Chapter 5

Discussion

This chapter discusses the factors that help Thai and Japanese subjects select subspaces with respect to both intrinsically oriented object LM, the Volkswagen beetle, and non-oriented object LM, the miniature wooden tree. It also presents the spatial and temporal adpositions in Thai and Japanese having the meaning of FRONT and BACK. It then discusses whether the temporal adpositions sharing the same form with spatial adpositions in both Thai and Japanese languages will contribute to the prediction of the selection of the choice of spatial frame of reference as reflected in the use of spatial adpositions being investigated in this study.

5.1 Factors Determining the Choice Frames of Reference

5.1.1 Intrinsically Oriented LM

As confirmed by the data given in 4.1.1, all subjects, both Thai and Japanese behave in the same way in choosing the subspaces in relation to the intrinsically oriented LM or the beetle car. It is therefore certain that they use the intrinsic frame of reference to identify the location of FRONT and BACK in relation to the intrinsically oriented LM or the Volkswagen beetle. The Thai and Japanese subjects were thus not different in terms of their choice of spatial frame of reference when the object in space has intrinsic or internal orientation. Interpretation of the method of perception of the subjects is thus 100 % consistent in the case of the reference object with clear orientation, the beetle LM. The figures shown in 4.1.1 show that

all subjects in both languages tested with the concepts FRONT and BACK show consistency in their responses. Inconsistency did not arise in the case of the beetle car. Thai and Japanese people found no difficulty in identifying front and back spaces in relation to the beetle LM. This is the opposite to what was found by Grabowski and Weiss (1996), where German and Dutch speakers brought "ambiguity" (Grawbowski and Weiss' term meaning German and Dutch speakers gave "ambiguous responses", and being referred to as "inconsistency" used in this thesis) when the LM was the beetle in an informal situation like giving a friend a lift home. It can be concluded at this point that a reference object's or the LM's orientedness is very important factor in the process making the speakers of both Thai and Japanese decide on a particular reference frame used in a spatial arrangement situation. This means that Thai and Japanese subjects depend on the internal properties of the oriented beetle. In other words, the internal properties or the orientedness of the beetle LM is very significant in both Thai and Japanese cultures. To Thai subjects, naa means the area associated with the front part of the Volkswagen beetle or the part containing the headlights and laŋ means the area related to the beetle's part that contains the boot or the trunk. Similarly, for Japanese, maɛ is assigned to the space associated with the front region of the car and uʃiro with the back region of the car.

In relation to the beetle LM, all subjects of both cultures conceptualized Subspace 3 as relating to the concept of FRONT, this being represented by naa in Thai and maɛ in Japanese. This subspace was chosen to signify the concept of FRONT because the part of the Volkswagen beetle LM with headlights turning in the direction towards which the beetle will move. The front of the car is conceptualized as being the part containing the headlights. Thus the location of any item related to the front

part of the car will be described as FRONT. Using Svorou's explanation concerning the FRONT axis, we can say that this is an ANTERIOR spatial relation between a TR and an LM. The LM (in this case the Volkswagen beetle) is an asymmetrical object with an apparent FRONT-REGION and BACK-REGION. Viewers who view this spatial situation then use an inherent property, or the movement of the LM, to assign value to the regions of the LM, so the TR is located in the FRONT-REGION of the LM.

Similar to the selection of Subspace 3 as the FRONT concept, all speakers of both languages at issue chose Subspace 1 as the BACK, thus producing consistent responses. All subjects conceptualized the part of the beetle LM with the trunk as the back of the car. This internal property of the car helped the subjects decide the area in which to park their toy car they assumed they were driving to give a friend a ride home. In Svorou's explanation, the POSTERIOR spatial relation is a core meaning component employed by the subjects. The Volkswagen beetle LM is treated as an asymmetrical object with a FRONT-REGION and BACK-REGION. And when the value of the LM is assigned by its property, the TR is conceptualized as located at the BACK of the LM.

To sum up, both Thai and Japanese subjects depended on the LM's internal orientation when they wanted to locate the FRONT-BACK of an item with respect to such an intrinsically oriented LM. The orientedness of the LM is therefore very significant in Thai and Japanese cultures as regards spatial description. It was apparently clear from the experiment carried out in this study that Thai and Japanese subjects were very consistent in giving the responses showing their understanding of FRONT and BACK of the referent object being located in relation to the intrinsically oriented LM. Intrinsic frame of reference is thus the only frame of reference employed in this situation.

5.1.2 Non-oriented LM

In the case of the tree LM, the responses of the subjects were both consistent and inconsistent as previously presented in 4.1.2 in Chapter 4. When the LM became a non-oriented reference object or the tree in this study, which was not clearly partitioned into FRONT and BACK, the subjects' interpretation varied. As clearly proved by the data, both Thai and Japanese subjects used only the relative frame of reference when showing their interpretation of FRONT and BACK in relation to the non-oriented LM or the tree.

Despite being very similar in using the same frame of reference, Thai and Japanese subjects were very different in their interpretation when using the subspaces to represent the concept FRONT. The responses obtained from the experiment showed that the interpretation by Thai subjects and Japanese subjects was apparently different. A greater number of the Thai subjects viewed Subspace 3, the area that faces away from where they were seated, as a representative of the FRONT of the non-oriented LM or the tree. The Japanese subjects, in contrast, conceptualized that Subspace 1 is much more often than Subspace 3 to represent FRONT of the non-oriented LM or the tree.

From the information summarized in the above paragraph as well as what was presented in the previous chapter, both Thai and Japanese subjects used the relative frame of reference in relation to the non-oriented LM or the tree. However, they were different in depending on different reference points when FRONT was in the instruction, as shown in a different selection of the subspaces. Thai subjects use the relative frame of reference in predominantly choosing the Subspace 3 in stead of Subspace 1 for FRONT because most Thai subjects employed the car TR that they

assumed they were driving as the reference point. Therefore when they assumed they were driving from the point they were seated to the destination or the subspace in which they were asked to park the car, the concept FRONT contained in the instruction reminded them of the direction towards which the car moved. As the car TR was moving along the path to the direction the tree LM was placed, the FRONT in relation to the non-oriented LM or the tree was realized by Subspace 3, which was the space the front part of the beetle LM was heading for. In Thai culture, the tree LM does not possess any inherent properties. So when Thai subjects associate FRONT with the car TR, they consider FRONT to be a spatial arrangement which will be moved in the direction along which the car TR was being moved. In reference to the tree LM, FRONT is thus automatically assigned to the area which the subjects will reach later, Subspace 3.

Heine (1997) calls the relative frame of reference the deictic frame of reference, which can be divided into two main models: the face-to-face model and the single-file model. Thai subjects apply the single-file model. According to Heine, speakers assume that the non-oriented LM such as the trees or the mountains has faces their faces turning away from the point the viewers are located. So they assign the BACK the side that faces them while the FRONT the turning-away side. Heine, however, seems to discuss only the location of the non-moving TR in relation to such LM. In the experiments carried out with Thai subjects, the researcher observed that there was a more prevalent selection of Subspace 3 than Subspace 1, and that the TR involved in the experiment is a non-static TR (the car). It would rather be logical to say that the Thai subjects related their attention to the car TR, assuming that FRONT is the direction the car is moving in, than to conclude that they conceptualized the tree LM as having a face turning away from where they were seated.

As for Japanese subjects, though they also used a relative frame of reference, they used it differently from Thai subjects in that Subspace 1 was more frequently used to refer to FRONT than Subspace 3. In other words, the selection of Subspace 1 for FRONT predominated over the selection of Subspace 3 for FRONT for the Japanese subjects. They did not relate the FRONT concept to the car TR as did the Thai subjects. LM or the reference objects influenced the Japanese subjects' judgement in choosing FRONT and BACK. When the tree LM was supposed to be facing the Japanese subjects or the Japanese subjects assumed that the tree LM had a face that was turning to where they are seated, they conceptualized the subspace that they would reach first in space, Subspace 1, as a representative of FRONT.

The selection of Subspace 1 as FRONT in relation to the non-oriented object is very common in many cultures. It is known that speakers in such cultures impose their faces on non-oriented reference objects they are facing before they locate FRONT-BACK regions in relation to them. Heine (1997) uses the face-to-face model in which he argues that the LM is assumed to have a face by a viewer. It is not surprising when a viewer or a speaker assigns the side of the LM that faces him or her as the FRONT of it. Thus, from the experiment, Japanese in general did not take any account of the motion of the car TR like Thai subjects in assigning this concept of FRONT.

Even though half of the subjects tested in each group give inconsistent responses in relation to their choices of subspace, it is still clear whether there exists a predominance of one subspace over the other. As discussed earlier in 4.1.2 concerning inconsistent subjects, it was found that more inconsistent Thai inconsistent subjects chose Subspace 3 than Subspace 1. This was also true in the case of the Japanese inconsistent subjects who preferred Subspace 1 to Subspace 3. Thus, this showed that

there was a difference between Thai and Japanese subjects concerning the selection of subspaces to represent FRONT.

Gender, as mentioned in Chapter 4, is not a significant factor that generates any different results. Male and female speakers of both languages are not different in terms of their selection of the spatial frame of reference. Most male and female Thai speakers associated themselves with the car TR and regard the subspace that faces away from them and towards which the TR moved to as more significant than the subspace on the side of the LM that faces them. Japanese males and females are also not different in conceptualizing the area on the side of the tree LM that faces them as more significant than the side that faces away from them.

In summation, we can see the difference between Thai and Japanese subjects in the selection of different models in the same relative frame of reference. What is responsible for this difference is the fact that the subjects associate FRONT with different reference points in space, with the Thai subjects relating FRONT to a moving TR while the Japanese relating it with the LM in space. There is no difference between Thai males and females nor between Japanese males and females. Now, from the data we have, we can answer to the hypotheses.

This study hypothesized that all subjects of both Thai and Japanese used the intrinsic frame of reference with an intrinsically oriented LM. This hypothesis has proved to be true. However, the hypothesis that there was a difference in gender in the choice of spatial frames of reference is contrary from what had been found in this study. It hypothesized that Thai females used the face-to-face model of relative frame of reference while Thai males use the single-file model of relative frame of reference. But the study confirms that Thai male subjects and Thai female subjects were not different in that both of them used the single-file model of the relative of reference. The hypothesis that Japanese males used the face-to-face relative

frames of reference while Japanese females used the single-file model of the relative frame is also not consistent with the findings of this study that both used the face-to-face model of the relative frame of reference. The only difference found was that the Thai and the Japanese subjects are different in the models of the same relative frame of reference used.

5.2 Problem Case

Although this study seems to provide conclusive findings concerning the different selection of subspaces between Thai and Japanese speakers when FRONT was used in the instruction, certain results failed to support this, especially in the case of the Japanese subjects. It was found, specifically, that all Japanese subjects preferred Subspace 1 to Subspace 3 when mae was heard in the instruction. However, when considering only the Japanese subjects responding consistently, it turned out that the difference between their choice of Subspace 1 and Subspace 3 was not statistically significant, meaning these Japanese subjects did not view these two subspaces differently at all.

What was responsible for this deviant result was that the data collected used with all Japanese female subjects. When the researcher worked with this Japanese female group, the researcher tested them using only the postposition mae in both sub-experiments (in relation to both intrinsically oriented and non-oriented LM). Then, in the second experiment, the researcher tested them using only ufiro in both sub-experiments. The pattern of testing the Japanese female subjects was thus FRONT-then-BACK in the two experiments. This was very different from the other groups in which the researcher tested a combination of the prepositions in Thai and a combination of postpositions in Japanese in the

two experiments. That is, the researcher tested both naa and laŋ or maɛ and uʃiro in both the first and the second experiment with the other groups.

The researcher feels certain that the particular of pattern of data collection for the Japanese female group must have caused some problems in the data. This is confirmed by the result of the consistently responding Japanese female subjects, who did not show any clear-cut preference for the subspaces in relation to FRONT. Specifically, there was an equal number choosing either space (5:5) for the consistent Japanese female subjects. This might, of course, also stem from the pattern of such data collection.

5.3 FRONT-BACK Adpositions: Spatial and Temporal Senses

In this section the writer will discuss the adpositions in Thai and Japanese that have spatial and temporal meanings related to the concepts of FRONT and BACK. The adpositions in this section refer to the items that are preceded by a nominal item (Japanese) or followed by a nominal (Thai). The Thai and Japanese languages are similar in that they have FRONT-BACK adpositions having both temporal and spatial senses and that both are three adposition languages like German and Dutch. However, the Japanese language contains only adpositions sharing spatial and temporal senses with respect to FRONT, and not with respect to BACK. Thai language, in contrast, contains only the prepositions sharing spatial and temporal senses with respect to BACK, and not with respect to FRONT. The preposition in the Thai language that signifies the concept of BACK, laŋ, (equivalent to *behind* or *after* in English) shares the spatial and temporal senses. In Japanese, the postposition maɛ (equivalent to *in front of* or *before* in English) is used in both spatial and temporal senses. kɔn is the temporal

preposition in Thai equivalent to English *before* and ato is the temporal Japanese postposition equivalent to English *after*. The following table shows the adpositions of Thai and Japanese having both spatial and temporal senses.

THAI				JAPANESE			
Spatial		Temporal		Spatial		Temporal	
naa	laŋ	kɔn	laŋ	maɛ	uʃiro	maɛ	ato

Table 1 Prepositional inventory in Thai and in Japanese

From the table, it can be seen that the preposition laŋ in Thai is used both spatially and temporally. It applies in the following examples, (1) and (2).

(1) laŋ baan
back house
"behind the house"

(2) laŋ thiəŋ
after noon
" after midday (noon)"

However, naa and kɔn cannot be used interchangeably as they are separate items conveying spatial and temporal meanings, respectively. Consider the following statements in Thai. naa must be only used spatially while kɔn must only be used temporally as an item to be followed by a nominal group. The following statements in Thai show that naa and kɔn are separate items representing the spatial and temporal markers, respectively.

(3) naa baan
front house
"in front of the house"

(4) kɔn thiəŋ
before noon
" before midday (noon)"

(5) ˑnaa thiəŋ
front noon
"before noon"

(6) ˑkɔn baan
before house
" in front of the house"

(3) and (4) are acceptable in Thai because naa is used in a spatial sense whereas kɔn is used in a temporal sense (5) and (6) are hardly acceptable when naa and kɔn are used interchangeably. It is, however, good to bear in mind that naa is also used temporally in the following statement (7), but it is not treated as a preposition since it follows the nominal rather than preceding it like a normal Thai preposition.

(7) athit naa
week front
"next week"

As for Japanese, maɛ is a postposition used both spatially and temporally. Consider (8) and (9) below. maɛ in (8) is used spatially and maɛ in (9) is used temporally.

(8) ie no maɛ
house GENETIVE front
"in front of the house"

(9) go-ji maɛ
5 o'clock before
" before 5 o'clock"

Sometimes maɛ in (9) is accompanied by a genitive particle "no" as in (10) below, but it is not commonly used among native Japanese speakers.

(10) go-ji no maɛ
5 o'clock GENETIVE before
" before 5 o'clock"

The postposition uʃiro is used only spatially as ato is used temporally. The two items cannot be used interchangeably. Consider (11) and (12) in which the two postpositions are acceptable and in (13) and (14) where they are not acceptable.

(11) ie no uʃiro
house GENETIVE back
"behind the house"

(12) go-ji (no) ato
5 o'clock GENETIVE after
" after 5 o'clock"

(13) go-ji no uʃiro
5 o'clock GENETIVE back
" after 5 o'clock"

(14) ie no ato
house GENETIVE after
"behind the house"

Although (12) is acceptable by most Japanese, it is not commonly used. In stead of the statement in (12), Japanese speakers will say "go-ji ikoo" (after 5 o'clock). Interestingly, ikoo is pronounced differently according to whether it means spatial backness like uʃiro or temporal backness like ato.

Can adpositions in Thai and Japanese tell us about the choice of frames of reference chosen by the speakers of both languages?From what has been previously discussed, both Thai males and Thai females chose Subspace 3 more frequently than Subspace 1 while both Japanese chose Subspace 1 more frequently than Subspace 3. While the use of Subspace 3 was much more frequent in Thai than in Japanese, the use of Subspace 1 was much more frequently used in Japanese than in Thai. Though the study cannot answer this question directly, the researcher observed that the

choice of adpositions in both Thai and in Japanese show a clear correlation with the subjects' selection of subspaces.

This observable difference might be due to the fact that the preposition laŋ in Thai has a more extended sense than the preposition naa in that it also covers a temporal reading. This is probably why Thai subjects of both sexes chose Subspace 3, which is the area that faced away from them or the area they would reach later if they were assumed to be driving the toy car more frequently. Since the use of laŋ in a temporal sense is always conceptualized lateness, it might also extend to the temporal concept when it is understood spatially in a spatial situation.

This is also true for Japanese, in which only the postposition maɛ has both spatial and temporal senses. More Japanese of both sexes preferred Subspace 1, which is the area facing toward them or the area they would reach first, to Subspace 3. This means FRONT in Japanese is more pervasive both linguistically and non-linguistically. maɛ is used more often in linguistic expressions because it has both spatial and temporal senses. That the Japanese tend to choose Subspace 1 to represent FRONT of the non-oriented object proves how significant this concept is for them, which stems from the extended meaning of the postposition maɛ. Since the use of the word temporal maɛ is understood to come first in time, it might also make Subspace 1 the area conceptualized by Japanese speakers as the area reached first in spatial arrangement. This is only a speculation and it, however, needs studying with a greater number of subjects.

5.4 Summary and Suggestions for Further Research

The study of the choice of frames of reference in relation to FRONT and BACK in both the Thai and Japanese languages is aimed at

finding the frames of the reference used by Thai and Japanese subjects in spatial situations. This study involved 61 subjects of Thai and Japanese speaking subjects. This study attempted to analyze the choices of spatial frames of reference used for intrinsically oriented LM and the choices of spatial frames of reference used for non-oriented LM of male and female speakers of both Thai and Japanese. It also compared the choices of spatial frames of reference with a range of preposition markers having the meanings of either FRONT and BACK in Thai and Japanese languages to see whether the systems of spatial markers used in both languages had an effect on the choices of frames of reference used by the speakers in both languages.

It was hypothesized that the intrinsic spatial frame of reference would be adopted by both Thai and Japanese male and female speakers in situations with an intrinsically oriented object as an LM., but that with a non-oriented object as an LM, Thai-speaking females would use a face-to-face spatial frame of reference while Thai males use the face-away model of relative spatial frame., and vice versa in the case of Japanese-speaking subjects. Moreover, it was expected that the choice of frames of reference would be related to spatial and temporal position markers in both designated languages. Only the spatial markers in Thai: naa (in front of) and lan (behind) , and only the Japanese: maɛ (in front of) and uʃiro (behind) were investigated with native speakers of Thai and Japanese subjects involving only two frames of reference: the intrinsic frame and the relative frame. Through a perception task experiment which was conducted twice with each subject, the following findings were arrived:

1. Male and female speakers of Thai and Japanese use the intrinsic frame of reference when the LM was an intrinsically oriented reference object. The subjects of both cultures chose subspaces to indicate the

concepts of FRONT and BACK. The subjects used the inherent properties of the beetle car, an asymmetrical object with clear orientation. No inconsistency in the study arose from using the Volkswagen beetle as the LM or the reference object to which the location of other objects in space was referred. It can be said that the orientedness of the object was a factor that governed the decision in the choice of the intrinsic spatial frame of reference by the speakers of both languages.

2. The relative frame of reference was used when the LM was a non-oriented object. Thai subjects used the single-file model of relative frame of reference by conceptualizing Subspace 1 as BACK and Subspace 3 as FRONT. On the other hand, the face-to-face relative frame of reference, which assigned Subspace 1 as front and Subspace 3 as BACK, was used in the case for Japanese subjects. Thus, there was a very sharp contrast between the Thai and Japanese subjects.

3. There were both consistent and inconsistent responses from the subjects of both languages when the LM was a non-oriented LM. But the degree of consistency and inconsistency in the results confirmed that the Thai subjects preferred Subspace 3 to Subspace 1 and that the Japanese subjects preferred Subspace 1 to Subspace 3.

4. Gender was not a factor determining the choice of frame of reference because both males and females of both languages were the same in choosing the subspaces.

5. The use of the adpositions of both languages indicating FRONT and BACK was associated differently for the subjects of Thai and Japanese. laŋ which has a greater extension of meaning than the word naa, was understood only in a spatial sense and was associated with the fact that Thai used the single-file model of the relative frame of reference. The

Japanese subjects preferred the face-to-face relative frame of reference, conceptualizing Subspace 1 as FRONT. This particular selection was directly correlated with the postpositions in the language, in which mae can be understood spatially and temporally. It seems that the prepositions in Thai and the postpositions in Japanese that have both temporal and spatial senses encourage the speakers of both cultures show a preference in using the frames of reference. This, however, was an observation from a small number of subjects, and further research needs to be done.

This study using the prepositions and the postpositions suggesting the concepts of FRONT and BACK in Thai and in Japanese involved a very limited number of subjects. 15 people in each group is considered very limited in a comparative study researching spatial usages in languages. A larger number of subjects involved might result in a more valid and reliable conclusion concerning frames of reference. Moreover, the Japanese subjects the researcher tested in this study were all people who had lived in Thailand for at least a year and had experienced learning the Thai language to some extent. A short interview before or after each experiment cannot be used as a reliable basis for a conclusion whether the subjects had given true information about their linguistic and/or educational background. It might be more challenging if the experiment had been conducted with Japanese people who had never been exposed linguistically or culturally to Thai culture.

Another possible research area that might be based on this study is a thorough investigation of the differences concerning the frames of reference used between educated and non-educated groups of people. Education might be one of the factors that distinguish people's spatial interpretations. What was done in this study was a cross-linguistic study since it was very difficult to find a sufficient number of uneducated

Japanese in Thailand. Most Japanese people the researcher found in Thailand were educated working people or students. A cross study based on educational background would have yielded very interesting results if a sufficient number of uneducated Japanese had been available to be tested in the experiment.

There are other prepositions in Thai and postpositions in Japanese which are used in a spatial sense and which can be used in place of the prepositions and the postpositions the researcher used in this study. Further studies could fruitfully investigate other locative expressions, too. Temporal markers could also be studied to see if they were closely related to the locative markers in the prepositional inventory when it comes to a non-linguistic task.

This study, thus, serves as a piece of preliminary research on the spatial frames of reference used in both Thai and Japanese. Hopefully, it contributes to the study of the cognitive semantics and to other related fields such as anthropology and psychology. Further research is needed, however, as a comparative experimental study is one of the most effective tools of studying languages.