1. Introduction

In a previous study I proposed another category of modality which I called Cognitive Modality: Causal, Temporal and Hypothetical, in order to explain sufficiently the meaning of conditional expressions in Japanese and Thai. In this paper, I focus on the logical constructions of conditional sentences and the functions of conditional expressions used in these sentences in both languages; namely, thāa, hàak, mūaa and phɔɔ in Thai and ba, to, tara and nara in Japanese respectively. The term logical construction used in this paper means the mental attitude of the speaker at the moment of utterance (I use P to refer to the antecedent and Q to refer to the consequence of a conditional sentence).

Look at the following sentences:

(1) Jikan ga at tara, sentorea kuukoo e kengaku ni ikitai desu ne.
(2) Eki ni tsui tara denwa o shite kudasai.
(3) Kinoo Tookyoo e it tara Yamada san to atta.

If we translate (1) into Thai, it will be as (1)’

(1)’ thāa mii wee-laa yâak pay thǐaaw să-nâaam-bin sen-thìa-ɔaŋ nà.

Any native speaker of Thai will know that (1)’ is a hypothetical sentence.

When one translates sentence (2) into Thai, one would add ləaew (which expresses the meaning of completion) after thāa since sentence (2) holds the meaning of temporal supposition.

(2)’ thāa thün̄ sâ-thāa-nii ləaew chuáay thoo-rá-sâp maa nà.

In the case of sentence (2)’, the word thāa does not convey a hypothetical meaning anymore. Therefore thāa can be omitted leaving ləaew alone to express temporal relation of P and Q. In sentence (3), the word tara in Japanese is used. However, this sentence will be expressed in Thai by using the word tson, phɔɔ or mûaa as shown below:

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(3)’ a. ตื่น pay too-kiaaw chăn phó khun ย้า-maa-dà dooy บาน-ตนเอง.
b. มุ้าา pay too-kiaaw chăn phó khun ย้า-maa-dà dooy บาน-ตนเอง.

One should notice that in (3)’, both a and b express the time of the occurrences in Q. However, both ตื่น and มุ้าา do not hold the meaning of being surprised as in ทารา in Japanese. Thus, the adverb ดอย บาน-ตนเอง (unexpectedly) is required.

Let’s look at sentence (4) below:

(4) Mado o aketara/ to, yuki ga furte ita.
When I opened the window, I found that it had been snowing.

In the case of sentence (4), the action of opening the window in P and the discovery in Q occur in an instant. Thus, พอ is used instead of ตื่น and มุ้าา. Panthumetha (1984) explains the meaning of มุ้าา that it denotes the occurrences in P and Q taking place at the same time. However, this does not imply that the two occurrences happen in an instant. (Nakagawa p.114)

(4)’ พอผ่าน ถ้า-tàaaw kō phó wàa hì-má tok.
When I opened the window, I found that it had been snowing.

Look at sentence (5) and sentence (6) of Japanese and the translations in Thai below:

(5) Haru ga kureba /to, hana ga saku.
When spring comes, the cherry trees blossom.
(5)’ มุ้าา / พอผ่าน หน้า รุ่ง-duu bay-máyphít dōk-máy kō baan.

(6) Taro wa okane ga aru to, ryokoo o suru.
Whenever Taro has money, he goes traveling.
(6)’ พอผ่าน ท่า-รู้ มี เงิน kō pay thàaw.

Sentence (5) and sentence (6) denote a causal meaning, that is, whenever P takes place Q will occur.

2. Cognitive Modality
Most grammarians explain the modality of conditional expressions in Japanese on the basis of objectivity and subjectivity. However, as illustrated in the sentences above, it is obvious that if one judges from the standpoint of objectivity and subjectivity this would not adequately explain Japanese conditionals and this applies to Thai conditional expressions as well. In the previous study, I proposed that in order to explain the meaning of conditional expressions in Japanese and Thai, one should know the speaker’s knowledge of what is true or not true in the domains of realis and irrealis. As Palmer (1986) points out, in conditionals, there exist subcategories of the speaker’s mental attitude. Thus, in the previous study I proposed another scale of mental attitude of the speaker along the scale of subjectivity and objectivity and this is the scale of what I call Cognitive Modality. Thus, the term modality used in the present study means the speaker’s knowledge of P which can be divided into three categories: causal, temporal
and hypothetical. In the previous study, I proposed the scale of cognitive modality which is illustrated in Fig.1. It should be mentioned here that unlike Akatsuka (1983), in this study both the domains of realis and irrealis are in the subjective world and they are on a continuum. The definitions of the three categories of modality are as follows:

a) **causal modality**: At the moment of utterance, the speaker believes that P is a fact and whenever P occurs Q would occur repeatedly; that is, P is the cause of the occurrence in Q as illustrated in sentences (5) and (6) above.

b) **temporal modality**: At the moment of utterance, the speaker believes that P is true or P will be realized in the future time. This is illustrated in sentence (2) and sentence (3), see p.41.

c) **hypothetical modality**: At the moment of utterance, the speaker knows that it is possible that P would realize or the speaker knows that it is impossible that P would be realized. Sentence (1) belongs to this category.

![Fig.1: Japanese and Thai cognitive modality and the epistemic scale](image)

3. **Prototypes of conditional expressions**

It can be seen that many of the conditional expressions in both Japanese and Thai can be replaced by others. In other words, many conditional expressions have a usage in their own domain and at the same time they can be used in other domains. This notion of expansion has been introduced by Masuoka (1993) In the previous study, I adopted the notion of characteristic expansion in explaining the meaning and usage of these conditional expressions and I divided Cognitive Modality into 3 prototypes, namely “Causal Prototype”, “Temporal Prototype” and “Hypothetical Prototype” as shown in Fig.2
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Fig.2: Prototypes of conditional expressions in Japanese and Thai

<table>
<thead>
<tr>
<th>Characteristics</th>
<th>Japanese</th>
<th>Thai</th>
</tr>
</thead>
<tbody>
<tr>
<td>Causal Prototype</td>
<td><em>ba, to</em></td>
<td><em>mūaa, phɔɔ, thâa, hàak</em></td>
</tr>
<tr>
<td>Temporal Prototype</td>
<td><em>tara, to</em></td>
<td><em>mūaa, phɔɔ, thâa, hàak</em></td>
</tr>
<tr>
<td>Hypothetical Prototype</td>
<td><em>ba, to, tara, nara</em></td>
<td><em>thâa, hàak, mūaa</em></td>
</tr>
</tbody>
</table>

4. Logical Constructions of conditional sentences and the functions of conditional expressions

One can observe that each prototype shown in the table above has various expressions. Causal Prototype, for example, has *ba* and *to* in Japanese and *mūaa, phɔɔ, thâa, hàak* in Thai. One question would arise, what is the difference among them? To answer the question, it is significant to find out what the logical construction the conditional sentence has in using each of these expressions.

a) Causal modality

As explained before, causal meaning denotes that at the moment of utterance, the speaker believes that P is a fact and whenever P occurs Q would occur repeatedly; that is, P is the cause of the occurrence in Q. However, let’s look at the following sentences again:

(5) Haru ga kureba /to, hana ga saku.
    When spring comes, the cherry trees blossom.
(5’) *mūaa/phɔɔ* thunŋ ruŋ-duu bay-mâyphît dɔɔk-mây kɔɔ bãa.

(6) Taro wa okane ga aru /to, ryokoo o suru.
    Whenever Taro has money, he goes traveling.
(6’) *phɔɔ* thã-rû mii ŋɔan kɔɔ pay thãaw.

One can notice that sentence (5) in both languages indicate general events of which *ba* or *to* is used in Japanese and *mūaa* or *phɔɔ* is used in Thai. In sentence (6), only *to* in Japanese and *phɔɔ* in Thai is used respectively. One can see that in sentence (5), the occurrence in P and the occurrence in Q is related in terms of temporal and it is a general matter while the event in (6) is a specific matter. Look at sentence (7)

(7) pà-kà-ti thãaw lûk-khàa mii nɔɔy râan kɔɔ pît rew.
    Usually when there are few customers, the shop will close early.

We can see that *thãaw*, which expresses a hypothetical meaning, can be used in a causal relationship between P and Q especially for specific events. In this case, the word pà-kà-ti (usually) is optional. However, when *thãaw* is used, it implies the nuance of possibility.

The logical construction of both general and specific events of causal meaning: The speaker believes that when the occurrence in P is realized, the occurrence in Q will take place and this will occur repeatedly.