

GRAMMATICAL CATEGORIES OF VERBS IN GERMAN AND THAI: A CORPUS-BASED CONTRASTIVE STUDY

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Abstract

This paper presents the results of a contrastive study of grammatical categories expressing temporality and modality through verb forms in German and Thai. In order to discover systematic uses of pre- and postverbal temporal and modal markers in Thai in relation to the German tense and modality system, I analyzed the first German-Thai bidirectional corpus consisting of contemporary German and Thai short stories and their translations into the other language. Although German and Thai express temporality differently, certain conceptual relationships between German tenses and Thai aspects can be identified. In terms of modality, Thai has grammaticalized two different sets of modal verbs providing either deontic or epistemic meanings but has not developed any markers equivalent to the German subjunctive mood.

Introduction

Contrastive studies involving the comparison of German and at least one other language have a long tradition, especially with other Indo-European languages such as English, French, or Swedish. On the other hand,

there are only a limited number of contrastive analyses for the language pair of German and Thai.

Based on a survey and synthesis of contrastive German-Thai linguistic studies conducted between 1978 and 2008 in terms of quantity, characteristics, and research topics as well as methodology (Attaviriyapap 2009), three kinds of study have primarily been conducted: (1) contrastive studies of selected aspects of the systems of these two languages, (2) translation studies, and (3) studies of the acquisition of German by Thai learners. It is notable that the comparison of translated texts has been an important method in contrastive studies of German and Thai. However, so far only unidirectional parallel corpora in the form of German original literary texts and their translations into Thai have been used. There has been only one case where the corpus contained an original Thai novel and its translation into German (for more detail, see Attaviriyapap 2010). The linguistic phenomena studied have covered a wide range from phonology to syntax.

The corpus-based Thai-German contrastive analyses in which translation equivalence has been used as “tertium comparationis” cover topics such as modal particles (Namsoongnein 1987; Saengaramruang 2002), the pronoun *es*, comparable to English *it* (Benjawattananan 2006), the passive voice (Saengaramruang 2008), and the verbs *paj* ‘go’ and *maa* ‘come’ (Maneenavachai 2008). Other than the use of parallel translation corpora, other studies made use only of examples from various grammar references and comparable corpora (e.g., advertisements in both languages).

Based on the findings cited above, the contrastive study presented in this paper

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explores grammatical categories of verbs which have never been analyzed before in German-Thai contrastive studies. This study was conducted as part of the research project "German Grammar from the Perspective of Thai."²

German has a grammaticalized tense and modality system expressed through various conjugated verb forms. In contrast, Thai is a tenseless language and has no grammatical mood. Even though it is possible for Thai to express temporality and modality through the so-called TAM-markers³ placed either before or after the main verbs, they are, however, not obligatory and can be removed in most settings. This means that when comparing the two languages in terms of grammatical category marking on verbs, one is dealing with two totally unequal constructions. To compare verbal categories such as tense and mood in German with their equivalents in an isolating or analytic language like Thai, which has no such grammatical categories, a German-Thai bidirectional parallel corpus was developed for the first time.

Corpus and Methods of Analysis

In a paper discussing different ways in which computer corpora can be used in contrastive linguistics, Johansson (2003: 39) cited the English-Norwegian Parallel Corpus as an example of a bidirectional parallel corpus. This type of corpus consists

² This was a two-year project financed by the Thailand Research Fund (TRF) and the Commission of Higher Education (CHE) and conducted between 2008 and 2010.

³ TAM is an acronym of the semantic-grammatical categories temporality, aspectuality, and modality. Since Thai grammatical markers are usually multifunctional, they can generally be called TAM-markers.

of original texts in each of the languages and their translations into the other language and combines three different types of corpora: "parallel corpora" of original texts and their translations; "comparable corpora" of original texts which are matched by criteria such as genre or time of composition, and "monolingual corpora" of original and translated texts. In this way, it is possible to do contrastive analyses of two different languages, while at the same time identifying translation effects. Therefore, these kinds of corpora can be used both in contrastive and in translation studies.

Copying this model, the first German-Thai bidirectional corpus looks like this:

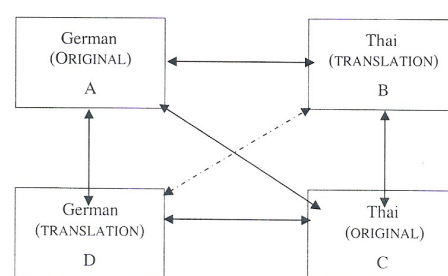


Figure 1: German-Thai Bidirectional Parallel Corpus

A bidirectional structure enables us to examine source texts and translations concurrently by means of parallel concordances and makes it possible to compare linguistic phenomena in several directions, as depicted in figure 1. The contrastive analysis of the two different languages ($A \leftrightarrow C$) are based on the concordance of equivalents in original and translated texts of each language (the relationships shown by the arrow $A \leftrightarrow B$ and $C \leftrightarrow D$). Bidirectionality is important because it can help us to avoid some disadvantages of unidirectional corpora,

such as the phenomenon of translationese. Moreover, the translation of x to y does not necessarily mean that the translation of y has to be x . The analysis of translations in both directions should lead to more generalizable results or hypotheses.

The corpus model cited above also allows us to discover the effects of an original language on translated texts in the other language by comparing translated with non-translated texts. All of these comparison possibilities create a more solid basis for a contrastive linguistic analysis.

In fact, the translated texts of the two languages can also be used as data for the comparison of both languages. However, the relationship between translated texts in both languages ($B \leftrightarrow D$) has to be considered as the most biased data since they are in neither case, original texts and might be, therefore, influenced by the source languages. Therefore, in my contrastive study, this aspect was not analyzed.

It is true that each type of corpus, regardless of whether it is monolingual, parallel, translated, or comparable, is best suited for certain particular purposes.

However, a bidirectional parallel corpus has never been used before in German-Thai contrastive studies and should give researchers working in this field new opportunities to analyze a wider range of data.

Due to the limited number of texts translated directly from Thai into German, data for this first German-Thai bidirectional parallel corpus had to be selected from available materials. Most published translations, both from German into Thai and Thai into German, are of literary works. However, there is a rather a one-sided bias, for only a few of these works are German texts translated from Thai.

In compiling this corpus for the language pair of German and Thai, the focus was therefore put on only one genre: contemporary short stories. The corpus consists of four selected contemporary German short stories with their Thai translations (four authors and four translators) and four Thai short stories with their German translations (four authors and two translators). The details of the corpus texts are presented in table 1:

Table 1: Details of corpus data

Title	Authors / Translator(s)	Publication Year	
		Original	Translation
Neues vom Norbert	Helmut Krauser / Pussadi Sikiau	1990	2008
Am See	Felicitas Hoppe / Ampha Otrakul	1996	2008
Erleuch-tung durch Fußball	Ralf Rothmann / Narumon Ngaosuwan	2001	2008
Abschied von Berlin	Arno Geiger / Anchalee Topeongpong	2007	2008
Thulee Pradap Din	Prichaphon Bunchuai / Kirsten Ritscher & Heike Werner	1980	2006
Moh Thi Khut Mai Ok	Anchan / Kirsten Ritscher & Heike Werner	1990	2006
Khrob Khrua Klang Thanon	Sila Khomchai / Kirsten Ritscher & Heike Werner	1993	2006
Krathang Chaniang Rim Natang	Win Liaowarin / Kirsten Ritscher & Heike Werner	1996	2006

The following parts of this article will point out some selected results of the contrastive study of grammatical categories of verbs, based on the first German-Thai bidirectional parallel corpus.

Expression of Temporality in German and Thai

German has tense as an obligatory verbal category which has to be marked in all finite constructions, either through one finite verb or together with (an) other non-finite verb(s) to create analytical tense forms. On the other hand, Thai is an

isolating language and has neither the concept of finiteness as discussed by Bisang (2001: 1400) nor the obligation to mark tense grammatically. In other words, Thai is a non-finite and tenseless language. However, the language can express temporality through grammatical morphemes attached to main verbs. These morphemes act like auxiliaries, since they are placed either before or after the main verb in a verb phrase. However, they are usually defined as “aspect markers.”

There is a big difference between the two languages compared here regarding

expressions of temporality through verb forms. The following two sentences from the corpus show the use of different tenses in German, while in Thai, this distinction

is not made, but an aspect marker can be added:

- (1) phǒm jaŋ rú:sùk plò:tplò:ŋ [SK_O-113]
 I IPFV feel-PAST healthy and energetic
 Ich fühlte mich immer noch
 I feel-PAST Refl.Pron. still gesund und munter. [SK_Ü-113]
 healthy and energetic
 'I still felt healthy and energetic.'
- (2) on rú:sùk di:khǐn mâ:k lé:w tɔ: ní: [WL_O-752]
 On feel better much PFV now
 Ich fühle mich schon viel besser [WL_Ü-752]
 I feel-PRES better already much better
 'I already feel much better.'

Since the use of aspect markers is not obligatory in Thai, whereas all finite verbs in German have to be expressed in tensed forms, all finite verb forms in the German texts were first listed for the purpose of the study of temporality. The analysis focused on the German finite verbs at first, and then it was possible to discover their equivalents in Thai texts.

In order to focus on the temporal aspects, verbs with modal markings in the German texts are not considered.⁴ Thus, the following verb forms are not analyzed:

- non-finite verb forms which do not belong to any analytical tense forms (perfect, pluperfect, future tenses);

- modifying verbs,⁵ and modal verbs,⁶ as well as subjunctive and imperative forms.

The part of the study which concentrated on the analysis of the expression of temporality aimed to classify Thai aspect markers and explore their conceptual relationship to German tenses. Due to the very small size of the corpus used here, I lay no claims to representativeness and I did not design the corpus-based analysis to produce any quantitative conclusions. Nevertheless, the contrastive analysis of temporality with relevance to the German tense system has led to fruitful results.

⁴ Most of the verbs with modal markings are retained for the analysis on expression of modality (see the next section).

⁵ These verbs (such as *scheinen...zu* = English 'seem'), are called "modifizierende Verben". They have a modal-like meaning. Their equivalents in Thai are classified as initial particles (Rangkupan 2005: 43).

⁶ All modal auxiliaries in German do have tensed forms. However, in order to exclude the influence of modality on the use of tenses, they are excluded for the analysis in this phase.

Some of these can serve hypotheses for further studies.

In traditional German grammars, there are six tenses⁷ in German, comparable to the English present, past, perfect, past perfect, future, and future perfect,⁸ as shown in the following table:

Table 2: German tense forms

<i>Präsens</i> 'present'	<i>ich schlafe</i> (I sleep-PRES – 'I sleep.')
<i>Präteritum</i> 'preterite'	<i>ich schlief</i> (I sleep-PAST – 'I slept')
<i>Perfekt</i> 'perfect'	<i>ich habe geschlafen</i> (I have-PRES sleep-PP – 'I have slept.')
<i>Plusquam-perfekt</i> 'pluperfect'	<i>ich hatte geschlafen</i> ('I have-PAST sleep-PP' – 'I had slept.')
<i>Futur I</i> 'future'	<i>ich werde schlafen</i> (I become-PRES sleep-Inf – 'I will sleep.')
<i>Futur II</i> 'future perfect'	<i>ich werde geschlafen haben</i> (I become-PRES sleep-PP have-Inf – 'I will have slept.')

⁷ The number of tenses in German is still a controversial subject. According to different approaches, it can vary between one and ten (Vater 2007: 45). However, the system of six tenses is still considered the least problematic and is the most widely applied. Therefore, the other forms are not mentioned here.

⁸ It should be noted here that, even though the German tenses do share some morphological and semantic features with their English counterparts, none of them is totally identical, especially the perfect, since the German *Perfekt* can be used in contexts where the past simple and the future perfect are required in English.

Five German tenses are found in the corpus: *Präsens* 'present,' *Präteritum* 'preterite,' *Perfekt* 'perfect,' *Plusquamperfekt* 'pluperfect' and *Futur I* 'future.' The proportion of Thai pre- and postverbal aspect markers which function as equivalents of German tenses is rather small, namely 9.58% (414 tokens out of 4,323 analyzed verb forms). The number of all these aspect markers confirms that there is no one-to-one relationship between any specific Thai aspect marker and any specific German tense. In the corpus, there are totally five German tenses but twenty-four Thai aspect markers appear as their equivalents.

Thai pre- and postverbal aspect markers found in the corpus can be divided into four groups denoting (1) perfect, (2) perfective, (3) imperfective, and (4) prospective aspects.

The first group (e.g., *dâ:j* and *khɯ:j*) expresses the concept of anteriority. They may or may not be related to the present moment. The second group (e.g., *lé:w* and *pa:j*) expresses the concept of perfectivity.⁹ The aspect markers of this group differ from the first group because of their current relevance. The third group (e.g., *kamləŋ*, *jaŋ*, and *jù:*) expresses the imperfective aspect, including progressive, continuative, and habitual. The last group (e.g., *cà?* and *kamləŋ cà?*) expresses the concept of posteriority which means that an event has not begun but will take place after the reference time point.

The four groups of Thai aspect markers in the corpus interact with the five German tenses. Based on the co-occurrence of each

⁹ Perfectivity does not necessarily imply completeness. This aspect expresses rather that at least some parts of the event have already begun.

German tense and each group of Thai time conceptualization as follows:
aspect markers, one can show their related

Table 3: Association between German tenses and each group of Thai aspect markers

German Tense	Thai aspect markers group 1 <i>perfect</i>	Thai aspect markers group 2 <i>perfective</i>	Thai aspect markers group 3 <i>imperfective</i>	Thai aspect markers group 4 <i>prospective</i>
pluperfect	X	X	-	-
perfect	X	X	X	(x) ¹⁰
preterite	X	X	X	X
present	-	X	X	X
future I	-	-	-	X

¹⁰ The perfect tense in German can be used for future time reference comparable to the English future perfect tense (Helbig and Buscha 2001: 135). This usage was not found in the corpus. It would, however, be possible for this tense to co-occur with Thai prospective markers, so the sign marking their shared conceptualization was put in parentheses.

The equivalence between German tenses and these four groups of Thai aspect markers can be described as follows:

- group 1 of Thai aspect markers is only compatible with German tenses used for past time references (preterite, perfect, pluperfect);
- the pluperfect is compatible with neither group 3 (imperfective) nor group 4 (prospective); and
- the German future tense is always equivalent to group 4 (prospective).

Analysis of this bidirectional parallel corpus produces another interesting finding. The distribution of German tenses found in the original and translated data in the corpus shows significant differences,

especially regarding the proportion of the present- and past-tense forms. Although the preterite was the most used tense in both original and translated German texts, the percentage of occurrence of the preterite was much lower in the German translated corpus compared to the non-translated one (45.89% and 72.67%, respectively). Even though the use of the so-called *historisches Präsens* ‘historical present’ is also possible in literary texts, the increased use of the present in the translated German corpus with the corresponding reduction in the use of preterite forms, can be regarded as remarkable and needs further investigation.

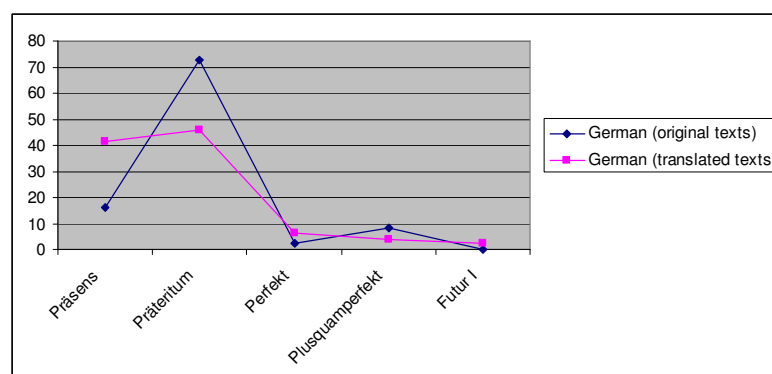


Figure 2: The percentage of tenses used in original and translated German texts

The above figure shows an apparently different proportion of occurrences of the preterite tense in translated German texts compared to native original texts. According to a Chi-square test, the different distribution of German tenses here is also statistically significant ($\chi^2 = 40.3$, $df = 4$, $p < 0.001$). Although the statistical data here might not be scientifically plausible enough to make any claim due to the small

size of the data used, one can probably hypothesize that the original language (in this case Thai) can influence the use of tenses in the target language (in this case German), even when the language itself has no grammatical tense of its own.

Whereas the German tense system shows a distinction between past and non-past, Thai, where tense is not an obligatory

grammatical category, seems to show a tendency of future vs. non-future marking and relative temporal conceptualization.¹¹ The German tense system is rich in past tense forms, whereas it lacks forms which mark posterior or prospective events. In contrast, the Thai prospective marker *cà* which can be related to future temporal reference, seems to be the most grammaticalized marker in Thai. This marker has already lost its lexical meaning and functions only as a grammatical morpheme. Its multifunctionality allows both temporal and non-temporal/modal interpretation as in the following example:

(3)
on cà ma: ỳ:kkhráj tɔ:nkhâm
On PROS come again evening
[WL_O-677]

Ich komme heute Abend
I come-PRES today evening
noch mal. [WL_Ü-677] again
'I will come again this evening.'

With the use of the multifunctional *cà*?, both interpretations, temporal (future) and modal (intention of speaker) are possible. The above translation of a German sentence written in the present tense also shows the difference between marking future time reference in all the three languages (Thai, English and German). In German, the future tense is not necessary in this case.

The last aspect is concerned with the marking of aspectuality in German from

the perspective of Thai. While aspect is a facultative grammatical category in Thai, German has lost its aspect system and generally does not mark finite verbs with any aspectual distinction. From the perspective of the Thai language, it is thus interesting to find out which German tenses share the character of aspect marking. Even though the use of aspect markers seems to be systematic, aspect marking has never been obligatory to the same degree as tense marking for all finite verbs in German. After comparing the percentage of occurrence of each German tense with their Thai counterparts in the corpus, the verbs marked aspectually in Thai texts as equivalents to German tensed verbs were found to have the highest percentage when the German pluperfect (*Plusquamperfekt*) is used.

¹¹ In contrast to absolute tenses which take the present moment as their deictic center, the reference point for location of a situation in a relative tense is some point in time given by the context, not necessarily the present moment (Comrie 1985: 36, 56).

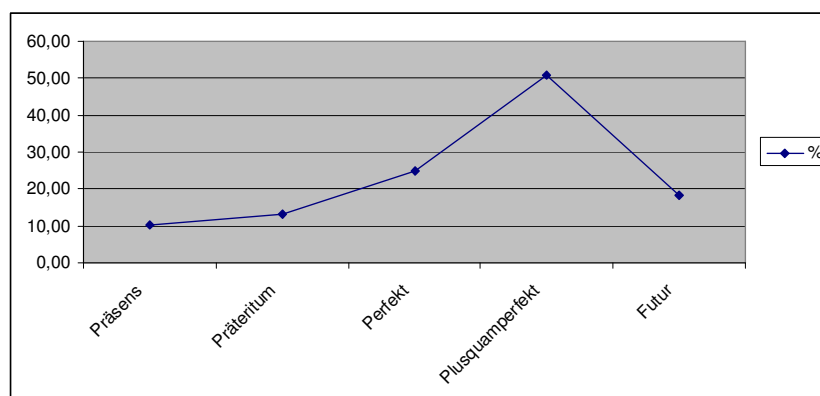


Figure 3: Percentage of aspectually marked verbs in Thai texts

This leads to the conclusion that the German pluperfect tense shows the closest conceptual relation to the aspect system in Thai. If German native speakers would mark the concept of aspectuality, then it would not be the imperfectivity but rather the perfectivity. This character can be found in both perfect tenses in German, perfect and pluperfect (Attaviriyanupap, in press).

Expression of Verbal Modality in German and Thai

This part of the study focuses on the use of modal verbs and subjunctive verb forms in German with their equivalents in Thai by analyzing the verb forms excluded from the first part of the study (the study on expressions of temporality). For this analysis, all six modal verbs (*dürfen*, *können*, *mögen*, *müssen*, *sollen*, and *wollen*)¹² and verbs in subjunctive forms

(both subjunctive I and subjunctive II¹³) were listed before their equivalents in Thai texts were searched for.

In the corpus, there are a total of 636 tokens of modal verbs and subjunctive forms. The percentage of occurrence of their equivalents, i.e. main verbs together with at least one pre- or postverbal modal marker, is 55.03% (tokens = 350). They are classified into modal verbs, subjunctive I, and subjunctive II. The modal verbs are subcategorized by lexeme (six modal verbs) and analyzed in terms of their deontic and epistemic use. Based on their different formation possibilities, the subjunctive II forms are classified into three groups (subjunctive preterite, subjunctive pluperfect, and the *würde*-form¹⁴).

¹² These six modal verbs generally appear together with an infinitive. Semantically, they can be seen as literary equivalents to English “be allowed to, can, like, must, shall, and want,” respectively. However, they have a much wider range of meaning and have to be translated variously depending on the context in which they are used.

¹³ German distinguishes two types of subjunctive mood according to the forms the subjunctive verb forms are based on. If the subjunctive form is built from the present root, it is called subjunctive I. On the other hand, the subjunctive II is built from the preterit root.

¹⁴ These structures are comparable to the contrafactual meaning of the English “were (e.g., if I were you), had been, or would have,” together with a past participle (e.g., if you had been there in time, I would have let you go in)

Since modal verbs have apparently been established as semantic-grammatical elements in both languages (see, e.g. Hentschel and Weydt 2003: 68; Iwasaki and Ingkaphirom 2005: 133), whereas the German *Konjunktiv* ‘subjunctive’ as a grammatical mood is not an obligatory verbal category in Thai, the proportion of Thai equivalents to modal verbs was expected to be greater than that of those in subjunctive forms. Moreover, since modality can be expressed in many ways in all languages, it was clear from the beginning that there would never be a 1:1 equivalence between original and translated texts. The data from the corpus are presented in the following table:

Table 4: Percentage of verbs with pre-/postverbal modal markers in Thai texts

German verb forms	Number of German verb forms (tokens)	Percentage of verbs with pre-/postverbal modal markers in Thai texts
modal verbs	419	64.92%
subjunctive I	43	13.95%
subjunctive II	174	41.38%

Regarding their semantic functions, German has six modal verbs which have developed into a very symmetrical system showing that each of them expresses both

and *would* together with an infinitive (e.g., *they would let you know*), respectively.

deontic and epistemic modality.¹⁵ In Thai, there are sets of pre- and postverbal modal markers which can be regarded as equivalents to the German modal verbs. However, their polyfunctionality in terms of deontic and epistemic modality differ from their German counterparts. The Thai modal system shows a tendency to grammaticalize two different sets of markers to express deontic (e.g., ...*dâ:j* ‘can’) and epistemic (e.g., *khon* ‘should’) modality.

Additionally, German has two modal verbs which can be used to express evidentiality,¹⁶ here categorized as a part of epistemic modality, as in most German grammars. These two verbs are *sollen* and *wollen*. The first indicates that the utterance was made by any person other than the speaker himself or the subject of the sentence. The second marks the distance of the speaker by stating that the information in the utterance is delivered by the subject of the sentence, but not the speaker himself. In this way, the speaker expresses his distance from the plausibility of the utterances. The following sentences show the epistemic use of these two German modal verbs.

¹⁵ Crosslinguistically, there are two main types of modality expressed by modal verbs. Deontic modality is concerned with such concepts as permission and obligation (*He must pass this exam in order to get this job*), while epistemic modality expresses the speaker’s opinion on the truth about a proposition (*He must have passed the exam, since he looks so happy*).

¹⁶ The term *evidentiality* indicates the assessment of evidence for a given statement.

- (4) *Und jetzt soll er sich umgebracht haben?* [HK-21_O]
 and now shall-PRES he RefIPron kill-PP have-Inf
 'And it is said that he's supposed to have killed himself?'
- (5) *Katja will die beste Tänzerin gewesen sein*
 Katja want-PRES the best dancer be-PP be-Inf
 'Katja claims to be the best dancer.'

However, they have no Thai equivalents in the form of pre- or postverbal modal markers. The first one (*sollen*), which is taken from the analyzed corpus, lost its structure in its Thai translation (*tɔ:nni: cà? hâj chû:a rû: wâ: man khâ : tu:a ta:j* [HK_Ü-21]) and can be literally translated back as *Am I now expected to believe that he killed himself?* For *wollen*, not even one single epistemic use has been found in the corpus; the above example comes from a German grammar book

written by Hering et al. (2002: 98). In Thai, it is not possible to express evidentiality in this form without adding another clause to the utterances.

Although more than one form of Thai pre- and postverbal modal marker may be found for each of the German modal verbs, there is always one form which is predominantly used as equivalent to its German counterpart, as shown in table 5.

Table 5: Thai equivalents of German modal verbs in deontic and epistemic use

deontic		epistemic	
German	Thai	German	Thai
<i>müssen</i>	<i>tɔŋ...</i>	<i>müssen</i>	<i>tɔŋ...</i>
<i>sollen</i>	<i>khuan..., nâ:...</i>	<i>dürfen</i>	<i>khuan...</i>
<i>dürfen</i>	<i>...dâ:j</i>	<i>mögen</i>	<i>nâ:...</i>
<i>können</i>	<i>...dâ:j</i>	<i>können</i> ¹⁷	<i>à:t...</i>
	<i>à:t...</i>		<i>khon...</i>
<i>mögen</i>	<i>tɔŋka:n...</i>	<i>sollen</i>	<i>cà?</i>
<i>wollen</i>	<i>jâ:k...</i>	<i>wollen</i>	-
	<i>cà?...</i>		

¹⁷ It should be noted that in epistemic use, the grammatical mood is also of great importance in German. Some of the modal verbs can be used epistemically only in either indicative or subjunctive moods, while some can appear in both moods. However, in the latter cases, the subjunctive forms always show a lower degree of certainty (of the speaker) than the indicative dose. This phenomenon is not found in Thai.

The results look different in the case of subjunctive verb forms. None of the pre- or postverbal modal markers can be identified as an equivalent of the subjunctive mood, neither *Konjunktiv I* 'subjunctive I' nor *Konjunktiv II* 'subjunctive II.'

However, it is remarkable that the preverbal aspect/modal marker *cà?* appears as the most frequent marker in the corpus as an equivalent for all the subjunctive forms, even in combination with other modal markers.

(6)

als behebe er sich seine eigene Nachlässigkeit vom Vortag [AG-O_28]
as if rectify-SUBJ I he REFL his own carelessness of:the day before

ra:wkàp cà? tŋka:n pòkpĭt khwa:mmâjřĩ:apró:j khǎŋ tone:ŋ [AG-Ü_28]
as if PROS want hide carelessness of self
'as if he would like to hide/rectify his own carelessness of the day before'

Although it is not possible to identify a formal equivalent for each of the German subjunctive forms, one may make a hypothesis that the word *cà?* is a multifunctional grammatical marker which can also potentially express modality comparable to the German subjunctive.

markers in different languages for the same semantic category. The use of multilingual corpora with a variety of texts and a range of translators represented can indeed be regarded as a systematic exploitation of the bilingual intuition of expressions in the corpus texts.

Because no pre- and postverbal modal markers can be considered as equivalents to the German modal verbs *sollen* and *wollen* in epistemic use, and due to the very low percentage of equivalents for subjunctive I, all of which mark evidentiality, we may conclude that this semantic category is not expressed through verb forms in the Thai language. To translate the epistemic meaning of these two German modal verbs into Thai, one has to paraphrase them as *wâ: kan wâ:* (*it is said that...*) and *x wâ:* (*x* (= subject of the sentence) *says/said that...*) respectively.

Using a bidirectional parallel corpus can be very useful for corpus-based linguistic studies, regardless of whether they are contrastive or translation studies. The bigger these corpora are, the more reliable the results are. Their effectiveness will be further considerably enhanced once the corpora are big enough to cover different genres of text and to contain a balanced number of words in both languages concerned.

Discussion

With the help of a corpus, we get unprecedented opportunities to study and contrast languages in use, including the distribution of various grammatical

However, using the first Thai-German bidirectional parallel corpora as corpus-based methodology here has its limitations. First of all, because of the unequal availability of data provided in each of the languages studied, the corpus used here is limited in terms of size, genre of texts, and variety of writers and translators. Therefore, more data should be compiled for further studies.

According to Granger (2003: 23), a corpus-based analysis can be difficult if the research focus is on a semantic category. Automatic retrieval and subsequent concordance display is not ideally suited for phenomena such as tense usage, since the analysis of this aspect requires a much larger context. This is also a limitation in the present contrastive study. Automatic retrieval is problematic when something searched for may not even appear. One has to spend more time on each analysis when this kind of corpus is used for the purpose of studies on such linguistic phenomena as temporality or modality. Manually searching and counting takes a lot of time and concentration. This problem becomes even more severe if a large corpus is to be analyzed. How one can manage the data is another aspect which needs to be considered when using this kind of corpus.

Conclusion

The present corpus-based contrastive study on the expression of temporality and modality through verbs in German and Thai handled grammatical categories of verbs which are unequal linguistic elements in this language pair by using a bidirectional parallel corpus for the first time. The selected results presented here showed two important clues: 1) explaining grammatical phenomena of two typologically different languages is possible, and 2) the use of a bidirectional parallel corpus can be used as another form of methodology in contrastive studies.

The results of this study show some aspects which have never been handled before elsewhere. While the German tense system makes a distinction between past and non-past, Thai shows a tendency of

future vs. non-future marking. In terms of aspectuality, German shows a tendency to mark perfectivity while imperfectivity is more important in Thai.

German modal verbs show a very symmetrical system by expressing deontic modality on one hand and epistemic modality on the other hand. The Thai modal system shows, however, a tendency to grammaticalize two different sets of markers for different types of modality. The multifunctional *cà?* seems to be the most important TAM-marker in Thai, since it is the only grammatical morpheme without lexical meaning; it can also mark the prospective aspect which emphasizes the distinction between future and non-future in Thai. Last but not least, it can be hypothesized as a potential equivalent to the German subjunctive verbs forms. Thus, the analysis of this marker in contrast with different verbal grammatical categories in German would be another topic worth studying, which may lead to more insights into these two languages.

However, this paper does not aim to present findings based on a small German-Thai bidirectional corpus to make a big claim for these results. For each of the linguistic aspects studied, more studies are needed, especially with a much larger corpus, to be able to make any theoretical claims, which are supported empirically.

In conclusion, there should be more studies in the following two directions: studies on the optimization of using bidirectional parallel corpora in contrastive studies and linguistic contrastive studies based on bidirectional parallel corpora which explore various phenomena in each language pair. Both these paths may enable us to provide

answers to many other linguistic research questions.

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