorifics, in the broader sense, which are morphological and lexical encodings of social factors, such as the relationship between the interlocutors, the referents, the bystanders, the setting, etc. , are good examples of factors that are richly encoded in Japanese. It should be remarked that honorifics in Japanese are not merely addenda (or 'performance phenomena') but are essential to the language. (See, for example, Harada 1975, Martin 1964, Matsumoto (to appear).) Indeed, Shibatani (1977, 1978) argued from a syntactic point of view that subjecthood in Japanese can be characterized by how it interacts with honorification and reflexivization. Other examples of explicit encodings of pragmatic factors are observed in evidentials and topic marking. It is instructive to contrast the directness of the encoding of such pragmatic information in Japanese with the indirect manner in which it is encoded in English. (See, for example, R. Lakoff 1972a, 1972b; Prince 1981; Lambrecht 1986.)

In summary, what is suggested by this brief discussion is that Japanese is a language in which syntactic and semantic relations among elements of a construction

or a sentence may be conveyed only implicitly in the form, while the encoding of pragmatic factors is often explicit. It is not surprising, then, that the paucity of morphological or lexical expression of syntactic relations, and the abundance of expressions of pragmatic relations throughout Japanese should be echoed in the emphasis on semantics and pragmatics that we find in our analysis of clausal noun modification constructions.

6.2.2 Conclusion

This study has proposed an alternative analysis of relative clause and other adnominal clause constructions in Japanese. The analysis differs fundamentally from purely syntactic and structural analyses in that it incorporates semantics and pragmatics into the grammar. The necessity for such an alternative was supported by numerous examples that cannot otherwise be accounted for. The framework proposed here can deal not only with structurally problematic constructions, but also with those that have been considered to be treatable in terms of purely syntactic operations. In other words, a framework in which semantics and pragmatics play an important role can accommodate both types of constructions, whereas a purely syntactic or structural analysis can account for only limited kinds, namely syntactically “well-behaved” constructions. The framework proposed here may be found useful in analyses of other constructions in Japanese and other languages. As mentioned in the last section, ellipsis in Japanese is an obvious candidate for such an analysis. It is of typological interest to determine whether phenomena similar to those observed in Japanese NMCs occur in languages (e.g. Korean, Chinese ²) that lack relative pronouns or other syntactic indicators of the semantic relation between the two constituents of a clausal NMC, and to examine the applicability of the framework presented here to NMCs in such languages. The framework may be useful at least to a certain degree, even in languages in which NMCs are normally syntactically governed. Colloquial English constructions such as *the snack*

where/that you don't have to wash your hands, and Greek colloquial relatives with the invariant complementizer *pou* (Maling 1977, Theophanopoulou-Kondon 1985, Haberland and van der Auwera, to appear)³ seem to indicate some parallels with Japanese, in that they lack prepositions which would provide syntactic guidance for the construal. Participial clauses in English and absolute constructions in Latin also show similarities to Japanese NMCs; an even greater dependence on pragmatics can be observed in noun + noun compounds in English.

What has been offered in this study is not a general theory of grammar, but a working framework to describe a specific construction in Japanese. It raises, however, many intriguing and important general questions in linguistics, and adds support to the argument that a unified theory of grammar incorporating syntax, semantics and pragmatics could offer an inclusive explanation of both marked phenomena and fundamental constructions.

There are, of course, some questions that remain unresolved but deserve further study: the description of the relationship between topic and noun modifying constructions; the analysis of the interaction between the construal mechanism described in terms of frames, and the function of NMCs in discourse; and the question of the validity of the notions of a hierarchy of case roles and of the valency description of Japanese verbals. The research on these questions will certainly lead to new directions which must be explored if we are to fully understand the roles and interdependence of syntax, semantics and pragmatics. These questions mentioned here ultimately connect to more general and difficult questions about human cognition: what is perceived as salient; how does the linguistic system represent the organization of knowledge and experience. These are questions as difficult as they are profound, and they are of concern to philosophers, researchers in artificial intelligence, psychologists and neurophysiologists, as well as to linguists.

Notes to Chapter 6

1. The point as to whether “gaps” are syntactically or pragmatically controlled is reminiscent of the linguistic phenomena discussed by Sag and Hankamer (1974) on syntactically vs. pragmatically controlled anaphora. I thank Toshio Ohori for pointing out this similarity to me.
2. When I presented Matsumoto (1986a), some Korean speakers informed me of similar phenomena in Korean; this was also noted by Geoffrey Huck (personal communication). Chinese constructions reportedly present similarities, according to James Tai (p.c.).
3. I owe the references on Greek constructions to Hartmut Haberland, who was kind enough to clarify the usage of Greek *pou* and German *wo*, which I had cited in Matsumoto (1988) as being similar to Japanese NMC constructions.

For number sequence only

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