A Re-examination of Modality

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1. Introduction

Modality has been a hot issue in the cartographic analysis of Japanese linguistics. It has been well-described through efforts by descriptive grammarians, and researchers have tried to explain characteristics of modals in terms of the cartographic approach. It is useful to draw a syntactic map on modals, with the cartographic method. In this paper, however, I would like to capture the occurrence/ appearance of modals from a different point of view: that is, 'selection'. Merge goes hand in hand with selection, as generally assumed in the Minimalist syntax, and this selection is the mechanism responsible for the distribution of modals in the CP-zone.

First of all, I will introduce two kinds of modals which I deal with in this paper. Let us observe (1).[1]

(1) a.　Taroo-ga　　ki-ta-*daroo*　　/*deshoo*
　　　　T.-NOM　　come-Past-will　/shall
　　　　'Taro will/shall have come'

　　b.　(hayaku)　kotti-e　　ko-*i*　　　/kuru-*na*
　　　　quickly　　here-to　come-imp.　/come-proh.
　　　　'(Don't) come here quickly'

-daroo/*-deshoo* as in (1a) are categorized as modals. This type of modal is named "E-modals", which stands for Epistemic modals. It appears on the right side of the Tense-head. In this case, *-daroo*/*-deshoo* follows the past tense morpheme *-ta*.

The other group of modals I will deal with is those as in (1b). They are called "Utterance modals", which is "U-modals" in short. This type of modals is considered to be associated with Force, such as imperatives and prohibition. These E- and U-modals have common characteristics. Let us look at the examples in (2).

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1)　A list of abbreviations used in this paper is as follows: NOM＝Nominative, ACC＝Accusative, GEN＝Genitive, DAT＝Dative, Past＝Past Tense, TOP＝Topic, imp.＝Imperatives, proh.＝Prohibition, Neg＝Negation, V. S.＝ Verbal Suffixes and Conj.＝Conjunctions.

(2) a. *asu-wa   hare-*daroo*-ta   /-nai   /-tai /-masu
tomorrow-TOP   fine-E-modal-Past /-Neg   /-V. S. /-V. S.
'*Lit.* It will be fine tomorrow'   [surmise]

  b. *hayaku, kotti-e   ko-*i*-ta   /-nai   /-tai /-masu
quickly   here-to   come-U-modal-Past /-Neg   /-V. S. /-V. S.
'*Lit.* Come here quickly'   [imperatives]

(2a) is a case of E-modal and (2b) is a case of U-modal and they are all ungrammatical. That is, they cannot be morphologically tensed or negated. Also, they are not allowed to have verbal suffixes such as *-tai* and *-masu*.

In this paper, I will discuss E-modals and U-modals, but not those in (3).

(3) Taroo-ga   kuru-*kamosirenak*-atta   /*ni-tigainak*-atta   /*bekid*-atta
T.-NOM   come-may-Past   /must-Past   /should-Past
'Taro might/must/should have come'

In (3), *kamosirenai* 'may', *ni-tigainai* 'must', and *beki* 'should' appear on the left side of Tense head. These modals are sometimes called 'Quasi modals' and are generally considered to be different from E- and U-modals, which are referred to as 'Genuine modals'.

In previous research, Ueda (2008) proposed that E- and U-modals have their own projections.

(4) TP＞E-modalP＞U-modalP＞CP

As in (4), there is a hierarchy between them, and the position of U-modalP is higher than that of E-modalP. In this paper, however, I will reexamine the hierarchy of two modals and claim that selection is the key property to explain the distribution of modals. This is also responsible for the distributions of Sentence Final Particles (＝SFP) in Japanese.

This paper is organized as follows. Section 2 discusses the previous research, which is Ueda (2008) that there is a hierarchy between E-modalP and U-modalP. Also, I will point out her problems in this section. Section 3 gives my proposal that the selection is the key property to solve those problems. Section 4 deals with the Sentence-final particles, showing that they are also explained by the selection point of view.

2. Ueda (2008) and its problems

In this section, I will examine Ueda (2008) and point out some problems. Let us begin with the function of E- and U-modals.

(5) a. Epistemic-modals:
Epistemic-modals express the speaker's recognition of the content of the proposition. They presuppose neither the existence nor the involvement of addressees.

b. Utterance-modals:

Utterance-modals express the speaker's attitudes toward the utterance (communication, interrogative, imperative, invitation, prohibition, permission). Some modals of this type presuppose not only the existence of the addressee, but also the involvement of the addressee. (Inoue 2006)

These definitions are cited from Inoue (2006) and I will adopt her definition of modals. The examples of E-modals are shown in (6).

(6) a. Tabun,　　asu-wa　　　　　hareru-*daroo*　　　　[surmise]
　　　probably　tomorrow-TOP　fine-E-modal
　　　'It will probably be fine tomorrow'

　　b. Osoraku,　ame-wa　　furu-*mai*　　　　　　[negative surmise]
　　　perhaps　rain-TOP　fall-E-modal
　　　'Perhaps, it won't rain'

　　c. Taroo-mo　iku-*deshoo*　　　　　　　　　[surmise]
　　　T.-also　　go-E-modal
　　　'Taro will go with us'

-daroo, *-mai*, and *-deshoo* are the examples of E-modals. On the other hand, some examples of U-modal are shown in (7).

(7) a. hayaku,　kotti-e　ko-*i*　　　　　　　　[imperatives]
　　　quickly　here-to　come-U-modal
　　　'Come here quickly'

　　b. koko-o　　wataru-*na*　　　　　　　　[prohibition]
　　　here-ACC　cross-U-modal
　　　'Don't cross here'

　　c. Issyoni,　tabe-*mashoo*　　　　　　　[invitation]
　　　together　eat-U-modal
　　　'Let's eat (it) together'

　　d. Ame,　ame,　fur-*e*　　　　　fur-*e*　　[desire]
　　　rain　rain　fall-U-modal　fall-U-modal
　　　'Ask God to bless with rain! '

　　e. konnakoto　nidoto　suru-*mai*　　　　　[intention]
　　　such a thing　never　do-U-modal
　　　'I will never do such a thing'

　　f. suguni　si-*yoo*　　　　　　　　　　[intention]
　　　right now do-U-modal
　　　'I will do (it) right now'

Now, look at the list of the sentence structures with modals in (8).

(8) Taroo-wa   LGB-o   kaw-ta   Φ(assertion)   Φ(communication)
     Taro-TOP   LGB-ACC   buy-Past   E-modal   U-modal
     'Taro bought LGB'

V + Tense	E-modal	U-modal
	assertion	communication
confirmation	surmise	interrogative
	desire[2]	imperative
		prohibition
		invitation
		permission

This is cited from Ueda (2008), slightly revised one from Inoue (2007). Ueda is fundamentally taking this sentence structure and proposing that E- and U-modals have their own projections.

Ueda (2008) using the paradoxical conjunction-*ga*, claimed that these two modal groups occur in different positions. As examples in (9) show, E-modals can appear in an embedded clause.

(9) E-modal forms in the embedded clause

    a. [tabun   asu-wa   hareru-*daroo*-ga],   kasa-o   mot-te-ikoo
        probably   tomorrow-TOP   fine-E-modal-Conj.   umbrella-ACC   take-TE-go
        'Though it will probably be fine tomorrow, I will take an umbrella with me'

    b. [osoraku,   ame-wa   furu-*mai*-ga],
        perhaps   rain-TOP   fall-E-modal-Conj.
        gogo-wa   kumor-te-kuru-kamoshirenai
        afternoon-TOP   cloudy-TE-come-may
        'Though it will never rain, it might be cloudy in the afternoon'

    c. [Taroo-mo iku-*deshoo*-ga],   watashi-mo   iki-masu
        T. -also   go-E-modal-Conj.   I-also   go-will
        'Though Taro also will go (there), I will go, too'

On the other hand, U-modals cannot be used in the same environment as shown in (10).

(10) U-modal forms in the embedded clause

    a. *hayaku   kotti-e   ko-*i* -ga,   ike-nai
        quickly   here-to   come-U-modal-Conj.   go-Neg
        '*Lit.* Though come here quickly, I cannot'

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2) Ueda (2008) assumes that 'desire' is classified into U-modalPs, which is different from Inoue (2006). I will also categorize it as U-modalP, along Ueda (2008) in this paper.

b. *koko-o   wataru-*na*-ga,   water-ta

here-ACC   cross-U-modal-Conj.   cross-Past

'*Lit.* Though don't cross here, I crossed there'

c. *issyoni,   tabe-*mashoo*-ga,   deki-nai

together   eat-U-modal-Conj.   can-not

'*Lit.* Though let's eat (it) together, we cannot'

By means of this syntactic test, Ueda proposed that the structure of embedded clauses is illustrated as in (11b).

(11) a.   matrix clauses   b.   embedded clauses

U-modalP
⟋⟍ U-modal'
E-modalP ⟋⟍ U-modal
⟋⟍ E-modal'
TP ⟋⟍ E-modal

E-modalP
⟋⟍ E-modal'
TP ⟋⟍
⟋⟍

(11a) is the case of matrix clauses and UmodalP is located above E-modalP. On the other hand, in (11b), U-modalP does not exist, because U-modals cannot be allowed in the embedded clause in the example in (10).

Let us go back to the example in (8).

(8) Taroo-wa   LGB-o   kaw-ta   Φ (assertion)   Φ (communication)

Taro-TOP   LGB-ACC   buy-Past   E-modal   U-modal

'Taro bought LGB'

Though we cannot find any modals in this example, Ueda claims that there is an E-modal and a U-modal which are both phonologically unrealized. Regarding the occurrence of modals, Ueda made the following proposal:

(12) One utterance must contain at least one, but not more than one Utterance -modality.

In the case of (8), the verb -*kaw* 'buy' takes past tense, -*ta*. After the past tense, phonetically-null E-modal which is "assertion" follows and U-modal follows. The reason for (12) comes from her observation on person restriction phenomena. When an E-modal appears in a matrix clause, there seemed to be a person restriction.

(13) E-modal forms in the matrix clause

a.   {boku/*kimi/kare}-wa   iku-*daroo*   [surmise][−2nd]

I   you   he   -TOP   go-E-modal

'I/you/he will go (there)'

b.　{boku/*kimi/kare}-wa　　iku-*mai*[3]　　　　　　　　　　[negative surmise][−2nd]

　　I　　you　he　-TOP　go-E-modal

　　'I/you/he will never go (there)'

c.　{boku/*kimi/kare}-wa　　iku-*deshoo*　　　　　　　　　　[surmise][−2nd]

　　I　　you　he　-TOP　go-E-modal

　　'I/you/he will go (there)'

According to Ueda's judgment, the second person is restricted, when E-modal appears in a matrix clause. The same is true in the case of -*mai*.

As for the U-modals in the matrix clause, let us look at (14).

(14) U-modal forms in the matrix clause[4]

a.　{*boku/kimi/***kare**}-ga　hayaku　kotti-e　ko-*i*　　　　　[imperatives][+2nd]

　　I　　you　he　-EL　quickly　here-to　come-U-modal

　　'You, not others, come here quickly'

b.　{*boku/kimi/***Taroo**}-wa　　sonnakoto　　kinisuru-*na*　　[prohibition][+2nd]

　　I　　you　Taro　-Cont.　such a thing　care-U-modal

　　'You, not others, don't worry about such a thing'

c.　{*boku/boku-tati/kimi/***kare**}-mo　　iki-*mashoo*　　　　　[invitation][+1st pl. /+2nd]

　　I　　we　　you　he　-also　go-U-modal

　　'Let's go together'

There seems to be a person restriction on the U-modals in the matrix clause as well as E-modals even though their restriction is different from each other. For example, in the example of imperatives in (14a), only the second person is allowed, but in (13a), only the second person is disallowed. It is not clear what causes the subject person restrictions in (13) and (14), however, Ueda claims that U-modalP not E-modalP has a restriction. If E-modalP has the feature of person restrictions, it would retain the person restrictions in the case of the E-modal forms in the embedded clauses. However, contrary to the prediction, [−2nd] person restrictions disappear as in (15).

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3)　-*mai* has two kinds of interpretation. In the case of the first person in (20b), its interpretation is intention, not surmise. In this reason, it is categorized as U-modal. However, I will agree with the ungrammaticality of the second person when -*mai* appears in the matrix clause.

4)　When the subject is the third person, the sentences are ungrammatical as in (14). The sentence, however, will be grammatical when the subject is hearer itself.

　　i) a. Taroo-ga　hayaku　　kotti-e　　koi　(＝(14a))

　　　　 Taro-EL　quickly　　here-to　come

　　　　 'Taro, come here quickly'

　　　b. Taroo-wa　　sonnakoto　　kinisuru-na　(＝(14b))

　　　　 Taro-Cont.　such a thing　care-never

　　　　 'Taro, don't worry about such a thing'

(15) E-modal forms in the embedded clause

    a.   [kimi-wa   iku-*daroo*   ga],   boku-wa   ik-anai [surmise]

        you-Cont.   go-U-modal   though   I-Cont.   go-Neg

        'You will go there, but I won't'

    b.   [kimi-wa   iku-*mai*   ga],   boku-wa   iku[5]   [negative surmise]

        you-Cont.   go-U-modal   though   I-Cont.   go

        'You won't go, but I will'

Kimi 'you', the second person is allowed in the embedded clauses, which is different from the fact in the matrix clause in (13). That is, there is a person restriction when E-modals appear in the matrix clause, but it disappears in the embedded clauses. This shows that E-modal does not have the property of person restrictions. Since there is a U-modalP and person restriction can be seen only in the matrix clause, U-modalP, not E-modalP has the feature of restriction. This leads us to the idea that their modals should have their own projections each other. Also, what Ueda insists is that in all sentences, there should be U-modalP.

Now, the relevant question here is whether both U-modalP and E-modalP always have to be filled in with something overtly or not. The answer is No. They cannot be filled in with elements phonologically.

(16) The co-occurrence between E-modals and U-modals

    a.   *iku   *-daroo*   *-mashoo*

        go   -E-modal   -U-modal

    b.   *iku   *-deshoo*   *-na*

        go   -E-modal   -U-modal

From this data, Ueda proposed the syntactic structure shown in (17).

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5) In the case of *-mai*, which is negative surmise, the second person should be disallowed. Let us look at examples below.
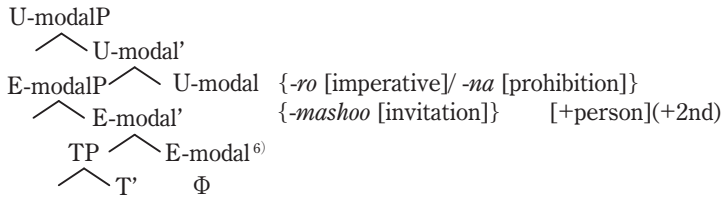
    i) a.   *Kimi-wa   shiken-o   uke-mai-ga,   boku-wa   ukeru

        You-TOP   exam-ACC   take-won't-though   I-TOP   take

        'You won't take exam, but I will'

      b.   *Kimi-wa   e-o   kaku-mai-ga,   boku-wa   kaku

        You-TOP   picture-ACC   draw-won't-though   I-TOP   write

        'You won't draw a picture, but I will'

    Ueda's judgement of *-mai* is different from mine. That is, even if *-mai* is in the embedded clause as in (15), the grammaticality is the same as in the matrix clause.

(17) a.　E-modal forms (in a matrix clause)

```
U-modalP
   ╱╲    U-modal'
E-modalP  ╱╲  U-modal  [+person](−2nd)
    ╱╲ E-modal'   Φ (zero-form)
  TP ╱╲ E-modal  {-daroo [surmise] -mai [negative surmise]}
   ╱╲  T'              {-deshoo [surmise]}
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　b.　U-modal forms (in a matrix clause)

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U-modalP
   ╱╲ U-modal'
E-modalP ╱╲  U-modal  {-ro [imperative]/ -na [prohibition]}
   ╱╲ E-modal'        {-mashoo [invitation]}      [+person](+2nd)
  TP ╱╲ E-modal 6)
   ╱╲ T'   Φ
```
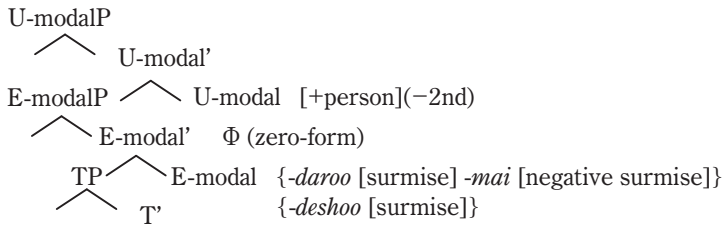
(17a) is an example of the E-modal forms in a matrix clause. E-modals such as *-daroo*, *-mai* and *-deshoo* are in the E-modal-head. In this case, there is no phonetically realized element in U-modal-head, but U-modalP itself exists. In U- modal-head, there is zero-form and it has -2nd person restrictions. On the other hand, (17b) is the case of U-modal forms in a matrix clause. U-modals such as imperatives, prohibitions and invitations are in U-modalPs. In this case, nothing is filled in overtly in the E-modal-head. Although Ueda does not discuss why zero-form exists in detail, there is E-modalP and it has zero-form in the structure. What is important here is that there is zero-form in U-modalP in (17a) and in E-modalP in (17b).

　Now, I will point out some problems for Ueda's analysis. One problem concerns the U-modalP. Ueda assumes that U-modal always exists even though it is not overtly realized and has person restriction. If it is true, it follows that all sentences without modals must have some person restriction. This is against our intuition. Let us consider (18).

(18) ame-ga　　　fur-teiru
　　rain-NOM　　fall-ASP
　　'It is raining'

None of us can claim that this sentence has person restriction. So it is not clear that U-modalP always exists and carries person restriction.

　Another problem relates to zero-form in E-modalP. Let us take a look at example (19).

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6)　When U-modals are phonetically realized, Ueda (2008) does not discuss whether they have zero-form in E-modal head. She supposes, however, that there is E-modalP below U-modalP.

(19) a.　hayaku,　kotti-e　　ko-*i*　（＝(7a)）

　　　　quickly　　here-to　　come-U-modal

　　　　'Come here quickly'

　　b.　ko　＋　E-modalP {zero-form}＋U-modalP {*i* (imperatives)}

　　　　　　　　　　assertion

Imperatives are one type of U-modal. According to Ueda (2008), [zero-form] should be chosen in E-modalP when U-modals like *i* appear overtly. Considering [zero-form] in E-modalP, it represents 'assertion', since other E-modals like *-daroo*, *-mai*, and *-deshoo* have to be phonetically realized. If there is a phonetically realized U-modal, 'assertion' must be chosen automatically in null-E-modalP. However, it sounds strange, for it is not plausible that 'assertion' belongs to E-modals. It is a kind of Speech-Act. It should be classified into U-modalP.

　　The repetition of modals is another problem. Let us observe the following data (20) from English.

(20) a.　John <u>may</u> come to the party.　　b.　John <u>will</u> go to school.

　　c.　John <u>must</u> run to the station.　　d.　John <u>can</u> speak Japanese.

The underlined elements are modals. In English, there are two meanings for each modal. Let us look at examples of MAY and MUST as in (21) and (22).

(21) a.　You <u>may</u> go now. [permission]

　　b.　I <u>may</u> study at night. [surmise]

(22) a.　I <u>must</u> do this task. [obligation]

　　b.　He <u>must</u> like books. [surmise]

With respect to the examples of MAY, there are two meanings: permission and surmise. Also in the example of MUST, there are two meanings: obligation and surmise. However, they cannot co-occur.

(23) a.　*I <u>must</u> <u>can</u> speak Japanese.

　　　(I must be able to speak Japanese.)

　　b.　*He <u>will</u> <u>must</u> run.

　　　(He will have to run.)

The examples in (23) are ungrammatical. But from the interpretation point of view, they should be grammatical as in brackets. What this shows is that one modal cannot select another modal. That is, U-modal cannot select E-modal.

　　Going back to the example in (20), only one modal appears in a sentence. But it is not assumed that zero-form exists in this case. Here, I would like to propose that SELECTION can solve the problem of the existence of zero-form.

　　In the next section, we will review Saito (2009) first and see how selection works.

3. A Function of the Selection

3−1. Selection

Saito (2009) examines three complementizers in Japanese: *no*, *ka*, and *to*. Let us look at his examples in (24).

(24) a. Taroo-wa [CP Ziroo-ni atta <u>no</u>]-o kookaisiteiru

  T.-TOP   Z.-DAT met *no*-ACC regret

  'Taroo regrets that he met Ziroo'

  b. Taroo-wa [CP Hanako-ga dare-ni atta <u>ka</u>] siritagatteiru

  T.-TOP   H.-NOM who-DAT met *ka* want to know

  'Taroo wanted to know who Hanako met'

  c. Taroo-wa [CP Hanako-ga Ziroo-ni atta <u>to</u>] omotteiru

  T.-TOP   H.-NOM Z.-DAT met *to* think

  'Taroo thinks that Hanako met Ziroo'   Saito (2009)

(24) shows examples for each complementizer. Examining these complementizers carefully, Saito proposed properties for them as shown in (25).

(25) a. *No* is the complementizer for propositions.

  b. *Ka* is the complementizer for questions.

  c. *To* is the complementizer for 'paraphrases' or 'reports' of direct discourse.

Note that selectional relation can be found between complementizers and their complements.

First, going back to the example of the complementizer *no* in (24a), *no* can take a proposition as a complement. As shown in (24b), *ka* also takes the proposition that 'Hanako met someone' as a complement. As for *to*, in addition to the example in (24c), there are other examples which take questions and imperatives as complements, as shown in (26).

(26) a. Taroo-wa Ziroo-ni [CP dare-ga kare-no ie-ni kuru *ka* to] tazuneta

  T. TOP Z.-DAT who-NOM he-GEN house-to come *ka* to] inquired

  'Taroo asked Ziroo who was coming to his house'

  b. Taroo-wa Hanako-ni [CP kare-no ie-e ko-*i* to] itta

  T. TOP H.-DAT   he-GEN house-to come-imp. to] said

  'Taroo told Hanako to come to his house'

If we carefully examine the sentences in which *to* appears, we can see that it can take assertions, questions and imperatives that are related to Speech-Act or Force as a complement. When these selectional relations fit well, all three complementizers can co-occur as in (27).

(27) Taroo-wa kare-no [CP imooto-ga soko-ni ita *no ka to*] minna-ni tazuneta

  T. TOP he-GEN sister-NOM there-in was *no ka to*] all-DAT inquired

  'Taro asked everyone if his sister was there'

Examining them from the meanings point of view, the selectional relations are:

(28) a. *N*o selects a 'proposition' as a complement.

b. *Ka* selects a 'proposition' as a complement.

c. *To* selects a 'question' as a complement.

As easily imagined, if the selection does not work, we could get impossible sequences as shown in (29).

(29) a. *to-ka ⇒ *ka* does not select 'paraphrases' or 'reports' of direct discourse, but selects propositions.

b. *ka-no ⇒ *no* does not select questions, but selects propositions.

As in (29a), a *to-ka* sequence is impossible, since *ka* is a complementizer which selects propositions as we saw in (28b), but *to* is a complementizer for 'paraphrases' or 'reports' of direct discourse. That is, selectional relation does not hold.

Also, a *ka-no* sequence is illicit, since *no* is a complementizer which also selects propositions as we saw in (28a). But *ka* is a complementizer for questions. As we saw above, the occurrences of the complementizers can be explained by the SELECTION.

In the next subsection, we discuss the SELECTION of modals.

3−2. Selection of Modals

In Section 2, we have seen that a modal cannot select another modal from the analysis in English.[7] In this subsection, we will examine modals more in detail from SELECTION point of view.

First of all, let us look at the example of E-modal in (30).

(30) a. Taro-ga   gakko-e   iku-*daroo*/*deshoo*   b. Taro-ga   soko-ni   iru-*daroo*
         T. NOM   school-to go-E-modal   T. NOM   there-to is-E-modal
         'Taro will go to school'   'Taro will be there'

c. *-daroo*/*-deshoo* selects 'ACTIONS' or 'STATES' as a complement.

Gakko-e iku 'go to school' is an ACTION and *soko-ni iru* 'be there' is a STATE.

That is, *-daroo*/*-deshoo* selects 'ACTIONS' or 'STATES' as a complement. As for U-modals, let us look at the examples in (31).

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7) In English, there are modals such as *have to*, *need to*, *be able to*, *be about to*, *be going to* and so on. Chapin (1973) showed that they can multiply occur in a sentence.

i) Joe <u>isn't going to</u> <u>have to</u> <u>be able to</u> pay a red cent.   (Chapin 1973)

Some researchers consider them as Q-modals. If this is not Q-modals, I have to discuss why iia) is licit, but iib) is not.

ii) a.   I will <u>be able to</u> do it.

b. *I will <u>can</u> do it.

(31) a. siken-o uker-*o*   b. hon-o   yom-*e*

   exam-ACC take-imp.   book-ACC read-imp.

   'take examinations'   'read books'

  c. *o/e* selects 'ACTIONS' or 'STATES' as a complement.

In Japanese, *o* and *e* are the imperative markers. *Siken-o uker* 'take examinations' or *hon-o yom* 'read books' is an ACTION. STATES are also possible as a complement of imperative *o/e*. That is, imperatives select 'ACTIONS' or 'STATES' as a complement.

The same is true with prohibition, which is another example of a U-modal.

(32) a. rouka-o   hasiru-*na*   b. syukudai-o   wasureru-*na*

   hallway-ACC run-proh.   homework-ACC forget-proh.

   'do not run in the hallway'   'do not forget to do your homework'

  c. *na* selects an 'ACTIONS' or 'STATE' as a complement.

The prohibition marker is *na*. *Rouka-o hashiru* 'run in the hallway' is an ACTION.

STATES are also possible as a complement of prohibition *na*. The prohibition *na* selects 'ACTIONS' or 'STATES' as a complement. Thus, they all select 'ACTIONS' or 'STATES', whether they are E-modals or U-modals. The problem is how we can tell one from the other, or differentiate (30a) from (32a)? As in (33), I will assume a Morphological Selecting Condition (MSC) to distinguish them.

(33) Morphological Selecting Condition (＝MSC):

  A condition for what bound-morphemes are affixed to.

The bound morphemes such as *i/o/e* morphologically select their preceding morpheme. This MSC is a property that bound morphemes generally have. It is not necessary to be considered in Syntax. It is, however, required for explaining the differences of each modal from a morphological point of view. In light of MSC, their differences are obvious. Going back to the example of E-modals, *-daroo* and *-deshoo* select 'ACTIONS' or 'STATES' as a complement. In addition to this selection, they also morphologically select T in MSC.

(34) E-modals:

  a. *-daroo/-deshoo* selects 'ACTION' or 'STATES' as a complement. (selection)

  b. It morphologically selects T. (MSC)

Also, let us look at (35).

(35) Taroo-ga soko-ni iku-<u>no</u>-*daroo* / itta-<u>no</u>-*daroo* [surmise]

  T.-NOM there-to go-no-E-modal / went-no-will

  'Taro will go/have gone there'

  ⇒ *-daroo* morphologically selects Fin. (MSC)

(35) is an example of an E-modal with *no* which is assumed to appear in FinP. (35) is fine and the E-modal also morphologically selects Fin as well as T as we saw in (34b).

  As for the U-modal, let us return to the imperative example in (31a).

Uker/yom are the stems of verbs. The imperative marker *o/e* morphologically selects the stem of verb as summarized in (36).

(36) U-modals: Imperative

    a.   *o/e* selects 'ACTIONS' or 'STATES' as a complement. (selection)

    b.   It morphologically selects the stem of a verb. (MSC)

On the other hand, in the case of prohibition in U-modals in (32a, b), prohibition *na* morphologically selects T differently from the case in which imperatives appear.

(37) U-modals: Prohibition

    a.   *na* selects 'ACTIONS' or 'STATES' as a complement. (selection)

    b.   It morphologically selects T. (MSC)

(38) shows examples of U-modals with *no* which appear in FinP.

(38) a. *siken-o   uker-<u>no</u>-*o*   /*hon-o   yom-<u>no</u>-*e*   [imperatives]

            examination-ACC take-no-U-modal/ book-ACC   read-no-U-modal

            '*Lit*. Take examinations'   '*Lit*. Read books'

    b. *soko-ni   iku-<u>no</u>-*na*   / itta-<u>no</u>-*na*   [prohibition]

            there-to   go-no-U-modal   / went-no-U-modal

            '*Lit*. do not go there'

(38a) and (38b) are illicit, and this means that U-modals do not morphologically select Fin. The selectional relation of modals is illustrated as in (39) as a summary.

(39)

	Selection	MSC
-daroo/-deshoo	'ACTIONS' or 'STATES'	T/Fin
imperatives: *-o/e*	'ACTIONS' or 'STATES'	stem of verbs
prohibition: *-na*	'ACTIONS' or 'STATES'	T

This list shows that all kinds of E-modals or U-modals select 'ACTIONS' or 'STATES'. What they morphologically select is, however, different from each other. *-daroo/-deshoo* morphologically selects T/Fin. Imperative U-modals morphologically select stems of verbs. And lastly, prohibition U-modals morphologically select T. As for modals, Selection and MSC necessarily apply to what they select as a complement. If this is on the right track, [zero-form] which Ueda assumed for modals is not necessary to explain their distribution and how modals are merged.

4. Sentence Final Particles

In Section 4, I will discuss Sentence Final Particles and show that SELECTION is the key operation

to explain the occurrence of SFPs as well.

Inoue (2006) regarded SFPs as one of the modals: which is U-modal. Ueda (2008), however, did not consider them to be modals, because multiple SFPs can occur in a sentence. I will take Ueda's position that SFPs are different from U-modals in this paper. First, SFPs appear in the matrix clauses basically. Endo's (2007) work provides more detail on SFPs. We will review his work in this section. But before that, I will introduce what kind of SFPs I deal with. Examples of their occurrences are shown in (40).

(40) Taroo-ga   kuru-wa   /-yo   /-ne

     T.-NOM   come-SFP /-SFP /-SFP

     'Taro is coming'

Each SFP has its own meaning and -*wa*, -*yo* and -*ne* have slightly different meanings. We will examine them in detail more later. Let us move on to 4–1 which describes the previous research of Endo (2007).

4–1. Previous Research: Endo (2007)

First, based on English, Cinque (1999) proposed mood hierarchies as illustrated in (41).

(41) [*frankly* $Mod_{speechact}$ [*fortunately* $Mod_{evaluative}$ [*allegedly* $Mod_{evidential}$

     [*probably* $Mod_{epistemic}$ [*once*   T (Past) ...   Cinque (1999)

Endo indicated the hierarchy of SFPs applying it to Cinque (1999)'s mood hierarchy. First of all, let us consider one of the SFPs, -*wa*. Endo suggested that it is in mood epistemic above TP. Why did he propose that -*wa* is compatible to mood-epistemic? Let us look at his proposal.

(42) a.   *Taroo-ga kuru-*wa*-deshoo   /   *kuru-deshoo-*wa*

         T.-NOM   come-SFP-E-modal /   come-E-modal-SFP

         '*Lit*. Taro is coming'

     b.   [*frankly* $Mod_{speechact}$ [*fortunately* $Mod_{evaluative}$ [*allegedly* $Mod_{evidential}$

         [*probably* $\underline{Mod_{epistemic}}$ [*once*   T (Past) ...

As shown in (42a), the SFP -*wa* and epistemic modal -*deshoo* are in complementary distribution. SFP -*wa* is a mood epistemic which I underlined as in (42b). A mood epistemic is one type what we called E-modal as in previous section.

Another example of an SFP which I consider is that -*yo*. According to Endo, it has the function of evaluation. As in (43a), in response to the question of what is your name, the answer should be *Yamada-desu* 'I am Yamada', not *Yamada-desu-yo* 'I'm telling you that I'm Yamada'. Since the self's name should not be evaluative, -*yo* cannot be used, when you want to tell your name.

(43) a.   Evaluative: A.   o-namae-wa?   B.   *Yamada-desu-<u>yo</u>.

                      honorific-name-Top   Y.-is-evaluative

                      'What's your name? '   'I am Yamada. [evaluative]'

     b.   [*frankly* $Mod_{speechact}$ [*fortunately* $\underline{Mod_{evaluative}}$ [*allegedly* $Mod_{evidential}$

         [*probably* $Mod_{epistemic}$ [*once*   T (Past) ...

c.   i) *kuru-no-<u>ka</u>-wa   ii) kuru-no-<u>ka</u>-yo

come-no-ka-SFP   come-no-ka-SFP

'He is coming'

For this reason, *-yo* itself has an evaluative meaning and should be in the Mod-evaluative as in (43b).
As can be seen in this hierarchy, the position of *-yo* is higher than that of *-wa* which is in Mod epistemic.

What is the difference between *-wa* as we saw in (42) and *-yo*?

Let us look at examples (43c i)) and (43c ii)). In contrast to *-wa* in (43c i)), *-yo* can co-occur with
question *-ka* which is related to the hearer. What is important here is that *-wa* represents the speaker's
epistemic mood and *-yo* is an interpersonal expression related to the hearer.

Lastly, *-ne* has the speech-act function of ensuring that speakers confirm the content or of getting
an agreement from the hearers. Let us look at example (44a).

(44) a.   Taroo-ga   kita-wa-*ne*

T.-NOM   come-SFP-SFP

'Taro came, didn't he? '

b.   [*frankly*   <u>Mod$_{speechact}$</u>   [*fortunately*   Mod$_{evaluative}$ [*allegedly*   Mod$_{evidential}$

[*probably*   Mod$_{epistemic}$ [*once*   T (Past) ...

In (44a), the speaker is confirming the fact "Taro came" to the hearer. The hearer is involved by using
-ne. This indicates that it can be classified as a speech act as in (44b).

From this observation, Endo suggested a hierarchy of SFPs as in (45).

(45) Speech-act (*-ne*) > Evaluative (*-yo*) > Epistemic (*-wa*) ... Predicate

-Ne is the highest of the three and is in speech-act, *-yo* is in evaluative, and *-wa* is in epistemic which
equals with E-modal. Endo also discusses other SFPs such as *-sa* and *-na*. However, I will not discuss
them in this paper.

Endo's observation of SFPs seems to be organized and he clarified the hierarchy of SFPs. However,
as I showed earlier, it seems that SFPs are also explained by the operation of SELECTION.

4–2. Selection of SFP

In 4–2, I will try to explain SFPs' distributions with SELECTION. We will see what can be selected
as complements for each SFP. First of all, I will fix the meanings of each SFP. One point that I have to
mention first is that I will name the category headed by SFPs "Speech-actP" for a convenience. Let us
look at (46).

(46) a.   *-wa* is the SFP for 'confidence'.[8), 9)]

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8) I will call the category headed by SFP "Speech-actP" in this paper.

9) According to Saji (1957), it is said that *-wa* is employed for expressing the reliable behavior. I will adopt his idea
and consider a Speech-ActP headed by *-wa* represents 'confidence'.

b.   *-yo* is the SFP for 'assertion'.

c.   *-ne* is the SFP for 'confirmation/agreement'.

-Wa is employed for expressing reliable behavior, according to Saji (1957). I will accept his idea and consider Speech-ActP headed by *-wa* as representing 'confidence' as in (46a). As in (46b), another SFP which is *-yo* represents 'assertion'. It is employed for saying a statement that you strongly believe to be true. Lastly, *-ne* is an SFP for confirmation/agreement as Endo also suggested, so it represents 'confirmation or agreement' as in (46c).

Let us examine the occurrences of each SFP. (47) shows the case where *-wa* appears.

(47) a.   Taroo-ga   kuru-*wa*   b.   *Taroo-ga   kuru-no-*wa*

        T.-NOM   come-SFP   T.-NOM   come-no-SFP

c.   *Taroo-ga   kuru-daroo-*wa*   d.   *Taroo-ga   kuru-ka-*wa*

        T.-NOM   come-E-modal-SFP   T.-NOM   come-Q-SFP

        'Taro is coming'

Only (47a) which is *Taro-ga kuru-wa* 'Taro is coming' is grammatical. SFP *-wa* with *no*, *daroo*, or *ka* becomes ungrammatical as (47b) to (47d) show. As (47a) shows, SFP-*wa* selects a proposition as a complement. It is also necessary to distinguish *-kuru-wa* in (47a) from *-kuru-no-wa* in (47b). That is, what (47a) shows is that *-wa* morphologically selects T, not Fin.

Examining selection in a little more detail, let us look at the *ka-wa* pattern in (47d). In (47d), it is ungrammatical and *-wa* cannot follow question *-ka*. SFP-*wa* does not select question. This is so because after a speaker asks a hearer whether Taro is coming or not, the speaker cannot be convinced of Taro's coming. The ungrammaticality in (47d) can be explained from the 'meaning or selection' point of view.

Again, as in (48), *-wa* can only select a proposition as a complement. It morphologically selects T as MSC.

(48) a.   *-wa* selects proposition as a complement.

b.   *-wa* morphologically selects T. (MSC)

Then, let us examine examples of co-occurrences of SFP in (49).

(49) a.   *Taroo-ga   kuru-*yo-wa*

b.   *Taroo-ga   kuru-*ne-wa*   ⇒ *-wa* does not select SFPs.

        T.NOM   come-SFP-SFP

As (49a) indicates, both *yo-wa* and *ne-wa* sequences are illicit. Examining the *yo-wa* sequence carefully first, Speech-actP headed by *-yo* represents 'assertion' as we saw in (46b). After asserting 'Taro is coming', a speaker cannot have confidence by using *-wa*. It should be opposite. That is why *yo-wa* sequence is not possible.

With respect to *ne-wa* sequence, Speech-ActP headed by *-ne* represents confirmation or agreement as in (46c). After a speaker confirms the content to a hearer or gets an agreement from the hearer, the

speaker cannot be convinced of the content. It should be the opposite. After a speaker is convinced of the confidence employing -*wa*, the speaker can confirm what s/he feels confident about to the hearer.

Let us examine the SFP -*yo* next.

(50) a. Taroo-ga kuru-*yo*
   T.-NOM come-SFP
   'Taro is coming'

b. Taroo-ga kuru-no-*yo*
   T.-NOM come-no-SFP
   'Taro will come'

c. Taroo-ga kuru- daroo-*yo*
   T.-NOM come-E-modal-SFP
   'Taro is coming'

d. Taroo-ga kuru-ka-*yo*
   T.-NOM come-Q-SFP
   'Taro must not come'

As can be seen from the examples in (50), -*yo* is grammatical with *no*, *daroo*, and *ka*. This is explainable from the selection point of view. The Speech-actP headed by -*yo* represents 'assertion' as we saw in (46b). What (50a), (50b), and (50c) show is that -*yo* selects a proposition. That is, by employing -*yo*, the speaker asserts that "Taro is coming". What (50d) shows, however, is that -*yo* selects a question. In this case, the Speech-actP headed by -*yo* is construed as a rhetorical question implying "That Taro is coming cannot be true: Taro must not come". This means that -*yo* selects a proposition and a question as a complement and it morphologically selects T, Fin, Modal, and Force as in (51).

(51) a. Selection ⇒ proposition and question

b. MSC ⇒ T, Fin, Modal and Force

As for the co-occurrences of SFPs, -*yo* can co-occur with SFP-*wa* as in (52a), but not with -*ne* as in (52b).

(52) a. Taroo-ga kuru-*wa-yo* ⇒ -*yo* selects 'assertion' as a complement.

b. *Taroo-ga kuru-*ne-yo* ⇒ -*yo* does not select 'confirmation' as a complement.
   T.NOM come-SFP-SFP

First, let us examine a grammatical example of the *wa-yo* sequence. A *wa-yo* sequence is fine, so -*yo* selects 'assertion' as a complement. This is so because you can assert what you feel confident about. On the other hand, a *ne-yo* sequence is illicit. This can be explained since the selectional relation does not hold. This means that -*yo* does not select 'confirmation' or 'agreement' as a complement. Because a speaker can't confirm the content to the hearer, before the speaker asserts something. It has to be opposite. That is, after you assert that 'Taro is coming', you can confirm to the hearer whether it is true or not. What -*yo* selects as a complement is a proposition, a question and confident. Also, it morphologically selects T, Fin, Modal, Force and Speech-act.

(53) a. -*yo* selects proposition, question and confidence as a complement.

b. -*yo* morphologically selects T, Fin, Modal, Force and Speech-act. (MSC)

Finally, let us examine -*ne*. -*Ne* is grammatical with *no*, *daroo*, and *ka*.

(54) a. Taroo-ga kuru-*ne*
   T.-NOM come-SFP
   'Taro is coming, isn't he? '

b. Taroo-ga kuru-no-*ne*
   T.-NOM come-no-SFP
   'Taro is coming, isn't he? '

c. Taroo-ga kuru- daroo-*ne*
   T.-NOM   come-E-modal-SFP
   'Taro will come, won't he? '

d. Taroo-ga kuru-ka-*ne*
   T.-NOM   come-Q-SFP
   'Is Taro REALLY coming? '

The Speech-actP headed by *-ne* represents 'confirmation' or 'agreement' as we saw in (46c). What (54a), (54b), and (54c) show is that *-ne* selects a proposition as a complement. That is, you can use *-ne*, when you confirm or get an agreement about the content, in this case, "Taro is coming". What (54d) means, however, is that *-ne* selects a question as a complement. In this case, Speech-actP headed by *-ne* is interpreted as a genuine question. After asking the question "Is Taro coming?" and wondering if he is really coming or not, the speaker can confirm "Is Taro REALLY coming?" by using *-ne*. SFP *-ne* selects a proposition and a question as complements and it morphologically selects T, Fin, Modal and Force as in (55).

(55) a. S-selection   ⇒ proposition and question
     b. MSC   ⇒ T, Fin, Modal and Force

-Ne can also co-occur with other SFPs such as *-wa* and *-yo*.

(56) a. Taroo-ga kuru-*wa-ne*
     b. Taroo-ga kuru-*yo-ne*
         T. NOM   come-SFP-SFP

SFP *-ne* selects "confidence" as in (56a) and "assertion" as in (56b) as complements. This is so because after you feel confident with *-wa* or assert the content with *-yo*, you can confirm it by employing *-ne*. That is, as examples in (57) show, *-ne* selects propositions, questions, confidence and assertions as complements and also morphologically selects T, Fin, Modal and Speech-act.

(57) a. *-ne* selects propositions, questions, confidence and assertions as complements.
     b. *-ne* morphologically selects T, Fin, Modal and Speech-act. (MSC)

Interestingly, there are cases where all three SFPs appear. When selectional relations hold between SFPs, *wa-yo-ne* can co-occur as in (58).

(58) a. Taroo-ga kuru-*wa-yo-ne*
         T. NOM   come-[confidence]-[assertion]-[confirmation]
         'Taro is coming, isn't he? '
     b. *-wa* selects 'proposition'.
         -yo selects 'confidence'.
         -ne selects 'confidence' or 'assertion'.

In this case, SFPs always appear in the *wa-yo-ne* order.

I will summarize what I propose about SFPs.

(59) Selectional relation on SFPs

	Selection	MSC
-wa	proposition	T
-yo	proposition, question, confidence	T, Fin, Modal, Force, Speech-act
-ne	proposition, question, confidence, assertion	T, Fin, Modal, Force, Speech-act

As the chart shows, what each SFP selects as a complement is different from each other. *-Wa* selects proposition, and morphologically selects T. *-Yo* selects proposition, question, and confidence and morphologically selects T, Fin, Modal, Force, Speech-act. Finally, *-ne* selects proposition, question, confidence, and assertion. It morphologically selects T, Fin, Modal, Force and Speech-act.

As we saw in 4–1, Endo's (2007) analysis of the hierarchy seems to be outstanding from the syntactic map point of view. In this section, however, I tried to capture the distributions of SFPs from different perspectives based on 'selection'.

5. Conclusion

In this paper, I have reexamined two kinds of modals in the first part. I have argued that it is unnecessary to assume [zero-form] for their occurrences if SELECTION is taken into consideration. Furthermore, MSC (Morphologically Selecting Condition) is required to account for the distributions of each modal. This MSC, however, is a property that each bound morpheme has and is unrelated to syntax. What I have presented shows that only S-selection is necessary in syntax. Also, I have examined three kinds of SFPs in this paper and have shown that the same mechanism of selection is responsible for the distribution of SFPs as well.

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