

Four Types of Japanese Noun Complementation*

Zino Song

1. Introduction

In Japanese noun complementation, the semantic and syntactic relationships between the complement sentence (CompS) and the head noun (HN) are varied and complicated. Especially, the presence or absence of the element *to yuu* (lit.) 'saying that' between the two constituents creates some difficulties in the analysis of this construction. For example, consider the following sentences:

- (1) [[kisyā ga hasiru]_S { ϕ / *to yuu } [oto]_N]_{NP} ga kikoeru¹
'The sound of a train running is heard.'
- (2) [[tori ga sora o tobu]_S { ϕ / *to yuu } [sugata]_N]_{NP} wa utukusii
'The shape of a bird flying in the sky is beautiful.'
- (3) [[bukka ga takaku naru]_S { * ϕ / to yuu } [yosoo]_N]_{NP} wa tadasii yoo-da
'The expectation that prices would go up seems to be correct.'
- (4) [[Sato ga asita kuru]_S { * ϕ / to yuu } [tegami]_N]_{NP} ga atta
'I had a letter that Sato is coming tomorrow.'
- (5) [[Tanaka ga zidoosya-ziko ni atta]_S { ϕ / to yuu } [riyuu]_N]_{NP} wa wakaranai
'I don't know the reason why Tanaka had a car accident.'
- (6) [[tomodati ga rikon-sita]_S { ϕ / to yuu } [hanasi]_N]_{NP} o kiita
'I heard the story that my friend has divorced.'

In (1) to (6), on the basis of the presence or absence of *to yuu* between the CompS and the HN, complemented NPs can be classified into three categories as follows:

- (7) a. [SN]_{NP}: the obligatory non-occurrence (e.g. 1 and 2)
- b. [S to yuu N]_{NP}: the obligatory occurrence (e.g. 3 and 4)
- c. [S (to yuu)_N]_{NP}: the optional occurrence (e.g. 5 and 6)

*I would like to thank Norito Fujioka, Lewis S. Josephs, Shozo Kurokawa, Gerald Mathias, Homin Sohn, and Edward R. Smith for many helpful suggestions and insights. However, none of them should be held responsible for the opinion expressed in this paper and all errors that it may contain are mine.

¹In the examples in this paper, I use brackets only where they are relevant to the discussion.

Some linguists, such as Nakau (1973) and Teramura (1969), classify the complemented NP as in (7), according to the occurrence of *to yuu*.² However, whether or not the classification in (7), which is based on superficial syntactic structure, can adequately express the nature of the noun complementation is questionable. For instance, Nakau considers *to yuu* an idiosyncratic element which is an unanalyzable unit.³ However, if we consider *to yuu* an unanalyzable unit, e.g. Noun Complementizer, it will be difficult to clarify the semantic and syntactic relationships between the CompS and the HN in this construction.

Josephs (1972, 1975) examines the inherent properties related to the abstract nominalizers, i.e. *koto*, *no*, and *tokoro* in this type of construction and adequately clarified the syntactic and semantic characteristics in connection with the abstract nominalizers.⁴ Also, Martin (1976) discusses various construction types with relation to *to yuu* and supplies a large amount of valuable examples. However, the semantic and syntactic properties of the lexical HN in noun complementation has not yet been fully clarified.

This paper attempts to explain the various relationships which exist between the CompS and the HN from a different point of view than the previous analyses. In section 2, below, the NP classification in (7) will be reanalyzed on the basis of the semantic properties of the lexical HN, and two syntactically different types of noun complementation, direct and indirect, will be discussed. Also, we will observe how the concepts of presupposition and factivity discussed by Kiparsky (1971) and Kuno (1973) and reviewed by Josephs (1975), relate to the two types of noun complementation. In section 3, two other types of noun complementation, specific and non-specific, will be discussed with relation to the manner of complementation in the sense of credibility of the CompS.

2. Direct and Indirect Complementation

In this section, I will show that on the basis of the semantic property of the HNs, there are two types of noun complementation, Direct and Indirect. I will also demonstrate that this difference in semantic property correlates with syntactic differences in the two types of complementation.

First, before we analyze the semantic property of lexical HNs, some difference between the complemented NPs, i.e., nominalized NPs and relativized NPs, will be discussed in section 2.1.

2.1. Some Characteristics of the Complemented NP

² Nakau (1973) discusses the three conditions of the occurrence of *to yuu* as in (7) on the basis of the semantic property of the predicate. Also, Teramura (1969) discusses the three types as in (7) based on the semantic properties of the head noun.

³ Song (1975) discusses the status of *to yuu* and its underlying structure.

⁴ Cf. Josephs (1972, 1975) for detailed analysis of nominalizers.

Some linguists, such as Nakau and Inoue (1974), claim that the occurrence of *to yuu* is closely related to the semantic property of the predicate which follows after the complemented NP. For instance, Nakau claims that *to yuu* optionally occurs without relevance to the predicate, but there are certain casts where the predicate determines whether or not *to yuu* occurs. For example, such predicates as *uso-da* 'false', *matigai-da* 'incorrect', and *utagawasii* 'doubtful' require the occurrence of *to yuu* when the nominalizer *koto* or *no* occurs as a HN of the subject sentential complementation. For example:

- (8) [tikyuu ga sikakui]_S { $\begin{matrix} to & yuu \\ * \phi & \end{matrix} \} [koto/no]_{Nom} wa { $\begin{matrix} matigai-da \\ utagawasii \\ uso-da \end{matrix} \}⁵$$

'The statement/claim/*fact that the earth is square is incorrect/doubtful/false.'

- (9) [tanuki ga kitune o bakani sita]_S { $\begin{matrix} to & yuu \\ * \phi & \end{matrix} \} [koto/no]_{Nom} wa uso-da$

'The statement that a racoon bewitched a fox is false.'

As Nakau points out, the non-factive predicates in (8) and (9) certainly require the occurrence of *to yuu* if the nominalizer *koto* or *no* occurs as a HN in the nominalized NP. Because *koto* or *no* in this context is semantically empty,⁶ the predicate in the matrix sentence is the only element which has a semantic property corresponding to the embedded sentence (ES). However, the predicate cannot require *to yuu* to occur in a complemented NP with a lexical HN. For example:

- (10) *[kisyaa ga hasiru]_S to yuu [oto]_N wa uso-da

'?The sound of a train running is false.'

- (11) *[tori ga sora o tobu]_S to yuu [sugata]_N wa utagawasii

'?The shape of a bird flying in the sky is doubtful.'

In (10) and (11), although the predicates are non-factive, the occurrence of *to yuu* is ungrammatical. Compare the (a) and (b) phrases in the following examples:

- (12) a. [tori ga sora o tobu { $\begin{matrix} \phi \\ *to & yuu \end{matrix} \} sugata]_{NP}$

'the shape of a bird flying in the sky'

- b. [tori ga sora o tobu { $\begin{matrix} \phi \\ to & yuu \end{matrix} \} koto/no]_{NP}$

'that a bird is flying in the sky'

- (13) a. [bukka ga takaku naru { $\begin{matrix} * \phi \\ to & yuu \end{matrix} \} yosoo]_{NP}$

'the expectation that prices are going up'

⁵ Example (8) is borrowed from Nakau (1973).

⁶ Also, cf. Josephs (1975) where the semantic difference between *koto* and *no* in many contexts are discussed.

- b. [bukka ga takaku naru { ϕ to yuu } koto/no]_{NP}
 'that prices are going up'

In (12) and (13), the occurrence of *to yuu* in the (a) phrases is clearly governed by the semantic property of the lexical HNs and its occurrence is not relevant to any predicate. However, since the abstract nominalizers *koto* and *no* are semantically empty, they cannot govern the occurrence of *to yuu*, which will thus be determined by the predicate. This fact reveals that the occurrence of *to yuu* is related to the semantic property of the lexical HN, if one occurs, instead of the predicate,⁷ and it further indicates that the functions of lexical HNs and abstract nominalizers are entirely different.

Next, consider the sentences in (14) and (15) below, where each (a) sentence has a complemented NP and each (b) sentence has a nominalized NP.

- (14) a. [haha ga kodomo o sikatte-iru koe]_{NP} ga kikoeru
 'The voice of a mother scolding her child is heard.'
 b. [haha ga kodomo o sikatte-iru no]_{NP} ga kikoeru
 'The mother's scolding of her child is heard.'
- (15) a. [nami ga kisi o utu sugata]_{NP} wa utukusii
 'The sight of waves dashing against the shore is beautiful.'
 b. [nami ga kisi o utu no]_{NP} wa utukusii
 'The waves' dashing against the shore is beautiful.'

In the above examples, the relationship between the subject of ES and the HN in the complemented NP, i.e., *haha* 'mother' and *koe* 'voice' in (14a) and *nami* 'wave(s)' and *sugata* 'shape' in (15a), can be expressed by the formula of 'NP no NP' (a genitive relationship) as in *haha no koe* 'mother's voice' and *nami no sugata* 'the shape of waves'. In other words, a property of the HN is normally closely related to that of the embedded subject. In such cases, it is possible to invert the embedded subject and the embedded predicate within the domain of the complemented NP without changing the original meaning. In this paper, the transformational process which inverts the subject and the predicate of an ES will be called 'Subject-Predicate Inversion (S-P Inversion)'. Compare, the (a) and (b) sentences in (16) and (17) where the S-P Inversion has been applied to those in (14) and (15) respectively.

⁷ Nakau's condition for the obligatory non-occurrence of *to yuu* is as follows: Some predicates require the non-occurrence of *to yuu* when the nominalizers *no*, *koto* and *tokoro*, among other things, occur as the Head Nouns of subject or object sentential complements. Included in this class are *dekiru* 'possible' (*koto* subject complements), *mieru* 'visible' (*no* and *tokoro* subject complements), *miru* 'see', *mitukeru* 'find' and *kiku* 'hear' (*no* and *tokoro* object complements), *suru* which takes a subject sentential complement with *nioi* 'smell', *ki* 'hunch' or *kanzi* 'feeling' as its Head Noun. (Nakau 1973:131)

- (16) a. [kodomo o sikatte-iru haha no koe]_{NP} ga kikoeru (14')
 'The voice of a mother scolding her child is heard.'
 b. *[kodomo o sikatte-iru haha no no]_{NP} ga kikoeru
- (17) a. [kisi o utu nami no sugata]_{NP} wa utukusii (15')
 'The shape of waves dash against the shore is beautiful.'
 b. *[kisi o utu nami no no]_{NP} wa utukusii

In the above example, the grammaticality of the (a) sentences and the ungrammaticality of the (b) sentences reveal the difference in syntactic and semantic properties between a lexical HN and a nominalizer. For instance, in the (a) sentences, since the lexical HN is an independently occurring unit in a sentence, it has its own syntactic and semantic properties which can be freely complemented by a sentence or other NP. However, the abstract nominalizer in the (b) sentences cannot occur freely in the sentence and its function is limited to changing a sentence to a NP. Therefore, after the ES in the (b) sentence has been changed to a NP by S-P Inversion, the nominalizer *no* is no longer necessary.

Also, S-P Inversion is not applicable to a relativized NP, either. For instance, compare the sentences in (18) and (19) below. The sentences in (19) are the result of S-P Inversion which has been applied to the relativized NPs in (18).

- (18) a. [Tanaka ga Tookyoo e iku hikooki]_{NP} wa gogo san-zi ni deru
 'The plane by which Tanaka goes to Tokyo leaves at 3 p.m.'
 b. [Kimura ga tazunete-itta ie]_{NP} wa Tanaka no ie de atta
 'The house where Kimura visited was Tanaka's house.'
- (19) a. *[Tookyoo e iku Tanaka no hikooki]_{NP} wa gogo san-zi ni deru
 'Tanaka's plane, which goes to Tokyo, leaves at 3 p.m.'
 b. *[tazunete-itta Kimura no ie]_{NP} wa Tanaka no ie de atta
 'Kimura's house, which was visited, was Tanaka's house.'

As is apparent from the English equivalents in (18) and (19), the meanings of the sentences in (19) are different from those of the sentences in (18). (19a) is ambiguous because it is not clear whether Tanaka is going to Tokyo by plane or is the person who possesses the plane; and (19b) is a semantically contradictory sentence.

In the preceding discussion, it was shown that the conditions for the occurrence of *to yuu* are sometimes related to a semantic property of the HN rather than the predicate; and some differences between HNs in complemented NPs, nominalized NPs, and relativized NPs based on the applicability of S-P Inversion test were discussed. We observed that although the three types of NPs are structurally similar, the semantic and syntactic relationships between the CompS and the HN in those NPs are not the same.

2.2. Direct Complementation

As is observed in examples (1), (2) and (12a), there is a group of nouns

which, as HN, make the non-occurrence of *to yuu* obligatory in their complements. Some of these nouns are: *oto* 'sound', *koe* 'voice', *hibiki* 'sound', *katati* 'shape', *sugata* 'figure', *e* 'picture', *syasin* 'photo', *nioi* 'smell', *kaori* 'fragrance', *azi* 'taste', *netu* 'heat', *samusa* 'coldness', *atusa* 'hotness', *itami* 'pain', *kimoti* 'feeling', *ki* 'feeling', *kehai* 'sign'.

As Kuno (1973) correctly observed, one of the semantic properties of these nouns represents an action, state, or event which is directly perceivable by one of the senses, sight, hearing, taste, smell, or touch. In other words, it is always possible directly to perceive the property referred to by those nouns without aid, medium, or interpretation. In this paper, these nouns will be categorized as *noun*₁, and a semantic feature [+Direct], which was first invented by Josephs (1972, 1975), will be assigned to them. Consider the property of the each HN, which is [+Direct], in the following phrases. The sense which directly perceives the property related to the HN in each phrase is indicated to the right of each phrase.

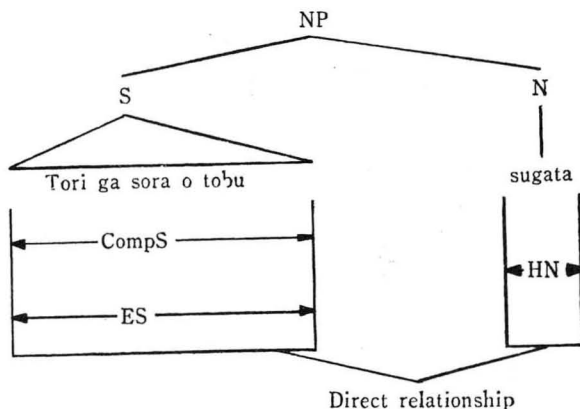
- (20) [[haha ga kodomo o sikkate-iru]_S [koe]_N]_{NP}
 'the voice of a mother scolding her child'(hearing:ears)
- (21) [[yama ga ten ni sobiete-iru]_S [sugata]_N]_{NP}
 'the shape of a mountain piercing the sky'.....(sight:eyes)
- (22) [[samma ga yakeru]_S [nioi]_N]_{NP}
 'the smell of mackerel cooking'(smell:nose)
- (23) [[amai mitu ga kuti ni tokeru]_S [oisisa]_N]_{NP}
 'the taste of sweet honey melting in the mouth'.....(taste: mouth)
- (24) [[hada ga manatu no taiyoo ni yakeru]_S [itami]_N]_{NP}
 'the pain of skin burning in the hot summer sun'.....(feeling: skin)

As is obvious from the above examples, the property of the HN which is specified by the CompS in each phrase is an action, state, or event directly perceivable by the above mentioned senses. The CompS and the HN are directly connected without any intervening *to yuu* between them; in other words, they are immediate constituents of the higher NP. Therefore, this type of construction with *noun*₁ will be called Direct Complementation, and its syntactic structure will be represented by the following labeled bracketing:

- (25) Direct Complementation: [S N]_{NP}
 condition: N=[+Direct]

Compared to the other types of complementation which will be presented shortly, (25) is syntactically and semantically the most straight-forward type of noun complementation. In this construction, since the CompS itself is the embedded sentence (ES) in the complemented NP, the whole content of the ES directly complements the HN, as is illustrated in (26) below:

(26)



Thus, *noun*₁, which is [+Direct], has the following semantic and syntactic properties: (a), the semantic property of *noun*₁ is that it is directly perceivable: (b) a syntactic property of *noun*₁ is that it always requires a direct type of complementation.

Now, let us further examine the semantic properties of *noun*₁. In the discussion of the factive nominalizers *koto* and *no*, Josephs (1972, 1975) assigns [+Direct] to *no* and [-Direct] to *koto*. The semantic property of *noun*₁, which is [+Direct], will be compared with that of *koto* and *no* in the following contexts:

(27) [ame ga huru { ϕ / *to yuu } { a. *oto* / b. *no* / c. **koto* }]_{NP} ga kikoeru⁸

- a. 'The *sound* of raining is heard.'
 b. '(The *sound* of) raining is heard.'

(28) [yama ga ten ni sobiete-iru { ϕ / *to yuu } { a. *sugata* / b. *no* / c. **toko* }]_{NP} ga mieru

- a. 'The *shape* of a mountain piercing the sky is seen.'
 b. '(The *shape* of) a mountain piercing the sky is seen.'

In (27) and (28), the HNs, *oto* 'sound' and *sugata* 'shape', can be replaced by *no* but not by *koto*. Both *noun*₁ and *no* prohibit the occurrence of *to yuu* in these

⁸ Observe the semantic properties of *no* in the following contexts:

Ame ga huru *no* ga { a. kikoeru / b. mieru / c. wakaru }

In the (a) sentence, *no* indicates the 'sound' of rain; and in the (b) sentence, it indicates the 'shape' of rain; and in the (c) sentence, it corresponds to the content of the embedded sentence. Thus, the nominalizer *no* has no inherent content. The choice of its content is determined by the predicate. Moreover, strictly speaking, only the *no* in the (c) sentence can be called a nominalizer which changes a sentence to an NP. The *no* in the (a) and (b) sentences is a kind of pronominalized form of other lexical nouns, e.g. *oto* 'sound', *sama* 'scene' and *kookei* 'scene'.

contexts. Also, as I have tried to indicate by the English equivalents for each sentence, the underlined *no* clearly is identified with *oto* 'sound' and *sugata* 'shape' in (27) and (28) respectively. This is evidence that both *noun*₁ and *no* have the same semantic property, [+Direct].

Next, let us observe more closely the syntactic properties of *noun*₁. Some linguists claim that *to yuu* is an unanalyzable unit and is always present in the deep structure of the complemented NP. For instance, Alfonso (1969) and Watanabe (1972) discuss the deletability of *to yuu* under certain conditions on the assumption that it is always present in the deep structure. However, as is discussed in Song (1975), *to yuu* is reasonably analyzable as a predicate complementizer *to* and a verb *yuu* which is sometimes derived from other underlying non-factive verb. Therefore, as is discussed later, *yuu* requires an extra NP to occur in the deep structure as its subject even though the NP is deleted in many instances in the surface structure. Also, several transformational tests prove *to yuu* is not present in the deep structure of direct type of complementation, i.e. (25). For instance, consider the following examples:

- (29) a. [samma ga yakeru nioi]_{NP}
 'the smell of mackerel cooking'
 b. [amai mitu ga kuti nitokeru oisisa]_{NP}
 'the taste of sweet honey melting in the mouth'

To examine whether or not *to yuu* may occur with the HNs in (29), a topicalization test and a S-P Inversion test will be applied as follows:

(30) Topicalization:

- a. (sono) nioi wa samma ga yakeru $\left\{ \begin{array}{l} \phi \\ *_{to} \text{ yuu} \end{array} \right\}$ mono da
 'As for that smell, it is that of mackerel cooking.'
 b. (sono) oisisa wa amai mitu ga kuti ni tokeru $\left\{ \begin{array}{l} \phi \\ *_{to} \text{ yuu} \end{array} \right\}$ mono da
 'As for the taste, it is that of sweet honey melting in the mouth.'

(31) S-P Inversion:

- a. [yakeru $\left\{ \begin{array}{l} \phi \\ *_{to} \text{ yuu} \end{array} \right\}$ samma no nioi]_{NP}
 'the smell of mackerel cooking'
 b. [kuti ni tokeru $\left\{ \begin{array}{l} \phi \\ *_{to} \text{ yuu} \end{array} \right\}$ amai mitu no oisisa]_{NP}
 'the taste of sweet honey melting in the mouth'

In (30) and (31), *to yuu* cannot co-occur with *noun*₁. This is also evidence that *noun*₁ requires direct complementation, i.e. (25). We will review the conditions for the occurrence of *to yuu* in the following section.

2.3. Indirect Complementation

In contrast with *noun*₁ which is [+Direct], there are many nouns whose semantic properties are not related to a directly perceivable action, state, or event by the human senses. The nouns in this category are always complemented indirectly by the CompS, and they require *to yuu* between the CompS and themselves. Thus, their semantic properties are basically [-Direct]. In the following, the first two groups, which belong to the [-Direct], will be discussed. Consider the following sentences:

- (32) [bukka ga takaku naru {^{*φ}_{to yuu}} yosoo]_{NP} wa tadasii yoo-da
 'The expectation that prices would go up seems to be correct.'
- (33) [kagakusya ga seibutu ga kasei ni aru {^{*φ}_{to yuu}} katei]_{NP} wa syoomei-sare-nakatta
 'The supposition that scientists made that there are creatures on Mars was not proved.'
- (34) [Tanaka ga asita kuru {^{*φ}_{to yuu}} tegami]_{NP} ga atta
 'I got a letter saying that Tanaka is coming tomorrow.'
- (35) [hikooki ga Honoruru de ziko o okosita {^{*φ}_{to yuu}} hookoku]_{NP} ga haitta
 'We received a report saying that the plane had an accident in Honolulu.'

In (32) to (35), the element *to yuu* obligatorily occurs between the CompS and the HN in all sentences, and the semantic properties of the HNs, i.e. *yosoo* 'expectation', *katei* 'supposition', *tegami* 'letter', and *hookoku* 'report', are related to a not directly perceivable action, state, or event by the human senses. *Yosoo* and *katei* in (32) and (33) refer to a kind of human mental activity; and *tegami* and *hookoku* in (34) and (35) express something related to communication. Thus, the semantic properties of these nouns are certainly [-Direct].

Some nouns which express a kind of human mental activity like *yosoo* and *katei* are: *kangae* 'consideration', *omoi* 'thinking', *sisoo* 'idea', *sikoo* 'thought', *kanzi* 'feeling', *yokan* 'presentiment', *yosoku* 'premonition', *iken* 'opinion', *kiboo* 'hope', *syutyoo* 'insistence', *keturon* 'conclusion', *zentei* 'presupposition', *yasin* 'ambition', *soozoo* 'imagination', *kitai* 'expectation', *hyooka* 'evaluation', *handan* 'judgment', *doryoku* 'effort', *kansoo* 'comment', *insyoo* 'impression', etc.⁹; and those which express something related to communication, such as statement, command, request, information etc., like *tegami* and *hookoku* are: *yakusoku* 'arrangement', *meirei* 'command', *sirei* 'order', *yookyuu* 'demand', *seikyuu* 'request', *tyuukoku* 'advice', *hoodoo* 'announcement', *henzi* 'reply', *kotae* 'answer', *iitutae* 'tradition', *dengon* 'message', *sirase* 'notice', *densetu* 'legend', *dentoo* 'tradition', *denwa* 'telephone, call', *denpoo* 'telegram', *kokuhaku* 'confession', *senden* 'propaganda', *zyoohoo*

⁹ These verbal nouns can be derived as Head Noun by a type of nominalization as is discussed in Song (1975).

'information', *yohoo* 'preannouncement', etc.

The former group of nouns will be categorized as *noun*₂ with a new feature [+Mental], and the latter group will be *noun*₃ with another feature [+Comm(unication)]. Thus, the nouns which have been considered so far based on their semantic properties are as follows:

$$(36) \text{ Noun} \rightarrow \left\{ \begin{array}{l} \text{noun}_1 : [+Direct] \\ \text{noun}_2 : [-Direct, +Mental, -Comm] \\ \text{noun}_3 : [-Direct, -Mental, +Comm] \end{array} \right\}$$

The above categorization is based solely on semantic properties relevant to a given context. Therefore, in the case where a noun has two or more conflicting semantic properties in different contexts, the noun may be placed in two or more categories in accordance with its semantic property in each context. For example, compare the HN, *koe* 'voice', in the following sentences:

- (37) [Sato ga Sugita to kenka o site-iru *koe*]_{NP} o kiita
'I heard the *voice* that Sato was quarreling with Sugita.'
- (38) [Tanaka wa munoo na otoko de aru to yuu *koe*]_{NP} o kiita
'I heard the *voice* (rumor) that Tanaka is an incompetent man.'

Although the phonological forms of 'voice' in (37) and (38) are identical, i.e. *koe*, their semantic properties are clearly different. *Koe* in (37) refers to a physical sound which is a property directly perceivable to others, while *koe* in (38) expresses something like a statement, opinion, evaluation, etc. Therefore, *koe* in (37) will be *noun*₁ and in (38) will be *noun*₃. For another example, consider the HN, *tegami* 'letter', in the following sentences:

- (39) [tomodati ga sinda to yuu *tegami*]_{NP} o moratta
'I received a *letter* saying that my friend is dead.'
- (40) [tomodati ga Osaka kara dasita to yuu *tegami*]_{NP} o moratta
'I received a *letter* which my friend said that he sent from Osaka.'

The HN, *tegami* in (39) is in a complemented NP, and *tegami* in (40) is in a relativized NP. However, what the person received in (39) is the news or announcement of his friend's death in a form of a letter as a communication, and the property of *tegami* is not simply a concrete object. On the other hand, what the person received in (40) is a letter as a concrete object which was sent by his friend from Osaka, and what is written in the letter is not important in this context. Therefore, only *tegami* as used in (39) is [+Comm] and will be included in *noun*₃.

As is observed in (32) to (35), the [-Direct] nouns, both *noun*₂ and *noun*₃, require the occurrence of *to yuu* between the CompS and the HN. Thus, the CompS and the HN are indirectly connected, in other words, they are not immediate constituents of

the higher NP. This type of construction will be called Indirect Complementation in this paper, and the syntactic and semantic relationships between the constituents will now be discussed. First, to examine whether the occurrence of *to yuu* in this construction is truly obligatory or not, topicalization will be applied to the complemented NP in each sentence of (41) and (42) below. Each (a) phrase will be changed into a (b) sentence by topicalization.

- (41) a. [bukka ga takaku naru to yuu yosoo]_{NP}
 'the expectation that prices would go up'
 b. (sono) yosoo wa bukka ga takaku naru { $\begin{matrix} \text{to } yuu \\ * \phi \end{matrix} \} \{ \begin{matrix} \text{koto} \\ *no \end{matrix} \} da$
 'As for the expectation, it is that prices would go up.'
- (42) a. [Tanaka ga asita kuru to yuu tegami]_{NP}
 'the letter saying that Tanaka is coming tomorrow'
 b. (sono) tegami wa Tanaka ga asita kuru { $\begin{matrix} \text{to } yuu \\ * \phi \end{matrix} \} \{ \begin{matrix} \text{koto} \\ *no \end{matrix} \} da$
 'As for the letter, it says that Tanaka is coming tomorrow.'

In the (b) sentences in (41) and (42), the non-occurrence of *to yuu* is ungrammatical, and the [-Direct] nouns syntactically require *to yuu* to occur with them. Also, the nominalizer *koto*, which is [-Direct] (cf. Josephs 1972, 1975), takes the place of the original [-Direct] HN instead of *no* which is [+Direct] (cf. 27 and 28). This is evidence that *noun*₂, *noun*₃, and *koto* have the same semantic property.

To yuu in this surface structure is semantically empty, even though it is derived from an underlying verb.¹⁰ It is clear that the CompS expresses that the content of the HN or the HN is the theme of the CompS. Therefore, the function of *to yuu* in surface structure is simply to be a 'bride' between the two elements. However, the underlying structure of indirect complementation with [-Direct] nouns is more complicated than that of direct complementation. To analyze this complicated structure, first, some examples in this construction will be presented:

- (43) [Sato ga asita kuru]_P to yuu [denpoo]_N_{NP} ga atta
 'I got a telegram saying that Sato is coming tomorrow.'
- (44) [[hikooki ga Honoruru de ziko o okosita]_N to yuu [hookoku]_N_{NP} ga haitta
 'We received a report saying that the plane had an accident in Honolulu.'
- (45) [[bukka ga takaku naru]_S to yuu [yosoo]_N_{NP} wa tadasii yoo-da
 'The expectation that prices would go up seems to be correct.'
- (46) [kagakusya ga seibutu ga kasei ni aru]_S to yuu [katei]_N_{NP} wa syoomei-sare-nakatta

¹⁰ The detailed analysis for underlying forms of *to yuu* is presented in Song (1975).

'The supposition that scientists made that there are creatures on Mars was not proved.'

In the above examples, the HNs, *denpoo* 'telegram' in (43) and *hookoku* 'report' in (44) are *noun*₃, and *yosoo* 'expectation' in (45) and *katei* 'supposition' in (46) are *noun*₃. In (43), (44) and (45), each CompS clearly expresses the content of the referent of the HN, and the CompS and the ES seem to be the same. However, in (46) the noun *kagakusya* 'scientist(s)' is a part of the ES, but is not a part of the CompS. This is because, as is apparent from the English equivalent, 'scientists' are the ones who made *katei* 'supposition', but they are not part of the 'supposition'. The content of *katei* is only *seibutu ga kasei ni aru* 'There are creatures on Mars.' Therefore, the ES is larger than the CompS which is included in it. On the basis of the above observations, the complemented NP structures of the four sentences can be formulated by the following labeled bracketings:

- (47) a. [S to yuu N]_{NP}(43, 44, and 45)
 b. [NP S to yuu N]_{NP}(46)

The NP in (47a) consists of three elements, i.e. S, *to yuu*, and N; while that in (47b) consists of four elements where an extra NP is added. They may be combined into one as follows:

- (48) [(NP) S to yuu N]_{NP}

The NP structure in (48) with an optional NP before the CompS seem to have the surface structure of indirect complementation, but the nature of the optionality related to the extra NP is still unclear. Since the S-P Inversion test proved to be a useful *method to identify* the nature of the complemented NP, this test will be *used to examine* the nature of the optionality of the extra NP. First, this will be applied to only the CompS in each NP in (43) to (46) excluding *to yuu*, because the status of *to yuu* is not clarified yet. At present, we don't know whether *to yuu* is a part of CompS or ES, or is an independent unit such as a Noun Complementizer. In the following, (49) to (52) are the result of the application of S-P Inversion to the CompS.

- (49) *[asita kuru Tanaka to yuu denpoo]_{NP} ga atta (43')
 (50) *[Honoruru de ziko o okosita hikooki to yuu hookoku]_{NP} ga haitta (44')
 (51) *[takaku naru bukka to yuu yosoo]_{NP} wa tadasii yoo-da (45')
 (52) *[kagakusya ga [kasei ni aru seibutu to yuu katei]_{NP}]_{NP} wa (46')
 syoomei-sare-nakatta

All the above sentences are ungrammatical. Therefore, the test must be applied in a different way. The test will be applied to whole ES including *to yuu*, and the embedded subject and the embedded predicate with *to yuu* will be inverted.

- (53) *[asita kuru to yuu Satoo no denpoo]_{NP} ga atta⁻ (43'')
 'I got Sato's telegram saying that { someone } is coming tomorrow.'
 { Sato }
- (54) *[Honoruru de ziko o okosita to yuu hikooki no hookoku]_{NP} ga (44'')
 haitta
 'We received a report { of } a plane that an accident occurred in Honolulu.'
 { *by }
- (55) *[takaku naru to yuu bukka no yosoo]_{NP} wa tadasii yoo-da (45'')
 'The expectation { of } prices that they are going up seems to be
 correct.'
 { *by }
- (56) [seibutu ga kasei ni aru to yuu kagakusya no katei]_{NP} wa (46'')
 syoomei-sare-nakatta
 'The scientists' supposition that there are creatures on Mars was not
 proved.'

Except for sentence (56), none of sentences in (53), (54), and (55) are paraphrases of those in (43), (44), and (45) respectively. In (53), if the NP is derived by a relativization, such as [*Satoo_i ga asita kuru to yuu*]_{NP} *Satoo_i no denpoo ga atta* → [*Asita kuru to yuu Satoo*]_{NP} *no denpoo ga atta*, it is clear that the person who sent the telegram and who is coming tomorrow is Sato. However, in (53), it is not clear whether the person who is coming tomorrow is Sato or someone else. In (54) and (55), the sentences are still ungrammatical, because *hikooki* 'plane' in (54) and *bukka* 'price(s)' in (55) are [-Animate] and cannot be agent to make the 'report' in (54) or the 'expectation' in (55). Only the sentence in (56) which has *kagakusya* 'scientist(s)', which is [+Animate], is grammatical.

What the above facts, particularly the fact that the S-P Inversion test succeeds only with the ES in (46), suggest is that the structure of a complemented NP which has an extra NP like (46b), i.e. [NP S to you N]_{NP}, might be the correct underlying structure for the indirect type of complementation. Also, they suggest that *to yuu* is a part of the ES, but it is neither a part of CompS nor an independent unit like a Noun Complementizer. Therefore, this test must be applied to the ES instead of the CompS unless the ES and the CompS are identical as in the direct type of complementation (cf. e.g. 14a and 15a). Moreover, the ungrammaticality of (54) and (55) suggests that the embedded subject, i.e. extra NP, in this construction must be [+Animate], thus enabling it to be the agent of the action referred to by the HN.

On the basis of the above observation, the underlying structures in (43), (44) and (45) will be reconsidered. Since the true underlying structure of indirect complementation seems to be [NP S to yuu N]_{NP}, an extra NP which is [+Animate] will be placed before each CompS in (43), (44) and (45) as follows:

- (57) [*NP* ga [*Satoo* ga *asita kuru*]_S to *yu* [*denpoo*]_N]_{NP} ga *atta*
 'I got a telegram in which *NP* said that Sato is coming tomorrow.'
- (58) [*NP* ga [*hikooki* ga *Honoruru de ziko o okosita*]_S to *yu* [*hookoku*]_N]_{NP}
 ga *haitta*
 'We received a report in which *NP* said that the plane had an accident in Honolulu.'
- (59) [*NP* ga [*bukka* ga *takaku naru*]_S to *yu* [*yosoo*]_N]_{NP} wa *tadasii yoo-da*
 'The expectation that *NP* made that prices would go up seems to be correct.'

Then, we invert the embedded subject, i.e. the extra NP, and all other parts of the ES in each of the above sentence in similar fashion to that of (56) as follows:

- (60) [*Satoo* ga *asita kuru* to *yu NP no denpoo*]_{NP} ga *atta* (57')
 'I got *NP*'s telegram that Sato is coming tomorrow.'
- (61) [*Hikooki* ga *Honoruru de ziko o okosita* to *yu NP no hookoku*]_{NP} (58')
 ga *haitta*
 'We received *NP*'s report that the plane had an accident in Honolulu.'
- (62) [*bukka* ga *takaku naru* to *yu NP no yosoo*]_{NP} wa *tadasii yoo-da* (59')
 '*NP*'s expectation that prices would go up seems to be correct.'

As is apparent from the English equivalents in the above sentences, sentences (60), (61) and (62) are paraphrases of (57), (58) and (59) respectively. The semantic and syntactic properties of the extra NP in each sentence are well defined, and the existence of the extra NP makes the sentences grammatical and unambiguous. For instance, sentence (60) is unambiguous because the extra NP clarifies who sent the telegram and who is coming tomorrow. The extra NP in (61) is the person who made the 'report' and that in (62) is the one who held the 'expectation'. Also, as will be pointed out later, only the extra NP can explain the reason why [-Direct] nouns mysteriously require the occurrence of *to yu* in this construction. Or conversely, the occurrence of *to yu* requires an extra NP to co-occur in complemented NP's. The structure of indirect complementation is given again below:

- (63) [*NP*₁ S to *yu* N]_{NP}₂(47b')
*NP*₁=[+Animate], S=CompS, N=[-Direct]

Thus it is assumed that, from the underlying structure in (63), the surface structures of (43), (44) and (45) are derived by the deletion of the extra NP. The embedded subject (or the extra NP) in (63) can be removed by the following means:

- (64) a. It is raised to a higher sentence by Subject Raising.¹¹

¹¹ The examples for Subject Raising in complemented NP were presented in Song (1975). Also, cf. Kuno's Subject Raising.

- b. It is deleted by Equi NP Deletion.
 c. It is deleted if it is obvious without mention, e.g. already presented in the discourse.

For instance, the ES in (43) can be derived from (57) by Counter Equi NP Deletion,¹² if the extra NP is *Satoo*. Otherwise, the person is obvious without mention or the name of the person is not necessary to mention as in (44) and (45). In the case of (64c), the ES would be like the English expressions 'It is said that...', 'They say that...', and the like. Accordingly, the following NP Deletion rule will be necessary to explain the absence of an extra NP in the sentences:

- (65) NP Deletion: $NP_1 \longrightarrow \phi / [____ S \text{ to } yuu \text{ N}]_{NP_2}$
 conditions: $NP_1 = \text{obvious}$ (64c)

Next, the interrelationship between the four elements in (63), i.e. NP, S, *to yuu* and N, will be discussed. First, consider the following two sentences:

- (66) *kyoo no sinbun wa [Kootyan-si ga [Nihon no kookan wa kane o uketotta]s to yuu [syoogen]_N]_NP o hoodoo-sita*
 'Today's newspaper reported the testimony in which Mr. Kotchian says that Japanese high officials have received money.'
 (67) *kyoo no sinbun wa [Nihon no kookan wa kane o uke-totta to yuu Kootyan-si no syoogen]_NP o hoodoo-sita*
 'Today's newspaper reported Mr. Kotchian's testimony that Japanese high officials have received money.'

A S-P Inversion has been applied in the domain of the NP in (66) to change it to that in (67), therefore the two sentences are paraphrases. As is apparent from the English equivalents in (66) and (67), the CompS which expresses the content of the referent of the HN, *syoogen* 'testimony' is *Nihon no kookan wa kane o uke-totta* 'Japanese high officials have received money', rather than *Kootyan-si ga [S] to yuu* 'Mr. Kotchian says that S.' The HN, *syoogen* is the kind of noun which is categorized as *noun*₃, [-Direct, -Mental, +Comm], and it requires the intermediation of *to yuu*. Since the content of *syoogen* is related to an action, state, or event which is not directly perceivable by others, it must be described by someone in some way, e.g. verbal, non-verbal, or the like. Therefore, *to yuu*, which has such English equivalents as 'imply, tell, understand, express, describe, interpret, etc.' occurs with [-Direct] nouns in this construction.¹³ Also, it is necessary to indicate the person who expresses or presents the content of the [-

¹² Cf. Harada (1973).

¹³ Song (1975) discusses the reason why *yuu* occurs in this position, as follows: *Yuu* may be characterized as one of the most semantically inclusive verbs in Japanese, standing as it does for a number of non-factive verbs which depict not directly perceivable activities. The other semantically inclusive verb of this type is *suru* which stands for directly perceivable activities.

Direct] noun in the complemented NP. For instance, *Kootyan-si* is the name of the person who gave the 'testimony' in (66); and *kagakusya* in (46) are the ones who made the 'supposition'. Thus, indirect complementation requires two more elements, i.e. NP and *to yuu*, than direct complementation.

Due to the above reasons, the CompS for the [-Direct] HN cannot be embedded directly before the HN, and it must be embedded first into another sentence which consists of a subject and a verb. The subject indicates the person who expresses or presents the CompS as the content of the referent of the HN and the verb is *yuu*. *To* is a Predicate Complementizer which occurs between the CompS and the verb *yuu*. For instance, in (68) below, *Kootyan-si ga itta* is the matrix sentence in which the CompS, *Nihon no.....uke-totta* is to be embedded.

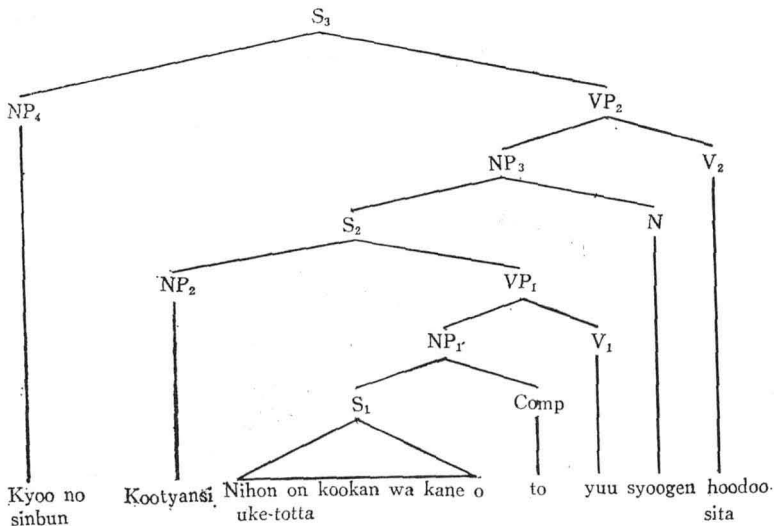
- (68) *Kootyan-si ga [Nihon no kookan wakane o uke-totta]_S to itta*
 'Mr. Kotchian said that Japanese high officials have received money.'

Then, the sentence (68) will be embedded again into the larger sentence, i.e. *Kyoo no sinbun wa (sono) syoogen o hoodoo-sita* 'Today's newspaper reported the testimony', as follows:

- (69) *kyoo no sinbun wa [[Kootyan-si ga [Nihon no kookan wa kane o uke-otta]_S [to]_{PC} yuu]_S [syoogen]_N]_{NP} o hoodoo-sita¹⁴* (66')

To illustrate more clearly, a tree diagram of the sentence (69) is given below:

- (70) Indirect Complementation:

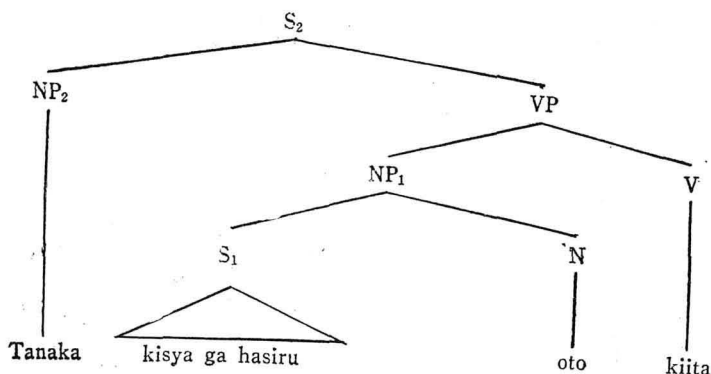


¹⁴ As is discussed in Song (1975), a non-factive verb after *to* can be changed into *yuu* when it occurs between *to* and a HN regardless of its tense property.

The tree diagram in (70) indicates clearly the relationship between the CompS (S_1) and the HN (N). The S_1 can complement the HN only indirectly because it is embedded in S_2 which is the ES for S_3 . Also, the phrase markers indicate that *to* is a Predicate Complementizer and *yuu* is a full-fledged verb. The [-Direct] nouns have the following semantic and syntactic properties: (a), their semantic properties are all related to a not directly perceivable action, state, or event; (b), they always require an indirect type of complementation as is shown in (70). Now, compare the tree diagram in (70) to that of a direct complementation in (71b) below:

(71) Direct Complementation:

- a. Tanaka wa [kisyā ga hasiru]_S [oto]_NNP o kiita
 'Tanaka heard the sound of a train running.'
 b. Tree diagram:



In this section, the syntactic and semantic properties related to [-Direct] nouns have been discussed and the difference between [+Direct] nouns and [-Direct] nouns observed.

2.4. The Optional Occurrence of *To Yuu*

In this section, another group of nouns with which the occurrence of *to yuu* is optional will be discussed. For example, observe the following sentences:

- (72) [Reinboo ga zyū-rensū o sita]_S { a. ϕ
 b. *to yuu* } [kiroku]_NNP wa Hawaii
 no hitobito o yorokobaseta
 a. 'The record of the Rainbows having a ten-game winning streak made the
 Hawaiians happy.'
 b. 'The alleged record that the Rainbows had a ten-game winning streak
 made the Hawaiians happy.'

- (73) [Nikkooki ga haizyakku sareta]_S { a. ϕ
 b. *to yuu* } [ziken]_NNP wa ooku no

hitobito ni syokkuo ataeta

a. 'The incident of the JAL flight being hijacked shocked many people.'

b. 'The reported incident that the JAL flight was hijacked shocked many people.'

In the above examples, the HNs, *kiroku* 'record' and *ziken* 'incident' represent the instances of a fact and an event respectively. Both of the HNs syntactically allow the presence or absence of *to yuu* in the NP. Examples of nouns which indicate a fact or event like *kiroku* and *ziken* are: *riyuu* 'reason', *sirase* 'notice', *hanasi* 'story', *nyuusu* 'news', *kako* 'past history', *zenka* 'criminal record', *rekisi* 'history', *dekigoto* 'event', *zizitu* 'fact'. They will be categorized as *noun*₄. However, as mentioned earlier, if a noun has two or more different semantic categories, it will be placed in two or more categories (cf. 37, 38, 39 and 40). Therefore, many *noun*₄'s also belong to other categories depending on the context.

The semantic and syntactic relationships between *noun*₄ and the CompS are a little different from the other cases. For instance, the semantic properties of *noun*₁ are related to a directly perceivable property; and those of *noun*₂ and *noun*₃ are related to a not directly perceivable property. However, the semantic property of *noun*₄ is of a somewhat mixed nature. It is not only [-Direct] but also [+Direct]. For example, the absence of *to yuu* in (72a) and (73a) implies that there is a presupposition by the speaker that the content of the CompS is true; while the presence of *to yuu* in (72b) and (73b) indicates that there is no such presupposition.¹⁵ In the (a) sentences, the facts or events related to the HNs, *kiroku* and *ziken*, are already widely known at the time of the speech act; therefore the source of information is not necessarily mentioned by the speaker. In some cases, the speaker can presuppose or assert the facts or events related to the HN if it is either already widely known or if he has learned about it in some other way than hearing it from others. In such a case, the HN will be marked [+Direct]. However, in the (b) sentences, the facts or events are not yet known by the addressee, so that the speaker has to mention the source of information. The occurrence of *to yuu* in this construction implies something like 'hearsay', and the HN will be marked [-Direct]. Thus, in the case where a *noun*₄ is [+Direct], *to yuu* cannot occur with it; whereas if it is marked [-Direct], *to yuu* must occur in the NP.

The syntactic structures of direct and indirect complementation with *noun*₄ are the same as the tree structures in (70) and (71b) respectively. However, in some instances, the relationship between the embedded subject, i.e. the extra NP, and *noun*₄ in indirect complementation is different from that between the NP and other categories of noun. For example, consider the following sentences:

¹⁵ Cf. Kuno (1973) and Josephs (1975) where the concepts of presupposition and factivity with many Japanese examples were discussed.

- (74) [[Reinboo ga zyuu-rensyoo o site-iru]_s {^{a.} ϕ
^{b.} to yuu } kiroku]_{NP} wa rippa na
mono da
- a. 'The record of the Rainbow having a ten-game winning streak is a fine record.'
- b. 'The alleged record that the Rainbow had a ten-game winning streak is a fine record.'

In (74), as discussed before, there is a presupposition by the speaker that the CompS is true in the (a) sentence; while there is no such presupposition in the (b) sentence. Thus, regarding the occurrence or non-occurrence of *to yuu*, the conditions are very clear. However, (74b) can be derived from one of the following sentences:

- (75) [{^{a.} Reinboo_i
^{b.} NP } ga [Reinboo_i ga zyuu-rensyoo o site-iru]_s to yuu kiroku_j]_{NP}
wa rippa na kiroku_j da
- a. 'The record alleged by the Rainbows that they had a ten-game winning streak is a fine record.'
- b. 'The alleged record that the Rainbows had a ten-game winning streak is a fine record.'

In (75a), one of each identical NP will be deleted by Equi NP Deletion to derive (74b), and the relationship between the embedded subject *Reinboo* and *kiroku* can be understood as in *Reinboo no kiroku* 'Rainbows' record.' However, in the case of (75b), if the property of the embedded subject NP is other than *Reinboo*, it cannot be understood as in *NP no kiroku*, because the 'record' is nothing but the 'Rainbows' record.' This is one of the differences between *noun*₄ and other [-Direct] nouns, i.e. *noun*₂ and *noun*₃. The semantic properties of *noun*₂ and *noun*₃ are always related to those of embedded subject, but the semantic property of *noun*₄ is not related to the embedded subject in the case of (75b). In (75b), the embedded subject only introduces the record that the Rainbows had a ten-game winning streak rather than expressing his own opinion or action. In such a case, the embedded subject is always deleted by the Rule (65), and the sentence will be read as such English expressions as 'It is said that...', 'They say that...', and the like.

There are two types of noun with the feature [+Direct]: one is *noun*₁ which is related to a directly perceivable action, state, or event; and the other is *noun*₄ when the truth of its referent is presuppositional. For a similar reason, there are also two types of noun with the feature [-Direct]: one includes *noun*₂ and *noun*₃ which are related to a not directly perceivable mental activity and communication respectively; and the other is *noun*₄ when its content is non-presuppositional. As a matter of fact, in all examples in this paper, the contents of the referent of the [+Direct] HN's, which are expressed in the CompS's, are all presuppositional; while the content of [-Direct] HN's are non-

presuppositional. Thus, we can say that the presence or absence of presupposition is directly related to the semantic property [+Direct] or [-Direct] respectively, and is also one of the conditioning factors which determines the choice of direct or indirect noun complementation.

In this section, the so-called optional occurrence of *to yuu* was examined in relation to the semantic properties of *noun*₄, and it was observed that the occurrence of *to yuu* is governed by the [+Direct] or [-Direct] property of the HN. Regarding the concept of optionality, if one does not take semantic properties into account, almost every element in a sentence will be optional beyond the minimal number of elements to construct a grammatical sentence. However, if we take semantic properties into account as given, there is non-optional occurrence of *to yuu* in Japanese noun complementation. This paper analyzes noun complementation according to the latter point of view; therefore it claims that there are only obligatory occurrences of *to yuu* and obligatory non-occurrence of *to yuu* in Japanese noun complementation. This paper also claims that Japanese noun complementation should be discussed in relation to the semantic properties [+Direct] and [-Direct] of the HN rather than the occurrence of *to yuu* which is based solely on superficial syntactic structure. The structures of the two types of noun complementation are:

- (76) Direct Complementation: [S N]_{NP}
 S=CompS and/or ES, N=[+Direct]
- (77) Indirect Complementation: [[NP₁ S₁ to yuu]_{S2} N]_{NP2}
 NP₁=[+Animate], S₁=CompS
 S₂=ES, N=[-Direct]

3. Specific and Non-specific Complementation

In Section 2, direct and indirect complementation on the basis of semantic properties of the HNs was discussed. In this section, two other types of complementation with relation to the semantic property of the CompS will be discussed. The elements which occur between the CompS and the HN include not only *to yuu*, but also *to itta* and others.¹⁶ Compare the following two strings:

- (78) a. [timmoku wa kin nari]_S to yuu [hyoogen]_N_{NP}
 'the expression that silence is golden'
- b. [[timmoku wa kin nari]_S to itta [hyoogen]_N_{NP}
 'the expression to the effect that silence is golden'

In the phrases in (78), *to yuu* and *to itta* occur in the same position, and they are interchangeable depending on the explicitness of the CompS. Although *yuu* and

¹⁶ Nakau claims that *to ka yuu*, *to ka itta*, and *to no* are also Noun Complementizers. *To ka yuu* and *to ka itta* were discussed in Song (1975).

itta in (78) seem to be present and past tense forms respectively, as Nakau (1973) correctly points out, the difference in meaning between the two phrases is without relevance to the difference in tense. *Yuu* and *itta* do not have tense properties, because they are tenseless elements in this position.¹⁷ As is apparent from the English equivalents in (78), the difference between *yuu* and *itta* is as follows: In (78a), the occurrence of *yuu* asserts that the relationship between the CompS and the HN is explicit and specific, in other words, the CompS expresses exactly the content of the HN; while *itta* (78b) does not imply such a clear assertion, but only indicates that the CompS is somewhat similar to the content of the HN or the HN is a kind of CompS, etc. Therefore, the explicitness related to the CompS in (78b) is less than that in (78a).

In Japanese, when a statement is meant to be uncertain, or the speaker feels he cannot make a specific statement, the auxiliary verb *yoo-da* (or *yoo-desu*) 'seem, like, such as, etc.' can be attached to the end of a sentence to indicate the uncertainty of the statement, as follows:

- (79) a. Nihongo no benkyoo wa muzukaii
 'The study of Japanese is difficult.'
 b. Nihongo no benkyoo wa muzukaii yoo-da
 'The study of Japanese seems to be difficult.'

In (79), the (a) sentence is a specific statement, while the (b) sentence is not a specific statement. In (79b), the presence of the auxiliary verb *yoo-da* indicates this difference. Consider, again the following sentences which are instances of direct complementation:

- (80) a. [Nakamura ga uta o utatte-iru]_S [koe]_N_{NP} ga kikoeru
 'The voice of Nakamura singing a song is heard.'
 b. [Nakamura ga uta o utatte-iru yoo-na (<<da)]_S [koe]_N_{NP} ga kikoeru¹⁸

The CompS in (80a) expresses specifically the content of the HN; while in (80b), the CompS expresses that the voice of Nakamura is certainly heard, but whether Nakamura is singing a song or not is uncertain. This fact indicates that there is some semantic similarity between *itta* in (78b) and *yoo-da* in (79b and 80b). Both *itta* and *yoo-da* indicate that the content of the CompS related to the respective HN is uncertain. On the other hand, in all the (a) phrases and sentences in (78, 79, and 80), the CompS expresses specifically the content of the HN regardless of the presence or absence of *to yuu* in them. Therefore, the relationship between the CompS and the HN, i.e. whether it is definite or indefinite, can be determined based on what element occurs between them. This relationship will be indicated by a semantic feature [+Specific] or [-Specific] as

¹⁷ Cf. Note 14.

¹⁸ The auxiliary verb *yoo-da* changes to *yoo-na* when it occurs before a noun,

follows:

- (81) a. [+Specific]: ϕ and *to yuu*
 b. [-Specific]: *yoo-da* and *to itta*

Thus, in this paper, the type of complementation in (78a) and (80a) with or without the occurrence of *to-yuu* will be called Specific Complementation; while that in (78b) and (80b) with the occurrence of *to itta* or *yoo-da* will be called Non-Specific Complementation.

Now, the correlationship between *to itta* and *yoo-da* will be discussed. In (78b), *to itta* between the Comps and the HN seems to have two semantic properties, i.e. the semantic property of *to yuu* as in (78a) and that of *yoo-da* as in (79b) and (80b). Therefore, the properties of *to itta* and *to yuu* plus *yoo-da* will be compared in the following contexts:

- (82) [[*timmoku wa kin nari*]_S { a. *to itta*
 b. *to yuu yoo-na* } [*hyoogen*]_N]_{NP}
 a, b. 'the expression to the effect that silence is golden'

- (83) [[*Tanaka wa munoo na otoko da*]_S { a. *to itta*
 b. *to yuu yoo-na* } [*koe*]_N]_{NP}
 a, b. 'the voice saying something to the effect that Tanaka is an incompetent man'

In (82) and (83), the semantic properties of *to itta* and *to yuu yoo-na* are identical in the context. Therefore, it is reasonable to consider that *to itta* is a combined form of *to yuu* and *yoo-na*, and *to yuu yoo-na* is changed into a contracted form of *to itta* when it occurs between the CompS and the HN in complemented NP. Thus, the following Lexical Change rule (84) will be necessary to handle this matter.

- (84) *yuu yoo-na* \longrightarrow *itta* / S *to* ___ N¹⁹
 S=CompS

¹⁹ Rule (84) does not imply that *yuu yoo-na* must always change to *itta*. In many instances, *yuu yoo-na* is used in this context without changing. Also, as a matter of fact, there is such an expression as *S to itta yoo-na N* in Japanese. Some examples for *S to itta yoo-na N* are given below:

- (1) [*Tanaka-san ga kau to itta yoo-na hon*]_{NP} *wa totemo takai*
 'The book which Mr. Tanaka said that he will buy is very expensive.'

The NP in (1) is a relativized NP, therefore *itta* 'said' in (1) is different from *itta* in a complemented NP. For another example, consider the following sentences:

- (2) a. [*tanuki ga kitune o bakasita to yuu hanasi*]_{NP}
 'the story that says a racoon bewitched a fox'
 b. [*tanuki ga kitune o bakasita* { *to yuu yoo-na*
to itta } *hanasi*]_{NP}
 'the story that says something like that a racoon bewitched a fox'
 c. [*tanuki ga kitune o bakasita* { **to yuu yoo-na yoo-na*
to itta yoo-na } *hanasi*]_{NP}
 '? the story that says something like such as that a racoon bewitched a fox'

Now the discussion turns to the occurrence of *yoo-na* and the semantic property of the HN. In section 2, it is observed that the presence or absence of *to yuu* is related to the semantic property of whether the HN is [+Direct] or [-Direct]. Like *to yuu*, the occurrence of *yoo-na* is also related to the semantic properties of the HN. *Yoo-na* can occur alone between an ES and the HN if a semantic property of the HN is [+Direct], e.g. (80b); while it cannot occur alone between them without *to yuu* if the semantic property of the HN is [-Direct], e.g. (82b) and (83b). Therefore, the occurrence of *yoo-na* with or without *to yuu* can also identify whether the semantic property of the HN is [+Direct] or [-Direct] respectively. The difference between *to yuu* and *yoo-na* in connection with their occurring position is: the former can occur between the CompS and the HN, while the latter can occur between the ES and the HN.

The structures of specific and non-specific complementation are given below;

(85) Specific Complementation: a. [S N]_{NP}

b. [[NP S to yuu]_s N]_{NP}

(86) Non-Specific Complementation: a. [[S *yoo-na*]_s N]_{NP}

b. [[NP S to yuu *yoo-na*]_s N]_{NP}

4. Conclusion

In this paper, the classification of the complemented NP in (7) has been reanalyzed in section 2 based on the semantic properties of the HN. In addition, two types of complementation, Direct and Indirect, have been postulated. Also, it was demonstrated that this difference in semantic property correlates with syntactic differences in the two types of complementation (cf. 70 and 71).²⁰

In section 3, two other types of complementation, Specific and Non-specific, with relation to the explicitness of the CompS with or without the auxiliary verb *yoo-da* have been discussed.

The semantic features [+Direct] and [-Direct] which are assigned to the semantic property of the HN, and [+Specific] and [-Specific] related to the explicitness of the CompS, are also related to the element occurring between the CompS and the HN as follows:

(87) Occurring element:				
	ϕ	<i>to yuu</i>	<i>yoo-da</i>	<i>to itta</i>
Feature:				
[Direct]	+	-	+	-
[Specific]	+	+	-	-

Sentence (2c) is a normally acceptable sentence. However, comparing it with (2b), there is no significant semantic difference between them. As mentioned earlier, since the auxiliary *yoo-na* (<*da*) can be attached after a sentence, *yoo-na* may occur after *itta* on the analogy of *yuu yoo-na*.

²⁰ In this paper, I did not make any comparison between the Korean noun complementation and

Thus, a total of four types of complemented NP, i.e. [S N]_{NP} in (76) and (85a), [[NP S to yuu]_S N]_{NP} in (77) and (85b), [[S yoo-na] N]_{NP} in (86a), and [[NP S to yuu yoo-na]_S N]_{NP} in (86b), can be distinguished by means of the features [\pm Direct] and [\pm Specific] as follows:

- (88) a. [S N]_{NP} : [+Direct, +Specific]
 b. [[NP S to yuu]_S N]_{NP} : [-Direct, +Specific]
 c. [[S yoo-na]_S N]_{NP} : [+Direct, -Specific]
 d. [[NP S to yuu yoo-na]_S N]_{NP} : [-Direct, -Specific]

Direct and Specific complementation (88) represents the most complete and explicit type of complement expression. Indirect and Non-specific complementation (88d) represents the least complete and explicit type of complement expression among the four types. The four types of noun complementation can be combined into the following formula:

- (89) [[<NP₂> S₁ <to yuu>(yoo-na)]_S, N]_{NP₁}
 NP₁=[+Animate]
 S₁ =CompS
 S₂ =ES
 NP₂=Complemented NP

REFERENCES

- Alfonso, A. 1966. Japanese Language Patterns. Tokyo: Sophia University Language Learning Center of Applied Linguistics.
- Josephs, L. 1972. Selected Problems in the Analysis of Embedded Sentences in Japanese. Unpublished Ph. D. Dissertation, Harvard University.
- . 1975. Complementation. Japanese Generative Grammar, ed. by M. Shibatani. New York: Academic Press.
- Harada, S. I. 1973. Counter Equi NP Deletion. University of Tokyo Research Institute of Logopedics and Phoniatics Annual Bulletin 7. 113-147.
- Inoue, Masako. 1974. A Study of Japanese Predicate Complement Construction. Unpublished Ph.D. Dissertation, University of California, San Diego.
- Kiparsky, P. and C. 1971. Fact. Semantics: an Interdisciplinary Reader in Philosophy, Linguistics, and Psychology, eds. by D. Steinberg and L. Jakobovits. Cambridge: Cambridge University Press, 345-69.

Japanese noun complementation, however there are many strikingly similar points related to the semantic and syntactic properties of [+Direct] and [-Direct] HN are observed. (For further comparison, cf. Song 1976)

- Kuno, S. 1973. *The Structure of Japanese Language*. Cambridge, Mass: MIT Press.
- Martin, S. E. 1976. *A Reference Grammar of Japanese*. New Haven: Yale University Press.
- Nakau, M. 1973. *Sentential Complementation in Japanese*. Tokyo: Kaitakusha.
- Song, Z. 1975. The Function of *to yuu* in Japanese. *Working Papers in Linguistics* 7 : 5. 17-34. Honolulu: University of Hawaii, Department of Linguistics.
- . 1976. Noun Complementation in Korean (to appear). *Korean Linguistics* 1.
- Teramura, H. 1969. The Syntax of Noun Modification in Japanese. *JATJ* 11 : 1. 64-74.
- Watanabe, U. 1972. Japanese Complementizers. *Studies in East Asian Syntax* (UCLA Papers in Syntax 3).

Department of East Asian Languages
University of Hawaii at Manoa
Moor Hall 370, 1890 East West Road
Honolulu, Hawaii 96822
U.S.A.

(Received 25 January 1977)