1. nara-construction in Japanese

In this paper, I will discuss the nara-construction in Japanese and describe a number of peculiarities that this construction has by comparing it with a topic wa-construction and a nominative-ga construction.

After that, I will present a semantic analysis of the nara-construction. Especially, I will argue that nara restricts a modal base by generating the statements about the properties of a syntactic constituent preceding nara which the speaker has in mind, necessitating a modal interpretation in the rest of the sentence (cf. the rest part of the sentence excluding NP-nara in case of the nominal nara-construction and the conditional consequent in case of the clausal nara-construction).

In Section 3, I will briefly mention a syntactic characteristic of the nara-construction, which implies that nara-construction is also syntactically characteristic. Section 4 concludes the paper.

2. nara-constructions and other constructions

An example of the nara-construction is given below:

(1) **Nominal nara-construction in Japanese**
kagakusya-nara daihyoo-no-hazu-da.
scientist-NARA representative-Gen-should-Copula
‘As for scientists, given their characteristics, they should be representatives.’

(2) **Clausal nara-construction**
kagakusya-ga senkyo-ni de-ru nara,
scientist-Nom election-Dat run for-Pres NARA
daihyoo-no-hazu-da.
representative-Gen-should-Copula.
‘If a scientist runs for the election, he/she should be elected as a representative.’

Also, there are two other relevant constructions in Japanese: namely, nominative-ga constructions in (3a) and topic-wa constructions in (3b):

(3) a. **Nominative-ga Copula Construction**
kagakusya-ga daihyoo-da.
scientist-Nom representative-Copula
‘A scientist is a representative.’
b. *Standard-wa Topic Construction*

kagakusya-wa daihyoo-da.
scientist-Top representative-Copula

‘As for a scientist, she is a representative.’

One peculiarity of the *nara*-construction is that it always needs a modal, implicitly or explicitly. For example, there is apparently no modal in the following *nara*-construction:

(4) a. sono kagakusya-nara daihyoo-da.
that scientist-NARA representative-Cop

‘That scientist should/must be a representative.’

b. sono kagakusya-ga senkyo-ni de-ru nara daihyoo-da.
that scientist-Nom election-Dat run-for-Pres NARA representative-Cop

‘If a scientist runs for the election, he/she should/must be elected as a representative.’

c. sono kagakusya-nara zibun-no heya-ni i-ru.
that scientist-NARA self-Gen room-Dat be-Pres

‘As for that scientist, given her characteristics, she should/must be in her room.’

In (4), though all sentences do not contain a modal particle, it seems that these sentences involve some implicit modal interpretation; for example, the plausible interpretation of the nominal *nara*-construction (4a) is that though that scientist is not a representative now, it is quite possible that, given her characteristics, that scientist will be a representative, which implies that some modal interpretation is expressed implicitly. Possibly, one may interpret this sentence differently, yet a modal interpretation always surfaces on the sentence. The difference is what a modal part expresses: better possibility, necessity and so on. The same thing is applied to the clausal *nara*-construction in (4b) and the nominal *nara*-construction in (4c), where a predicate of the main clause is verbal, not copula. Actually, it seems that an epistemic (assertive) modal is implicitly interpreted in (4c), when that scientist is actually in her room now and the sentence is true, in which case a modal expression is unnecessary. This is plausible provided that the sentence in (4c) becomes quite natural if one adds to an evidential modal particle *yo* to *i-ru*, constituting *i-ru-yo*. Probably, whichever interpretation one gives to the *nara*-construction involving (4), modal expression is always necessary implicitly or explicitly.

One may argue that, because *nara* essentially introduces a conditional sentence, some modal expression is always necessary (cf. Kratzer 1986 and Portner 2004), due to which even the nominal *nara*-construction similarly needs a modal in the main clause. However, this is dubious, because when a particle which introduces conditional antecedent in Japanese is used, a modal particle is not always necessary in the main clause, as in (5):

(5) a. sono kagakusya-wa, *pro* kyonen senkyo-ni de tara,
that scientist-Top last year election-Dat run for when
migoto-ni rakusen si-ta.
completely loss do-Past

‘When that scientist ran for an election last year, she lost.’

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3 I add (4c) because *da* is considered as an assertive particle in traditional Japanese linguistics, due to which one might say that this particle could be a modal.

4 According to Palmer (2001. 8), speakers indicate “their judgments about the factual status of the proposition”.

b. Kyoko wa Hideki ga ki tara, pro, kae-ru
   Kyoko-Top Hideki Nom come if return-Pres
   yakusoku-o site i-ru.
   promise-Acc do be-Pres
   ‘If Hideki comes here, Kyoko promises to return to her home.’

c. sono kagakusya wa pro senkyo ni de-ru to
   that scientist-Top election-Dat run for-Pres if
   kanarazu make-ru.
   always lose-Past
   ‘Always if that scientist runs for an election, she loses.’

In (5a), although a particle tara, which is normally used to introduce a conditional antecedent, appears, expressing temporal sequence, this sentence describes the mere fact that that scientist lost last year when she ran for an election, suggesting that it seems that a modal expression is unnecessary implicitly or explicitly. Although this use of tara is not conditional, it is used to introduce a conditional in (5b). However, even though this sentence expresses a conditional situation where Kyoko is going to return if Hideki comes, it seems that no implicit modal interpretation is necessary in the main sentence, only suggesting that the event “Kyoko’s returning” will happen in future if Hideki comes.

Also, in (5c), where a particle to, which may introduce a conditional, is used, an antecedent sentence is interpreted as conditional antecedent ‘always if’. This sentence is interpreted as habitual, stating a casual relationship between a conditional antecedent and a consequent. Interestingly, it is truly uttered even if sono kagakusya ‘that scientist’ will not run for an election anymore, in which case it describes the fact that she lost every time she ran for an election, requiring no modal interpretation in the main clause. If this is right, it is safe to say that a modal expression is not always necessary in the main clause when conditional particles appear in Japanese, even if these particles introduce a conditional antecedent as in (5b-c).

Also, in normal sentences in Japanese, as shown below:

(6) a. kagakusya ga daihyo-o site i-ru.
    scientist Nom representative Acc do be Pres
    ‘A scientist is representative.’

b. kagakusya wa daihyo-o site i-ru.
   scientist-Top representative Acc do be Pres
   ‘As for a scientist, she is a representative.’

These sentences merely describe the fact that a certain scientist is a representative now.

Then, it can be said that the first peculiarity of the nara-construction is that it always necessitates a modal expression implicitly or explicitly. I will discuss why the nara-construction necessitates a modal interpretation in the next subsection.

5 It seems that this sentence might sometimes exhibit an objective interpretation, excluding an implicit epistemic modal interpretation in the main sentence, though it can be uttered subjectively, provoking an implicit epistemic modal interpretation in the consequent. If so, it might be concluded from (5c) that a conditional consequent does not always necessitate a modal interpretation in the to-conditional sentence, supporting the discussion here.

6 One may argue that there is a hidden modal V-T-mono-da ‘be used to’ in (5c), which is traditionally said to express a general casual relationship between an antecedent and a consequent (cf. Masuoka 1991), stating the generalization that that scientist was used to lose an election always when she ran for it. However, if it is a generalization of past events of that scientists’ running for the election, the tense of a consequent should be past, which means that a past tense particle -ta, not a present tense particle -ru should be used in (5c).
Also, there is a phenomenon that differentiates this construction from other constructions, which seems related to the fact that the *nara*-construction necessitates a modal expression. As seen easily above, the *nara*-construction expresses very rich “meaning”, compared with other constructions. In the following paragraphs, I would like to discuss the nominal *nara*-construction first and deal with the clausal *nara*-construction in 2.2.3.

The nominal *nara*-construction *α*-nara *S*, where *α* represents an NP preceding *nara* and *S* the rest of a sentence, expresses very rich “meaning” in the sense that this construction seems to induce several statements about properties of *α* when one interprets it. For example, it is possible that the nominal *nara*-construction in (1) induces several statements about the properties of *kagakusya* ‘scientist’, which are listed below:

```
(7) i. Scientists are logical.
    ii. Scientists are intelligent.
    iii. Scientists are persuasive.
    iv. Scientists are popular.
    v. Scientists tend to be elected as a representative.
    vi. Scientists are persevering.
    vii. Scientists are decisive.
    viii. Scientists are ambiguous.
    …etc…
```

Every statement in (7) describes the properties of scientists. Also, it may be said that these statements seem relevant to the proposition that scientists are representative, which is expressed by the copular part of the sentence in (1), in the sense that they help one evaluate this proposition and judge the possibility or the necessity of a situation this proposition denotes. In this sense, the statements in (7) function as a basis to determine a modal interpretation in (1-2) and especially in (4), where a modal interpretation implicitly expressed.

Before discussing the other peculiarities of the *nara*-construction, I would like to specify the characteristics of these statements. For one thing, it is unnecessary that these statements are shared by others. Rather, these statements are often speaker-oriented. To see this, consider the following sentence:

```
(8) kagakusya-nara kanemoti-no-hazu-da.
scientist-NARA rich-Gen-should-Copula
‘As for scientists, given their characteristics, they should be rich.’
```

To see whether these statements are shared by people, it may be helpful to add a few statements about the properties of scientists:

```
(9) ix. Scientists love moneymaking with their inventions.
     x. Scientists are greedy.
     xi. Scientists need money because their life takes a lot of money.
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It is quite possible that one believes the statements in (9), whereas others do not believe them but think that scientists concentrate on only their research objects, not caring about moneymaking, which suggests that it is unnecessary that the statements induced by the *nara*-construction are commonly shared.

To clarify this point further, I would like to consider the following example:
This sentence states that noodle of soy sauce is good among noodle, which is not a common property because favorite noodle differs depending on different persons. Also, the nominal nara-construction in (10) might induce the following statements about noodle:

(11) i. Familiar types of noodle soup are shoyu (soy sauce), miso and tonkotsu (pork bone).
ii. Noodle taste is normally distinguished as plain or heavy.
iii. Noodles are heavy if they have taste of pork bone.
iv. Miso and shoyu noodles are often plain
v. Healthy noodles have plain taste.
vi. Noodles that I like best have a soy sauce taste.
vii. Good noodles of soy sauce taste are provided by restaurants in Ogikubo.

Many of the statements in (11) clearly describe the properties of noodle in view of a certain individual – that is, idiosyncratic, though some of others agree with them. For example, the other person – say, Norito – may like noodles that have taste of pork taste. Also, it is possible that he disagrees with (11vii), believing that good noodle of soy sauce taste is provided by restaurants in Yokohama. Moreover, he might know that many noodles that have a taste of pork bone are not heavy, rejecting (11iii). Of course, some of the statements in (11) tend to be shared among many people due to the fact that it describes the general property of noodle as in (11i-ii) or the typical thought about it like (11v). Nonetheless, these statements are idiosyncratic. This idiosyncrasy may be observed in the following sentence:

(13) ramen-nara sakuranbo ajig-ga i-i-ne.
  ‘As for noodle, given its characteristics, noodles of cherry taste are good.’

The sentence in (13) sounds very odd to most people, because noodles of cherry taste are very strange and unnatural. Nonetheless, this sentence is truthfully uttered if the speaker believes that noodles of cherry tastes are good, which indicates that the proposition of the sentence “noodles of cherry taste are good” is evaluated in view of the speaker.7 In this case, the nara-construction might generate the following statements about the properties of noodle:

(14) i. Noodles are well-suited to cherry.
ii. Noodle of cherry state is delicious.

Probably, these statements are speaker-oriented, given that it is probable that only the speaker believe them in the relevant context. Also, it is quite possible that all but the speaker reject them: they are quite idiosyncratic.

Then, it is natural think that the statements about the properties of α (NP with nara) are speaker-oriented in the nominal nara-construction. Possibly, the speaker gives some evaluation to this sentence based on these speaker-oriented statements.8

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7 Actually, this sentence could be truthfully uttered, even if only the speaker believes that noodles of cherry taste are good.
8 It is mysterious how other people (especially, the hearer) specify these statements to interpret the nara-construction, even though these statements are speaker-oriented. One possibility is that the co-operative
So far, we have seen in (10-14) that the statements about the properties of noodle are originated from the speaker’s idiosyncratic belief and knowledge. Is there another source of the statements? Actually, it seems that anything one has in mind can be the source of the statements about the properties of $\alpha$ in the nominal nara-construction. To see this, I would like to consider the following example:

(15) kagakusya-nara nitijo-no seikatu-ni yakudat-u-beki-da.
    scientist-NARA daily life-Dat contribute-Pres-should-Copula
    ‘As for scientists, given their characteristics, they should contribute to a daily life.’

In this case, it may be necessary to add statements in addition to those in (7) to interpret the nara-construction in (15):

(16) ix. Scientists need to invent products which are useful in a daily life.
     x. Scientists need to facilitate the development of society with their inventions.

The statements about the properties of scientists in (16) are originated from speaker’s opinion rather than belief. Given the discussions above, I suggest that the statements about the properties of $\alpha$ generated in the nara-construction are originated from what the speaker has in mind about its properties, though I will modify this a bit later. In addition, I suppose that the proposition that the rest of the sentence denotes is evaluated based on these speaker-oriented statements.

Returning to the differences between the nara-construction on the one hand and the nominative-ga construction and the standard-wa topic construction on the other hand, the latter constructions, which are repeated below, only state the mere fact that a scientist is a representative. This suggests that no statement about the properties of scientists is observed in these constructions, indicating that they lack the second peculiarity of the nara-construction: the statements about the properties of $\alpha$ (cf. scientists) in view of what the speaker has in mind:

(3) Nominate-ga Construction
    a. kagakusya-ga daihyoo-da.
       scientist-Nom representative-Copula
       ‘A scientist is a representative.’

    Standard-wa Topic Construction
    b. kagakusya-wa daihyoo-da.
       scientist-Top representative-Copula
       ‘As for a scientist, she is a representative.’

Because of this second peculiarity, the nara-construction provokes statements in (7) as part of its interpretation, not only conveying a modal interpretation (in this case, the better possibility) but expressing very rich “meaning” like these, unlike the nominative-ga construction and the standard-wa topic construction.

In addition, both the nominative-ga construction and the standard-wa topic construction do not necessitate any modal interpretation; they only express existential imports. In this point, these

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9 Thanks to Chris Tancredi for pointing this out.
10 In this paper, I assume that any statement about properties of $\alpha$ can be generated if it satisfies the condition I will discuss later.
constructions are strongly contrasted with the nominal \textit{nara}-construction in (1), which is repeated below:\footnote{Note that I replace ‘given their characteristics’ with “in view of what the speaker has in mind about their properties” to show the second peculiarity of the \textit{nara}-construction.}

(1) kagakusya-nara daihyoo-no-hazu-da.

scientist-NARA representative-Gen-should-Copula

‘As for scientists, in view of what the speaker has in mind about their properties, they should be representatives.’

As discussed above, the \textit{nara}-construction necessitates a modal interpretation in the main clause, explicitly or implicitly (see (4)). In addition, this modal interpretation is not settled: it may express possibility, necessity or desire.\footnote{I will specify in the next subsection what kind of modal interpretation is involved in the \textit{nara}-construction in detail.} This implies that the \textit{nara}-construction does not usually express existential imports, in contrast to the nominative-\textit{ga} construction and the topic-\textit{wa} construction.\footnote{In fact, the \textit{nara}-construction may refer to an actual situation when the assertive modal particle \textit{yo} appears in the main clause, as in (i):}

Moreover, the \textit{nara}-construction in (1) is true even if there is no scientist who is a representative in the actual world, whereas the sentences in (3) are true only if there exists at least one scientist who is a representative at present, suggesting that only the \textit{nara}-construction may license counter-factual.\footnote{Thanks to Toshiyuki Ogihara for pointing this out to me.} \footnote{This property of the \textit{nara}-construction may be drawn from the analysis proposed below, which is based on Kratzer (1991). Kratzer (1991), citing Kratzer (1986) claims that counterfactual conditionals may be dealt with by her approach. I will return to and touch on this issue briefly.} An additional example in which the \textit{nara}-construction licenses counter-factual is given below:\footnote{A particle expressing counter-factual is represented by \textit{c/f}.}

(17) Holms-nara kono mondai-o tok-e-ru(noni).

Holms-NARA this problem-Acc solve-able-Pres \textit{c/f}

‘As for Holms, in view of what the speaker has in mind about his properties, he could solve this problem.’

This sentence is counter-factual, because \textit{Holms} is an imaginary person who does not live and cannot solve any problem in the actual world.\footnote{This sentence is mostly equivalent to (i), except that the statements about the properties of \textit{Holms} which the speaker has in mind is not generated due to the lack of \textit{nara}:}

\begin{footnotesize}
\begin{enumerate}
\item \footnote{Maybe, this contrast is relevant to the peculiarity of the \textit{nara}-construction that it always necessitates a modal interpretation implicitly or explicitly, unlike the nominative-\textit{ga} construction and the standard-\textit{wa} topic construction.}
\item \footnote{This sentence is truthfully uttered even if law prohibits scientists from being a representative.}
\end{enumerate}
\end{footnotesize}
licensed under the nominative-ga construction and the standard-wa topic construction, as shown below:

(18) a. #Holms-ga kono mondai-o tok-e-ru noni.
    Holms-Nom this problem-Acc solve-able-Pres c/f
b. #Holms-wa kono mondai-o tok-e-ru noni.
    Holms-Top this problem-Acc solve-able-Pres c/f

In this sense, the nara-construction is irrealis, which is relevant to its property that it may report a possibility or a desire as part of a modal interpretation.

A further difference between the nominal nara-construction and the other constructions is that the former might express a conditional interpretation, while the latter cannot. To see this, consider the following sentence:

(19) A: kyoo-wa tenki-ga ii-kara, minna sigoto-o yasun-de
    today-Top weather-Nom good-because all job-Acc rest-and
    asobi-ni iki-soo-da-ne.
    play-to go-appear-does not they
‘They all appear to take a rest from their job and go out to play since it is fine today, don’t they?’
B: soosoo. (toku-ni) Hideki-nara eiga-o mi-ru-ni
    yeah. (specially) Hideki-NARA movie-Acc watch-Pres-to
    tigaina-i(-yo).
    must-be(-!)
‘You are right. ‘(Especially,) Hideki would watch movie.’

The sentence in (19) can be used subjunctively and uttered truthfully even if the speaker saw Hideki just before, implying that it is impossible for Hideki to watch movie. This sentence suggests that it may be possible to add a hidden conditional antecedent like ‘if today is off’ to (19B), which might be recovered from the context.

Possibly, the nara-construction may accompany with a hidden additional conditional antecedent due to its requirement of a modal interpretation in a main clause, because this modal interpretation could be licensed in a possible world where Hideki would watch a movie, incompatible with the actual world. Then, a hidden additional conditional may be necessary to bring this possible world in order to license a modal interpretation. 19 Maybe, due to a hidden additional conditional, the nara-construction can be used in the subjunctive context.

On the other hand, the other constructions in (20) only state the conjecture that Hideki must be watching movie now, which suggests that they cannot be used subjunctively, lacking a hidden conditional antecedent:

(i) Holms-ga koko-ni i tara, kono mondai-o tok-e-ru noni.
    Holms-Nom here be if this problem-Acc solve-able-Pres c/f
‘If a teacher is here, we can solve this problem.’

Also, although there might be a hidden conditional in (17), I ignore this. See Ogihara (2000) for the ability of tara to license counter-factual.

19 It is important to note that this hidden conditional is not always necessary in the nominal nara-construction. For example, the sentence in (1) is not conditional because it expresses better possibility or necessity that scientists are representative, requiring no conditional antecedent, even though it assumes a possible world where scientists have the properties which the speaker has in mind and can be elected as representative.
(20) a. Hideki-ga eiga-o mite i-ru-ni tigaina-i.
   ‘Hideki must be watching movie now.’

b. Hideki-wa eiga-o mite i-ru-ni tigaina-i.
   ‘As for Hideki, he must be watching movie now.

The next property of the (nominal) *nara*-construction is that *nara* may function as introducing a sentential topic like the topic-marker *wa* in that the rest of the sentence always describes an NP with a topic-marker *nara* or *wa*. However, there is one difference between them. In (21), both of the *nara*-construction in (B1) and the topic-*wa* construction in (B2) are felicitous in the following context, where *Kyoko* can be licensed as topic due to the fact that *Kyoko* is mentioned in (21A):

(21) A: Kyoko-ga heya-ni i-nai.
   Kyoko-Nom room-Dat be-not
   ‘Kyoko is not in the room.’

B1: Kyoko-wa gakkoo-ni i-tta.
   Kyoko-Top school-Dat go-Past
   ‘As for Kyoko, she went to school.’

B2: Kyoko-nara gakkoo-ni i-tta(-yo).
   Kyoko-NARA school-Dat go-Past
   ‘As for Kyoko, in view of what the speaker has in mind, she did go to a school.’

However, the *nara*-construction behaves differently from the standard-*wa* topic construction when a topic element is not mentioned but rather implied, as in (22):

(22) A: dare-mo heya-ni i-nai.
   no one room-Dat be-not
   ‘No one is in the room.’

B1: #Kyoko-wa gakkoo-ni i-tta.
   Kyoko-Top school-Dat go-Past
B2: Kyoko-nara gakkoo-ni i-tta(-yo).
   Kyoko-NARA school-Dat go-Past

In (22B1), the sentence with the standard topic-*wa* construction is infelicitous, because *Kyoko* is not mentioned, unable to be licensed as a sentential topic. Nonetheless, the *nara*-construction in (22B2) is felicitous, even though *Kyoko* is not mentioned. Actually, this sentence is infelicitous if *Kyoko* is not a member of family who are supposed to be in room. This suggests that *nara* may introduce a syntactic element as sentential topic when it is at least implied; in (22B2), because the speaker and the hearer shares the assumption that *Kyoko* is a family member, *Kyoko* is easily recovered from the context.

20 Maybe, the clausal *nara*-construction may function as topic if conditionals are topics (Haiman 1978). Also, see Mikami (1972a,b) for the suggestion that *nara* may introduce a topic in the nominal *nara*-construction.

21 This sentence might be felicitous if *wa* functions as contrastive topic-marker, which might be attributed to an existence of a shared set, which involves syntactic elements to be contrasted with an NP with *wa*. See Miyagawa (1987) and Munakata (2002) for the claim that the contrastive-topic use of *wa* may induce a shared set.

22 Akira Watanabe (p.c.) notes that the sentence in (22B2) is licensed via presupposition accommodation. Also, he pointed out that the sentence in (22B1) is also good if presupposition accommodation is applied (see note 21). He suggested that if presupposition accommodation is applied more easily in the *nara*-construction than in the topic-*wa* construction, the former might be different from the latter in that it may rather freely select a syntactic element even when it is not mentioned in the previous discourse, which I agree with. I will crystallize this point.
so, it may be safe to say that *nara* is a topic-marker which introduces a syntactic element as a topic when this element is implied in the previous discourse.

One may argue that *nara* does not function as a topic-marker, because it can co-occur with *wa*. For example, given that *wa* functions as topic-marker in (23), *nara* cannot be a topic-marker in (23), because it is assumed that two topic elements cannot co-appear in the same sentence (cf. Tomioka 2001 and Portner and Yabushita 2002):

(23) Kyoko-nara neko-wa suki-da-yo.
    Kyoko-NARA cat-Top like-Copula
    ‘In view of what the speaker has in mind about Kyoko, as for a cat, she does like it.’

Though it is doubtful whether *wa* is a topic-marker in (23), *nara* should not be a topic-marker if one more than a sentential topic cannot occur in one sentence and *wa* functions as a topic-marker here.

However, there is evidence which indicate that at least, *nara* functions as a topic-marker. First, consider the following sentences:

(24) a. sakana-wa tai-ga oisi-i.
    fish-Top sea bream-Nom delicious-Pres
    ‘As for fish, sea bream is delicious.’

In (24a), it is traditionally said that *sakana* ‘fish’ has an aboutness relation with *tai-ga oisi-i* ‘sea bream is delicious’, where *tai* should be a subspecies of fish (cf. Mikami 1972a and Kuno 1973). The sentence in (24b) is quite strange, where *tai* not *sakana* is marked as topic by *wa*, because *sakana* is a super-category of *tai*: as a result, it violates the aboutness relation. This is also applied to the multiple *wa*-construction in (25), in which *wa* attached to a topmost NP functions as a thematic (i.e. normal) topic-marker, whereas *wa* attached to other NPs functions as a contrastive topic-marker:

(25) a. sakana-wa [tai-wa]^{CF} oisi-i.
    fish-Top sea bream-Top delicious-be.
    ‘As for fish, [sea bream]^{CF} is delicious.’

Normally, it is assumed that the first occurrence of *wa* is a topic-marker, whereas the second occurrence of *wa* is not a topic-marker (see Kuno 1973, Tomioka 2001, Portner and Yabushita 2002, Saito 1985 and Watanabe 2003). Keeping the contrasts above in mind, consider the following sentences, where *nara* and *wa* co-appear:

(26) a. sakana-nara tai-wa oisi-i.
    fish-NARA sea bream-Top delicious-be.
    ‘In view of what the speaker has in mind about fish, sea bream is delicious.’

Given the discussion above, an NP with a (thematic) topic-marker should be a super-category (cf. *fish*) of another NP. However, the felicitousness of the sentences in (26) indicate that in order to be

\[\text{further in future. Thanks to him for pointing it out.}\]

23 See Mikami (1972b) and Kuno (1973) for this point.

24 CF indicates that a blanketed syntactic element is marked with contrastive focus. For the status of contrastive topic, see Büring (2003), Krifka (1998) and Munakata (2002).
interpreted licitly, *nara* needs to be attached to *sakana* ‘fish’ (super-category of *tai* ‘sea bream’), while *wa* should be attached to *tai* (sub-category of fish), as in (26a), suggesting that *nara* functions as topic-marker here. Also, the ungrammaticality of the following sentences in (27) indicate that NP-*nara* should precede NP-*wa*, which also seems to show that *nara* functions as topic-marker.25

(27)26
   a. *tai-wa* sakana-*nara* oisi-i.
   b. *sakana-wa* tai-*nara* oisi-i.

Thus, it is safe to assume that *nara* introduces a topic like the standard topic-marker *wa*.27

So far, I have discussed the peculiarities of the nominal *nara*-construction, comparing it with the standard-*wa* topic construction and the nominative-*ga* construction. Given the apparent similarity of the surface form of the sentences, other than the presence of *nara*, *wa* and *ga*, *nara* ought to serve a more complex function than *wa* or *ga* to create the interpretative differences between the *nara*-construction (cf (1)) and the other constructions (cf. (3)).

I summarize the peculiarities of the *nara*-construction in (28):

(28)
   i. It necessitates a modal interpretation in the main clause.
   ii. It generates the statements about the properties of \(\alpha\) (= an NP with *nara*) which the speaker has in mind.
   iii. These statements function as a basis to evaluate a modal interpretation in the main clause.
   iv. It licenses counter-factual.
   v. It may express a conditional interpretation.
   vi. It introduces a sentential topic.

1.2. Semantic analysis of the *nara*-construction.

In this section, I will give the semantic analysis of the *nara*-construction. Especially, I will propose that *nara* restricts a modal base by generating the statements about the properties of \(\alpha\) (cf. an NP with *nara*) which the speaker has in mind.28 This modal base is responsible for a required modal interpretation in the main clause of the *nara*-construction. Also, it helps the speaker evaluate and fix a modal interpretation in the case of epistemic modal, whereas it fixes a modal interpretation independent of the speaker’s evaluation in the case of circumstantial modal.

I will clarify the properties of the *nara*-construction in more detail by comparing the nominal *nara*-construction and the clausal *nara*-construction.

1.2.1. Kratzer (1991)

According to Kratzer (1991), it is necessary to specify what kind of modality is involved for modal words to be interpreted. In (29), a modal word *must* instantiates an epistemic reading:

(29) Jackl must have been the murderer.

---

25 Some informant judges that these sentences are not perfectly ungrammatical.
26 This sentence can be derived from (26a) via scrambling of *tai-wa* into a topmost position. Because (26a) is grammatical, this scrambling should be illicit. Though I will return to this issue later, I do not discuss scrambling in this dissertation.
27 If so, either of *nara* or *wa*, not both, should function as topic-marker in (23). Here, I assume that both *nara* and *wa* are a topic-marker, licensing each of *neko* ‘cat’ and Kyoko as a topic respectively, contra the traditional assumption that there is only one topic element allowed in one sentence. In particular, I speculate that Kyoko-*nara* functions a sentential topic, whereas *neko-wa* functions as sub-topic (cf. Krifka 1998).
28 As discussed above, these statements are originated from anything what the speaker has in mind – belief, knowledge, opinion and so on.
In this sentence, the speaker judged that it is the necessary fact that Jackl have been the murderer in view of the available evidence. On the other hand, in (30), must illustrates the deontic reading:

(30) Jackl must go to jail.

In (30), it is judged that it is the necessary case that Jackl will go to jail in view of the law. This deontic reading of must is a part of a circumstantial reading.

Kratzer suggests that modal expressions such as must and can, which are supposed to express modal force such as necessity and possibility, come with a phrasal expression such as the available evidence or the law accompanied by in view of to specify the kind of modality involved. In other words, this kind of phrasal expression helps specify the kind of modality involved in modal expressions. To see the interaction between modal expression and the phrasal expression, consider the following scenario, taken from Kratzer (1991. 643):

(31) A. Girgl has been murdered on his way home and the police began an investigation.
   B. Available evidence
      i. Michl has never really liked Girgl.
      ii. Jackl got along very well with Girgl.
      iii. There is no evidence that Girgl was robbed.
   C. Utterances.
      i. Michl must be the murderer.
      ii. Michl is probably the murderer.
      iii. There is a good possibility that Michl is the murderer.
      iv. Michl might be the murderer.
      v. There is a slight possibility that Michl is the murderer.
      vi. There is a slight possibility that Michl is not the murderer.
      vii. Michl is more likely to be the murderer than Jakl.

Of course, the police inspectors do not know perfectly what the real world looks like. However, they can derive conclusion from the evidence available to them. This evidence is always compatible with a set of worlds which, for all they know, could be the real world (cf. true), which means that some world could not be the real world if it contradicts this available evidence. Kratzer calls these worlds “epistemically accessible” worlds. She states that some worlds among epistemically accessible worlds are more unnatural than others. For example, the world where Jakl is the murderer is less natural than the world where Michl is the murderer given the available evidence (Bi-ii), which indicates that Jakl is less possibly the murderer than Michl, which is expressed by (Cvii). Also, the world that a stranger is the murderer is unnatural given (Bi-iii), because though the murder is normally resulted from some motive, (Bi-iii) shows that Girgl has not been killed for robbing. This is incompatible with the normal course of events (i.e. the common norm how people do something) and (Bi-iii).

Here, the available evidence provides the epistemic conversational background which determines “for every world the set of worlds which are epistemically accessible from it”: the set of worlds which are natural. According to Kratzer, this epistemic conversational background forms a modal base, which helps fix a modality involved.

Also, she says that a second conversational background is relevant above: namely, the normal course of events. The normal course of events provides a stereotypical conversational background. According to her, its function as the second conversational background is to “induce the “ordering” on the set of worlds accessible from each world”. In other words, as some epistemically accessible world is more compatible with the normal course of events, it is more natural and accessible from a given
world.

Kratzer refers to a conversational background that is responsible for ordering the set of accessible worlds as “ordering source”. She gives the definition of ordering source below, which is taken from Lewis (1981):

\[(32) \quad \text{For all } w, w' \in W, \text{ for any } A \subseteq B(W):
W \leq_A W' \iff \{p: p \in A \text{ and } w' \in p\} \subseteq \{p: p \in A \text{ and } w \in p\}.\]

Also, Kratzer defines, based on the modal base and ordering source, the several modal forces (644-645). Here, I put the definitions of necessity, better possibility and possibility below:\(^{29}\)

\[(33) \quad \begin{align*}
\text{i. A proposition } p \text{ is a necessity in a world } w \text{ with respect to a modal base } f \text{ and an ordering source } g \text{ iff the following condition is satisfied:} \\
&\text{For all } u \in \cap f(w) \text{ there is a } v \in \cap f(w) \text{ such that } v \leq g(w) u \text{ and for all } z \in \cap f(w): \text{ if } z \leq g(w) v, \text{ then } z \in p.
\end{align*}\]

\[(34) \quad \begin{align*}
\text{i. what the law provide} \\
\text{ii. what is good for you} \\
\text{iii. what is moral} \\
\text{iv. what we aim at} \\
\text{v. what we hope} \\
\text{vi. what is rational} \\
\text{vii. what you recommended} \\
\text{viii. what we want}
\end{align*}\]

Kratzer also explains circumstantial conversational backgrounds, which are also realistic conversational backgrounds. According to her, these conversational backgrounds assign to possible worlds a set of facts of that world. Particularly, circumstances produce possibilities; the set of possible worlds compatible with them (= circumstances). These worlds may be closer or further away from the following conversational backgrounds:

\[(34) \quad \begin{align*}
\text{i. what the law provide} \\
\text{ii. what is good for you} \\
\text{iii. what is moral} \\
\text{iv. what we aim at} \\
\text{v. what we hope} \\
\text{vi. what is rational} \\
\text{vii. what you recommended} \\
\text{viii. what we want}
\end{align*}\]

Moreover, Kratzer attempts to explain conditional modality, based on the notions reviewed above. First of all, consider the following examples:

\[(35) \quad \text{If a murder occurs, the jurors must convene (in view of what the law provide).}\]

Also, she gives the following notation for the interpretation of conditional sentences like (35):

\[(36) \quad \lll [\text{if } \alpha, \text{ must } \beta] f,g \rrr = \lll [\text{must } \beta] f^\# \rrr, \text{ where for all } w \in W, f'(w) = f(w) \cup \{\lll [\alpha] f^\# \rrr\}\]

\(^{29}\) The definition of “good possibility” is as follows: a proposition is p is a good possibility in a world w with respect to a modal base f and an ordering source g iff there is a world u \in \cap f(w) such that for all v \in \cap f(w): \text{ if } v \leq g(w) u, \text{ then } v \in p.
This analysis poses a very close relationship between if-clauses and operators like *must*, because they are interpreted together: “for each world, the if-clause is added to the set of propositions that the modal base assigns to that world.” This is equivalent to say that the if-clause functions as restricting the set of worlds accessible from that world.

Turning to (35), what the law provides gives a deontic conversational background, which forms the ordering source. Though the modal base is initially empty, if-clause plays a role in changing the modal base in a systematic way; it introduces the modal base, restricting the accessible worlds such that “for every world the new set of accessible worlds is the set of all worlds in which a murder occurs”. Then, the proposition denoted by (35) is true in a world w just where the jurors convene in all accessible worlds restricted by the if-clause which are closest to what the law provide in w.30

So far, I have reviewed Kratzer (1991), introducing modal base and ordering source. According to Brennan (1993), modal base can be categorized as below:

(37) types of modal base (Brennan 1993)
   i. epistemic – possibility and necessity relative to some state of knowledge
   ii. deontic – required or allowed by some normative system
   iii. dynamic – abilities, susceptitionalities and dispositions of the subject
   iv. quantificational (cf. Carlson 1977)
   cf. Tree can be leafless = Some trees are leafless.’
   v. bouletic – expressing wishes, hopes and fears
   cf. a. May you live long!
       b. quiero que estudias más Spanish
          I want that study+3sg+Pres+Subjuntive+more
          (Palmer 2001)
   vi. alethic – strictly logical necessity and possibility

In the analysis of the nara-construction, I will deal with and discuss the modal base in (i-ii) and (v).

Based on modal base and ordering source introduced in this subsection, I will give the semantic analysis of the nara-construction.

1.2.2 Analysis of the nara-construction

As discussed in 1.2, the nara-construction has the peculiarities listed in (38):

(38) i. It necessitates a modal interpretation in the main clause.
   ii. It generates the statements about the properties of an NP with nara which the speaker has in mind.
   iii. These statements function as a basis to evaluate a modal interpretation in the main clause.
   iv. It licenses counter-factual.
   v. It may express a conditional interpretation.
   vi. It introduces a sentential topic.

In this section, I attempt to explain the peculiarities of this construction in (38i-iv) by claiming that nara restricts a modal base by generating the statements about the properties of a (cf. an NP with nara) which the speaker has in mind. Then, the speaker evaluates which modal is involved in the main

30 She extends this analysis to the conditionals where a modal expression is implicitly expressed, like the nara-construction in Japanese.
clause in the case of epistemic modal, whereas in the case of deontic modal, it is evaluated which modal is involved in view of what the speaker knows what the norm (cf. the law) provide as to $\alpha$. Also, (38v) is derived from the analysis in this subsection; the nominal nara-construction is conditional when it contributes to restricting the accessible worlds.

Before providing the analysis of the nara-construction, I would like to define the context, which I assume functions as the ordering source.


I presume the context in the File Change Semantics (Heim 1983, also see Portner and Yabushita 1998 and 2002), where the context is regarded as a collection of files, which store the information of each discourse entity. The definitions of the context and the relevant notions are presented below:\(^{31}\)

(39)  
   i.  A CONTEXT $C = \langle$DOM, CG$\rangle$, where DOM is a domain of indices and CG is a common ground.
   ii.  A DOMAIN is a set of natural numbers.
        A COMMON GROUND is a set of pairs of a world and an infinite sequence of individuals.
   iii. The null domain is the empty set.
        The null common ground $CG^0 = \text{the set of all pairs of a world and a sequence}$.

(39) states that CG is a set of pairs of possible world and an endless sequence of individuals. Also, it says that Domain (DOM) specifies which discourse entity is in use in current discourse.

Within the framework of the File Change Semantics, the context (i.e. the previous discourse) is thought as collection of files. More specifically, the context is the intersection of CG and DOM, where CG is the intersection of all the set of possible worlds and DOM is defined as a set of the current discourse entities $\chi$ each information of which is involved in the corresponding file card separately stocked in the previous discourse (the sequence of relevant possible world). I give the definition of the file card below:

(40)  
   a.  Where $A$ is an indefinite sequence of pairs in which each pair consists of an entity and a set of possible worlds, $e_i,A$ is the entity in the $i$th pair on $A$ and $I_i,A$ is the set of possible worlds the $i$th pair in $A$.
   b.  For each $I$, all the pairs $<e_i,A, I_i,A>$ represent the $i$th file card. Encoded in $I_i,A$ are the facts so-far established about the $i$th discourse referent, and $e_i,A$ is a candidate for being the actual thing that the discourse referent represents.
   c.  If $A$ is a sequence in the common ground, $IA \neq \emptyset$, where $IA = \cap_{i\in\mathbb{N}} I_i,A$; this makes certain that the sequence represents a consistent set of pieces of information about the discourse refersents.

In (40), Portner and Yabushita say in a nutshell that a file card consists of the corresponding discourse entity $e_{nA}$ and the corresponding set of possible worlds $I_{nA}$. The information encoded in $I_{nA}$ is the facts so-far established about the discourse referent $E$ corresponding to $e_{nA}$ (the sum of the information stocked in the $n$th file card).

Finally, Portner and Yabushita (1998) formalize the way that the information which sentences represent is added to each file card, as in (41):

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\(^{31}\) These definitions are taken from Portner and Yabushita (1998)
(41) i. \((\text{CG} + \emptyset)\) of adding a formula \(\emptyset\) to a common ground \(\text{CG}\)

For any expression \(\chi\), \(\text{Int}(\chi)\) is the intension of \(\chi\):

ii. a. For any common ground \(\text{CG}\), one-place predicate \(P\), and a variable \(x_i\), \(\text{CG} + P(x_i) \subseteq \{A \in \text{CG}: \text{for every } w \in I_{i,A}, e_{i,A} \in \text{Int}(P)(w)\}\).

b. For any common ground \(\text{CG}\), \(n\)-place predicate \(R\), and variables \(x_i, \ldots, x_j\), \(\text{CG} + R(x_i, \ldots, x_j) \subseteq \{A \in \text{CG}: \text{for every } w \in I_{i,A}, <e_{i,A}, \ldots, e_{j,A}> \in \text{Int}(R)(w)\}\).

c. For any common ground \(\text{CG}\) and sentences \(\phi\) and \(\psi\), \(\text{CG} + (\phi \& \psi) \subseteq (\text{CG} + \phi) + \psi\).

In the next subsection, I will propose that the context functions as the ordering source.

2.2.2 \textit{nara}-construction and the restriction of modal base

In the nominal \textit{nara}-construction in the form of \([\alpha \ nara \ S]\), \textit{nara} produces sets of propositions, where propositions can be formalized as below:

\[P = \{p: \text{about } (p, \alpha) \& \text{have-in-mind } (\text{speaker, } p)\}\]

I propose that the sets of propositions defined in (42) restrict the modal base in the nominal \textit{nara}-construction.

Also, I suggest that the context (i.e. normal course of event) functions as the ordering source for the epistemic accessible worlds which the modal base determines in the \textit{nara}-construction. Because I assume the context in File Change Semantics, it is equivalent to a collection of file cards which store all information available in the previous discourse. Given that the context functions as the ordering source, it may be said that when the proposition \(\gamma\) describes the information which may be added to a file card, it is more accessible than others. In this sense, the propositions generated by \textit{nara} are sensitive to the context.

On the other hand, when some proposition \(\psi\) does not describe any information of the discourse referents \(\chi\) stocked in file cards, it is less accessible; that is, because the accessible worlds are ordered by the context, the possible world which is irrelevant to \(\chi\) is less accessible.

Third, I assume that because \textit{nara} also functions as topic-marker, licensing \(\alpha\) as topic. Here, I adopt the analysis of the topic-\textit{wa} construction proposed by Portner and Yabushita (1998) and (2002). They assume that the topic-marker \textit{wa} introduces a link (cf. Vallduvi 1990), whereas the rest of the sentence (the sentence excluding NP-\textit{wa}) must observe the aboutness condition. Their formal definitions of “link” and “aboutness” are given below:32

\[\text{For any sentence of the form } [S \alpha_{i,k} \varphi], \alpha_{i,k} \text{ is a link, and any common ground CG,}
\]

\[
\text{Definiteness: } \quad \text{CG} + [S \alpha_{i,k} \varphi] \text{ is only defined if, for every sentence } A \text{ in } \text{CG} \text{ and for every world } w \text{ in } I_{i,A}, \text{e}_{i,A} \text{ has the property expressed by } \alpha \text{ in } w.
\]

\[
\text{Aboutness: } \quad \text{When it is defined, } \text{CG} + [S \alpha_{i,k} \varphi] \subseteq \{A \in \text{CG}: I_{i,A} \subseteq (\cap_{w} I_{j,A} \& A \subseteq (\text{CG} + \varphi))\}
\]

In (43), a \textit{link} is defined as the phrase which contains \(\alpha\), where \(\alpha\) describes the property of the discourse entity \(e\) which is stocked in the \(i\)th file card. In other words, the information that \(\alpha\) describes is a subset of the information listed (or stocked) in the \(i\)th file card; thus \(\alpha\) is felicitous in the previous discourse. If \(\alpha\) is \textit{Akira}, \(\alpha\) is felicitous when the information that the discourse entity \(e\) is \textit{Akira} is stocked in the \(i\)th file card. The sentence which consists of a \textit{link} and a predicate \(\varphi\) can be uttered in

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32 In (43), \(\kappa\) represents an element introducing a \textit{link} (namely, \textit{wa}), \(S\) represents a sentence and \(\varphi\) represents the rest of the sentence.
the discourse only if \( \alpha \) is felicitous. When a link satisfies this, a link connects the previous discourse \((\text{CG} \cap \text{DOM})\) with the current utterance by adding the current utterance to CG.

When a link is defined, aboutness is always observed. Aboutness assures that the information that derives from a predicate \( \varphi \) will be contained in the information stock of \( \alpha \) which is a subset of a file card of \( e_iA \). Consequently, P is ‘about’ \( \alpha \) (aboutness). In short, a link sets up \( e \) as the topic of utterance by assuring that P is about \( e \). Therefore, if Japanese \( wa \) introduces a link, we can say that \( wa \) selects the felicitous discourse entity, relating a current utterance with the previous discourse by establishing this discourse entity as topic of utterance, which assures that a predicate is “about” this discourse entity.

As I mentioned, \( nara \) and \( wa \) differs in one point. The former may licenses a syntactic element as a topic, which cannot be licensed by the latter. I concluded that the former may select (cf. license) a syntactic element as a topic when this syntactic element is implied in the previous discourse, whereas the latter may license a syntactic element as a topic only when it is mentioned in the previous discourse (however, see note 21-22). According to (43), \( wa \) may license a syntactic element as a topic, only if an NP is the discourse referent represented by a file card. Thus, it is necessary to modify this part (i.e. Definiteness) so that \( nara \) may select an NP as a sentential topic when it is implied in the sentence. To achieve this, I assume that \( nara \) may select an NP as a sentential topic in the nominal \( nara \)-construction when this NP appears in a file card.33 Here, I redefine Definiteness in (43) to be compatible with the nominal-\( nara \) construction, as shown below:

\[
(44) \quad \text{Definiteness:} \\
\text{CG} + [\alpha]_{i,A,\varphi} \text{ is only defined if, for every sentence A in CG and for every world } w \text{ in } I_{i,A}, e_iA \text{ contains some property expressed by } \alpha \text{ in } w.
\]

To see how the definition in (44) works, I would like to reconsider the example in (22):

\[
(22) \quad \text{A: dare-mo heya-ni i-nai.} \\
\quad \text{no one room-Dat be-not} \\
\quad \text{‘No one is in the room.’}
\]

\[
\text{B1: } \#Kyoko-wa gakkoo-ni i-tta. \\
\text{Kyoko-Top school-Dat go-Past} \\
\text{B2: Kyoko-nara gakkoo-ni i-tta(-yo).} \\
\text{Kyoko-NARA school-Dat go-Past-!}
\]

In (22A), the speaker says that no one is in the room. As mentioned above, no one here is equivalent to no family member. Also, (22B2) is infelicitous if Kyoko is not a family member.

Given (44), a property of Kyoko (one of a family member is Kyoko) should be contained in the file card which represents the discourse referent no one (= no family member), because Kyoko is a family member. Since this file card stocks the information that no family member involving Kyoko is not in the room, the sentence in (22B2) is felicitously uttered.

Finally, I propose that in the nominal \( nara \)-construction in the form of \([\alpha \ nara \ S]\), the speaker evaluates S with respect to the modal source and the ordering source (the context), determining the modal force of S.34

33 That is, it is not necessary that this NP is a discourse entity represented by the file card. See Portner and Yabushita (1998 and 2002) for the discussion of this point, according to which the NP only appearing in the file card cannot be selected as sentential topic by \( wa \).

34 It is necessary to modify this analysis to deal with deontic modality.
I summarized the semantic analysis of the *nara*-construction in (45):^35

(45) Nominal *nara*-construction: [{*nara* S} - *α* is a nominal element
i. *nara* produces sets of propositions *P*:
   \[ \{p: \text{about} (p, \alpha) \text{ & have-in-mind} (\text{speaker}, p)\} \]
ii. *P* restricts the modal base.
iii. The context functions as the ordering source.
iv. The speaker evaluates *S* with respect to the modal source *P* and the ordering source - the context - and determines the modal force of *S*.
v. For any sentence of the form \([S \alpha_{i, \kappa} \phi]\), \alpha_{i, \kappa} is a link, and any common ground *CG*.

   Definiteness:
   \[ \text{CG + } [S \alpha_{i, \kappa} \phi] \text{ is only defined if, for every sentence } A \text{ in CG and for every world } w \text{ in } I_{i \lambda}, \\
   e_{i \lambda} \text{ contains some property expressed by } \alpha \text{ in } w. \]

   Aboutness:
   When it is defined, \[ \text{CG + } [S \alpha_{i, \kappa} \phi] \subseteq \{A \in \text{CG: } I_{i \lambda} \subseteq \bigcap_{\lambda \in \kappa} I_{i \lambda} \text{ & } A \subseteq (\text{CG + } \phi)\} \]

To see how the analysis in (45) works, I will discuss the examples in 2.1 with this analysis. The first example of the *nara*-construction we saw is repeated below:

(1) kagakusya-nara daihyoo-no-hazu-da.
   scientist-NARA representative-Gen-should-Copula
   ‘As for scientists, in view of what the speaker has in mind about them, they should be representatives.’

Also, I provided the statements which the speaker has in mind about scientists in (46):

(46) i. Scientists are logical.
ii. Scientists are intelligent.
iii. Scientists are persuasive.
iv. Scientists are popular.
v. Scientists tend to be elected as a representative.
vi. Scientists are persevering.
vii. Scientists are decisive.
viii. Scientists are ambiguous.
ix. Scientists love moneymaking with their inventions.
x. Scientists are greedy.
xi. Scientists need money because their life takes a lot of money.
xii. Scientists need to invent products which are useful in a daily life.
xiii. Scientists need to facilitate the development of society with their inventions. (…etc)

Supposing that the speaker and the hearer talk about a representative of an educational board and the candidates involving a scientist, the speaker utters (1). Then, the context consists of a collection of sets of file cards which stocks at least the information of a representative of an educational board and the candidates involving a scientist. Because a scientist is one of the candidates, there is no problem if a **scientist** is selected as sentential topic by *nara* (as well as *wa*).

[^35]: I assume that the modal force is determined in the same way even if a modal interpretation is expressed implicitly, though the hearer may rely on some kind of the pragmatic competence to decide on the modal force of the main clause.
Now, the sets of propositions in (46) restrict the modal base, entailing that the accessible possible worlds should be compatible with these propositions. Also, since the context functions as an ordering source, it makes the proposition more accessible if this proposition is closer to the ideal represented by the context than another possible world which is compatible with another proposition. Because the context mentions a representative of an educational board, the proposition in (46v) is more accessible. Also, it seems safe to say that due to the context above, the propositions which help the speaker consider a representative of an educational board and its candidates are more accessible than others; for example, when the property of scientists that the proposition describes is necessary for the representative, it might be more accessible. If this is the case, the proposition (46i-iv, v-vii and xi-xii) may be more accessible.

Finally, the speaker determines its modal force as necessity by evaluating the proposition ‘scientists are representatives’ that S denotes based on the modal base ordered by the context. Given (33i), a proposition is a necessity iff “it is true in all accessible worlds which come closest to the ideal established by the ordering source” (Kratzer 1991. 644).

Then, if the speaker judges that this is true in all accessible worlds which are more accessible by the ordering source, it is unproblematic fix the modal force of S as necessity. As discussed above, all more accessible worlds are not incompatible with the proposition S denotes.

Next, I would like to reconsider (15), which is repeated below:

(15) kagakusya-nara nitijo-no seikatu-ni yakudat-u-beki-da.

scientist-NARA daily life-Dat contribute-Pres-should-Copula

‘As for scientists, in view of what the speaker has in mind about them and what is rational, they should contribute to a daily life.’

In (15), the modal particle beki ‘should’ is used. This particle expresses deontic necessity unlike hazu ‘should’ in (1) (cf. Masuoka 1991). According to Kratzer (1991), in the case of deontic modality, which forms the circumstantial modal base, the ordering source is different from epistemic modal base, as discussed above. Here, I speculate that the ordering source is what is rational (see (34)).

If so, among the propositions in (46), (xii) and (xiii) are more accessible by the ordering source (in view of what is rational), whereas other propositions are less accessible; in particular, (ix-xi) are unnatural. Thus, all accessible worlds which come closest to the ideal established by the ordering source are compatible with (46xii) and (46xiii). Given this, it is judged that the proposition that scientists contribute to a daily life is necessity and, accordingly, the modal force of the main clause is determined.

In discussing (15) and the deontic modal, I do not claim that the modal force is evaluated and determined by the speaker. Rather, I suppose that the modal force is evaluated and determined by the modal base and the ordering source, irrelevant to the speaker. For example, the following sentence is felicitous even though the first clause somewhat contradicts the second clause, which apparently suggests that the speaker gives contradictory judge:

36 I will suggest in 1.3 that kagakusya ‘scientist’ is moved from within TP into within the highest functional projection FP due to the selectional requirement of nara. Given that kagakusya is an argument of the nominative predicate daihoo ‘representative’, it should be initially merged within TP.

37 Maybe, other propositions similar to (46ix) and (46xi) which the speaker has in mind about scientists are more accessible.
‘As for scientists, although in view of what the speaker has in mind about them and what is rational, they should contribute to a daily life, (in view of what the speaker has in mind), they may make money.’

This is easily explained if the ordering source of the first clause is different from that of the second clause, though the modal base is restricted by the propositions in (46). As mentioned above, the ordering source of the first clause is what is rational, whereas that of the second clause is the context (cf. (1)), which is thought as an epistemic conversational background. Supposing that the speaker and the hearer talk about the actual behavior of the scientist in this case, the speaker evaluates the proposition ‘scientists makes money’ that the second clause denote, determining the modal force of this clause as possibility.

Given that (46xii-xiii) describe the things of the scientists which they should rationally do, they do not refer to the actual life. Consequently, they are less accessible given the ordering source of the second clause (= context). On the other hand, (46ix-xi) describe the actual life of the scientists. Thus they are more accessible in view of this ordering source. Then, it follows that the modal force “possibility” of the second clause is determined based on the modal base including (46ix-xi), which is ordered by the epistemic ordering source (i.e. context), whereas the modal force “necessity “of the first clause is determined based on the modal base involving (46xii-xiii), which is ordered by the deontic modal (i.e. what is rational). In this way, the modal base of each clause is restricted differently from that of the other clause. This is because the ordering source is different between the first clause and the second clause. For this reason, there is no contradiction in (47).

To consider this point in a bit more detail, consider the following example:

(48) sensin koku-nara kodomo-no kenri-o totonoete
developed country-NARA child-Gen right-Acc regulate
i-nakereba naranai.
be-must

‘As for developed countries, in view of what one has in mind about developed countries and what the international law provide, these countries are forced to have regulated the rights of children.’

In (48), because the modal particle nakereba naranai ‘must’ is deontic, the ordering source is also deontic (in view of what the international law provides). The possible propositions generated by nara are listed below:

(49) i. Developed countries are supposed to observe the Convention on the Rights of the Child
ii. Developed countries are economically rich.
iii. Developed countries are equipped with the well-designed education system for children.
iv. Developed countries are equipped with the well-designed legal system.
v. Developed countries want well-educated people to keep its economical power and prosper.
vi. It is hoped that developed countries give a good education to children.
vii. Developed countries involve the good society which gives a base for the well-designed system
viii. Countries that observe the Convention on the Human Rights of the Child are not supposed to punish criminal children without having them judged.
ix. Developed countries do not punish criminals without having them judged.
x. The Convention on the Human Rights requires countries to respect the human rights of child and not to do anything to disturb them.

...etc...

Here, the propositions (49i), (49viii) and (49x) are more accessible and active given the deontic ordering source (in view of what the international law), whereas others are less accessible. Thus, the proposition in (48) that developed countries are forced to have regulated the rights of children is obligatory given the modal base and the ordering source. This is why the modal force of the main clause is obligation.

Of course, the situation becomes changed if we assume the epistemic conversational background (i.e. context) functions as ordering source, shown below:

\[(50)\text{ sensin koku-nara kodomo-no kyoiku-o totonoete }\]
\[
i-ru-ni tigainai.\]
\[\text{developed country-NARA child-Nom education-Acc arrange}
\]
\[\text{be-Pres-to must}\]

‘In view of what one has in mind about developed countries, it must be the case that these countries have arranged the rights of children.’

Here, the epistemic modal particle tigainai ‘must’ is used.

Suppose that this sentence is felicitously uttered when people discuss the educational issues about children. Because the modal force is epistemic, the propositions in (49) are ordered by the context. Given that the context consists of the discussion of the educational issues about children, the propositions (49ii-iii) and (49v-vii) are more accessible, whereas the other propositions are less accessible. As a result, the speaker determines the modal force of (49) as strong necessity by evaluating the proposition ‘these countries have arranged the rights of children’.

The sentences in (48) and (50) are similar in that the same propositions in (49), which are generated by nara and originated from what the speaker has in mind, restrict a modal base. However, all of the same propositions are not equally accessible in determining the modal force of these sentences, because the ordering source is different.

It is important to note that it is the type of the ordering source that determines whether a certain proposition may be more accessible than another proposition. In (48), the deontic modal functions as ordering source, whereas in (50), the epistemic conversational background functions as ordering source.

Given the discussion above, it is predicted that the speaker truthfully utters the opposite and contradictory statements within the same sentence, if the ordering source is different. This is borne out, as in (51):

\[(51)\text{ sono otoko-nara muzai-ni tigainai ga }\]
\[
that man-NARA innocense-Dat must yet
\[\text{jissai-wa tyoeki kei-ni syosu-ru-beki-da.}
\[
\text{actually imprisonment-Dat sentence-Pres-should-Copula}\]

‘Although in view of what the speaker has in mind, the man must be innocent, in the view of the law provides, he should be sentenced to imprisonment.’

38 The same propositions in (49) are used to restrict the modal base in (50).
This sentence is presumably uttered in the conversation where the speaker and the hearer talk about the crime of *sono otoko* ‘that man’ and penalty. In (51), the proposition of the first clause is that that man must be innocent, whereas that of the second clause is that he should be sentenced to imprisonment, which clearly contradict each other.

However, this sentence is true and felicitous if the modal force of each clause is determined based on different ordering sources. I give the possible propositions generated by *nara*, which the speaker has in mind, in (52):

(52)  
1. That man committed a crime and is subject to imprisonment.  
2. That man was thought to be forced to commit a crime under duress.  
3. That man did not have any good excuse to give in duress.  
4. That man is very good person.  
5. That man is respected by the speaker.  
…etc…

These propositions restrict the modal base which plays a role in the determination of the modal force in (51). Suppose that the speaker and the hearer also talk about his characteristics. Then, when the context is the ordering source, (52ii) and (52iv-v) are more accessible. Given this, the speaker may judge that that man must be innocent, determining the modal force of the first clause as strong necessity.

On the other hand, given the deontic modal (in view of the law provide), (52i and iii) are more accessible, whereas other propositions are less accessible. Given this, the modal force of the second clause is determined as necessity with respect to the modal base in (51) and the ordering source (in view of what the law provide). Consequently, it is judged that that man should be sentenced to imprisonment.

Next, I would like to reconsider (10), which is repeated below:

(10)  
*ramen-nara syooyu ramen-ga i-i(-yo)*.  
‘As for noodle, in view of what the speaker has in mind about noodles, noodle of soy sauce taste is good.’

I suggested that this sentence describes the favorite noodle of the speaker, asserting that noodle of soy sauce is good among noodle for the speaker. I noted that the propositions generated by *nara*, which are repeated below, are speaker-oriented. Also, the modal force of the proposition is determined in view of the speaker because an epistemic modal particle *yo* is used:

(11)  
1. Familiar types of noodle soup are *shoyu* (soy sauce), *miso* and *tonkotsu* (pork bone).  
2. Noodle taste is normally distinguished as plain or heavy.  
3. Noodles are heavy if they have taste of pork bone.  
4. Miso and shoyu noodles are often plain  
5. Healthy noodles have plain taste.  
6. Noodles that I like best have a soy sauce taste.  
7. Good noodles of soy sauce taste are provided by restaurants in Ogikubo.

Also, the semantic analysis of the *nara*-construction proposed in this section explains why (13) sounds very odd for most people, even if this sentence might be truthfully uttered:
The reason for this can be attributed to the fact that the modal force of this sentence is also epistemic as well as the modal base of this sentence is restricted by the proposition which the speaker has in mind. Especially, this sentence is truthfully uttered if the speaker has the following propositions about noodle:

(52) i. Noodles are well-suited to cherry.
ii. Noodle of cherry state is delicious.
iii. Cherry taste is delicious.
iv. I can eat noodle of cherry taste every day.
… etc …

The difference between (10) and (13) is the source (i.e. the generated propositions) of the restriction of the modal base, based on which a modal force is determined; the views of different persons are responsible for this difference.

Finally, I would like to reconsider the following sentence in (22):

(22) A: dare-mo heya-ni i-nai.
   no one room-Dat be-not
   ‘No one is in the room.’

B: Kyoko-nara gakkoo-ni i-tta(-yo).
   Kyoko-NARA school-Dat go-Past-!
   ‘As for Kyoko, in view of what the speaker has in mind, it should be strongly the case that she went to school (and she actually did).

This sentence apparently states the fact that Kyoko went to school. However, what does it mean? The possible propositions generated by nara are given below:

(53) i. The speaker saw Kyoko ride a bus to go to school
ii. There is not her school bag in her room.
iii. Kyoko is supposed to go to school today because of club activities.
iv. Kyoko said that she would go to school and come back after 17:00.
v. Kyoko likes sweets.
vi. Kyoko often watches TV in the living room
vii. Kyoko is fifteen.
…etc…

These propositions restrict the modal base of the main clause. Given that the ordering source is the context, where A and B talk about the fact that there is no one in the room, the propositions (53i-v) are more accessible. Because all of the propositions suggest that Kyoko went to school, the speaker concluded that it should be strongly the case that Kyoko went to school. Here, I speculate that the modal force of this sentence is the strong necessity, which suggests that the speaker judges that this proposition is almost true in all accessible worlds which come closest and almost the same to the ideal established by the ordering source, determining the modal force as strong necessity.

Now, the peculiarities of the nara-construction in (38i-iii and vi) are derived:
i. It necessitates a modal interpretation in the main clause.

ii. It generates the statements about the properties of an NP with nara which the speaker has in mind.

iii. These statements function as a basis to evaluate a modal interpretation in the main clause.

vi. It introduces a sentential topic.

First of all, because nara always generates the propositions which the speaker has in mind about $\alpha$ (cf. an NP with nara) to restrict the modal base, the nara-construction necessitates a modal interpretation in the main clause. Also, (38iii) is due to the fact that the generated propositions restrict the modal base, with which the speaker evaluates and determines the modal force of the main clause in the case of epistemic modal. On the other hand, in the case of the deontic modal, a modal force of the main clause is evaluated and determined with respect to the ordering source and the modal base, which is restricted in a different way from epistemic modal by the propositions generated. All of these peculiarities may contribute to the very rich interpretation of the nara-construction.

The peculiarity of (38ii) could be derived from the assumption of Kratzer (1991) that for each world, the function of the if-clause is to restrict the set of worlds accessible from that world. Given that nara is similar to if in that it introduces a conditional antecedent, nara might impose restrictions on the set of accessible worlds in addition to the conditional clause. This additional condition might point to the possibility that nara might denote sets of possible worlds, enables it to generate the propositions which the speaker has in mind from any possible world. This might be evidenced by the following examples:

(54)  

a. UFO-nara gingakei-no soto-ni tobitat-e-ru  
UFO-NARAN the Galaxy-Gen outside take off-able-Pres  
hazu-da.  
should-Copula  
‘As for UFO, in view of what the speaker has in mind about its properties, it should be able to take off outside the Galaxy.’

b. monmasu-nara niku-ga oisii-hazu-da.  
mammoth-NARAN meat-Nom delicious-should-Copula  
‘As for mammoth, in view of what the speaker has in mind about its properties, its meat should be delicious’

Note that UFO is an imaginary object and mammoth is extinct animal. Nonetheless, nara may introduce them as a sentential topic, licensing the counter-factual propositions in (54), which are impossible with the nominative-ga constructions in (55):

(55)  

a. #UFO-ga gingakei-no soto-ni tobitat-e-ru  
UFO-Nom the Galaxy-Gen outside take off-able-Pres  
hazu-da.  
should-Copula  
‘UFO should be able to take off outside the Galaxy.’

b. #monmasu-ga niku-ga oisii-hazu-da.  
mammoth-Nom meat-Nom delicious-should-Copula  
‘Mammoth’s meat should be delicious.’

Given that nara generates the propositions which the speaker has in mind restricting the modal
base, it follows that the speaker determines the modal force of the sentences in (54) with the help of the modal base restricted by these propositions. Because the sentences in (54), where NPs with *nara* are imaginary objects, describe an imaginary situation, it is natural to assume that a modal base are restricted by the propositions drawn from non-realistic (i.e. imaginary) possible worlds, which is equivalent to say that accessible worlds that consist of a modal base are compatible with the non-realistic propositions in (54). 39

Also, the peculiarity of the *nara*-construction in (38vi) is derived from the definition that *nara* introduces a link. I revised the definition of Portner and Yabushita (1998) to be compatible with the fact that *nara* can select a nominal element as a sentential topic when it is implied in the previous discourse.

On the other hand, a modal interpretation is unnecessary in the standard topic-*wa* construction and the nominative-*ga* construction because there is no proposition generated in these constructions to restrict the modal base, due to which a modal force does not need to appear. Also, because they do not generate any proposition, they do not express the rich meaning unlike *nara*.

2.2.3. Clausal *nara*-construction

I repeat the example of the clausal *nara*-construction below:

(56) kagakusya-ga  senkyo-ni  de-ru  nara,  
    scientist-Nom election-Dat  run for-Pres  NARA  
    daihyoo-no-hazu-da.  
    representative-Gen-should-Copula.  
    ‘If a scientist runs for the election, in view of what the speaker has in mind about scientists, he/she should be elected as a representative.’

As discussed above, the clausal *nara*-construction also necessitates a modal interpretation implicitly (cf. (4b)) in the main clause (i.e. the conditional consequent). Actually, the other examples of the clausal *nara*-construction also necessitate the modal interpretation, as shown below:

(57) Chomsky-ga  hanas-u-nara  oozei-no  hito-ga  
    Chomsky-Nom  talk-Pres-NARA  many-Gen  people  
    ku-ru-hazu-da.  
    come-Pres-should-Copula  
    ‘If Chomsky will give a talk (at this conference), many people should come.’

(58) Kyoko-ga  France.-ni  ik-unara  wine-o  
    Kyoko-Nom  France-Dat  go-Pres  NARA  wine-Acc  
    katte  ku-ru-daroo.  
    buy  come-Pres-may  
    ‘If Kyoko will travel to France, it may be the case that Kyoko will buy wine.’

Given this, it is natural to think that *nara* generates the propositions which the speaker has in mind, restricting the modal base. Similarly, it is safe to assume that the epistemic conversational background (cf. context) functions as the ordering source in the case of the epistemic modal. Consequently, the speaker determines the modal force of the conditional consequent with respect to the modal base and

39 Though, this claim is incompatible with Kratzer (1981), because she suggests that counterfactual conditionals are special cases of conditionals that fall under (36), which are characterized by an empty modal base and a totally realistic ordering source, whereas the *nara*-construction always necessitates the existence of the modal base and restricts it. However, it is enough to suggest the possibility here that the counter-factual might be derived from the property of *nara*. I will leave this issue in the future.
the ordering source. Whereas the deontic modal functions as ordering source, the ordering source is the circumstantial conversational ground. However, there is one question arise: what does the speaker has in mind about? Although the answer to this question is clearly an NP with nara in the nominal nara-construction, the answer is unclear in case of the clausal nara-construction because the conditional antecedent preceding nara consists of several syntactic elements.

To answer this question, I would like to consider the examples in (57-58) by comparing them with the nominal nara-construction. The corresponding example of the nominal nara-construction of (57) is given below:

   Chomsky-NARA many-Gen people-Nom come-Pres-should-Copula
   ‘As for Chomsky, in view of what the speaker has in mind about him, many people may come to the conference.’
   (The context: Chomsky will come to the conference for a lecture.)

Apparently, the interpretation of this sentence is the same as that of (57), which implies that nara in the clausal nara-construction generates the propositions to restrict the modal base in the same way as the nominal nara-construction. However, when the interpretation of (57) is subjected to serious investigation, these nara-constructions are different. To elucidate this point, consider the possible propositions which the speaker has in mind about Chomsky in the nominal nara-construction in (60):

(60)  i. Chomsky raises a minimalist framework.
    ii. Chomsky leads a minimalism, which attracts lots of people.
    iii. Chomsky’s minimalism is familiar and mainstream recently.
    iv. Chomsky gives an interesting lecture.
    v. Chomsky is inclined to biolinguistics
    vi. Chomsky recently gives a couple of linguistic talks per a year.
    vii. Chomsky is very earnest.
    viii. Chomsky loves a talk about politics.
    ix. Chomsky actually publishes more books of politics than those of linguistics.
    …etc…

All of those propositions about Chomsky are used to restrict the modal base of the conditional consequent. On the other hand, the possible propositions which the speaker has in mind in the clausal nara-construction are given in (61):

(61)  i. Chomsky attracts many people.
    ii. Chomsky leads a minimalist, which attracts lots of people.
    iii. Chomsky’s talk is exciting and interesting.
    iv. Chomsky is so familiar that people may come to listen to a talk only for looking at Chomsky.’
    v. Chomsky’s talk is important because it may determine the line of the future research in generative syntax.
    vi. Chomsky is very earnest.
    vii. Chomsky rarely gives a talk outside USA.
    viii. Chomsky recently gives a couple of talks per a year.
    ix. Chomsky’s talk is given at the international conference recently.
    …etc…
From the list of the propositions in (61), one may find that there are the propositions about Chomsky’s talk in addition to Chomsky. If so, nara may generate the propositions which the speaker has in mind about Chomsky and his talk. If so, it is predicted that all of the propositions in (60) are also observed in (61) in addition to those about Chomsky’s talk. However, it is difficult to see whether this predication is borne out or not because there is no clear difference in its interpretation between (57) and (59). In order to see whether this predication is right, I would like to compare (58) with its corresponding counterpart with the nominal nara-construction:

(62) France-nara Kyoko-wa wine-o katte ku-ru-daroo  
    France-NARA Kyoko-Top wine-Acc buy come-Pres-may  
    ‘As for France, in view of what the speaker has in mind about France, it may be that Kyoko will buy wine.

The possible proposition generated by nara which the speaker has in mind about France is given below:

(63) i. France is familiar for wine.  
    ii. France is the Europe country.  
    iii. France has many good places to travel.  
    iv. France leads EU.  
    v. In France, the ex-J-leaguer Koji Nakada plays soccer.  
    vi. The metropolitan of France is Pari.  
    vii. The popular French souvenir is wine.  
    …etc…

These propositions, whose accessibilities are determined by the ordering source (context), restrict the modal base. In this case, the sentence in (62) seems felicitous when the speaker and the hearer talk about Kyoko’s traveling to France and the souvenir. Consequently, the ordering source functions in the way that it makes the proposition in (63vii) more accessible, because it mentions souvenir. Then, the speaker evaluates the proposition that Kyoko will buy wine, determining the modal base as possibility.

Now, let us consider the clausal nara-construction in (58), which is repeated below:

(58) Kyoko-ga France-ni iku-nara wine-o  
    Kyoko-NOM France-DAT go-Pres NARA wine-Acc  
    katte ku-ru-daroo.  
    buy come-Pres-may  
    ‘If Kyoko will travel to France, it is may be the case that Kyoko will buy wine.’

The possible propositions generated by nara in the clausal nara-construction in (58) are given below:

(64) i. In traveling to France, a traveler has an opportunity to see and drink a good wine.  
    ii. In traveling to France, a traveler wants to taste several French wines.  
    iii. In traveling to France, a traveler eats French dishes with wine.  
    iv. In traveling to France, there are many good places for sightseeing.  
    v. In traveling to France, a traveler may watch a soccer game.  
    vi. Traveling to France costs much money.  
    vii. Kyoko loves wine.  
    viii. Kyoko often buys souvenir.  
    ix. Kyoko is going to give a party after she returns to Japan.
As predicted, the generated propositions are those about traveling to France as well as about Kyoko. Then, it is safe to assume that the propositions generated by nara in the clausal nara-construction are those which the speaker has in mind about the subject (Kyoko) and the predicate (travel to France), which restricts the modal base of the conditional consequent. Interestingly, the sentence in (58) is felicitous with the context where the speaker and the hearer talk about the travel of Kyoko, which suggests that it is no problem that the context is impoverished, playing a little role as the ordering source, to license the felicitousness of the sentence in (58). Perhaps, this sentence is considered felicitous even if the context is impoverished because the propositions in (64) contribute to enriching the interpretation in (58).

Then, the difference between the nominal nara-construction and the clausal nara-construction is that the former generates the propositions which the speaker has in mind about an NP with nara, whereas the latter generates those which the speaker has in mind about the subject and the predicate, although they are similar in that these propositions contribute to restricting a modal base. Also, they are similar in that the speaker determines a modal force of the main clause with respect to the modal base and the ordering source (cf. context). 40

The same thing seems to be applied when the deontic modal particle is used in the clausal nara-construction. Consider the following example:

\[(65)\]
\[
\text{sensin koku-ga} \quad \text{riji-o} \quad \text{ya-ru-nara} \quad \text{pro sekai}
\]
\[
developed country-Nom \quad director-Acc \quad do-Pres-NARA \quad world
\]
\[
\text{heiwa-no} \quad \text{tame-ni} \quad \text{kyooryoku} \quad \text{su-beki-da-ga}
\]
\[
peace-Gen \quad for \quad cooperation \quad do-should-Copula-but
\]
\[
\text{pro} \quad \text{kenryoku arasoi-o} \quad \text{hajime-ru-ni} \quad \text{tigainai}.
\]
\[
power game-Acc \quad start-Pres-to \quad must
\]

‘If developed countries are directors, in view of what the speaker has in mind about developed countries and being the directors and what is rational, they should cooperate for world peace but, in view of what the speaker has in mind about developed countries and being the directors, it must be the case that they will start power.’

This sentence expresses two opposite and contradictory propositions; the first proposition is that developed countries should cooperate for world peace, whereas the second proposition is that they must start power game. Nonetheless, as observed in the nominal nara-construction, this sentence is felicitous and uttered truthfully. The possible propositions generated by nara which the speaker has in mind about developed countries and being directors are given below:

\[(66)\]
\[
i. \quad \text{Developed countries need to contribute to world peace.}
\]
\[
ii. \quad \text{Developed countries need to cooperate to solve several worldwide problems.}
\]
\[
iii. \quad \text{Most of developed countries are selfish.}
\]
\[
iv. \quad \text{Most of developed countries love power game.}
\]
\[
v. \quad \text{Developed countries always attempt to seize a large power.}
\]

40 I give the following definition to the propositions generated by nara in the clausal nara-construction:

i. \[
\{\alpha \varphi \ nara \ S\}
\]
\[
P = \{p: \text{about} (p, \alpha) \ & \ \text{have-in-mind} \ (\text{speaker}, p)\} \ & \ \{p': \text{about} (p', \varphi) \ & \ \text{have-in-mind} \ (\text{speaker}, p')\}.
\]
vi. Directors need to cooperate to proceed the committee without problem.

vii. Directors are supposed to contribute to the development of the world.

viii. Directors need to unite to deal with several world wide problems.

ix. Directors often tend to be involved in power game.

x. Directors are sometimes selfish to pass their own proposal.

…etc…

If the deontic modal (in view of what is rational) functions as the ordering source, the propositions (66i-ii) and (66vi-viii) are more accessible, whereas the other propositions are less accessible. Then, it is natural that the modal force of the conditional consequent is determined as necessity.

On the other hand, the epistemic modal particle ‘must’ appear within the second clause, which suggests that the ordering source is the context. Suppose that the speaker and the hearer talk about a struggle for the power among the developed countries, in which case the propositions (66iii-v) and (66ix-x) are more accessible and active. Then, it is natural to assume that the speaker determines the modal force of the second clause as strong necessity.

Again, there is no contradiction, because the first clausal nara-construction and the second clausal nara-construction differ in the ordering source: it is the deontic modal base (in view of what is rational) in the first clause, whereas the context in the second clause, due to which the different propositions in (66) are more accessible in each of the first and the second conditional consequents. Also, the modal force of the second clause is speaker-oriented because a modal force is epistemic, whereas that of the first clause is not because its modal force is deontic. Since the modal force of each clause is determined in the different perspectives, the whole sentence is not contradictory even if it contains the opposite two propositions.

Finally, I would like to discuss the conditional interpretation of the clausal nara-construction briefly. According to Kratzer (1991), the analysis in (36) posits a very close relationship between the conditional antecedent (i.e. if-clauses) and modal operators like must, because they are interpreted together. Also, her analysis necessitates that, for each world, the function of the if-clause is to restrict the set of worlds accessible from that world.

In the clausal nara-construction, because the conditional antecedent is introduced by nara, a conditional interpretation is always observed. Also, it is safe to say, following Kratzer, that, for each world, the conditional antecedent restricts the set of worlds accessible from that world in the clausal nara-construction, too. Moreover, nara generates propositions about the subject and the predicate within the conditional antecedent, restricting the modal force of the conditional consequent.

On the other hand, it appears that there is no the conditional antecedent in the nominal nara-construction. Also, I noted that a conditional interpretation is sometimes observed implicitly.

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41 Also, the clausal nara-construction can be used subjunctively as shown below:

i. Hideki-ga yasumi-nara, pro eiga-o mi-ru-ni tigainai.
   Hideki-Nom off-NARA movie-Acc watch-Pres-to must
   ‘In view of what the speaker has in mind about Hideki and the rest, Hideki would watch movie if he were off.’ (Actually, he is not off.)

Also, the clausal nara-construction licenses the counter-factual as well:

ii. UFO-ni no-ru-nara kimi-wa utyyu fuku-o ki-ru-beki-da.
    UFO-Dat ride-Pres-NARA you-Top space suit-Acc wear-Pres-should-Copula
    ‘In view of what the speaker has in mind about riding UFO, you need to wear a space suit.’

42 Mikami (1972b) says that an NP-nara in the nominal nara-construction is regarded as reduced conditional antecedent such as *Hideki-ga yasumi-nara* or *Hideki-ga yasumi-nara* ‘If Hideki is off’. On the other hand, Suzuki (1993) assumes that the nominal nara-construction is totally different from the clausal nara-construction.
suggested that a conditional interpretation is observed, when some additional conditional might be necessary to license a modal interpretation in the main clause.

This might be strange, because the function of a hidden additional conditional is similar to that of the generated propositions by *nara*. Then, it is possible that a hidden additional conditional is also one of those propositions. Possibly, a certain proposition happens to be interpreted as a hidden additional conditional, possibly because it is the most accessible proposition with respect to the ordering source.43

1.2.3. Modality and the *nara*-construction

In the previous subsection, I proposed that *nara* denotes the sets of possible worlds. For this reason, a modal interpretation is always necessary in the rest of the sentence (cf. a conditional consequent), because the sets of possible worlds are basis for it.

This implies that a modal interpretation is impossible within the *nara*-construction. In fact, this prediction is borne out, as given below:

(67) a. *kagakusya-ga senkyo-ni de-ru-[daroo/hazu]-nara,
scientist-Nom election-Dat run for-Pres-[may/should]
pro daihyoo-ni erab-are-ru-ni tigainai.
representative-Dat elect-Pass-Pres-to must
b. *kagakusya-ga senkyo-ni de-ru-ni tigainai/de-nakereba naranai,
run for-Pres-to must/run for-must

(68) a. *sensin koku-ga riji-o ya-ru-[daroo/hazu/yo]-nara
developed country-Nom director-Acc do-Pres-[may/should/!]-NARA
pro sekai heiwa-no tame-ni kyooryoku su-ru-ni tigainai.
world peace-Gen for cooperation do-Pres-to must
b. *sensin koku-ga riji-o ya-ru-beki /yar-akereba naranai
do-Pres-to /do-Pres-should/do-must-
nara, pro sekai heiwa-no tame-ni kyooryoku su-ru-daroo

Next, the main clause cannot be questioned in the *nara*-construction; *no* and *ka*, which are question morpheme, does not express any interrogative force in the following examples.44 Rather, it seems that they are used as a modal particle and, consequently, the sentence is interpreted as rhetorical question, expressing that the proposition that the main clause denotes should be negated:

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43 Maybe, the conditional antecedent always needs to be recovered pragmatically, not semantically, even in the nominal *nara*-construction.
44 However, wh-question can co-occur with the *nara*-construction, as given below:

i. kagakusya-nara nani-o su-ru-no?
scientist-NARA what-Acc do-Pres-Q
   ‘In view of what the hearer has in mind about scientists, what do they do?’
ii. Kyoko-ga party-ni ku-ru-nara dare-ga ku-ru-no?
Kyoko-Nom party-Dat come-Pres-NARA who-Nom come-Pres-Q
   ‘In view of what the hearer has in mind about Kyoko and coming to a party, who comes?’

I do not have any idea about it.
This is natural, given that even though the truth of the proposition is somewhat verified by the modal force of the main clause, a question asks for its truth, resulting in anomalous interpretation. The fact that no and ka function as only modal particle above may support the claim that a modal interpretation is always necessary in the nara-constructio.

2.4. Summary

In this section, I specified the peculiarities of the nara-constructio, comparing it with the nominative-ga construction and the standard-wa topic construction.

Then, I gave the semantic analysis to the nara-constructio based on Kratzer (1991) and Portner and Yabushita (1998). Especially, I proposed that nara generates the propositions which the speaker has in mind about an NP with nara in the nominal nara-constructio and about the subject and the predicate in the clausal-nara constructio, restricting the modal base of the main clause. Due to this, the nara-constructio always necessitates the modal interpretation in the main clause. Also, I suggested that in the nara-constructio, the context functions as the ordering source in case of epistemic modal, whereas the circumstantial conversational background functions as the ordering source in case of the deontic modal. An ordering source plays an important role in determining which propositions generated by nara are more accessible or inaccessible.

Also, nara selects a syntactic element as a sentential topic when this syntactic element is mentioned or implied in the previous discourse unlike wa, which can only select a syntactic element as a sentential topic when this syntactic element is mentioned in the previous discourse.

In the next subsection, I will show the syntactic position of the nara-constructio.
First of all, according to Diesing (1992), the following sentences in (71) may have an interpretation where variables introduced by the indefinites Japanese and violists may be bound by a quantificational adverb, an operator adjoined to TP by Quantifier Construal, giving rise to a quantificational interpretation:

(71)  
       ‘Many Japanese read newspaper.’
   b. Violists seldom play the piano.
       ‘Few violists play the piano.’

Diesing claims that a quantificational interpretation is obtained in (71) because the subject may be mapped into the restrictive clause and bound by the quantificational adverb (adverbial quantificational operator), resulting in the following semantic representation:

(72)  
   a. often, \[ x \text{ is a Japanese} \] \( x \) reads newspaper.
   b. seldom, \[ x \text{ is a violist} \] \( x \) plays the piano.

Given the discussion above, when elements are extracted out of a syntactic domain from which they are mapped into the restrictive clause, they should not be mapped into the restrictive clause, avoiding to be bound by the quantificational operator. In other words, when they do not have quantificational meaning even though they move out of a verbal domain, they should be positioned higher than the syntactic domain where syntactic items are mapped into the restrictive clause.

As will be shown, elements positioned within TopP obtain quantificational interpretation, which indicates that these elements are mapped into the restrictive clause. Thus, if a syntactic element lack quantificational interpretation, this means that it is located over TopP and moves to the higher position in the CP-domain proposed by Rizzi (1997).

I will show that an NP with nara is not bound by a generic operator, because it is moved into the higher position of the CP-domain in syntax. Then, it should be the case that it escapes from binding by an adverbial quantificational operator in a Japanese sentence corresponding to (71). These predictions are borne out. Consider the sentences in (73):

(73)  
   a. seijika-nara taitei guutara-na-hazu-da.
       politician-NARA mostly laziness-be-should-Copula
       ‘If some person is a politician, in view of what the speaker has in mind it, it should be mostly the case that this person is lazy.’
   b. seijika-wa taitei guutara-na-hazuda.
       politician-Top mostly lazy-be-should-Copula
       ‘As for politicians, most ones are lazy.’
       politician-Nom mostly lazy-be-should-Copula

In (73a), seijika ‘politician’ escapes from binding by an adverbial quantificational operator created by taitei ‘often’.45 On the other hand, the NP preceding wa, which is presumably located in TopP, cannot escape from binding by an adverbial quantificational operator, receiving a quantificational interpretation in (73b). I assume that (73c) is bad, because there is no NP movement involved in this sentence and nothing is mapped into the restrictive clause. Consequently, an adverbial

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45 In the nominal nara-construction, it seems that the quantificational adverb taitei does not serve as an operator. Rather, this adverb modifies a logical relationship between an NP with nara and the rest of the sentence.
quantificational operator has nothing to bind, resulting in vacuous quantification.

Another piece of evidence for my analysis of the *nara*-construction comes from so-called *kagiru*-sentences. In Japanese, several types of sentences require topic-constructions with *wa*. The following type of sentences *A*-wa *B*-ni kagi-ru ‘As for A, B is best’ (*kagiru*-sentence) is one of them. Examples of the *kagiru*-sentence are given below:

(74) a. maguro-wa sasimi-ni kagi-ru.
    tuna-Top raw fish-Dat the best-Pres
    ‘As for tuna, raw tuna is the best.

    American shorthair-Top silver-Dat the best-Pres
    ‘As for American shorthair, silver ones are the best.’

Interestingly, *nara* can select and embed the *kagiru*-sentence under it as in (75), whereas multiple-topicalizations are impossible as in (76), indicating that genuine topic-constructions may not select and embed the *kagiru*-sentence:

(75) a. sakana-nara maguro-wa sasimi-ni kagi-ru.
    fish-NARA tuna-Top raw fish-Dat the best-Pres
    ‘As for fish, in view of what the speaker has in mind about it, raw tuna is best among a tuna dish.’

b. neko-nara American shorthair-wa silver-ni kagi-ru.
    cat-NARA American shorthair-Top silver-Dat the best-Pres
    ‘As for cats, in view of what the speaker has in mind about them, among American shorthair, silver ones are best.’

(76) 46 a. *neko-wa American shorthair-wa silver-ni kagi-ru.
    b. ?*sakana-wa maguro-wa sasimi-ni kagi-ru.

The fact that standard-*wa* topic-constructions can be embedded in the nominal *nara*-construction may suggest that *nara* occupies the head of the higher functional projection (i.e. FP) in the CP-domain, and that, in turn, an NP with *nara* is positioned within FP-Spec.

The next piece of evidence is relayed to the aboutness relation, which is discussed in 1.1. The relevant example is repeated below:

(24) a. sakana-wa tai-ga oisi-i.
    fish-Top sea bream-Nom delicious-Pres
    ‘As for fish, sea bream is delicious.’

b. #tai-wa sakana-ga oisi-i.

Traditionally, it is assumed that *sakana* ‘fish’ has the aboutness relation with the rest of the sentence *tai-ga oisi-i*, where the thematic argument *tai* ‘sea bream’ case-marked by the nominative case *ga* should belong to fish (*sakana*); thus, the sentence in (24b) is quite strange, where *tai*, instead of *sakana*, is marked with *wa*, because fish does not belong to sea bream, violating the aboutness relation.47

46 As noted, in Japanese, multiple topicalizations are possible, though the second topic can be only interpreted as contrastive-topic, whose status is controversial as to whether it is truly a topic marker (see Saito 1985, Watanabe 2003 and others).

47 See (45v) for the formalization of the aboutness relation.
Also, I suggested that this aboutness relation may be observed in the nominal nara-construction, as below:

(26) a. sakana-nara tai-wa oisi-i.
fish-NARA sea bream-Top delicious-be.
‘In view of what the speaker has in mind about fish, sea bream is delicious.’
b. #tai-nara sakana-wa oisi-i.

As discussed in 1.1, (26b) is strange for the same reason as (24b).

In Munakata (2002), I suggested that the aboutness relation may necessitate the c-command relation between a topic element and the rest of the sentence: a topic element with wa needs to c-command TP, due to which a topic element is required to be positioned within TopP-Spec (cf. Kameshima 1989). If so, if the c-command relation is broken, the aboutness relation should not be observed. Returning to the nominal nara-construction, it may be that because an NP with nara c-commands TopP, the aboutness relation holds between them. Thus, this aboutness relation should be ruined, if the c-command relation is broken. This prediction seems to be borne out. Consider the following example:

(77) *tai-wa sakana-nara oisi-i.

In this sentence, because tai-wa is moved into the topmost position, where sakana cannot c-command it, the aboutness relation cannot be maintained, making the sentence ungrammatical.

If the discussion above goes through, it follows that an NP with nara and nara itself should c-command TopP, which means that they are positioned above this functional projection.

Moreover, an NP within TP cannot be scrambled over NP-nara:

Kyoko-NARA Hideki-Nom flower-Acc send-Pres-should-Copula
‘As for Kyoko, in view of what the speaker has in mind about her, it should be the case that Hideki will send her a flower.’
Kyoko-NARA Hideki-Nom the party-Dat invite do-Pres-may
‘As for Kyoko, in view of what the speaker has in mind about her, Hideki may invite her to a party.’
c. sono hon-nara sensei-ga Kyoko-ni age-ru-daroo.
the book-NARA teacher-Nom Kyoko-Dat give-Pres-may
‘As for the book, in view of what the speaker has in mind about it, the teacher may give it to Kyoko.’

In (78), all of the sentences are grammatical. However, these sentences become ungrammatical if an argument NP is moved over NP-nara by scrambling, as in (79):48

48 Note that scrambling of NP is licit when this NP is moved over TopP by scrambling, as shown below:

i. sono party-ni Kyoko-wa t Hideki-o saso-tta.
the party-Dat Kyoko-Top Hideki-Acc invite-Past
‘As for Kyoko, she invited Hideki to the party.’

Thanks to Yuji Takano for providing me with these data and pointing out this to me.
In each of the sentences on (79), the NP arguments *hana-o, *sono party-ni and *Kyoko-ni are moved over an NP-*nara from within TP by scrambling. However, these instances of scrambling should be illicit, because all of the sentences become ungrammatical due to scrambling. This suggests that this kind of scrambling is impossible, because an NP and *nara occupy the position within the higher functional projections within the CP-domain, prohibiting scrambling of another NP over such a highest functional projection.

Finally, I briefly review an apparent counter-evidence against this fact; NP-*wa seems to precede NP-*nara, as in the following:49

(80) Kyoko-*wa zassi-*nara yom-uo-yo.
    Kyoko-*Top journal-*NARA read-Pres-!
    ‘In view of what the speaker has in mind about journals, she does read them.’

Though this sentence sounds somewhat bad, it is not totally ungrammatical.50 However, it seems that this sentence has the same interpretation as in (81), where the order of zassi-*nara and Kyoko-*wa are reversed:51

(81) zassi-*nara Kyoko-*wa yo-mu-yo.

Also, even in (80), it seems that *nara generates the propositions about zassi ‘journal’ which the speaker has in mind, restricting the modal base, based on which the modal force of this sentence is

49 Roger Martin (p.c.) points out the possibility that this is an instance of the lower *nara, which may appear within the lower functional projections within the CP-domain. He suggests that this instance of *nara may be similar to an instance of an in-situ topic in Japanese, though only contrastive topic can appear in the in-situ argument position (see Watanabe 2003 and the references therein), as shown below:

(i) Kyoko-*ga Hideki-ni hana-*wa oku-*tta.
    Kyoko-*Nom Hideki-Dat flower-*Top present-Past
    ‘A flower, Kyoko presented it to Hideki.’

Also, Yoshi Endo (p.c.) points out that there is a similar example where NP-*nara does not appear in the topmost position. Rather, it appear to stay in the in-situ position, as shown below:

(ii) Kyoko-*ga (itumo) zassi-*nara LI-*o yonde i-ta..  
    Kyoko-*Nom always journal-*NARA LI-Acc read be-Past
    ‘Kyoko always read a LI among journals.’

Though it may be that zassi-*nara is an adjunct phrase in (ii), I have nothing to say about these instances of NP-*nara. I will leave it in future. Thanks to Roger Martin and Yoshio Endo for pointing them out to me.

Finally, one wonders whether a multiple-*nara construction is possible in Japanese. Actually, the multiple-*nara construction is allowed like the multiple-topic *wa construction:

(iii) Kyoko-*nara zassi-*nara yom-u-yo.  
    Kyoko-*NARA journal-*NARA read-Pres-!
    ‘In view of what the speaker has in mind about Kyoko and journals, she does read them.’

I will not deal with the multiple-*nara construction either in this dissertation.

50 One informant rejects it, although another informant almost accepts it.

51 It is hard to see which one is a sentential topic in (81), though zassi ‘journal’ seems a sentential topic given (82).
determined based. If so, this sentence is analyzed in the same way as (81). Given the Mapping Hypothesis, zassi and nara should occupy the positions within higher functional projection FP, where they escape from binding by a quantificational operator, while Kyoko is located within the lower functional projection within the CP-domain, perhaps, TopP. Maybe, Kyoko-wa undergoes vacuous scrambling, which only influences PhonC and the word order.52

To summarize, I have shown that nara and an accompanying NP are located in the higher position in the CP-domain, which enables them to escape from the mapping of the restrictive clause and binding by a quantificational operator.

4. Conclusion

In this paper, I describe the unique interpretations and semantic properties of nara-constructions. Based on Kratzer (1991), I proposed the semantic analysis on nara-constructions. Then, I showed that nara and an accompanied NP are positioned in the higher position within the CP-domain.

Seemingly, the semantic unique properties and the syntactic position of nara-constructions are related in some way. Then, what can be said about these in view of the relationship between syntax and semantics? Provided a series of recent surveys of the CP-domain (cf. Rizzi 2004), which convincingly argue that the CP-domain is responsible for highly-functional interpretation and discourse-oriented phenomena, the fact that nara and an NP with it is located is quite natural. Also, as Uriagereka (2002. 300) says, “if expression X is syntactically more complex than expression Y, we expect expression X to correspond to a semantically more complex object than expression Y”.53

Nara-constructions exhibit extremely peculiar semantic characteristics and give highly-functional interpretation, because they are located in the higher syntactic in the CP domain and, consequently, their syntactic complexity makes it semantically complicated and rich.

References


52 Daisuke Inagaki (p.c.) points out that scrambling may influence the scope relationship between nara and the universal quantifier dare-mo ‘everyone’.

Also, I do not deal with vacuous scrambling in this dissertation. For the discussion of vacuous scrambling, see Saito (2003a), Sakai (1996), Ueyama (2003) and the references therein.

53 Also see Munakata (2009) for the discussion.
Chicago: Chicago Linguistic Society.


