พหุหน้าที่ของคำว่า "ต้อง" ในภาษาไทย

: การศึกษาเชิงภาษาศาสตร์ปริชาน

นายนฤดล จันทร์จารุ

THE POLYFUNCTIONALITY OF THE WORD FORM */tɕ̂ŋ/* IN THAI
: A COGNITIVE LINGUISTIC STUDY

Mr. Naruadol Chancharu

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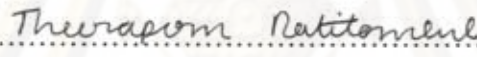Chulalongkorn University
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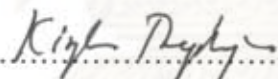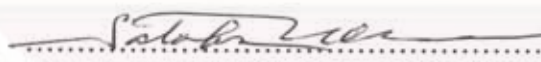
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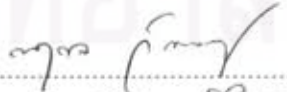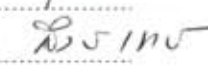
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พหุหน้าที่ คือ ปรากฏการณ์ทางภาษาศาสตร์ที่รูปภาษาหนึ่งสามารถทำ
หน้าที่ทางวากยสัมพันธ์ได้มากกว่าหนึ่งหน้าที่ และให้ความหมายที่แตกต่างแต่
สัมพันธ์กัน ปรากฏการณ์นี้เป็นที่สนใจศึกษาในทั้งแนวทางของแบบลักษณ์ภาษา
ภาษาศาสตร์เชิงประวัติ และภาษาศาสตร์ปริชาน การศึกษานี้มุ่งเน้นไปที่คำว่า
"ต้อง" ในภาษาไทย ซึ่งเป็นกรณีของพหุหน้าที่ที่น่าสนใจ เพราะปรากฏมีคำที่มี
ลักษณะคล้ายคลึงกันนี้ในภาษาต่างๆ ทั่วทั้งภูมิภาคเอเชียตะวันออกเฉียงใต้
อย่างไรก็ดี ประเด็นที่ยังไม่กระจ่างชัด คือ หน้าที่และความหมายของ "ต้อง" นั้น
สัมพันธ์กันอย่างไรทั้งในเชิงพัฒนาการและเชิงมโนทัศน์ เพื่อที่จะตอบประเด็น
ดังกล่าว การศึกษานี้มุ่งเน้นวิเคราะห์ลักษณะทางวากยสัมพันธ์และอรรถศาสตร์ของ
"ต้อง" สืบหาแนวทางและทิศทางของการเปลี่ยนแปลงทางวากยสัมพันธ์และ
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การศึกษานี้พบว่า คำว่า "ต้อง" มีหน้าที่ทางวากยสัมพันธ์สองหน้าที่ คือ
หน้าที่กริยา และหน้าที่กริยานุเคราะห์ ซึ่งสามารถแยกออกจากกันโดยใช้เกณฑ์ใน
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ความหมายเชิงศัพท์ อันได้แก่ "สัมผัสทางกายภาพ" "สอดคล้องกัน" "จำนนต่อ
อำนาจเหนือธรรมชาติ" และ "ได้รับข้อกำหนดทางสังคม" และความหมายเชิงมาลา
อันได้แก่ "มีข้อกำหนดต้องทำ" "มีความจำเป็นต้องทำ" "มีความต้องการทำ" และ "มี
ความแน่นอนว่าจะทำ" พัฒนาการของ "ต้อง" จากหน้าที่กริยาไปสู่หน้าที่กริยานุ
เคราะห์นั้นมีหกขั้นตอน โดยการวิเคราะห์ใหม่และการเทียบแบบ คือกลไกที่มี
บทบาทในการเปลี่ยนแปลงนี้ แต่มีบทบาทต่างกันในแต่ละขั้นตอน นอกจากนี้ ยัง
พบว่าพัฒนาการด้านความหมายของ "ต้อง" มีทั้งหมดสามเส้นทาง และอุปลักษณ์
และนามนัย คือกลไกทางปริชานที่มีความเกี่ยวข้องกับการเปลี่ยนแปลง แต่มีความ
เกี่ยวข้องต่างกันในแต่ละขั้นตอน

NARUADOL CHANCHARU : THE POLYFUNCTIONALITY OF THE WORD FORM /tɔ̌ŋ/ IN THAI: A COGNITIVE LINGUISTIC STUDY. THESIS ADVISOR : ASSOCIATE PROFESSOR KINGKARN THEPKANJANA, Ph.D. 116 pp.

The linguistic phenomenon of polyfunctionality, in which a from can perform more than one syntactic function and can denote different yet related meanings, is of particular interest from the linguistic typological, historical linguistic, and cognitive linguistic points of view. This study primarily focuses on the form /tɔ̌ŋ/ in Thai, which constitutes an interesting instance of polyfunctionality as its counterparts are found to be prevalent in the Southeast Asian Languages. However, it is not known how the multiple functions of /tɔ̌ŋ/ are historically related as well as conceptually associated. To answer this research question, this study is thus aimed to analyze the syntax and semantics of /tɔ̌ŋ/, trace the path and direction of its grammaticalization and semantic extension, and identify the mechanisms that trigger these changes.

It is found that the form /tɔ̌ŋ/ has two functions, the verb and auxiliary functions, which can be distinguished from each other by the criteria of propositionality, distribution, control, and negation. Accordingly, the eight meanings of /tɔ̌ŋ/ can be categorized into the lexical senses, which include 'coming into physical contact,'"being in correspondence,'"being subject to a supernatural influence," and "receiving a social obligation,"and the modal meanings, which include "having an obligation to do something,'"having a necessity to do something,'"having a need to do something,"and "having a certainty to do something."There are six stages through which /tɔ̌ŋ/ develops from its verb function to its auxiliary function, and reanalysis and analogy are mechanism responsible for this grammaticalization, though at different stages. Moreover, the semantic extension of /tɔ̌ŋ/ can be broken down into three paths, and the cognitive mechanisms of metaphor and metonymy are both involved, though at different stages.

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CHAPTER I

INTRODUCTION

1.1. Background

The study of polyfunctionality has recently been a major issue in the linguistic literature especially in linguistic typology and historical linguistics, and increasingly in cognitive linguistics. Polyfunctionality is a linguistic phenomenon in which one form is associated with more than one meaning or sense, and the multiple meanings or senses of a polyfunctional form belong to more than one syntactic category. In this sense, polyfunctionality is similar to polysemy, except for the fact that in the latter syntactic multiplicity is not obligatory. One important qualification for polyfunctionality, as well as for polysemy, is that the semantic multiplicity is not accidental but derives from diachronic relationship, and thus probably has synchronic relationship as well. That is to say, the multiple meanings of a polyfunctional form are related, at least diachronically. An example of a polyfunctional form is English *while*.

(1)   *He was busy but managed to talk with us for a **while**.*
(2)   *They arrived **while** I was taking a shower.*

Semantically, *while* in (1) and (2) has different but related meanings. It means "period of time" in (1) and "during the time (that something is happening)" in (2). It should be noted that different meanings in (1) and (2) have something in common semantically, that is, they all have something to do with time. Syntactically, *while* in (1) and (2) has different functions. It is a noun in (1) and a conjunction in (2), and thus qualifies as a polyfunctional form.

From a linguistic typological point of view, the phenomenon of polyfunctionality is interesting in that across languages there are recurrent sets of functions that are associated with the same form. A substantial amount of research conducted in the direction of the semantic map approach to

linguistic typology, for example, Haspelmath (2003), van der Auwera & Plungian 1998, and Croft 2001, can confirm the prevalence of this phenomenon. Historical linguistic work, moreover, accounts for how one function of a polyfunctional form develop into another. Most importantly, cognitive linguists seek explanation for mechanisms that give rise to the multiple meanings associated with those functions. An instance of polyfunctionality that well illustrates how the different branches of language study address the issue is one particular set of polyfunctional forms in many Southeast Asian languages. Each of the forms in this set, which include but is not restricted to Thai *tɔ̂ŋ*, Lao *tòòng⁴*, Malay *kena*, Vietnamese *phải*, and Khmer *trəw*, can function both as a verb and as an auxiliary.

tɔ̂ŋ = verb of coming into physical contact (Thai)

(3) (a) *ใบไม้*　　　*ต้อง*　*ลม*
　　　　　bajmá:j　*tɔ̂ŋ*　*lom*
　　　　　leaf　　　　　*wind*
　　　　　'The leaf came into contact with the wind.'　　　　[fiction][1]

tɔ̂ŋ = auxiliary of obligation (Thai)

　　(b)　*นักเรียน*　　*ต้อง*　*ตั้งใจ*　　*เรียน*
　　　　　nákrian　　*tɔ̂ŋ*　*tâŋcaj*　*rian*
　　　　　student　　　　*concentrate*　*study*
　　　　　'Students must[2] concentrate on their study.'　　　[fiction]

---

[1] The source of each of the data is indicated at the end of the translation line. Subcorpora are shown in square brackets (see 1.5.2.1. for details of each subcorpus). In case of secondary data, references are given. If the data source is left unmarked, it is the author's own example.

[2] The ambiguity that arises from the use of the English auxiliary *must* in the translation line is intentional. The reason is that the modal use of these polyfunctional forms (e.g. *tɔ̂ŋ*, Loa *tòòng⁴*, Malay *kena*, Vietnamese *phải*, and Khmer *trəw*) is equally ambiguous. Just like *must*, these polyfunctional forms can modally denote both an obligation (deontic participant-external modality), e.g. students are obliged (by some authority) to concentrate on their study, and a necessity (non-deontic participant-external modality), e.g. it is necessary (under some condition) for students to concentrate on their study. Other possible modal readings include need (participant-internal modality) and certainty (epistemic modality).

tòòng^4 = verb of coming into physical contact (Lao)

(4) (a) *bò^0* **tòòng^4** *too^3* *dee^4*

    not   *body* *(particle)*

    '(It) didn't touch my body!'

tòòng^4 = auxiliary of obligation (Lao)

(b) **tòòng^4** *haj^5* *laaw^2* *khit^0* *khak^0-khak^1* *khian^3 vaj^4*

    give *him* *think* *clear-clear* *write fix.in.place*

sakòòn^1

(particle)

'(We) have to get him to think hard about it, and write some (stories) down.'   (Enfield, 2008: 122-123)

kena = verb of coming into physical contact (Malay)

(5) (a) *betul-betul* **kena** *pada* *batang* *hidung* *dia*

    right-right   *at* *trunk* *nose* *him/her*

    '(That) hit him/her right at the bridge of the nose.'

kena = auxiliary of obligation (Malay)

(b) *perempuan* **kena** *belajar* *memasak.*

woman   *learn* *cook*

'Women must learn how to cook.'

phải = verb of coming into physical contact (Vietnamese)

(6) (a) *nó* **phải** *bệnh* *sởi*

    he/she   *disease* *measles*

    'He/she came into contact with measles.'

phải = auxiliary of obligation (Vietnamese)

(b) *anh* **phải** *là* *việc* *nếu* *anh* *muốn thànhcông*

you   *do* *work* *if* *you* *want succeed*

'You must work if you want to succeed.'

trəw = verb of coming into physical contact (Khmer)

(7) (a) **trəw** *haəy*

    already

    '(It) touched already.'   (Goral, 1988:10)

trəw = auxiliary of obligation (Khmer)

> (b) kñom **trəw** tɨw pteəh
> I   go   home
> 'I must go home.'   (Goral, 1988:10)

In each of the pairs above, two different meanings are linguistically realized by the same form. In (a), the form encodes an event in which two entities physically come into contact with each other. In (b), it encodes the mode of the event, in this case the obligation for the event to be realized. These two meanings constitute the most basic senses of the verb and auxiliary functions respectively. The polyfunctionality of these word forms is a phenomenon that deserves serious attention because it is prevalent among the languages of Southeast Asia. Indeed, it can be distinguished as one of the areal features, as apart from Thai *tɔ̂ŋ* and Loa *tòòng⁴*, the rest are not genetically related. It is interesting to find whether this phenomenon is discernible beyond the area and whether it contributes to linguistic universality by any means. From a historical perspective, it is certain that all the different functions do not develop simultaneously: some of them must precede and thus give rise to others. Charting the path and direction of the development is a task worth performing. Lastly, the phenomenon needs to be explained in a cognitively realistic fashion. There must be some mechanisms that trigger the development of the different functions.

Specifically, this study focuses on one of the forms described above as its main object: *tɔ̂ŋ* in Thai. This form is meant to be representative of the set, as it can encode different meanings with different functions. This form is also interesting because apart from the most basic senses exemplified in (3a) and (3b), there more possible meanings that can also be encoded by *tɔ̂ŋ* in the two functions, showing an intricate network that links the two aforementioned senses together.

tɔ̂ŋ = verb of having correspondent properties

(8)

รสนิยม	ของ	เรา	ไม่	**ต้อง**	กับ	เขา
rótsà?ni?jom	khɔ̌:ŋ	raw	máj	**tɔ̂ŋ**	kàp	khǎw
taste	of	we	not		with	him

'Our taste doesn't correspond with his.' [fiction]

tɔ̂ŋ = verb of being subject to a supernatural influence

(9)

ราชา	**ต้อง**	สาป	กับ	เจ้าสาว	จาก	สรวงสวรรค์
ra:cha:	**tɔ̂ŋ**	sà:p	kàp	câwsǎ:w	cà:k	sǔaŋsà?wǎn
king		curse	with	bride		from	heaven

'the cursed king and the bride from heaven' [fiction]

tɔ̂ŋ = verb of receiving a legal obligation

(10)

เขา	เคย	**ต้อง**	โทษ	จำคุก	มาก่อน
khǎw	khə:j	**tɔ̂ŋ**	thô:t	càmkhúk	ma:kɔ̀:n
he	ever		punishment	imprison	before

'He has been imprisoned before.' [documentaries]

tɔ̂ŋ = auxiliary of necessity

(11)

ต้อง	เขย่า	แรง-แรง	มัน	ถึง	จะ	หลุด
tɔ̂ŋ	khàʔjàw	rɛ:ŋ-rɛ:ŋ	man	thʉ̌ŋ	càʔ	lùt
	shake	strong-strong	it	arrive	will	fall.off

'(You) have to shake it vigorously to make it fall off.' [documentaries]

tɔ̂ŋ = auxiliary of need

(12)

เธอ	เป็น	คน	ที่	**ต้อง**	ได้	ทุกอย่าง	ที่
thə:	pen	khon	thî:	**tɔ̂ŋ**	dâ:j	thúkjà:ŋ	thî:
she	be	person	that		get	everything	that

อยากได้
jà:kdâ:j
want

'She is a person who needs to get everything that she wants.' [fiction]

tɔ̂ŋ = auxiliary of certainty

(13)

เชื่อ	ฉัน	สิ	ว่า	ตัวเอก	**ต้อง**	ตาย
chûa	chǎn	siʔ	wà:	tuaʔè:k	**tɔ̂ŋ**	ta:j
believe	I	(particle)	that	hero		die

ตอนจบ

tɔ:ncòp

ending

'Believe me that the hero will die at the ending.'   [fiction]

In (8), *tôŋ* is a verb that denotes an event in which two entities notionally correspond. In (9) and (10), it functions as a verb that encodes two different receptive events. One entity receives a supernatural influence that comes in the form of the other entity in (9), and one entity receives a punitive obligation that comes in the form of the other entity in (10). In (11) and (12), *tôŋ* is an auxiliary that encodes two different modal meanings. There is a necessity imposed by a condition external to the participants for the event to be carried out in (11), and there is a participant-internal need for the event to be carried out in (12). In (13), it is an auxiliary that denotes the high certainty for the event to happen. It should be noted that some of these meanings, that is, (8)-(10), are more closely related to the physical-contact sense in (3a) in that they are also more lexical, while the others, that is, (11)-(13), are more closely related to the obligation-having meaning in (3b) in that they are also more grammatical. This bifurcation correlates the syntactic difference. The polyfunctional nature of *tôŋ* surely constitutes a linguistic phenomenon that is worth serious treatment, but the existing works seem to fall short of this seriousness: they either mention some of its grammatical meanings in passing (Phandhumetha, 2008 and Pankhuenkhat, 2009), study it as part of the Thai modal system (Phatranawig, 1972 and Rangkupan, 2005), and propose some of the possible directions and paths of the form's diachronic development (Prasithrathsint, 1985 and Meesat, 1997). However, a thorough account of the form's syntax and semantics, a complete model of how the form develops from one function to another, and a description of the mechanisms that drive the development have not been achieved so far. Therefore, this study is primarily intended to fill in this gap.

At this point, the following questions can be raised. What functions are associated with the word form *tôŋ*, and how are they similar to or different

from one another? What motivates and governs the diachronic development from some functions to others? And in what direction and on what path does it develop? This study is aimed at answering the above research questions. To do so, it sets out to explore the form's polyfunctionality by describing its multiplicity and explaining the relationship that holds between the different functions, as exemplified above in (3a) and (3b), and (8)-(13). The multiplicity can be addressed by delineating the syntactic and semantic properties of the form and by comparing and contrasting them. The relationship can be tackled from two different viewpoints: diachronicity and synchronicity. The meanings encoded by different functions are diachronically related because some of them develop into others through a particular path and in a particular direction. Drawing from the insightful works on grammaticalization, e.g. Hopper & Traugott (1993), Bybee, Perkins & Pagliuca (1994), and Hein & Kuteva (2002), if a form has both a verb function and an auxiliary function, it is the verb function that precedes and develops into the auxiliary function. Likewise, if a form has both a lexical meaning and a grammatical meaning, it is the lexical meaning that precedes and develops into the grammatical meaning. The development is made possible by some mechanisms, primarily reanalysis and analogy (Hopper & Traugott, 1993). The semantic extension, moreover, can be either conceptual, metaphor-driven (Sweetser, 1990) or pragmatic, metonymy-driven (Traugott & Dasher, 2003). Moreover, the meanings encoded by different functions are synchronically related because they are conceptually associated somehow. Influential works of such cognitive linguists as Lakoff (1987) and Tyler & Evans (2003) suggest the important role of categories and prototypes in the human organization of meanings, usually in the form of semantic networks.

This study is organized in the following fashion. This introductory chapter states the background of the study as well as its main objectives and the assumptions it makes. Also, the scopic and methodological issues and intended contributions are addressed. The second chapter presents a literature review on previous studies on the word form along with foundational works on polyfunctionality and polysemy. Besides, linguistic typological works

on expressions of modality are mentioned. The third and fourth chapters constitute the main analysis of the study. The functions of *tɔ̂ŋ* are tackled and its grammaticalization is traced in the third chapter. The fourth chapter presents an analysis of its semantics and the semantic extension processes involved. Finally, the fifth chapter concludes the study by summarizing the major points previously made and discussing the implications of the findings on the ongoing or future research in the field.

1.2. Objectives

This study is primarily aimed:

1.2.1. to analyze the functions and meanings of the word form *tɔ̂ŋ* in Thai;

1.2.2. to trace the path and direction of the grammaticalization and semantic extension of *tɔ̂ŋ*; and

1.2.3. to identify the mechanisms that trigger the grammaticalization and semantic extension of *tɔ̂ŋ*.

1.3. Hypotheses

This study makes the following hypotheses:

1.3.1. The word form *tɔ̂ŋ* is categorized as a main verb and an auxiliary verb. As a verb, *tɔ̂ŋ* encodes the lexical meaning of coming into physical contact, and probably some other extended senses. As an auxiliary, it encodes the grammatical meaning of obligation, and probably some other extended senses.

Table 1 The hypothesized functions *tɔ̂ŋ* and the meanings associated with those functions

VERB	AUXILIARY
coming into physical contact	having an obligation to do something

1.3.2. The verb function precedes and develops into the auxiliary function by the process of grammaticalization. Semantically, the most basic sense of the verb function extends to some other lexical senses. One of the extended lexical senses develops into the form's grammatical senses.
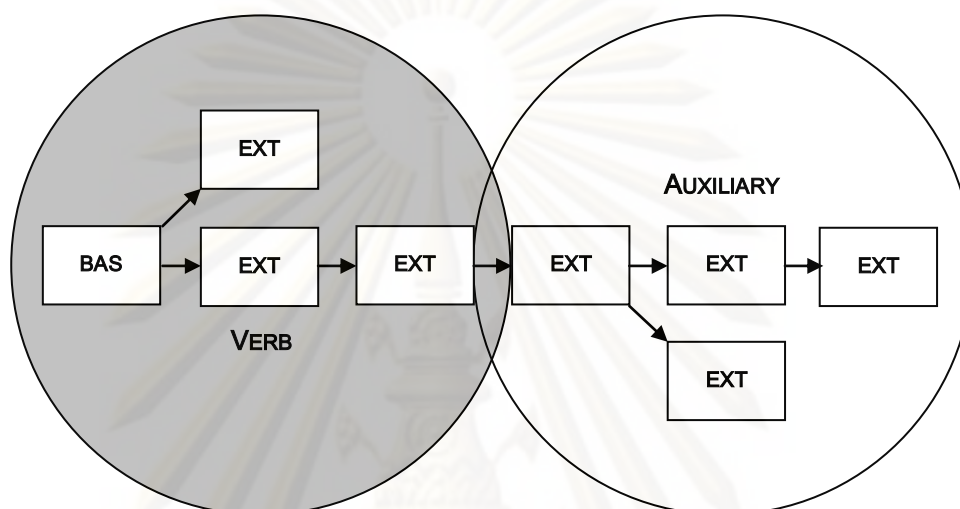
Figure 1 The hypothesized paths and directions of the grammaticalization and semantic extension of /tɔ̂ŋ/ (BAS = basic sense, EXT = extended sense)

1.3.3. Reanalysis and analogy are the processes which trigger the grammaticalization of tɔ̂ŋ. Specifically, reanalysis and analogy are involved with the grammaticalization. Moreover, metaphor and metonymy are the processes which trigger the semantic extension of tɔ̂ŋ.

1.4. Scope

The scope of this study is restricted to:

1.4.1. constructions in which tɔ̂ŋ occurs as an independent word, while compounds of which it is part, e.g. tɔ̂ŋkaːn (want), tɔ̂ŋtaː(tɔ̂ŋcaj) (be impressed), thùːktɔ̂ŋ (correct), and tɛ̀ʔtɔ̂ŋ (touch), are mentioned only when relevant; and

1.4.2. corpus-based data of the word form.

1.5. Methodology

The methods applied in this study are as follows.

1.5.1. Literature Review

This study presents a literature review of:

1.5.1.1. foundational works on polysemy and polyfunctionality;

1.5.1.2. linguistic typological works on expressions of modality;

1.5.1.3. previous studies on the word form *tɔ̂ŋ* in Thai;

1.5.2. Data

1.5.2.1. Sources of Data

The data drawn from the electronic corpus come from four sources:

1.5.2.1.1. news items from Thai News Agent from June 1992 to May 1994 and from the Thairat newspaper from July 2000 to June 2001;

1.5.2.1.2. documentaries from general columns in the Bangkok Business newspaper from July to September 1999 and in Sarakadee magazine from January 1999 to November 2002;

1.5.2.1.3. academic articles from the Midnight university website (http://www.geocities.com/midnightuniv) on 20 January 2003; and

1.5.2.1.4. fiction from the Siam Story website (http://www. geocities.com/siamstory) on 14 May 2002.

1.5.2.2. Data Collection Tool

The data employed in this study is processed by Thai Concordance, which is a computer program used to retrieve words or phrases with their concordance lines from text corpora in the electronic format. This program can be accessed from the website of Linguistics Department, Chulalongkorn University (http://www.arts.chula.ac.th/~ling).

1.5.2.3. Data Collection Process

1.5.2.3.1. First, for the data retrieval using the Thai Concordance program, the keyword is *tɔ̂ŋ*, the number of tokens is set to 200, the method of retrieval is set to "random" (as opposed to "alphabetical"), and

the sub-corpora of news, documentaries, articles, and fiction are searched respectively. Therefore, the retrieved data consist of 800 tokens of *tɔ̂ŋ*.

1.5.2.3.2. The program will display the data as indicated. The data will show the word form *tɔ̂ŋ* in context in the form of concordance lines.

1.5.2.3.3. Inapplicable data or data that fall outside the scope of the study are screened out. These screened out data include: (i) samples of *tɔ̂ŋ* as a proper name or part of a proper name, e.g. *khuntɔ̂ŋphoŋ* (Mr. Tongphong); (ii) samples of *tɔ̂ŋ* as an onomatopoeic expression, e.g. *tɔ̂ŋ tɔ̂ŋ* (a sound of drum-beating); (iii) samples with incomplete contexts; and (iv) repeated samples.

1.5.2.3.4. From the remaining data, 100 samples from each subcorpus are randomly chosen. Altogether 400 samples are employed as primary data.

1.5.2.3.5. When necessary, secondary data are drawn from other relevant studies. The source from which each of these secondary data comes is shown as a reference at the end of the translation line. Where necessary, the author's own invented data are included, and are marked with [invented] at the end of the translation line.

1.5.2.3.6. The subcorpus from which each of the data used in this study comes is shown in square brackets at the end of the translation line.

1.5.3. Data Analysis

The data analysis process of this study can be broken down into three steps:

1.5.3.1. distinguishing the different functions and meanings of *tɔ̂ŋ* by focusing on the syntactic and semantic properties of the word form in constructions;

1.5.3.2. finding the similarities and differences between the properties of the functions and meanings;

1.5.3.3. tracing the path and direction of the diachronic development;

1.5.3.4. identifying the mechanisms that make the development possible;

1.5.4. Conclusion

1.5.4.1. summarizing the main points made in this study;

1.5.4.2. discussing the theoretical and applicational implications of this study; and

1.5.4.3. suggesting possibilities for future research.

1.6. Contributions

This study contributes to:

1.6.1. linguistic typological research on expressions of modal expressions;

1.6.2. cognitive linguistic research on polyfunctionality; and

1.6.3. language teaching, translation, and lexicography.

CHAPTER II

LITERATURE REVIEW

2.1. Polyfunctionality and Polysemy

2.1.1. Definitions of Polyfunctionality and Polysemy

Not until recently has the study of polyfunctionality become a major issue in the linguistic literature. Although the term had long been in use, it did not receive much serious attention and was rarely considered a worthy object of study in its own right. Indeed, most authors who employed the term did not even bother to define it, and even if they did, the definitions given were most of the time inaccurate. To illustrate the case in point, Takahashi & Methapisit (2001: 1) defines a polyfunctional form as a form that "performs multiple syntactic functions." This kind of definition is problematic, as it does not take into account the semantic and etymological dimensions. As a result, it does not distinguish between two disparate linguistic phenomena, that is, syntactic multiplicity with polysemic meanings, and syntactic multiplicity with homonymic meanings. In the first phenomenon, a form is associated with multiple meanings that are related at least historically, and those meanings belong to more than one syntactic category. For example, the form *root* in English can function both as a noun as in (14) and a verb as in (15).

(14)   *Truffles are parasites that grow on the* **roots** *of trees.*
(15)   *The country's economic troubles are* **rooted** *in a string of global crises.*

While the nominal *root* refers to "the part of a plant or tree that grows under the ground and gets water from the soil," the verbal *root* means "to have developed from something and be strongly influenced by it." The synchronic semantic link between the meanings can be traced. Metaphorically, the cause of economic troubles can be conceptualized as the root of a tree, as both refer to the underlying component from which other components can develop. The

semantic link is substantiated by historical evidence showing that the two meanings or senses[3] derive from the same etymological source. Therefore, *root* is a polysemous form that has multiple syntactic functions.

Likewise, the form *stalk* in English exhibits syntactic multiplicity, i.e. it can function as a noun as in (16) and as a verb as in (17).

(16)   *Two flowers usually develop on each **stalk**.*

(17)   *We know the rapist **stalks** his victims at night.*

However, *stalk* as a noun and *stalk* as a verb are in fact diachronically unrelated as they derive from different etymological sources, and their synchronic formal similarity is a mere historical accident. The nominal *stalk* (a long narrow part of a plant that supports leaves, fruits, or flowers) is from Old English *stalu*, while the verbal *stalk* (to follow and watch someone over a long period of time in a way that is very annoying or threatening) is from Old English *bestealcian*. Speaking from a lexical semantic point of view, such a form as *stalk* in (16) and (17) is homonymous, i.e. having multiple semantic meanings that are etymologically unrelated. According to Takahashi & Methapisit's definition, both *root* and *stalk* are polyfunctional forms, as they both perform more than one syntactic function. However, this study argues for a distinction. It is only to such polysemous forms with multiple syntactic functions as *root* that the term "polyfunctionality" should apply, not to such homonymous forms with multiple syntactic functions as *stalk*. The reason is that, in the case of polysemous forms with syntactic multiplicity, there is diachronic and synchronic motivation for the association between the meanings or senses encoded by different syntactic functions. As a result, it is a worthwhile job to study how some meanings/functions develop into others and how the multiple meanings/functions are organized conceptually. On the

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[3] The term "senses" in this study is used to refer to those multiple meanings of a polysemous form whose semantic links can be established, either synchronically or diachronically. And thus "meaning" is used more broadly to refer to semantic import in general.

other hand, the semantic, and perhaps syntactic, multiplicity of a homonymous form is not motivated, neither diachronically nor synchronically, but is a product of historical accident, and is thus not so interesting a subject matter. Alternatively, the unassuming umbrella term "multifunctionality" should be applied to the linguistic phenomenon of syntactic multiplicity in general, including both "polyfunctionality" in this study's sense (polysemic multifunctionality) and homonymic multifunctionality.
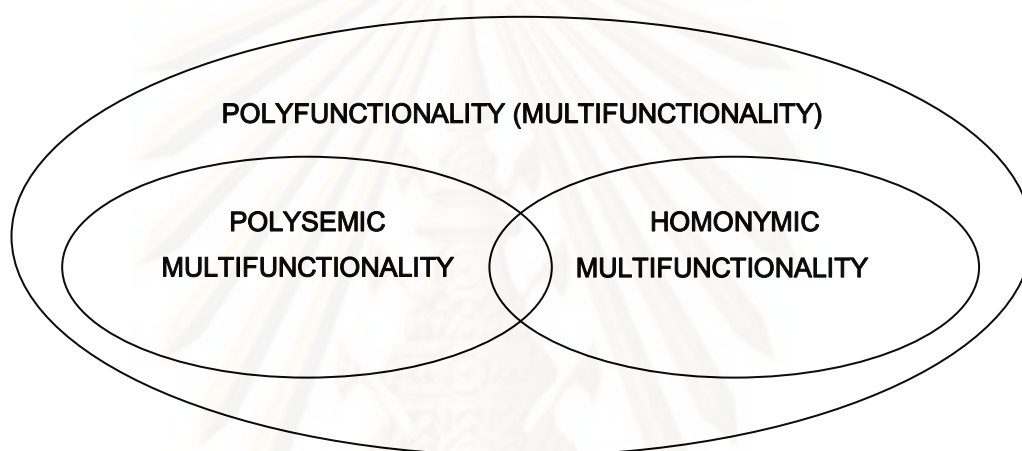
Figure 2 Takahashi & Methapisit's relationship between multifunctionality and polyfunctionality
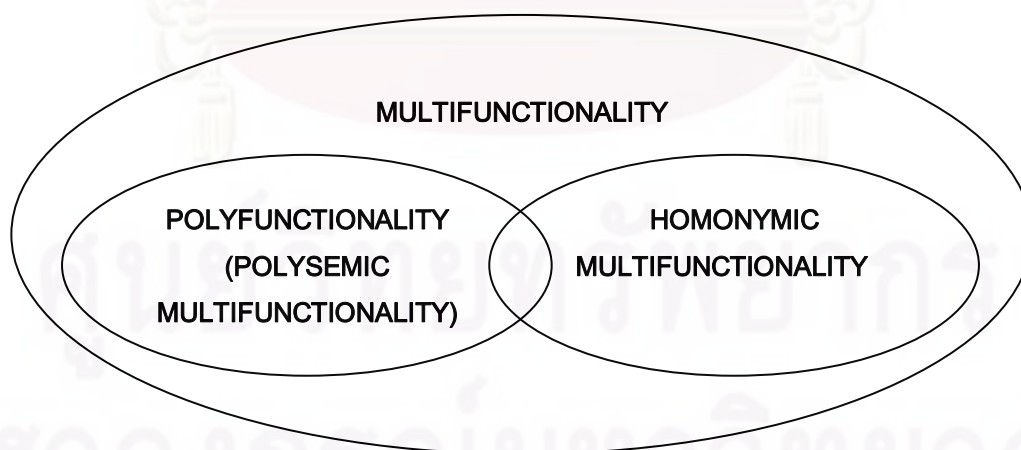
Figure 3 This study's relationship between multifunctionality and polyfunctionality

Predictably, it is not always easy to distinguish between polyfunctionality and homonymic multifunctionality, just as it is not always easy to distinguish between polysemy and homonymy either. Indeed, the growing interest in polyfunctionality is closely associated with the study of polysemy. It is therefore worthwhile to take a look at how the distinction between polysemy and homonymy is drawn. Lyons (1977: 550 cited in Cuyckens & Zawada, 2001: xiii) proposes that the polysemic meanings of a form:

(i)   are related to each other such that there is a clear derived sense relation between them;

(ii)   must be shown to be etymologically related to some original source word; and

(iii)   must belong to the same syntactic category.
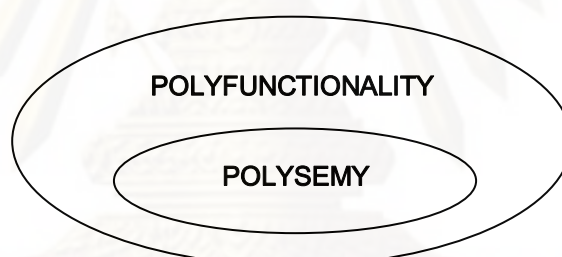
Figure 4 Lyons's relationship between polyfunctionality and polysemy: polysemy as a case of polyfunctionality

It is noteworthy that the last criterion seems to set polysemy apart from multifunctionality, that is to say, a polysemous form must be monofunctional. This criterion certainly goes against most speakers' intuition, as most of the time they do have a conceptual connection between the different functions of a form that share a common historical source (polysemic functions). In fact, sometimes speakers are not even aware that they are dealing with different functions of a form due to their close semantic and syntactic similarities.

*(18)   John was running **along** the sidewalk.*

*(19)   John was running **along**.*

For most English speakers who do not have any linguistic training, the two instances of *along* in (18) and (19) would not be so much different from each other, and some might even claim that they are just variations of the same function, or that one is just a derivation of the other. Linguistically there are semantic and syntactic differences between the two instances of *along*. In (18), it functions as a preposition and denotes the movement of X (John) from one point on Y (the sidewalk) towards the other end of it. In (19), it functions as an adverb and denotes the forward movement of X (John), with or without any particular point. While it is understandable that Lyons's last criterion is intended to screen out many homonymic cases which exhibit multifunctionality, it proves too powerful as it screens out quite a few cases of polysemy, too. Therefore, this study, which argues for the phenomenon of polyfunctionality as an instance of polysemy with multiple functions, asserts that this criterion is unnecessary for distinguishing polysemy from homonymy, but may be useful for distinguishing monofunctional polysemy from multifunctional polysemy.

The first two of Lyons's criteria, furthermore, are not unproblematic and should be applied with some qualifications. Cuyckens & Zawada (2001: xiv) question the validity of these two criteria of defining polysemy. Specifically, they attribute the first criterion (the polysemic meanings of a form are related to each other such that there is a clear derived sense relation between them) to the Generative approach of semantic analysis, one of the most important arguments of which is that there is one underlying, usually abstracted, meaning (mononymic) of a form that generates submeanings varying in line with different contexts. This approach is problematic, as in natural languages there are several cases in which the different meanings of a form are related in a family-resemblance fashion. Evans (2007: 78) describes family resemblance as

"[a] notion in Prototype Theory in which a particular member of a category can be assessed as to how well it reflects the prototype structure of the category it belongs to. This is achieved based on how many salient attributes belonging to the prototype the category members share. The degree of overlap between shared attributes reflects a category member's degree of family resemblance.

That is to say, although there is no one particular abstract meaning underlying the others, the meanings are related to each other by sharing some salient attributes that establish them as polysemic meanings of a form. For example, Sense 1 of a form has Attributes A and B and is related to Sense 2, which has Attributes B and C. Sense 2 in turn is related to Sense 3, which has Attributes C and D. Though without one particular common feature, it can be claimed that Senses 1 and 3 are related, via Sense 2, of course, and that Attributes B and C are two salient attributes that establish Senses 1-3 as polysemic meanings of the same form. This family-resemblance principle also allows the distinction between members of differing degrees of prototypicality. In the example discussed above, Sense 2 can be said to be the more prototypical member of the form as it has both the salient attributes B and C, while Senses 1 and 3 are considered less prototypical.

In effect, the second criterion (the polysemic meanings of a form must be shown to be etymologically related to some original source word) is intended to distinguish polysemy from homonymy, because although a homonymous form also has multiple meanings, their lack of common etymological source disqualifies them from forming polysemy. Nevertheless, problems can arise when synchronically there seems to be a plausible semantic relationship between the two different functions of a form, and in fact most speakers psychologically make a conceptual connection between them. However, historical evidence disproves that connection saying that it is a case of homonymic multifunctionality, or, more often than not, there is simply not sufficient historical evidence to substantiate the synchronic connection. In the latter case, in which there is a lack of diachronic evidence, a plausible solution is to categorize the form as a case of polyfunctionality, as there is at least

synchronic relationship between the functions, until further evidence disproves it. In the former case, in which diachronic evidence goes against synchronic connection, it is more challenging to categorize the form as either polyfunctional or homonymically multifunctional. Indeed, it might as well be asserted that there is no sharp distinction between polysemic and homonymic multifunctionality, as they form two overlapping categories, with some cases lying at their interface.

It is equally difficult, moreover, to categorize a form with multiple functions that derive from the same historical source but seem not to be connected for most speakers. Most of the time, such a quirky case results from grammaticalization, a process which derives a more grammatical function out of a more lexical function. More often than not, grammaticalization involves complicated and far-reaching steps of semantic change, so much that it might be difficult to draw a connection between functions at the two ends of the process. To illustrate the case in point, consider the form *will* in English.

(20)   *The King **wills** it.*
(21)   *A meeting **will** be held next Tuesday at 3 p.m.*

At first glance, the connection between the two functions of *will*, a verb in (20) and an auxiliary in (21), might not be transparent. However, the two functions of *will* are etymologically related, with the verb function of wanting something to happen historically preceding the auxiliary function of futurity. The grammaticalization of *will* is so complicated and extensive a process involving several stages and spans through a considerable period of time that the two functions towards the two ends of the cline may have little synchronic similarity. This particular instance of *will* is relevant for this study, which also relates to polyfunctionality as a product of grammaticalization. The lower degree of conceptual association should be accommodated by any model designed to account for the phenomenon of polyfunctionality. Then again, the overlapping nature of the two categories of polysemy and homonymy, of

which some problematic cases lying at the interface, should be taken into account.
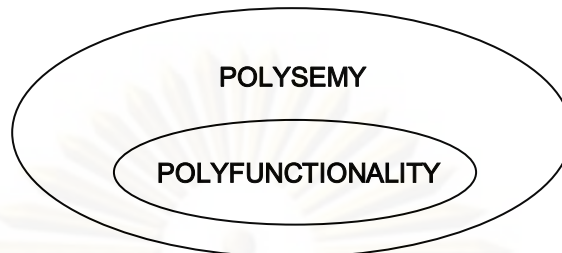
Figure 5 This study's relationship between polyfunctionality and polysemy:

polyfunctionality as a case of polysemy

2.1.2. Approaches to Polyfunctionality and Polysemy

As against the classical and generative approaches to polysemy described in Ravin & Leacock (2000: 13-15), cognitive linguistics asserts that the polysemic senses of a linguistic form do not form a category by sets of necessary and sufficient conditions, but rather by family resemblance and prototypicality. In this model, the senses of the form form an organization that center around the prototypical concept(s). The more prototypical senses are closer to the center of the categories as they have more salient attributes of prototypicality while the less prototypical (peripheral) meanings are further from the center as they have less salient attributes. Drawing from Influential works of such cognitive psychologists and anthropologists as Rosch (1975) and Berlin & Kay (1969), Lakoff suggests the important role of conceptual categories in the human organization of meanings. As an example, Lakoff (1987) introduced his radial-category model of the polysemous form *over* in English. In his model, distinct but related topographical structures, which usually involve image schemas representing various relationships between the trajector (TR), the focal participant, and the landmark (LM), the secondary participant, are subsumed by the polysemy network at a fine-grained level. In his approach, which he termed the "full-specification" approach, each sense is represented by a distinct image schema, and a set of image schema is related through image schema transformations and metaphorical extensions. Below

are the central schema of *over*, the six more specified image schemas representing six different senses related to this central schema, and a network of those schemas.
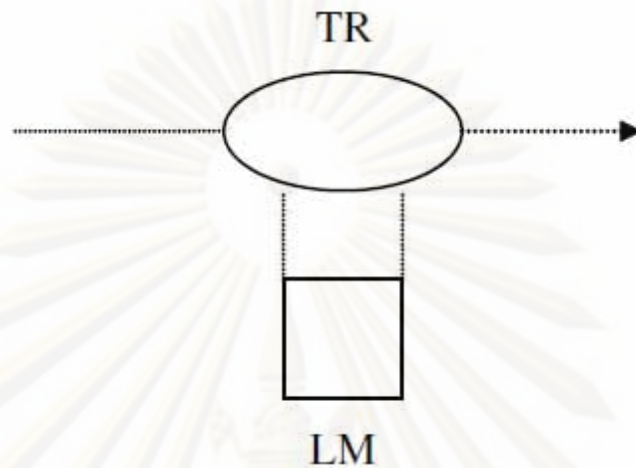
Figure 6 The central schema for *over* (Lakoff, 1987: 419)
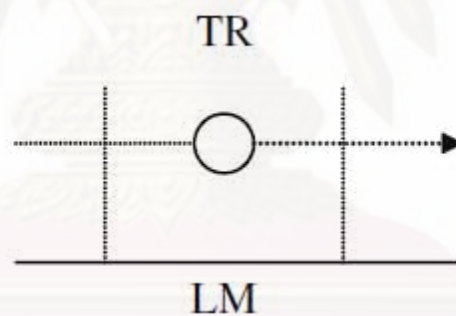
Figure 7 The bird flew over the yard. Schema 1.X.NC (Lakoff, 1987: 421)
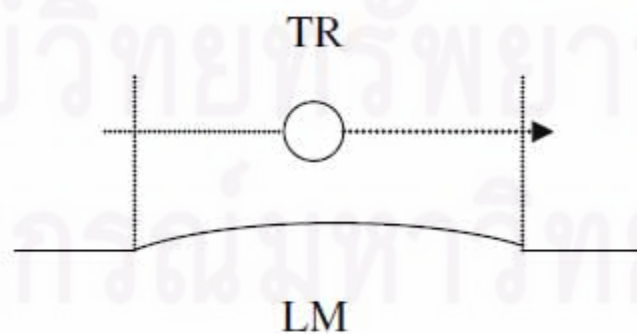
Figure 8 The plane flew over the hill. Schema 1.VX.NC (Lakoff, 1987: 421)
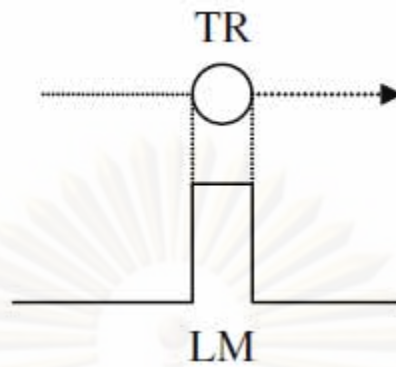
Figure 9 The bird flew over the wall. Schema 1.V.NC (Lakoff, 1987: 421)
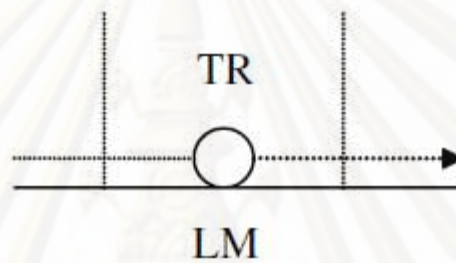
Figure 10 Sam drove over the bridge. Schema 1.X.C (Lakoff, 1987: 422)
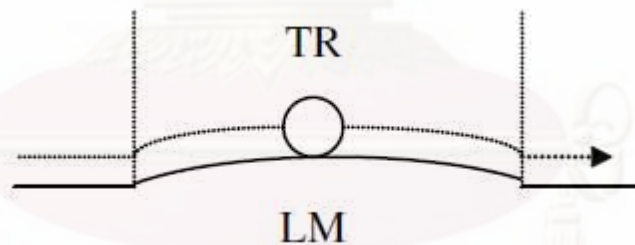
Figure 11 Sam walked over the hill. Schema 1.VX.C (Lakoff, 1987: 422)
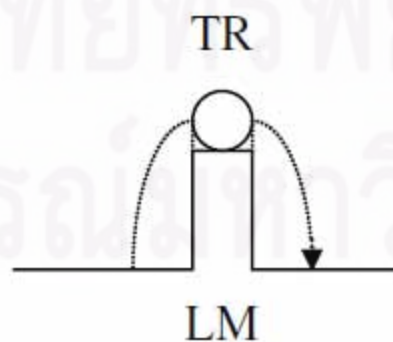
Figure 12 Sam climbed over the wall. Schema 1.V.C (Lakoff, 1987: 422)
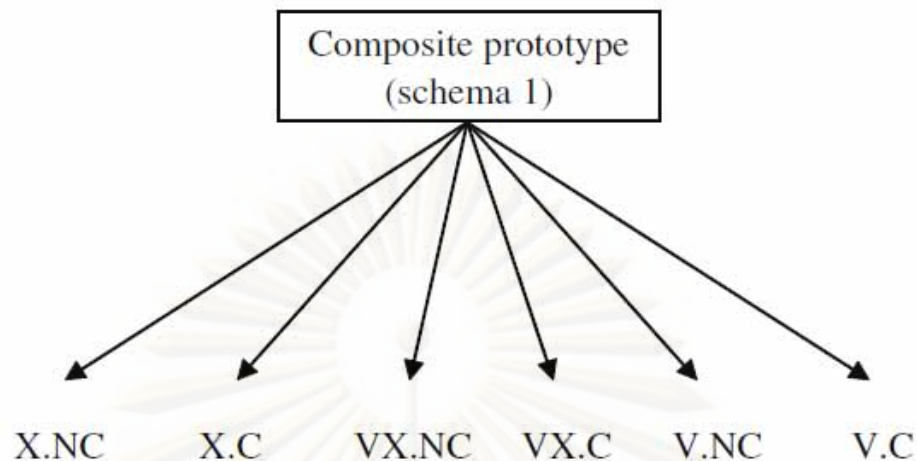
Figure 13 Links among schemas (Lakoff, 1987: 423)

In addition, there are other schemas, such as COVERING, REFLEXIVE, and EXCESS schemas, which can be derived by virtue of image schema transformations and metaphorical extensions. All of these schemas, central or not, are claimed to be instantiated in semantic memory as distinct lexical meanings.

Tyler and Evans (2003: 339-342), however, consider Lakoff's full-specification approach problematic. They assert that this approach lacks a principled methodology for distinguishing between polysemic senses, which are stored separately in semantic memory, and context-dependent senses, which are constructed on-line. In effect, Evans (2005: 41) proposes a set of criteria for such distinction, as summarized in the table below.

Table 2 Evans's criteria for distinguishing polysemic senses

CRITERION	DESCRIPTION
MEANING CRITERION	containing additional semantic information not apparent in any other meanings associated with the form
CONCEPT ELABORATION CRITERION	featuring unique or highly distinct patterns of concept elaboration, concerning which lexical items are

CRITERION	DESCRIPTION
	selected to appear in a syntagmatic or collocational relationship with the form
GRAMMATICAL CRITERION	manifesting unique or highly distinct structural dependencies, i.e. occurring in unique grammatical constructions

Evans goes on to claim that for a polysemic sense to count as distinct, it must satisfy the MEANING CRITERION and at least one other. Consider a set of examples from Evans (2005: 42-43).

(22)   The romance fizzled out of the relationship after only a short *time*.

(23)   Looking back on the evening of their first date, it seemed to the couple that the *time* had flown by.

(24)   *Time* flows on forever.

The form *time* in (22) and (23), according to Evans, do not constitute different senses, as they both similarly denote a bounded interval of during, and thus the MEANING CRITERION is not satisfied. However, *time* in (24) counts as a distinct meaning, because it does not only contain additional semantic information not apparent in (22) and (23), i.e. an entity that is unbounded and infinite in nature, but also satisfy the CONCEPT ELABORATION CRITERION. That is to say, *time* in (24) can neither be elaborated in terms of length content like in (22), "?time flows for a short period," nor be elaborated in terms of rapid deitic motion like in (23), "?time has flown rapidly by." Additionally, Evans (2005: 44) suggests a set of criteria that form a substantial body of evidence pointing to the prototypical, or central, or, in Evans's own term, SANCTIONING sense, from which other senses may have been extended. This sense should be: (i) the earliest attested sense; (ii) predominant in the semantic network, in the sense of type frequency; (iii) predictable regarding other senses; and (iv) most related to lived human experience. In the case of the form *time*, it is the

DURATION sense that constitutes the SANCTIONING sense of the whole polysemy network, which is diagrammatically shown below.
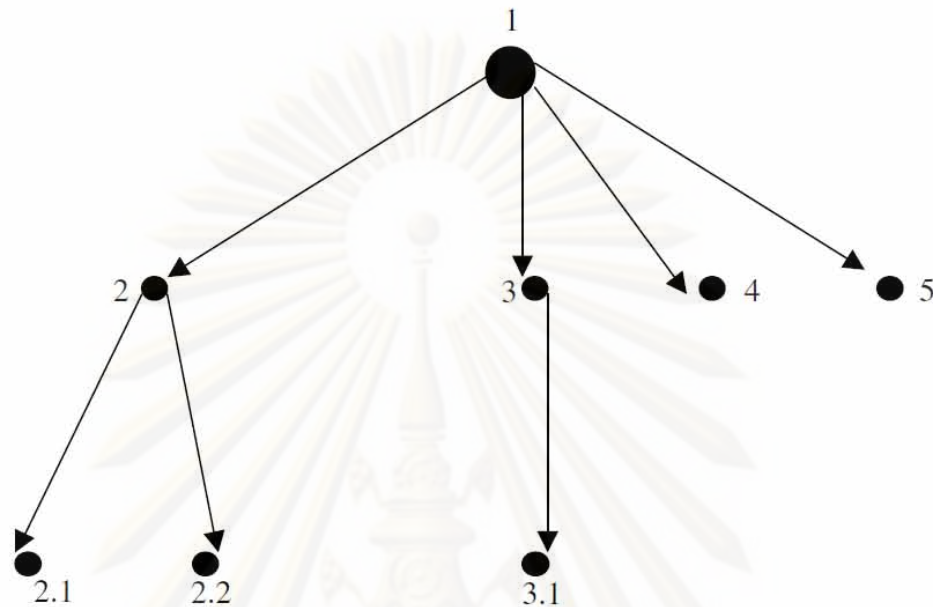
Figure 14 The semantic network for *time* (Evans, 2005: 52)

(1 = the DURATION sense, 2 = the MOMENT sense; 2.1 = the INSTANCE sense; 2.2 the EVENT sense; 3 = the MATRIX sense; 3.1 = the AGENTIVE sense; 4 = the MEASUREMENT-SYSTEM sense; and 5 = the COMMODITY sense)

Table 3 Evans's criteria for determining the prototypical sense

CRITERION	DESCRIPTION
ORIGINATION CRITERION	the earliest attested sense
PREDOMINANCE CRITERION	predominant in the semantic network, in the sense of type frequency
PREDICTABILITY CRITERION	predictable regarding other senses
EMBODIMENT CRITERION	most related to lived human experience

The cognitive semantic approach to polysemy, as advocated by Lakoff (1987) and Evans (2005), to name but a few, has proved successful in accounting for semantic multiplicity in a cognitive realistic fashion, specifically with the application of radial categorization and image schematization.

However, syntactic multiplicity has largely been downplayed. That is to say, Lakoff's and Evans's versions of networks are primarily meant to feature polysemy, and polyfunctionality is epiphenomenal. To illustrate the case in point, among Evans's proposed set of criteria for distinguishing polysemic meanings, it is the MEANING CRITERION that plays a decisive role, with the CONCEPT ELABORATION CRITERION and GRAMMATICAL CRITERION, both of which concern syntactic evidence, playing supportive roles. As a result, according to Evans, even if there is evidence of differences in terms of lexical items selected to appear in a syntagmatic or collocational relationship with the form and/or of differences in terms of grammatical constructions in which the form appears, no polysemic distinction is made if there is no additional semantic information not apparent in any other meanings associated with the form. Consider the following examples.

tɔ̂ŋ = verb of receiving a legal obligation

(25) เขา **ต้อง** โทษ จำคุก

khǎw *tɔ̂ŋ* thô:t camkhúk

he punishment imprison

'He received a punishment of imprisonment.' [news]

tɔ̂ŋ = auxiliary of obligation

(26) เขา **ต้อง** จำคุก

khǎw *tɔ̂ŋ* camkhúk

he imprison

'He has an obligation to be imprisoned.'

According to Evans, there might be no distinction between *tɔ̂ŋ* in (25) and (26), as an obligation to be imprisoned, as illustrated in (26), can be inferred from the event of receiving a legal obligation, as illustrated in (25). In other words, it makes a lot of sense to think of a person receiving a punishment of imprisonment, and consequently being obliged to serve the term. Despite the apparent syntactic difference, *tɔ̂ŋ* in (25) and (26) means approximately the same, and thus constitutes the same sense. This study, however, takes a

somewhat different point of view. Difference in syntagmatic and grammatical relations is indicative of the syntactic multiplicity of a form. And if the difference is so great that the syntactic multiplicity, with or without semantic multiplicity, cuts across different functional categories, such as verbs and auxiliaries, different senses are involved.

In summary, in order to properly define polyfunctionality, one needs to take the distinction between polysemy and homonymy into account. A polyfunctional form is defined in this study as a form with multiple syntactic functions which are related at least diachronically. This definition is aimed at setting a core case of polyfunctionality apart from other related phenomena, such as polysemy without syntactic multiplicity and syntactic multiplicity without polysemy. This definition also positions polyfunctionality as a subcategory of polysemy, as, though associated with different syntactic functions, the meanings of a form might be conceptually close and share the same etymological source. The relationship that holds between the senses, moreover, is that of family resemblance. That is to say, there is a set of salient attributes that are shared to varying extents by the senses of a polysemous form. However, there are problematic cases in which it is difficult to distinguish between polyfunctionality and homonymic multifunctionality. On one hand, a form may have multiple functions that derive from the same historical source but seem not to be connected for most speakers. On the other hand, synchronically there seems to be a plausible semantic relationship between the two different functions of a form, but historical evidence disproves that relationship. These two quirky cases call for a model which allows a fuzzy boundary between polysemy and homonymy. The cognitive approaches to linguistics seem to be successful in modeling polysemy as, based on the cognitive psychological theory of categorization and prototypicality, they incorporate the notions of family-resemblance relationship and a fuzzy boundary between categories. However, so far no known work in the field has seriously taken into account the notion of syntactic multiplicity in polysemy.

2.2. Modality and Modal Expressions

2.1.1. Definitions of Modality

Although the term 'modality'[4] has long been in use in the linguistic literature, it is usually a difficult task to give it a precise definition. Indeed, a number of definitional criteria have been proposed for the semantic category of modality[5], and in most accounts two main concepts emerge from these criteria: non-propositionality and subjectivity. A widely accepted criterion is given by Lyons (1977: 452), who refers to modality as the speaker's "opinion or attitude towards the proposition that the sentence expresses or the situation that the proposition describes". As such, modality has been generally associated with the dichotomy between the propositional content, i.e. what is said, and the propositional attitude, which relates to such notions that are normally subsumed under modality as necessity and possibility, among others. The non-propositional nature of modality is exemplified by the English sentences:

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[4] It is also often difficult to make a clear-cut delineation between modality and mood, as both of the notions are generally associated with the non-propositional and subjective aspect of an utterance. This difficulty mostly arises from the discrepancies in the use of the terminology by different authors, which in fact does not concern us here. However, it may be advantageous at this point to posit that, according to Palmer (1986), a mood system is characterized by a binary distinction between indicative and subjunctive or realis and irrealis, whereas a modality system is not. Moreover, it may be convenient to make a distinction between the expressions traditionally associated with modality, for instance, those indicating obligation, probability, and possibility, and those traditionally associated with mood, for instance, imperative, optative, and conditional expressions (Bybee, Perkins & Pagliuca, 1994:176).

[5] It should be noted that modality here is taken as a semantic category, as opposed to a morphosyntactic category, that is fundamentally fuzzy, and should thus be thought of as a whole category of related semantic structures. Other categories that are usually related to and overlap with modality are, more closely, mood, and, less closely, tense and aspect, for example.

(27)   (a)   *John likes the cat.*

(b)   *John **might** like the cat.*

In (27b) the modal auxiliary *might* expresses the possibility that the speaker attributes to the encoded event, whereas (27a) is generally taken as indicative of the reality. The definition of modality as the speaker's attitude toward the propositional content is further elaborated by Palmer (1986: 16), who draws attention to the subjective nature of modality. He proposed that linguistic modality is "concerned with subjective characteristics of an utterance, and it could even be further argued that subjectivity is an essential criterion for modality." For him, modality is therefore the grammaticalization of speakers' attitudes and opinions, as discernible in the case of example (27b) above, in which the speaker is involved with the (subjective) assessment of the possibility of the event encoded.

2.2.2. Subcategories of Modality

Even more controversial is the issue as to how the notions subsumed under modality can be categorized. Palmer (1986) makes a distinction between propositional modality and event modality. The former is concerned with the "speaker's attitude to the truth value or factual status of the proposition" whereas event modality refers to events "that have not taken place but are merely potential (Palmer, 1986: 24-70). Palmer divides propositional modality into epistemic (speculative, deductive, and assumptive), and evidential (reported and sensory), for example, '*Jack may arrive soon*' (Jack's arriving soon is speculative), and event modality into deontic (permissive, obligative, and commissive) and dynamic (abilitive and volitive), for example, '*you can enter the room now*' (your entering the room now is permitted.' Another set of terminology is proposed by Bybee, Perkins and Pagliuca (1994). Based on a typological study of the diachronic developments of modal elements, they propose that modality can be broken down into: agent-oriented, speaker-oriented, epistemic, and subordinating. Agent-oriented modality "reports the existence of internal and external

conditions on an agent," and thus includes obligation, necessity, and ability, for example, '*we must submit this work tomorrow*' (our submitting this work tomorrow is obligatory), whereas speaker-oriented modality, which includes directive, imperative, and prohibition, allows "the speaker to impose such conditions on the addressee," for example, '*come to see me*,' (your coming to see me is imperative). Epistemic modality "applies to assertions and indicates the extent to which the speaker is committed to the truth of the proposition," and thus includes possibility, probability and inferred certainty, for example, '*he should be arriving at London by noon*' (his arriving at London by noon is probable) (Bybee, Perkins and Pagliuca, 1994: 176-9). The account of subordinating, however, mainly regards the mood system rather than modality *per se*, and is thus irrelevant here. It should be noted that in this framework, agent-oriented modality and speaker-oriented modality roughly divide the area of Palmer's event modality, whereas Bybee, Perkins and Pagliuca's epistemic modality can be subsumed under Palmer's propositional modality, with a central focus on who is the enabling factor: the agent or the speaker.

More recently, van der Auwera and Plungian (1998: 80-81), in an attempt to supply the grammaticalized expressions of modality with a semantic map, make a distinction between participant-internal modality, participant-external modality, deontic modality[6], which is a special subdomain of participant-external modality, and epistemic modality. In this framework, the term 'participant-oriented modality,' that is, participant-internal and participant external modality, is used instead of agent-oriented modality so as to include those cases in which the subject of the sentence is not actually an agent, as in *Sally must be taking care of,* in which the subject, i.e. Sally, has the thematic role of patient. Participant-internal modality is similar to the concept

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[6] While the status of epistemic modality is usually undoubted, there is a struggle between differing terminologies on the other end of the modality spectrum. One particular term, 'root modality,' has been in widespread use, and generally subsumes under it the notions of deontic and dynamic modality. As such, root modality is more or less identical with event modality as proposed by Palmer (1986), and is thus not adopted here so as to avoid terminological confusion.

of Palmer's dynamic modality, as it deals with ability and need, as in (28a) and (28b) respectively:

(28) (a) Jack **can** drive a truck because his father taught him when he was young.

  (b) Jack **needs to** drive a truck to earn some money.

Participant-external modality is divided into deontic and non-deontic participant-external modality. Deontic modality, in this view a subtype of participant-external modality, encompasses permission and obligation (either from the speaker or another source), as in (29a) and (29b) respectively:

(29) (a) Tom **may** leave now because I've finished with him.

  (b) Tom **must** leave now because his wife wants him at home.

Non-deontic modality deals with possibility and necessity, referring to circumstances wholly external to the situation, as in (30a) and (30b) respectively:

(30) (a) Nicole **can** take vitamin C to prevent colds.

  (b) Nicole **must** take vitamin C to prevent colds.

Lastly, epistemic modality refers to the speaker's judgment on the certainty or possibility of the proposition. It should be noted that modality that is epistemic is participant-external by definition, that is, the judgment on the certainty or possibility of the proposition is not made by the proposition subject (the participant), but by the utterance subject (the speaker). Due to its highly subjective and grammaticalized nature, however, epistemic modality is usually treated as a separate subcategory. Included in this domain are epistemic possibility, which is different from non-deontic participant-external possibility in that epistemic possibility concerns how possible the speaker thinks the event can happen while non-deontic participant-external possibility concerns what

possible ways the event participant can do to achieve an effect, and epistemic necessity, as in (31a) and (31b), respectively:

(31) (a) George *might* have finished his homework.
(b) George *must* have finished his homework.

It should be noted that in more recent accounts of modality, conceptual sources of force exerted on the completion/possibility of the event encoded play a vital role, as evidenced by Bybee, Perkins and Pagliuca's dichotomy of agent-/speaker-oriented modality, and by van der Auwera and Plungian's dichotomy of participant-internal/-external modality. Nonetheless, the division between epistemic and non-epistemic modality, a rather miscellaneous category that encompasses the notions of deontic and dynamic modality, is particularly prevalent, and indeed is remarkably consistent in most accounts.
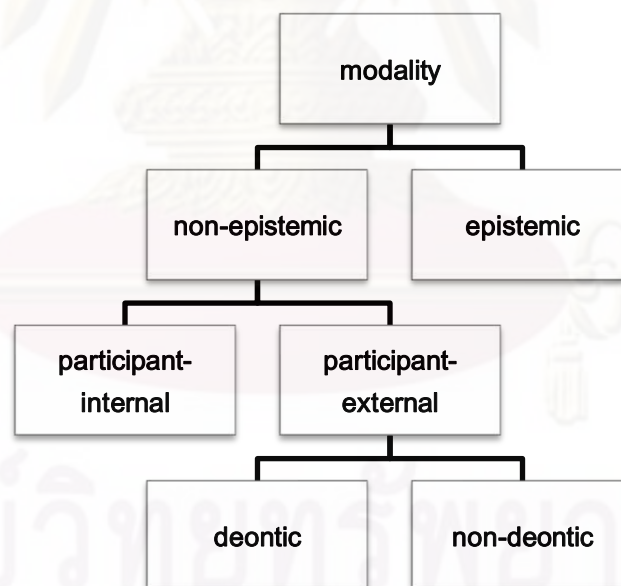
Figure 15 van der Auwera & Plungian's subcategories of modality

2.2.3. Typology of Modal Expressions

Across languages, the semantic category of modality can be linguistically encoded by various types of expressions at different levels of

representation. De Haan (2005: 11-24) posits that modality is formally expressed by morphological, syntactic, and lexical means. Firstly, modality can be morphologically realized by modal affixes, which are marked on the verb, and modal cases, which are marked on the noun. Below are examples of the modal affix *-meli* (obligation) in Turkish and the modal case *-u* (future or potential) in Kayardild, respectively:

-meli = modal suffix of obligation (Turkish)

(32)　(a)　*gel-me-**meli**-siniz*

come-NEG-OBL-2PL

'You ought not to come.'　　　　　　　　(De Haan, 2005: 17)

-u = modal case of future or potential (Kayardild)

(b)　*dangka-a　　burldi-ju　　yarbuth-u　　thabuju-karra-**u***

man-NOM　　hit-POT　　bird-M.PROP　brother-GEN-M.PROP

*wangal-ngun-**u***

boomerang-INSTR-M.PROP[7]　　　　　(De Haan, 2005: 23)

'The man will/can hit the bird with Brother's boomerang.'

Moreover, modality can be expressed by syntactic means, that is, by grammaticalized words or constructions that function as subsidiary elements in a verb phrase. Well attested across languages are modal auxiliary verbs and other grammaticalized modal periphrastic constructions, as exemplified by the modal auxiliary verb *may* (permission/possibility) and the modal periphrastic construction *be supposed to* (obligation/probability) in English, respectively:

(33)　(a)　*Melissa **may** stay with her friends.*

(b)　*Mellissa **is supposed to** stay with her friends.*

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[7] Abbreviations used in de Haan (2005)'s examples: NEG = negative; OBL = obligation; 2PL = second-person plural; NOM = nominative; POT = potential; M.PROP = modal proprietive; GEN = genitive; INSTR = instrument

Lastly, modality can be linguistically encoded by lexical items, which include modal adverbs and adjectives, which are exemplified by an English examples (34a) and (34b), modal tags, and modal particles. Modal tags generally derive from pure matrix clauses that have grammaticalized and function more like modal adverbs. Modal particles, however, are grammaticalized elements that derive from such various sources as adverbs, adjuncts, scalar particles, adjectives, and interjections, and as they "have the entire sentence in its scope, they are often found at clause boundaries, and very often clause-finally" (De Haan, 2005: 22). Examples of the modal tag *I think* in English and the modal particle *lā* in Cantonese are given in (35a) and (35b) respectively.

(34) (a) Doug **probably** killed the cat.

(b) It is **probable** that Doug killed the cat.

(35) (a) It's your point of view you know what you like to do **I**

think. (De Haan, 2005: 19)

lā = modal particle (Cantonese)

(b) Léih   béi   dō   dī   sìhgaan   ngóh **lā**

you   give more some time   me   PRT

"Give me a bit longer, won't you?"   (De Haan, 2005: 22-3)
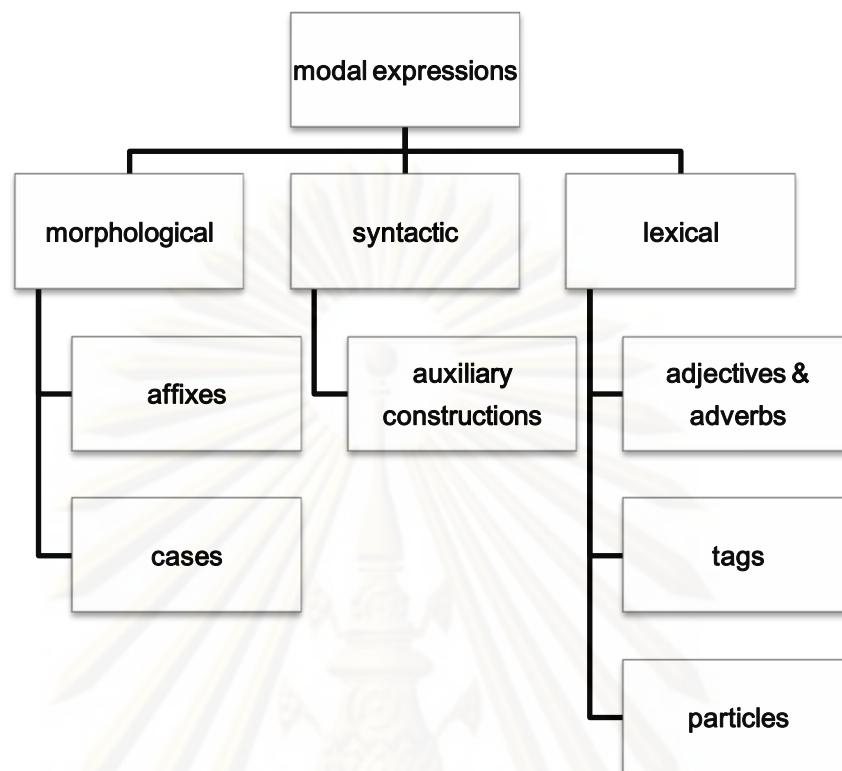
Figure 16 de Haan & Plungian's types of modal expressions

2.2.4. Thai Modal System

Thai, on which this study is mainly based, is an isolating language in the Southeast Asia mainland linguistic area that relies on syntactic constructions and lexical items rather than morphological devices to express grammatical categories. It is therefore not surprising to find that Thai has a number of syntactic and lexical means to encode modality, while it has none in terms of morphology. Based on a corpus of actual data, Rangkupan (2005: 53-5) proposes four classes of modality markers in Thai: preverbal auxiliaries, initial particles, adverbs, and final particles. Firstly, preverbal auxiliaries[8], which she argues are typical expressions of modality, include, for example, *ʔàːt* and *khoŋ*, the latter of which is exemplified below:

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[8] The use of the term 'auxiliary' needs a discussion here. Although decidedly subsidiary, words like *ʔàːt* and *khoŋ* have a more lexical meaning than their English counterparts *can* and *may*. Indeed, *ʔàːt* and *khoŋ* can synchronically function as full verbs, though restricted to certain constructions, like in:

(36) สมชาย **คง** ออก ไป แล้ว
sŏmcha:j **khoŋ** ʔɔ̀:k paj lɛ́:w
Somchai may exit go already
'Somchai may have left.'

According to Rangkupan, (du:)thâ:tha:ŋ[9] is an initial particle in Thai derived from a noun or predicate (look) gesture. It can occur in the initial area of a

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(i) สมบัติ **อาจหาญ** ยิ่งนัก
sŏmbàt **ʔà:thǎ:n** jîŋnák
Sombat brave absolutely
'Sombat is absolutely brave.'

(ii) ตึก นี้ **คงทน** ถาวร
tùk ní: khoŋthon thǎ:wɔ:n
building this last permanent
'This building will last very long.'

Besides, in a language in which serial verb constructions are prevalent like Thai, the co-occurrence between ʔà:t and khoŋ and other verbal elements is common, a behavior atypical of auxiliaries of the same category, as exemplified below:

(iii) สมหญิง **คง** อาจ จะ ไม่ มา
sŏmjĭŋ **khoŋ** ʔà:t càʔ mâj ma:
Somying may can will not come
'Somying may not come.'

It should be noted that this study makes use of the term 'auxiliary' only with the syntactic qualifications described above, and instead of 'modal auxiliary verb,' simply 'modal' may be used interchangeably.

[9] In my viewpoint, however, Rungkupan's initial particle (du:)thâ:tha:ŋ can be called into question, as it in fact is not restricted to the initial area, but can be placed clause-finally, though might sound rather colloquial and need an additional preceding particle, as exemplified below:

sentence, either preceding or following the subject, but not postverbally, and hence the name 'initial particle,' as exemplified below:

(37) (a)   *ท่าทาง*   *สมศรี*   *กิน*   *จุ*
            thâ:tha:ŋ   *sŏmsǐ:*   *kin*   *cù?*
            gesture   Somsri   eat   much
            'It seems Somsri is a gourmand.'

      (b)   *สมศรี*   *ท่าทาง*   *กิน*   *จุ*
            sŏmsǐ: ***thâ:tha:ŋ***   *kin*   *cù?*
            Somsri   gesture   eat   much
            Somsri, it seems, is a gourmand.'

Another class of Thai modality markers is adverbs, which include, for example, *sŏŋsǎj* (suspect) and *nɛ̂:* (sure), as exemplified below, respectively[10]:

(iv)   *สมศรี*   *กิน*   *จุ*   *(นะ)*   *ท่าทาง*
       sŏmsǐ: *kin*   *cù?*   *(ná?)*   ***thâ:tha:ŋ***
       Somsri   eat   much   (particle)   gesture
       'Somsri is a gourmand, it seems'

Moreover, (*du:*)*thâ:tha:ŋ* has a relatively richer lexical meaning than typical particles like *máŋ*, which is really difficult to be translated or even paraphrased in another way. Indeed, it seems to have grammaticalized from the matrix verb construction (*du:*)*thâ:tha:ŋwâ:* (*seem that*), and thus should be categorized as a modal tag.

[10] Another mistreatment is the case of the so-called adverb *sŏŋsǎj*, which, I argue, should not be labeled as an adverb, as it does not have some prototypical properties of adverbs like being reduplicated for a higher degree or a larger quantity, unlike a typical adverb like *nɛ̂:* (see example 31). Also, *sŏŋsǎj* shows a sign of having grammaticalized from the matrix verb construction *sŏŋsǎjwâ:* (*suspect that*), and therefore should be subsumed under the modal tag class along with the aforementioned (*du:*)*thâ:tha:ŋ*.

(38) (a) *สงสัย*   เขา   ไม่   พอใจ

          sŏŋsǎj   khǎw   mâj   phɔ:caj

          suspect   he   not   satisfied

          'Maybe he is not satisfied.'

     (b) จิต   เป็น   โสด   แน่-แน่

          cìt   pen   sò:t   *nɛ̂:-nɛ̂:*

          Jit   be   single sure-sure

          Jit is definitely single.'   (Rangkupan, 2005: 54-5)

The final class of modality markers in Thai is final particles. Rangkupan mentions *máŋ* as an example. This particle occurs at the end of the sentence and cannot occur in other positions, as exemplified below:

(39) จิต   กลับ   บ้าน   แล้ว   *มั้ง*

     cìt   klàp   bâ:n   lɛ́:w   *máŋ*

     Jit   return home   already maybe

     'Jit already went back home, maybe.'   (Rangkupan, 2005: 55)

Besides the classification of Thai modal markers in accord with their syntactic distributions, Rangkupan makes a distinction between the semantic subcategories of modality: deontic and epistemic. She makes a very interesting note that in Thai, co-occurrence between modal markers of the same category, e.g. deontic and deontic, or of different categories, i.e. deontic and epistemic, is prevalent, and the combinations thereof can result in varying semantic values.

    In summary, the two main concepts of non-propositionality and subjectivity are essential in understanding the nature of modality, which can be simply defined as the grammaticalization of speakers' attitudes and opinions. Modality can be subcategorized in many ways, but this study makes a distinction between participant-internal modality (ability and need), participant-external modality (possibility and necessity), deontic modality (permission and obligation), which is a special subdomain of participant-

external modality, and epistemic modality (epistemic possibility and epistemic necessity). Moreover, it is posited that the semantic category of modality is formally encoded by means of morphology (modal affixes, which are marked on the verb, and modal cases, which are marked on the noun), syntax (grammaticalized words or constructions that function as subsidiary elements in a verb phrase), and lexicology (modal adverbs and adjectives, modal tags, and modal particles). The Thai language, in particular, relies on a number of syntactic and lexical means to encode modality. It is proposed that there are four classes of modality markers in Thai: preverbal auxiliaries, initial particles, adverbs, and final particles.

2.3. Previous Studies on the Word Form *tôŋ*

A survey of available literature reveals that there are only a small number of works that deal with *tôŋ* from a linguistic, as opposed to pedagogical or lexicographical, point of view. This relative lack of linguistic research about the form necessitates this current study. Altogether, there are five works that deserve reviewing: Nawanwan Phandhumetha's *Thai Grammar* (2008), Ruengdet Pankhuenkhat's *Thai Linguistics* (2009), Phornthip Phatranawig's *Modal Expressions in the Thai Language* (1972), Suda Rangkupan's "A System of Epistemic Modality in Thai" (2005), Amara Prasithrathsint's *Change in the Passive Constructions in Written Thai during the Bangkok Period* (1985), and Paitaya Meesat's *A Study of Auxiliary Verbs Developed from Verbs in Thai* (1997). These works can be categorized into three groups in accord with the different aspects of the word form *tôŋ* that they deal with. Works in the first group are meant to be reference grammars and thus mention in passing the use of *tôŋ* in the Thai grammatical system. This first group includes Phandhumetha (2008) and Pankhuenkhat (2009). The second group is works that are entirely devoted to the study of the Thai modality system, and thus give a much more insightful analysis of the form. The second group includes Phatranawig (1972) and Rangkupan (2005). The third and last group is works that deal with a diachronic development of

auxiliary verbs in Thai, including *tɔ̂ŋ*, and thus provides sound historical evidence. This group includes Prasithrathsint (1985) and Meesat (1997).

Table 4 Previous studies on the word form */tɔ̂ŋ/* grouped their approaches

THAI REFERENCE GRAMMARS	Phandhumetha (2008); Pankhuenkhat (2009)
WORKS ON THE THAI MODAL SYSTEM	Phatranawig (1972); Rangkupan (2005)
WORKS ON THE DEVELOPMENT OF THAI AUXILIARIES	Prasithrathsint (1985); Meesat (1997)

2.3.1. Thai Reference Grammars

Works in the first group are intended as reference grammars of the Thai language, and thus mentions *tɔ̂ŋ* in passing. Phandhumetha (2008: 71-74) implies the polysemous nature of the form by putting it into two categories of "expressions of opinions," that is, "expressions of the speaker's opinion about the possibility of the event" and "expressions of the speaker's opinion about the necessity of the event." It is noteworthy that Phandhumetha's subcategory of "expressions of the speaker's opinion about the possibility of the event" corresponds to the notion of epistemic modality. She gives an example of *tɔ̂ŋ* in this use.

(40) นิด   **ต้อง**   ไป   เชียงใหม่   บ่อย
      nít   **tɔ̂ŋ**   paj   chiaŋmàj   bɔ̀j
      Nit   must go   Chiangmai   often
      'It is certain that Nit often goes to Chiangmai.' (Phandhumetha, 2008: 71)

She notes that in this sentence the form is used to mark the certainty of the possibility of the event. However, it is not always the case. It is arguable that sentence (40) can have a non-epistemic reading. That is to say, *tɔ̂ŋ* here can denote the necessity or obligation that is imposed on the realization of the

event. For example, sentence (40) can read "(upon taking up a position at her company) Nit is obliged to often go to Chinagmai" (Phandhumetha, 2008: 71). The second group that *tɔ̂ŋ* also belongs to is "expressions of the speaker's opinion about the necessity of the event," which corresponds to this study's non-deontic participant-external modality. An example given is:

(41) นิด   **ต้อง**   ไป   เชียงใหม่
       nít   **tɔ̂ŋ**   paj   chiaŋmàj
       Nit   *must*   *go*   *Chiangmai*
       'It is necessary for Nit to go to Chiangmai.'   (Phandhumetha, 2008: 71)

Then again, Phandhumetha does not consider that *tɔ̂ŋ* in (41) can give an epistemic reading: "it is certain that Nit will go to Chiangmai," which is possible here. Unfortunately, she does not mention the other grammatical meanings of *tɔ̂ŋ*, that is, the "need" and "obligation" meanings (participant-internal modality and deontic participant-external modality). However, this work does shed light on other auxiliaries that can co-occur with the form: it can be preceded, but not followed, by *càʔ* (futurity), and it can be followed, but not preceded, by *dâːj* (perfective). The other work in this group, Pankhuenkhat (2009: 200-201), gives even less detail about the form. Basing his criteria only on the position in relation to negative markers, he categorizes auxiliaries into three groups, namely, "auxiliaries that can only precede negative markers," "auxiliaries that can only follow negative markers," and "auxiliaries that can precede and follow negative markers." It is rather surprising, and rather insensible, to find that *tɔ̂ŋ* belongs to both "auxiliaries that can only follow negative markers" and "auxiliaries that can precede and follow negative markers." This contradictory categorization might have been caused by an error at some process.

2.3.2. Works on the Thai Modal System

The second group is works that directly deal with the modal system in Thai. Phatranawig (1972: 122) is a particularly interesting treatment of *tɔ̂ŋ*, as it goes beyond the modality meanings of the form by discussing its

"mode" meaning, that is, the imperative mode (command or order). The author gives an example of *tɔ̂ŋ* in this use:

(42)   เธอ   **ต้อง**   ร้องเพลง

      thə: **tɔ̂ŋ**   rɔ̂:ŋpleːŋ

      you   must   sing

      'You must sing!"

It is, however, argued in this study that, although the imperative meaning can arise in this kind of sentence, it is by no means an encoded meaning of the form. While it is true that the sense of command or order can be pragmatically inferred, the predominant meaning of *tɔ̂ŋ* is still that of obligation (deontic modality). One counter-argument against Phatranawig is that while truly conventionalized imperative markers like *coŋ* can occur in a subjectless sentence and always gives an imperative reading, *tɔ̂ŋ* does not. Compare:

(43)   **จง**   ร้องเพลง

      coŋ   rɔ̂:ŋphleːŋ

      (COMMAND)   sing

      'Sing!"

(44)   ต้อง   ร้องเพลง

      tɔ̂ŋ   rɔ̂:ŋphleːŋ

      must   sing

      '(I/we/you/he/she/it/they) must sing."

While (43) is a conventionalized imperative sentence, (44) seems more like a sentence with an ellipsed subject, which should be retrieved in context. An imperative reading can arise only when the missing subject is of the second person. Still, the obligation sense is predominant. Therefore, unlike Phatranawig, this study does not give a separate treatment of the imperativity of the form. Phatranawig (1972: 170-171) mentions another use of *tɔ̂ŋ*. It can be used as an auxiliary to denote "certainty modality." She states that the form

in this use can appear with or without a negative marker. Unfortunately, she fails to make a distinction between the epistemic and non-epistemic readings, and uses the label "certainty" without identifying the source of certainty (participant-internal, participant-external, or else).

Rangkupan (2005), on the other hand, makes a fine distinction between the epistemic and non-epistemic meanings of the form. Syntactically, it functions as a preverbal auxiliary, i.e. following the subject noun phrase and preceding the main verb, as exemplified below:

(45) ฉัน **ต้อง** เอา ชนะ ใจ เขา ให้ ได้
chǎn **tɔ̂ŋ** ʔaw chá?ná? caj khǎw hâj dâ:j
I must take win heart he give acquire
'I must win over his/her heart.'

Putting the modal in other positions, like sentence-initial, i.e. *tɔ̂ŋ chǎn ʔaw chá?ná? caj khǎw hâj dâ:j, or clause-final, i.e. *chǎn ʔaw chá?ná? caj khǎw hâj dâ:j tɔ̂ŋ, would render the sentence outright ungrammatical. This positional restriction qualifies tɔ̂ŋ as an auxiliary verb in Thai. Semantically, tɔ̂ŋ seems to encompass both the epistemic and non-epistemic modal meanings. The epistemic reading of tɔ̂ŋ represents a relatively high degree of certainty or confidence, and can be termed as epistemic necessity or simply certainty. Considering the evidence or knowledge available to the speaker, it is necessary for him/her to be certain of the propositional content, as exemplified below:

(46) มัน **ต้อง** เป็น ฝีมือ ผี ตาอ่ำ แน่
man **tɔ̂ŋ** pen fǐ:mɯ: phǐ: ta:ʔàm nɛ̂:
it must be deed ghost Ta-Am sure [fiction]
'It must have been done by Ta-Am Ghost.'

It should be noted here that tɔ̂ŋ in its epistemic reading usually co-occur with the modal adverb nɛ̂:, which also encodes, according to Rangkupan (2005), a

high degree of epistemic certainty. This might be a sign of the in-process development of the epistemic meaning of *tɔ̂ŋ*.[11]

The third group includes works that deal with the diachronic development of some auxiliary verbs in Thai, including *tɔ̂ŋ*. Firstly, in Prasithrathsint (1985), seven passive constructions in Thai are discussed, one of which is the passive constructions with *tɔ̂ŋ* as a passive marker. Adopting the Lexicase approach to language analysis, which was conceived and advocated by Stanley Strarostra, Prasithrathsint (1985: 76-78) mentions the polyfunctionality of the form. It can be used as a modal meaning "must, have to." Another function, which is rarely used nowadays, means 'touch.' The

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[11] Rangkupan does not further divide the non-epistemic reading into participant-internal modality to deontic and non-deontic participant-external modality. However, in this study, such a distinction is made. The participant-internal modal meaning of *tɔ̂ŋ*, which can be termed participant-internal necessity, is exemplified above in (45), in which the necessity to win his/her heart stems from the subject's own need. The deontic participant-external modal meaning, which can be termed deontic necessity, is exemplified below:

(i)	โต้ง	**ต้อง**	กลับ	บ้าน	แล้ว		แม่	โทร	มา	จิก
	tô:ŋ	***tɔ̂ŋ***	*klàp*	*bâ:n*	*lɛ́:w*		*mɛ̂:*	*tho:*	*ma:*	*cìk*
	Tong	must	return	home	already	mom	call	come	peck
	'Tong must go home now because my mom called him.'									[fiction]

The source of obligation is external to the subject, probably "some person(s), often the speaker, and or as some social or ethical norm(s)" (van der Auwera and Plungian, 1991. In (i), the obligation comes from Tong's mother, so that it becomes necessary for him to go home. Lastly, the non-deontic participant-external modal meaning, which can be termed participant-external necessity or simply necessity, is exemplified below in (ii), in which the circumstance that culminates in the necessity is not subjective or personal, but rather objective or physical.

(ii)	ฉัน	**ต้อง**	เดิน	ตั้ง	ชั่วโมง		กว่า	จะ	ถึง	บ้าน
	chǎn	***tɔ̂ŋ***	*dəːn*	*tâŋ*	*chûamoːŋ*		*kwàː*	*càʔ*	*thǔŋ*	*bâːn*
	I	must	walk	such	hour	until	will	arrive	home
	'I must walk for an hour to get home.'									[fiction]

other function, she claims, is a passive marker. Based on her diachronic data, she concludes that the *tɔ̂ŋ* passive construction, which is now rare and archaic, was once in common use and precedes the *thɯ̀:k* passive construction, a well established construction in current use. However, her examples in support of this claim needs scrutiny. Consider:

(47) บ่าวไพร่   ซึ่ง   ***ต้อง***   เกณฑ์

      bà:wphrâj   sɯ̂ŋ   ***tɔ̂ŋ***   ke:n

      slave   that   ?   draft

      'the slaves who had a draft obligation/were drafted'

                                                (Prasithrathsint, 1985: 76)

(48) อย่า   ให้   ผู้   ***ต้อง***   กรรโชก   ไป   ริบ   เอา

      jà: hâj   phû: ***tɔ̂ŋ***   kanchô:k   paj   ríp   ʔaw

      don't   let   who   ?   rob   go   fetch   take

      ทรัพย์สิน   มัน   ผู้   กรรโชก   ตน   ก่อน

      sápsĭn   man   phû: kanchô:k   ton   kɔ̀:n

      belongings   that   who   rob   self   before

      'Don't let someone who has been robbed confiscate the belongings of someone else who robbed him.'   (Prasithrathsint, 1985: 76)

The two examples are both problematic, but in different ways. (47) is problematic because its passive reading is questionable. It can be argued that *ke:n* (draft) is not a verb but a noun. As a result, *tɔ̂ŋ* here does not function as an auxiliary, but a main verb followed by its nominal object. And so it reads "the slaves who have received the obligation of draft," with *tɔ̂ŋ* denoting the event of receiving an obligation. (48), however, is a more complicated case, as *kanchô:k* (rob) is a verb in Thai, not a noun. And considering the fact that in contemporary Thai there are noun phrases like *phû:tɔ̂ŋsɔ̌ŋsǎj* (suspect, literally one who is suspected) and *phû:tɔ̂ŋkhǎŋ* (prisoner, literally one who is imprisoned), in which the verbs meaning "suspect" and "imprison" follow *tɔ̂ŋ*, the argument for the form as a passive marker may sound convincing. However, there are also noun phrases like *phû:tɔ̂ŋkhádi:* (one who has been

tried, literally one who has received a trial) and *phûː tɔ̂ŋ ʔaːjaː* (one who has received a criminal charge), in which the nouns meaning "trial" and "criminal charge" follow *tɔ̂ŋ*, it is only more reasonable to posit *phûː tɔ̂ŋ* + noun or verb denoting a legal obligation, punishment, or violation as a nominal construction denoting the undergoer of an adversative receptive event. The fact that we cannot have only the form *tɔ̂ŋ* alone to mark passivity of the event without *phûː* (who) disproves the status of *tɔ̂ŋ* as a passive marker in its own right.

Moreover, Meesat (1997) presents historical evidence about the development of the form. Working with diachronic texts, she studies the development, mostly syntactic, of six auxiliary verbs in Thai: *khoŋ*, *khuan*, *tɔ̂ŋ*, *dâːj*, *nâː*, and *ʔàːt*. Meesat (1997: 67-69) proposes that *tɔ̂ŋ* has two functions: a verb and a preverbal auxiliary. As a verb, it can be either intransitive, followed by a preposition phrase, or transitive, as in (49) and (50) respectively.

(49) แล   คำกฎหมาย   **ต้อง**   กับ   หนังสือร้อง
     lɛː   khamkòtmǎːj **tɔ̂ŋ**   kàp   nǎŋsʉ̌ːrɔ́ːŋ
     if   law   with   appeal
     'if the law corresponds with the appeal'   (Meesat, 1997: 67)

(50) ข้าศึก   **ต้อง**   ศาสตราวุธ   ตาย
     khâːsʉ̀k   **tɔ̂ŋ**   sàːttraːwút taːj
     enemy   arms   die
     'The enemies were harmed by the arms and died.' (Meesat, 1997: 68)

Meesat argues that it is the transitive use of the form that gives rise to the intransitive use, but how this change happens is not mentioned. The auxiliary function of the form, moreover, develops from the transitive use, but, again, what mechanisms that make this development possible is not mentioned. What is also missing from her analysis is the semantic extension of *tɔ̂ŋ*.

In sum, there are three groups of previous studies of the form *tɔ̂ŋ*. These works are grouped in accord with the different aspects of the word form that they deal with. Works in the first group are meant to be reference

grammars and thus mention in passing the use of *tôŋ* in the Thai grammatical system. This first group includes Nawanwan Phandhumetha's *Thai Grammar* (2008) and Ruengdet Pankhuenkhat's *Thai Linguistics* (2009). The second group is works that are entirely devoted to the study of The Thai modality system, and thus give a much more insightful analysis of the form. The second group includes Phornthip Phatranawig's *Modal Expressions in the Thai Language* (1972) and Suda Rangkupan's "A System of Epistemic Modality in Thai" (2005). The third and last group is a work that takes on a diachronic approach to linguistic analysis of a group of auxiliaries in Thai. This group includes Amara Prasithrathsint's *Change in the Passive Constructions in Written Thai during the Bangkok Period* (1985) and Meesat's *A Study of Auxiliary Verbs Developed from Verbs in Thai* (1997).

2.4. Summary

A polyfunctional form is defined in this study as a form with multiple syntactic functions which are related at least diachronically. This definition is aimed at setting a core case of polyfunctionality apart from other related phenomena, such as polysemy without syntactic multiplicity and syntactic multiplicity without polysemy. The relationship that holds between the meanings, moreover, is that of family resemblance. However, there are problematic cases in which it is difficult to distinguish between polyfunctionality and homonymic multifunctionality. These cases call for a model which allows a fuzzy boundary between polysemy and homonymy. Furthermore, basic concepts about modality are discussed. Modality can simply defined as the grammaticalization of speakers' attitudes and opinions. Modality can be subcategorized in many ways, but this study makes a distinction between participant-internal modality (ability and need), participant-external modality (possibility and necessity), deontic modality (permission and obligation), which is a special subdomain of participant-external modality, and epistemic modality (epistemic possibility and epistemic necessity). Moreover, it is posited that the semantic category of modality is formally encoded by

means of morphology, syntax, and lexicology. The Thai language, in particular, relies on a number of syntactic and lexical means to encode modality. It is proposed that there are four classes of modality markers in Thai: preverbal auxiliaries, initial particles, adverbs, and final particles.

Then, three groups of previous studies of the form *tɔ̂ŋ* are reviewed. Firstly, Nawawan Phandhumetha's *Thai Grammar* (2008) and Ruengdet Pankhuenkhat's *Thai Linguistics* (2009) are works are reference grammars that mention in passing the use of *tɔ̂ŋ* in the Thai grammatical system. Secondly, Phornthip Phatranawig's *Modal Expressions in the Thai Language* (1972) and Suda Rangkupan's "A System of Epistemic Modality in Thai" (2005) are works that study of The Thai modality system, and give a more thorough linguistic analysis of the form. Thirdly, Amara Prasithrathsint's *Change in the Passive Constructions in Written Thai during the Bangkok Period* (1985) and Paitaya Meesat's *A Study of Auxiliary Verbs Developed from Verbs in Thai* (1997) are historical linguistic works that study the diachronic development of sets of verbs in Thai, including *tɔ̂ŋ*. However, what is missing from these studies includes a thorough account of the form's syntax and semantics, a complete model of how the form develops from one function to another, and a description of the mechanisms that drive the development. Therefore, this study is meant to fill in this gap.

CHAPTER III

FUNCTIONS OF /tɕ̂ŋ/

3.1. DEFINITIONAL ISSUES

Before the data analysis proper, it is necessary to define the term "function" as employed in this study. More often than not, this term is primarily applied in general linguistic literature to refer to the relational aspect of a linguistic form. "Function" in this sense, which is aptly called "syntactic relation" in this study, is concerned with how a form is related to other components in the construction. To illustrate the case in point, in the Structuralist approach to language analysis, the function of a form is defined by its constituent distribution, which can be empirically determined by using slot tests. For example, Panupong (1989 cited in Prasithrathsint, 2003: 148) proposes that any constituent that can fulfill the slot in (51) qualifies a preverbal auxiliary in Thai.

(51)　น้า　_____　ทำกับข้าว
　　　ná:　_____　thamkàpkhâ:w
　　　aunt　_____　cook
　　　'My aunt_____ cook.'

While it is understandable that the slot is intended to be filled with auxiliaries like *kamlaŋ* (imperfective), *càʔ* (future), and *khoŋ* (possibility), it can be easily occupied by quite a few non-auxiliary constituents, such as the noun modifier *khonsŭaj* (beautiful), the verb modifier *khɔ̂jkhɔ̂j* (slowly), or even the verb *rian* (learn). On the contrary, not all auxiliaries can perfectly fill in the slot. For example, ?*ná: cuan thamkàpkhâ:w* (my aunt is about to cook) is awkward on its own, although it is known for sure that *cuan* is an auxiliary in Thai. As a result, this slot test proves neither necessary nor sufficient for determining an auxiliary in Thai. Similarly, linguistic work in the Generative tradition also

equates the function of a form with its relation to other components in a sentence, which can be determined by the node it occupies in an abstract hierarchical structure that underlies the surface realization of an utterance. For example, whatever element that can occupy the node X in the following tree diagram should qualify as an auxiliary.
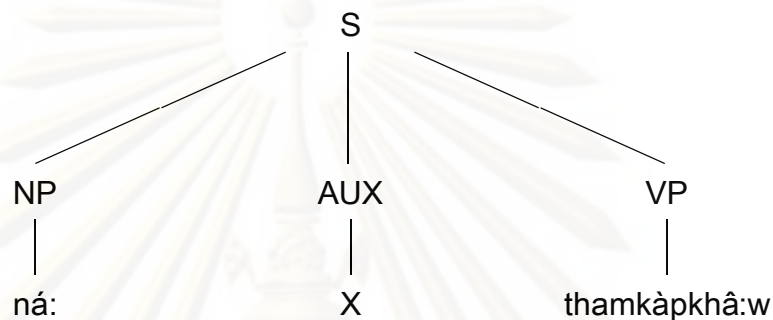
Figure 17 An example of the definition of the auxiliary function in the Generative tradition

Similar problems arise when other forms than auxiliaries can occupy the node, and it cannot be perfectly occupied by all auxiliaries. The unnecessity and insufficiency of the test necessitate a better way to define functions.

By contrast, work in the functional approaches to language, including typological and cognitive linguistics, reflects a strong preference to use the term "function" in a broader, and at the same time more complex, sense. It is assumed that the import of a linguistic form arises from the interaction between the syntactic relation it holds with other components and the "lexical meaning" it has when the form is used in a particular construction, such that the relation of a form influences its meaning, and the meaning of a form determines its relation. This interactional import is referred to as "function." That is to say, the notion of "function" in the eye of cognitive and typological linguists, whose terminology this study follows, encompasses both the semantic and syntactic aspects, i.e. "meaning" and "relation" of a form, as shown below.
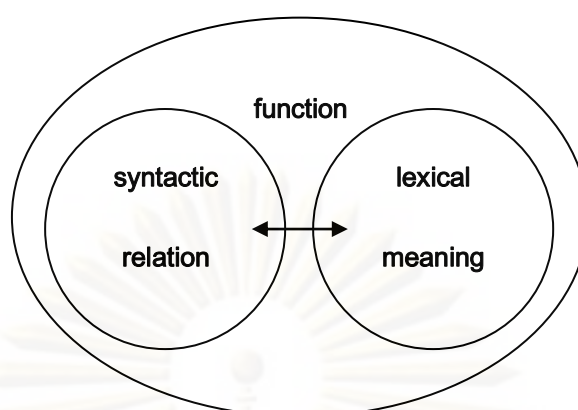
Figure 18 The relationship between function, relation, and meaning

Typologically, it has been found that intralinguistically and interlinguistically there are recurrent associations between a certain type of relation and a certain sets of meanings. For example, for a form to qualify as an auxiliary, it should not only be able to fill in the slot in NP ___ VP or occupy the X node in NP X VP, but also have an auxiliary-like meaning, or a meaning that is typically expressed by an auxiliary such as temporality, aspectuality, or modality. Furthermore, the view about the relationship between a linguistic form and its function as discussed in this study is fundamentally based on the cognitive linguistic treatment of constructions, i.e. the non-compositional parings of form-meaning (see Goldberg, 1995: 1-6 and 2006: 3-10 for a comprehensive theoretical definition), which harks back to Saussure's semiotic view of signs.[12]

   It is noteworthy here that although the syntax and semantics of a form can often be dealt with separately, both should be taken into consideration to achieve a more comprehensive account, especially in a highly complicated

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[12] Saussure (1922) proposed a dichotomy between the signifier and the signified in the sense that they are not separate entities, but a mapping between different aspects of the same phenomenon, that is, a sign. This Saussurean view has been elaborated by cognitive linguists, who unanimously hold that a linguistic construction at any level (e.g. from a morpheme to a clause) consists of a phonological structure (a phonetic, gestural, or orthographic representation), a semantic structure (a conceptualization evoked as the linguistic meaning of the phonological structure), and a symbolic structure, which links the phonological and semantic structures (Langacker, 1991: 15-19 and 2008: 14-18).

case in which that particular form is capable of having multiple functions that are related (polyfunctional). The stance of linguistic explanation taken by this study is in line with the "functional" (as opposed to formal) approaches to language.[13] Just as both the relation and meaning of a form are indispensable in constructing the function, both the syntactic and semantic knowledge are crucial in describing it. The following examples exhibit the polyfunctionality, as well as polysemy, of the form *tôŋ* in Thai.

(52) *verb of coming into physical contact*

ยา	ส่วนใหญ่	จะ	เก็บ	ไว้	ใน	ขวด
ja:	*sùanjàj*[14]	*càʔ*	*kèp*	*wáj*	*naj*	*khùat*
medicine	most	will	keep	put	in	bottle

สีชา	เพื่อ	มิ	ให้	**ต้อง**	แสง	
sǐ:cha:	*pʉ̂a*	*míʔ*	*hâj*	***tôŋ***	*sɛ̌:ŋ*	
tea.color	for	not	give		light	

'Most medicines are kept in amber-colored bottles to prevent them from coming into contact with light.'   [articles]

(53) *verb of having corresponding properties*

กรณี	ของ	นาย	สมชาย	ไม่	ต้อง	ด้วย	กฎหมาย
kɔ:ráʔni:	*khɔ̌:ŋ*	*na:j*	*sǒmcha:j*	*mâj*	***tôŋ***	*dûaj*	*kòtmǎ:j*
case	of	Mr.	Somchai	not		with	law

อาญา							
ʔa:ja:							
criminal							

'Mr Somchai's case does not correspond with the criminal law.'

[articles]

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[13] Functionalist linguists often seek explanations in language in meaningful, communicative use, but not in language as a generative, algebraic system of components and rules. Syntax is no longer deemed as an autonomous level of linguistic structure, and thus no strict boundary is posited between syntax and the explanatory realms of, say, semantics, pragmatics, and discourse. (See DeLancey, 2001 for an extensive discussion of formalism vs. functionalism in linguistics.)

[14] In data presentation, components of compounds are separated by the period symbol.

(54) verb of being subject to a supernatural influence

เมือง	**ต้อง**	สาป
mɯɯaŋ	**tɔ̂ŋ**	sà:p
city		curse

'A cursed city' [documentaries]

(55) verb of receiving a legal obligation

เจ้า	เคย	**ต้อง**	อาญา	มา	ก่อน	หรือเปล่า
câw	khə:j	**tɔ̂ŋ**	ʔa:ja:	ma:	kɔ̀:n	rɯ̌:plà:w
you	ever		law	come	before	INT

'You have ever received a legal punishment before, haven't you?'

[fiction]

(56) auxiliary of obligation

ใคร	ทำ	ผิด	**ต้อง**	ได้รับ	โทษ
khraj	tham	phìt	**tɔ̂ŋ**	dâ:j.ráp	thô:t
who	make	wrong		obtain	punishment

'Who that does wrong will get punished.' [fiction]

(57) auxiliary of necessity

ถ้า	อยาก	ไป	ทัน	เพื่อน	**ต้อง**	ตื่น
thâ:	jà:k	paj	than	phɯ̂an	**tɔ̂ŋ**	tɯ̀:n
if	want	go	in.time	friend		wake.up

เช้า	ขึ้น
chá:w	khɯ̂n
early	up

'If you want to catch up with your friends, you have to wake up earlier.'

[fiction]

(58) auxiliary of need

หล่อน	**ต้อง**	เอา	นั่น	เอา	นี่	ตลอด	เวลา
lɔ̀n	**tɔ̂ŋ**	ʔaw	nân	ʔaw	nî:	tà:ʔlɔ̀:t	we:la:
she		take	that	take	this	throughout	time

'She demands for this and that all the time.' [fiction]

(59) *auxiliary of certainty*

พ่อ	**ต้อง**	ไม่	พลาด	งานเลี้ยง	ปี	นี้	แน่
phɔ̂:	***tɔ̂ŋ***	*mâj*	*phlâ:t*	*ŋa:n.líaŋ*	*pi:*	*ní:*	*nɛ̂:*
father		not	miss	party	year	this	sure

‘Father will not miss this year’s party for sure.’   [fiction]

Roughly speaking, not only does *tɔ̂ŋ* in (52), (53), (54), and (55) seems to have the same syntactic relation[15], i.e. a main predicative element, it gives somewhat similar meanings, i.e. an event of some kind. In the first sentence it denotes a physical contact event, and it means being in correspondence in the second. Moreover, it means coming under the influence of a supernatural power in the third, and it denotes a punishment reception in the fourth. Likewise, *tɔ̂ŋ* in (56), (57), (58), and (59) means somewhat similar concepts, i.e. obligation, necessity, need, and probability, and it holds the subsidiary predicative element relation in all. However, although some might argue that *tɔ̂ŋ* in (55) and (56) seems to be very close in meaning, i.e. something to do with obligation, it has different relations in the two sentences: main and subsidiary predicative elements. This rough survey of the relations/meanings of the form gives the impression of complexity of the subject matter. Indeed, it is this polysemous, multifunctional nature of the form that makes it

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[15] This analysis draws on Radical Construction Grammar (Croft, 2001). According to Croft, functions are not universal, either interlinguistically or intralinguistically, but intrinsically language-specific and construction-specific. The description of functions, however, can be made cross-constructionally and cross-linguistically, on the basis of such empirical evidence as distributional facts. This theoretical inclination has two important applications in this study. First, it does not make a claim that the functions verb and auxiliary as described here are necessarily identical to the main or auxiliary verbs in other constructions in Thai, or to those in other languages. Attention should be paid to what criteria this study employs to define those categories. Second, in describing the linguistic structure of a construction, this study completely does away with conventional functions such as subject and object, assuming they are not universal but epiphenomenal, and thus irrelevant. Instead, this study provides language- and construction-specific descriptions that do not presuppose those archetypical relations.

"polyfunctional," and thus worth serious attention. An analysis which tackles the semantic or syntactic aspect only, however, should fail to appreciate this polyfunctionality. In effect, this study proposes an integrated approach with a multi-dimensional view of the issue, in which a function of a form is defined by both its relation and meaning, and the interaction thereof.

By way of illustration, in accord with the proposed approach, there are altogether two functions of *tôŋ*: a verb and an auxiliary. The verb function is associated with at least four verb-like meanings: coming into physical contact in (52), being in correspondence in (53), submitting to supernatural influence in (54), and receiving an obligation in (55). Moreover, the auxiliary function is associated with at least four auxiliary-like meanings: obligation in (56), a necessity (in (57), need in (58), and probability in (59). Syntactically, (52)-(55) are related in that *tôŋ* in these sentences all has the relation of a main predicative element. On the other hand, *tôŋ* in (56)-(59) has the subsidiary predicative element relation. What is more, (52)-(55) bear a close semantic resemblance to one another, as they all denote an event of some kind. Contrarily, (56)-(59) similarly carry modal meanings. And there are yet further plausible syntactic and semantic differences and similarities that can be delineated. Most importantly, however, these syntactic and semantic relationships, when incorporated into the same model, can reveal an intricate network of the conceptual organization, and plausibly evidence for the diachronic development, of the functions of the form.

In sum, "function" is defined in this study as the import of a linguistic for that arises from the interaction between its relation and meaning in a particular construction. The form *tôŋ*, which is the object of this study, is found to have more than one function, two to be precise: verb and auxiliary. The verb function is associated with the meanings of physical contact, correspondence, supernatural influence, and punitive reception. And the auxiliary function is associated with the meanings of obligation, necessity, need, and certainty. Its polyfunctionality is approached from a cognitive-functional viewpoint, with an emphasis on both the syntactic relation and

lexical meaning of the form, so that its functions, and the relationships thereof, are defined both syntactically and semantically.

3.2. THEORETICAL FOUNDATIONS

Based on both syntactic and semantic criteria, two functions of *tôŋ* can be identified: the verb function and the auxiliary function. A number of attributes, both syntactic and semantic, are associated with the functions. For example, in its verb function, the form holds the main predicative element relation and has an eventive meaning, while in its auxiliary function, the form holds the subsidiary predicative element relation and has a modal meaning. Alternatively, these two functions can be deemed as two categories. It is noteworthy that these two categories, verb and auxiliary, have been described by many functionalist linguists as overlapping, although distinguishable to an appreciable extent, as auxiliaries, more often than not, historically develop out of full-fledged lexical verbs.[16] In other words, verbs and auxiliaries that are historically related to those verbs are synchronically different manifestations of the same cline. And crucially, auxiliaries cannot be defined independently of the process of verbs developing to auxiliaries, that is, auxiliation (Kuteva, 2001: 10-11). This treatment of auxiliaries has an important implication for this study: the distinction between the two functions of *tôŋ* is a matter of degree, and synchronic variation in accord with different constructions is anticipated, as a result of differing degrees of diachronic development.

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[16] Indeed, drawing upon such influential works on grammaticalization as Hopper & Traugott (1993), Bybee, Perkins & Pagliuca (1994), and Hein & Kuteva (2002), Heine (1993), Kuteva (2001), and Anderson (2006) share a common view that verbs and auxiliaries are in fact not separate categories, but rather as grams moving through stages of auxiliation chains, i.e. from full-fledged lexical verbs to auxiliaries, and even beyond. Their perspective of the subject is thus panchronic, i.e. they see syntactic categories such as auxiliaries as dynamic, and diachronic insight, based on either historical evidence or reconstruction, is essential to the understanding of synchronic phenomena.

In support of this view is cognitive linguists' notion of categories and prototypes. Building on the pioneering work of such cognitive psychologists and anthropologists as Rosch (1975) and Berlin & Kay (1969), Lakoff (1987) asserts that categorization is one of the basic means for humans to understand the world around them.[17] Conceptual categories, linguistic categories included, are typically based on the notion of prototype effects. That is to say, a category asymmetrically centers on its prototypical members that share the more central properties of the category, whereas other members which are peripheral share fewer of these central properties, or have only the minor properties. Moreover, the notion of family resemblance is relevant in this study. This study takes these two perspectives—the functionalists' continuum of verbs and auxiliaries and the cognitivists' categories with prototype effects—into consideration by modeling the two functions of *tɔ̂ŋ* as partly overlapping categories with members of different centrality, some of which are shared by the two categories, as shown below.
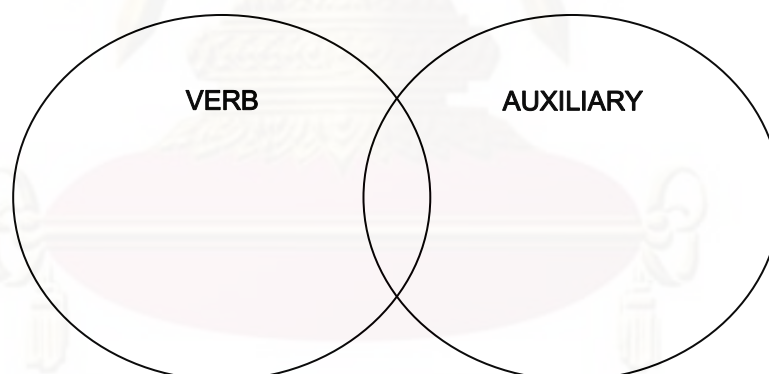
Figure 19 Overlapping categories of the verb and auxiliary functions

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[17] Lakoff (1987) asserts the importance of categorization to the human mind, saying that "there is nothing more basic than categorization to our thought, perception, action, and speech. Every time we see something as a *kind* of thing, for example, a tree, we are categorizing. Whenever we reason about *kinds* of things–chairs, nations, illnesses, emotions, any kind of thing at all–we are employing categories." Refuting the classical, Aristotelian view, he contends that a category is not a pre-existing abstraction with a clear-cut boundary, but a conceptual construct that emerges from, and is thus defined by, the organization of its members. These members are by no means of equal importance; some of them are more central, i.e. prototypical, but others are less so, i.e. non-prototypical.

The verb function of the form, then, should be viewed as a cluster of properties that define the verb category, whereas the auxiliary function should be viewed as a cluster of properties that define the auxiliary category, with some instances lie at the interface between the two categories.

In sum, the lexical and grammatical functions of *tɔ̂ŋ* are in fact synchronic products of the diachronic process called auxiliation, which derives auxiliaries from verbs, so that they can be defined only against each other. In line with this grammaticalization theory is the notion that the verb and auxiliary functions of *tɔ̂ŋ* are indeed overlapping categories of lexical and grammatical properties respectively. These categories have some instances as their prototypical members and others as their peripheral ones, some of which are shared by both of the categories.

3.3. SYNTACTICO-SEMANTIC CRITERIA

Both lexical semantic and syntactic evidence can be used to distinguish between the verb and auxiliary functions of *tɔ̂ŋ*, as it goes without saying that verbs and auxiliaries are syntactico-semantic notions, that is, they are defined both syntactically and semantically. There are altogether four criteria that can be employed to differentiate the two functions: propositionality, distribution, control, and negation. Firstly, the propositionality of functions can be made distinct. By definition, a verb contributes to the propositional meaning of the predicate. It typically denotes an event. On the other hand, the meaning of an auxiliary is predicatively non-propositional. This criterion has been employed by many Thai linguists. For example, according to Meesat (1997: 51), meanings denoted by auxiliaries in Thai are generally temporal, aspectual, or modal in nature. In other words, it constitutes a grammatical marker of some kind. It is found that *tɔ̂ŋ* has both a function with verb-like meanings and another with auxiliary-like meanings. Some of them are propositional, as they denote such events as coming into physical contact, while others are non-propositional, as they denote the probability of the proposition, for instance. Compare (60) and (61) for this distinction.

Table 5 Proposed criteria for distinguishing the functions of /tɔ̂ŋ/

CRITERION	DESCRIPTION
PROPOSITIONALITY CRITERION	A verb typically denotes an event of some kind. On the other hand, an auxiliary typically denotes temporary, aspectuality, or modality.
DISTRIBUTION CRITERION	A verb is a main predicative element and can occur alone as the only element in the predicate. On the other hand, an auxiliary is a subsidiary predicative element and can only co-occur with a main element.
CONTROL CRITERION	A verb determines the number of the co-occurring arguments and subcategorizes them. On the other hand, an auxiliary has control over the whole clause by denoting the mode of viewing the event.
NEGATION CRITERION	A negated verb means that the occurrence of the event denoted by it is refuted. On the other hand, a negated auxiliary means that the mode of viewing is negated, not the event itself.

(60) verb of coming into physical contact

หยด	น้ำตา	ที่	ไหล	ออก	มา	**ต้อง**	แสดง	โคม
yòt	ná:mta:	thî:	lǎj	ʔɔ:k	ma:	*tɔ̂ŋ*	sɛ̌:ŋ	kho:m
drop	tear	that	flow	exit	come		light	lamp

เป็น	ประกาย	วับแวว
pen	prá?ka:j	wápwɛ:w
be	gloss	sparkle

'The teardrops that flowed out came into contact with the light of the lamp and sparkled.'   [fiction]

(61) *auxiliary of obligation*

ญี่ปุ่น	*มี*	*ระบบ*	*ครอบครัว*	*ที่*	*ว่า*	*ลูกชาย*
jîː pùn	*miː*	*ráʔbòp*	*khrɔ̂ːpkhrua*	*thîː*	*wâː*	*lûːkchaːj*
Japan	have	system	family	that	say	son

คนโต	*จะ*	***ต้อง***	*สืบทอด*	*อาชีพ*	*ของ*	*พ่อ*
khontoː	*càʔ*	***tɔ̂ŋ***	*sɯ̀ːpthɔ̂ːt*	*ʔaːchîːp*	*khɔ̌ːŋ*	*phɔ̂ː*
eldest	will	inherit		profession	of	father

'Japan has a family system in which the eldest son will inherit his father's profession.'   [articles]

Besides "coming into physical contact," other verb-like meanings of the form *tɔ̂ŋ* include "being in correspondence" and "submitting to supernatural influence." On the other hand, besides "having a probability," other auxiliary-like meanings include "having a necessity" and "having a need." The other two meanings, however, are problematic. As shown in (55) and (56) respectively, the two meanings, "receiving an obligation" and "having an obligation," are similar in that both have something to do with being obliged. However, the former focuses more on the causing event, the reception of an obligation, while the latter refers to the resulting state, having an obligation to do something.

Secondly, the verb function can be different from the auxiliary function in their distributional facts. The notion of distribution can be applied to differentiating the various statuses of predicative elements. In its verb function, *tɔ̂ŋ* is a main predicative element and can occur alone as the only element in the predicate, as in (62a), or co-occur with another preceding or following main element, such as the verb *phát* (blow) in (62b), or with a preceding subsidiary element, such as the auxiliary *khoŋ* (possibility) in (59c). Conversely, in its auxiliary function, it is a subsidiary predicative element and can only co-occur with a following main element, such as the verb *klàp* (return) in (63a), possibly with another preceding subsidiary element, such as the auxiliary *càʔ* (future) in (63b), but cannot occur alone as the only one element in the predicate, as in (63c). That is to say, considering the notion of

distribution of the elements of a predicate, *tɔ̂ŋ* in its main predicative element relation is obligatory, that is, it may or may not occur as the only predicative element, but the subsidiary predicative element *tɔ̂ŋ* is an optional element, that is, it generally cannot occur alone.

(62) (a)   ลม   **ต้อง**   กังหัน

            lom   ***tɔ̂ŋ***   *kaŋhǎn*

            wind   pinwheel

            'The wind came into contact with the pinwheel.'   [fiction]

       (b)   ลม   พัด   **ต้อง**   กังหัน

            lom   *phát*   ***tɔ̂ŋ***   *kaŋhǎn*

            wind   blow   pinwheel

            'The wind blew and came into contact with the pinwheel.'

       (c)   ลม   คง   พัด   **ต้อง**   กังหัน

            lom   *khoŋ*   *phát*   ***tɔ̂ŋ***   *kaŋhǎn*

            wind   may   blow   pinwheel

            'The wind possibly blew and came into contact with the pinwheel.'

(63) (a)   เขา   **ต้อง**   กลับ   บ้าน

            khǎw   ***tɔ̂ŋ***   *klàp*   *bâ:n*

            he   return   home

            'He/she has to return home.'

       (b)   เขา   จะ   **ต้อง**   กลับ   บ้าน

            khǎw   *cà?*   ***tɔ̂ŋ***   *klàp*   *bâ:n*

            he   will   return   home

            'He/she will have to return home.'

       (c)*   เขา   **ต้อง**   บ้าน

            khǎw   ***tɔ̂ŋ***   *bâ:n*

            he   home

The distribution of *tɔ̂ŋ* in relation to other elements in a predicate is diagrammatically shown below:

PREDICATE

(SUBSIDIARY)   MAIN

(A) (V)   *tɔ̂ŋ*   (V)
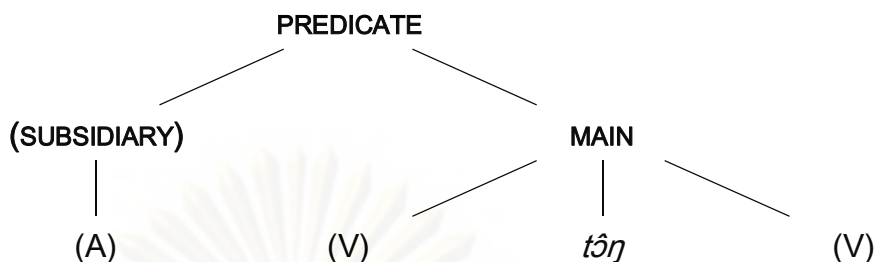
Figure 20 The distribution of /*tɔ̂ŋ*/ as a verb in a predicate

PREDICATE

SUBSIDIARY   MAIN

(A) *tɔ̂ŋ* (A)   V
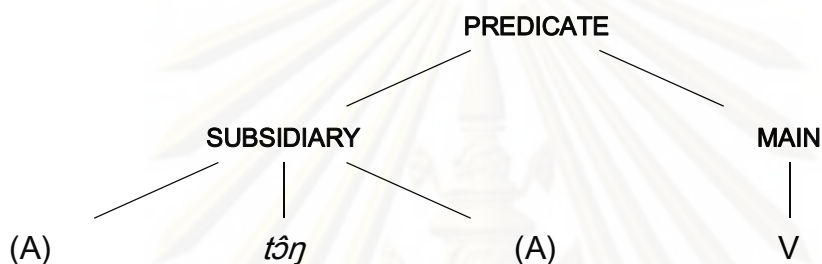
Figure 21 The distribution of /*tɔ̂ŋ*/ as an auxiliary in a predicate

Thirdly, the verb and auxiliary functions can be differentiated on the basis of dependency. As a verb, *tɔ̂ŋ* exerts controls on its arguments. That is to say, it determines the number of the co-occurring arguments, which is in this case two, and subcategorizes them. These arguments, which denote the participants of the event, are generally realized as noun phrases, one of which precedes the predicate and the other of which follows it. In other words, the meaning of *tɔ̂ŋ* determines the range of semantic possibilities of the arguments, as exemplified below.

(64) (a) ลม **ต้อง** กังหัน

     lom *tɔ̂ŋ* *kaŋhǎn*

     wind   pinwheel   [fiction]

     'The wind came into contact with the pinwheel.'

  (b)* ความจริง **ต้อง** หน้าต่าง

     khwa:m.ciŋ *tɔ̂ŋ* *nâ:tà:ŋ*

     truth   window

The semantics of *tɔ̂ŋ* requires that the arguments be concrete entities capable of force interaction. (64b) is ill-formed in this sense. On the contrary, the auxiliary *tɔ̂ŋ* neither has direct control over nor imposes subcategorization upon the argumentative elements. However, it seems that *tɔ̂ŋ* as an auxiliary has control over the whole clause by denoting the mode of viewing the event. And so if the nature of event does not correspond with the mode of viewing it, an odd-sounding sentence might be produced. For example, (65a) is well-formed as the carrying out of the event of stopping can be obligatory, whereas (65b) does not make much sense as it is already a fact that the world is round, and no obligation needs to be imposed for the world to be so.

(65)	(a)	เธอ	**ต้อง**	หยุด
		thə:	**tɔ̂ŋ**	*jùt*
		you		stop
		'You have to stop.'		
	(b)*	โลก	**ต้อง**	กลม
		lô:k	**tɔ̂ŋ**	*klom*
		world		round

Fourthly and lastly, the criterion of negation can be used to differentiate the two functions of *tɔ̂ŋ*. In Thai, the form *mâj* is used as a negative maker for predicative elements. When *tɔ̂ŋ* as a verb is modified by a negative marker, the occurrence of the event denoted by it is refuted. In other words, the speaker does not believe that the event, such as the reception of a life sentence in (66), is real. On the other hands, when *tɔ̂ŋ* as an auxiliary is modified by a negative marker, it is the mode of viewing that is negated, not the event itself. It is not necessary the case whether the speaker does not believe that event is real, as in (67a). What is central to this negation, however, is that the existence of the obligation imposed on the event is refuted. (67a) can be true even when the denoted event really happened, while (66) cannot. In contrast to (67a), (67b) shows a case in which *tɔ̂ŋ* as an auxiliary is followed be a negated verb. Then, there exists an obligation, but

the event is not obliged to happen as in (66), but rather is obliged not to happen. This sharp difference in meaning points to the different functions of the form.

(66)   *เขา*   *ไม่*   ***ต้อง***   *โทษ*   *ประหาร*
        khǎw *mâj* *tɔ̂ŋ* *thoːt*   *pràʔhǎːn*
        he   *not*   *punishment* *capital*
        'He didn't receive a capital punishment.'

(67)   (a)   *เขา*   *ไม่*   ***ต้อง***   *กลับ*   *บ้าน*
              khǎw *mâj* *tɔ̂ŋ* *klàp* *bâːn*
              he   *not*   *return* *home*
              'He did not have to return home.'

        (b)   *เขา*   ***ต้อง***   *ไม่*   *กลับ*   *บ้าน*
              khǎw *tɔ̂ŋ* *mâj* *klàp* *bâːn*
              he   *not*   *return* *home*
              'He must not return home.'

In sum, some syntactico-semantic criteria can be used to distinguish the verb function of *tɔ̂ŋ* from its auxiliary function: propositionality, distribution, control, and negation. First, while *tɔ̂ŋ* in its verb function has a propositional, eventive meaning, its auxiliary function has a non-propositional, modal meaning. Second, in its verb function, *tɔ̂ŋ* is a main predicative element and can occur alone as the only element in the predicate, or co-occur with another preceding or following main element or with a preceding subsidiary element, whereas in its auxiliary function, it is a subsidiary predicative element and can only co-occur with a following main element, possibly with another preceding subsidiary element, but cannot occur alone as the only one element in the predicate. Third, as a verb, *tɔ̂ŋ* exerts controls on the number and the subcategorization of the co-occurring arguments, while such argument control exertion does not apply in its auxiliary function. Rather, it exerts control over the whole clause by denoting the mode of viewing the event. Fourth and last, when *tɔ̂ŋ* as a verb is modified by a negative marker, the occurrence of the

event denoted by it is refuted, but when it as an auxiliary is modified by a negative marker, it is the mode of viewing that is negated, not the event itself.

3.4. PROBLEMATIC CASES

Sometimes it is found that it is difficult to determine whether the import of *tɔ̂ŋ* in a particular construction should fit into the verb function or the auxiliary function. This kind of difficulty arises for two reasons: structural ambiguity and ellipsis. Firstly, it is sometimes not immediately evident if *tɔ̂ŋ* in some instance functions as a verb followed by its noun object or an auxiliary followed by a main verb.

(68)   *verb of receiving a legal obligation/auxiliary of obligation*
        เขา   **ต้อง**   *เกณฑ์*
        khǎw   *tɔ̂ŋ*   *ke:n*
        he   *conscription/conscript*
        '*He received a legal liability of conscription./He had a legal liability to be
        conscripted.*'   [fiction]

Considering only the lexical semantic aspect, (68) is potentially ambiguous, in the sense that *tɔ̂ŋ* here may denote the event of receiving an obligation, hence a verb-like meaning, or the mode of having an obligation, hence an auxiliary-like meaning. It can be said that (68) constitutes a case which shows that propositionality alone might not be sufficient. Syntactically, more importantly, it is inherently indeterminable to pin down *tɔ̂ŋ* as either a verb or an auxiliary, as it is followed by *ke:n*, which can be either a noun (conscription) or a verb (to conscript). If *ke:n* here is taken as a noun, *tɔ̂ŋ* is then a verb, but if the *ke:n* here is taken as a verb, *tɔ̂ŋ* is then a auxiliary. This structural ambiguity points to the fuzzy boundary between the two different functions of the form, and might shed light on how one function develops out of the other.

The second case of difficulty arises from the fact that Thai can be categorized as a pro-drop language. That is to say, Thai is a language whose grammar permits certain classes of pronouns to be omitted when they are in some sense pragmatically inferable, or retrievable from the discourse. It is found that some instances of *tɔ̂ŋ* are functionally indeterminable due to this pro-dropping nature. In (69), for example, at first glance *tɔ̂ŋ* may be interpreted as having the auxiliary function, as it is immediately followed by a verb phrase denoting an event which is obliged to happen. However, a second reading might assume the form to be a main verb with its following argument, for instance, *thô:t* (punishment), dropped. Both readings are possible considering the fact that they can give essentially similar lexical meanings to the form *tɔ̂ŋ*, that is, receiving or having an obligation to do something.

(69) *verb of receiving a legal obligation/auxiliary of obligation*

ผู้ใด	กระทำ	ผิด	ตาม	วรรค	หนึ่ง
phû:daj	*krà?tham*	*phìt*	*ta:m*	*wák*	*nɯ̀ŋ*
whoever	commit	wrong	follow	clause	one

หรือ	วรรค	สอง	ผู้	กระทำ	ต้อง	ระวางโทษ
rɯ̌:	*wák*	*sɔ̌:ŋ*	*phû:*	*krà?tham*	*tɔ̂ŋ*	*rá?wa:ŋthô:t*
or	clause	two	who	commit		punishment

ประหารชีวิต	หรือ	**ต้อง**	จำคุก	ตลอดชีวิต
prà?hǎ:nchi:wít	*rɯ̌:*	***tɔ̂ŋ***	*camkhúk*	*tà?lɔ̀:tchi:wít*
capital	or		imprison	life

'Whoever commits wrong in accord with clause one or clause two must receive a capital punishment or receive a life imprisonment punishment/must be imprisoned for life.'   [news]

Even if this problematic sentence is put in context, moreover, it might be difficult to disambiguate the role of the form, as this syntactic ambiguity seems not to give rise to any semantic or pragmatic ambiguity. That is to say, even though the exact role of *tɔ̂ŋ* is unknown in this case, there should be no

difficulty on the part of the receiver of the message to understand its meaning and know the intended communicative purpose. This case in very interesting in terms of syntactic change, as it might constitute a diachronic link between the different functions of the form.

It should further be noted that there exist cases of *tɔ̂ŋ* that seem to be semantically auxiliarial, but appear alone without any main verb or any argument. More often than not, *tɔ̂ŋ* in these cases seem serve a pragmatic function, as in (70).

(70) A   ต้อง   ปิด   ประตู   หรือเปล่า
        tɔ̂ŋ   *pìt*   *prà?tu:*   *rɯ̌:plà:w*
              close   door   INT
        'Do I have to close the door?'
    B   ต้อง
        tɔ̂ŋ
        ?
        'Yes.'

What can be said about (70B) is that it is a non-initiative turn; in fact, it is a response to the previous turn, (70A). This interactional nature of this exchange makes it unnecessary for B to repeat all the information that is given in the previous discourse and not crucial to the pragmatic purpose of answering a yes/no question. Here, A questions neither the identity of the participants nor the nature of the event, but the existence of the obligation opposed by some external source. In return, B gives an affirmation by resorting to using only one word *tɔ̂ŋ*, which is necessarily and sufficiently communicative in this case. It can be argued that ellipsis is also at work, but with a concession that the constituents ellipted are main verbs as well as arguments and are retrievable from previous linguistic context. Another example of pragmatic usage of *tɔ̂ŋ* is as follows:

(71)	A	ฉัน	จะ	ไป	เอา	ยา	ให้
		chăn	cà?	paj	ʔaw	ja:	hâj
		I	will	go	take	pill	give

'I will go to bring you the pill.'

	B	ไม่	**ต้อง**	ฉัน	ทำ	เอง	ได้
		mâj	**tɔ̂ŋ**	chăn	tham	ʔe:ŋ	dâ:j
		not		I	do	self	get

'You don't have to. I can do it myself.'

The negative answer in (71B) is minimally formulated; only the relevant new information, that is, the negation of the obligation, is included. All other information is either given or retrievable. However, the pragmatic sense of (71) is stronger than that of (70). (70B) is a response to a question, but (71B) is not. Rather, it constitutes a speech act that the speaker performs to effect a desired situation in the real world. B says so in order that A does not perform the action described in (71A). The pragmatic function of *tɔ̂ŋ* is most salient when it is used with no previous linguistic context. Consider (72) and (73):

(72)	A	[is walking across the room to turn on the light]

	B	ไม่	**ต้อง**
		mâj	**tɔ̂ŋ**
		not	OBL

'You don't have to.'

(73)	ต้อง	ทำ	ให้	เสร็จ	ภายใน	สอง	ชั่วโมง
	tɔ̂ŋ	tham	hâj	sèt	pha:j.naj	sɔ̆:ŋ	chûamo:ŋ
		do	give	finish	within	two	hour

'Finish this within two hours.'

Here the auxiliary function of *tɔ̂ŋ* is less discernible. (72B) is intended to pragmatically effect the stoppage of A's action, not just to communicate thoughts and exchange ideas. Although the ellipted constituents may not be

retrievable from linguistic context, they are inferable from non-linguistic context.

In sum, there are some problematic cases in which it is difficult to determine whether the function of *tôŋ* is a verb or an auxiliary. The first kind of difficulty involves structural ambiguity. It is sometimes indeterminable to categorize the function of the form either as a verb or an auxiliary, as the following word can be either a noun or a verb. The second case is about ellipsis. It is found that some instances of *tôŋ* are functionally indeterminable due to pro-dropping, because in Thai, whose grammar permits certain classes of pronouns to be omitted when they are in some sense pragmatically inferable or retrievable from the discourse. It should further be noted that there exist cases of *tôŋ* that appear to be auxiliarial and primarily serves a pragmatic function. This pragmatic use of *tôŋ* usually involves ellipsis of main verbs altogether with their arguments.

3.5 GRAMMATICALIZATION OF *tôŋ*

In linguistic literature there are works in polysemy and polyfunctionality conducted in different directions. One of the major frameworks frequently referred to is the grammaticalization theory. In this framework, polyfunctionality is a product of diachronic change. In other words, the different functions of a word form historically deriving from a common source are synchronic manifestations of language change, which is in constant progress. Linguists working in this grammaticalization approach hold a common belief that language change is predictable, as there are recurrent patterns that can be observed and are thus useful in hypothesizing diachronic development based on synchronic data. It is common for a form to develop from a more lexical (less grammatical) function to a less lexical (more grammatical) function, but not vice versa (Hopper & Traugott, 2003: 1-2). Hopper & Traugott propose that there are two mechanisms that drive the process of grammaticalization, namely, reanalysis and analogy. These two mechanisms are responsible for change in different axes. While reanalysis

effects change in the syntagmatic axis, analogy effects change in the paradigmatic axis. Types of change that are commonly attributed to reanalysis include change in constituency, hierarchical structure, category labels, grammatical relations, and type of boundary. Analogy, on the other hand, involves generalization and an increase in context-types of a form by comparison to an already existing form (Hopper & Traugott, 2003: 50-64).

The mechanisms of reanalysis and analogy drive language change in different directions, but it is found that in natural language a case of grammaticalization often involves both of them, though at different stages. Hopper & Traugott (2003: 65-66) give an example of the interaction between reanalysis and analogy, in the form of a reanalysis-analogy-reanalysis cycle. This example is about the development of an expression of negation in French. In the first stage, negation is encoded by putting the negative particle *ne* in front of the verb, as *il ne parle* (he does not speak). However, a motion verb that is negated by *ne* can be followed by the noun (step), which functions as a pseudo-object, for an emphatic effect, like *il ne va pas* (he doesn't go (a step)). In the second stage, *pas* is reanalyzed as an optional negative marker co-occurring with *ne* in the construction *ne + motion verb (+ pas)*. In the third stage, by the principle of analogy, *pas* undergoes a generalization in context-types and now can follow a verb that does not denote any motion event. This construction can be schematized as *ne + motion/non-motion verb (+ pas)*, as in *il ne sait (pas)* (he doesn't know). In the last stage, *pas* is reanalyzed as an obligatory negative marker co-occurring with *ne* in general negative constructions, as in *il ne sait pas*. Additionally, in colloquial language, the process of reanalysis goes even further so that *pas* is now the only obligatory element in the negative construction with *ne* as an optional negative marker, as in *il (ne) sait pas*. It is noteworthy that syntactic development of *pas* from a noun to a negative marker conforms to the grammaticalization theory, which makes a unidirectionality hypothesis in which the more lexical function of a form develops into a more grammatical function.

As for the case of *tôŋ*, it is important to state at this point that its semantic change is far more extensive than its syntactic change. It is only fair

to say that it is the semantic change that drives the syntactic change, but not vice versa. It is found that there are cases in which *tɔ̂ŋ* already has a meaning that is more grammatical than lexical, that is, having an obligation to do something, a modal-like meaning, but still functions as a verb syntactically. Altogether, there are six stages through which the form develops from its verb function to its auxiliary function. It is found that both reanalysis and analogy play vital roles in this change, though at different stages.

In the first stage, *tɔ̂ŋ* is used as a verb of receiving a legal obligation. It is followed by a nominal object that denotes the kind of obligation being received, in this case "legal punishment." It should suffice to state that this meaning is the least basic of all among the lexical meanings, and that it is a product of semantic extension from a more basic meaning.

Stage I: *tɔ̂ŋ* = verb of receiving a legal obligation

(74) เขา **ต้อง** โทษ
     khǎw *tɔ̂ŋ* thô:t
     he   punishment
     'He received a legal punishment.'

In the second stage, the nominal object after *tɔ̂ŋ* begins to take on an extended schema by being followed by a verb phrase denoting the kind of punishment received. The noun after *tɔ̂ŋ* and the following verb phrase seems to form a syntactic constituent in which the noun is the head and the verb phrase is the modifier. (75) shows a possible range of verb phrases that can occur in this construction.

(75) เขา **ต้อง** [โทษ   ปรับ/ริบทรัพย์/โบย/ชดใช้ค่าเสียหาย]
     khǎw *tɔ̂ŋ* [thô:t   pràp/rípsáp/bo:j/chótchájkhâ:sǐahǎ:j]
     he   punishment fine/confiscate/whip/compensate.damages
     'He received a legal punishment of being fined/being confiscated/ being whipped/compensating for the damages.'

The form *tɔ̂ŋ* now can be followed by a nominal object plus a verb phrase. It is noteworthy that the verb phrase denoting the kind of punishment imposed can be either active or passive in meaning. That is to say, the relationship between the subject of *tɔ̂ŋ* can be the agent of the verb phrase modifying the object, and thus an active reading, or the patient of the verb phrase modifying the object, and thus a passive reading. Predictably, the passive pattern outnumbers the active pattern because punishment usually involves an event in which someone being acted upon. This passive pattern can be associated with Prasithsathsint (1985)'s claim about the passing-marking function of *tɔ̂ŋ*. However, as it is not the objective of this study to argue for or against this claim, it then suffices here to say that it is the active pattern, not the passive pattern, that further develops into the next stage.

Stage II: *tɔ̂ŋ* = verb of receiving a legal obligation

(76) เขา **ต้อง** [โทษ ชดใช้ ค่าเสียหาย]
khǎw *tɔ̂ŋ* [thô:t chótcháj khâ:sǐahǎ:j]
he punishment compensate damages
'He received a legal punishment of compensating for the damages.'

In the third stage, the schema in stage II undergoes reanalysis, which is driven by the process of semantic change. Example (77), in which *tɔ̂ŋ* is followed by its nominal object plus a verb phrase denoting the kind of punishment being received, pragmatically implies that the subject has an obligation to carry out the event denoted by the verb phrase. This verb phrase is then reanalyzed as a serialized verb in this construction, and in stage III, it is no longer bound to the nominal object of *tɔ̂ŋ*, but rather forms another dependent serialized verb phrase denoting the event to be carried out.

Stage III: *tɔ̂ŋ* = verb of receiving a legal obligation

(77) เขา **ต้อง** [โทษ] [ชดใช้ ค่าเสียหาย]

khǎw *tɔ̂ŋ* [thô:t] [chótcháj khâ:sǐahǎ:j]

he punishment compensate damages

'He received a legal punishment of compensating for the damages (and thus had an obligation to do so).'

At the fourth stage, the nominal object of *tɔ̂ŋ* can now be optionally omitted by analogy to other serialized predicate of the V_1 (+ N) + V_2 schema, in which V_1 denotes the receptive event, N denotes the object received, and V_2 denotes the event to be carried out upon the reception. Take the construction of *tɔ̀:práp* (respond) (+ N) + V_2 for example.

(78) เขา ตอบรับ [คำเชิญ/_] ไป งานเลี้ยง

khǎw tɔ̀:práp [khamchə:n/_] paj ŋa:nlíaŋ

he respond [invitation/_] go party

'He responded (to an invitation) and thus intended to go to the party.'

The omission of the nominal object in this construction is possible because of the pro-dropping nature of the Thai language, and is frequently found in serial verb constructions. In case it is retrievable or inferable what the omitted nominal element is, omission can occur. The omission of the nominal object of *tɔ̂ŋ* greatly helps strengthen the pragmatic inference that the subject has an obligation to do something.

Stage IV: *tɔ̂ŋ* = verb of receiving a legal obligation

(79) เขา **ต้อง** [_] [ชดใช้ ค่าเสียหาย]

khǎw *tɔ̂ŋ* [_] [chótcháj khâ:sǐahǎ:j]

he (punishment) compensate damages

'He received something (a legal punishment) which imposes on him an obligation to compensate for the damages.'

At the fifth stage, reanalysis occurs to syntactic status of *tɔ̂ŋ* in relation to the (omitted) nominal object and the following verb phrase. Driven by the conventionalization of the modal obligation meaning, the form has achieved the auxiliary function by losing its propositional content and being obligatory followed by a verb phrase function as the main predicate. Although on the surface there seems to be no change going on formally, the structure is being affected functionally.

Stage V: *tɔ̂ŋ* = modal auxiliary of having a (legal) obligation to do something

(80)　เขา　**ต้อง**　ชดใช้　　　ค่าเสียหาย

　　　khǎw　*tɔ̂ŋ*　chótcháj　khâ:sǐahǎ:j

　　　he　　　　　compensate　damages

　　　'He had an obligation to compensate for the damages.'

In the sixth and last stage, *tɔ̂ŋ* as a newly developed auxiliary is semantically generalized and thus has gained a wider range of contexts in which it can appear. By analogy to other modal auxiliaries *tɔ̂ŋ* can be used now with predicates that do not denote only legal obligations, but obligations in general.

Stage VI: *tɔ̂ŋ* = modal auxiliary of having an obligation to do something

(81)　เขา　**ต้อง**　เดิน　กลับ　บ้าน

　　　khǎw　*tɔ̂ŋ*　də:n　klàp　bâ:n

　　　he　　　　　walk　return　home

　　　'He had an obligation to walk back home.'

The process of grammaticalization of *tɔ̂ŋ* from its verb function to its auxiliary function can be summarized in the following table.

Table 6 The grammaticalization of /tɔ̂ŋ/

STAGE	MECHANISM	EXAMPLE
I	-	*tɔ̂ŋ* = verb of receiving a legal obligation NP₁ + *tɔ̂ŋ* + NP₂ เขา **ต้อง** โทษ *khǎw* ***tɔ̂ŋ*** *thô:t* he punishment 'He received a legal punishment.'
II	ANALOGY	*tɔ̂ŋ* = verb of receiving a legal obligation NP₁ + *tɔ̂ŋ* + [NP₂ + VP] เขา **ต้อง** [โทษ ชดใช้ ค่าเสียหาย] *khǎw* ***tɔ̂ŋ*** *[thô:t chótcháj khâ:sǐahǎ:j]* he punishment compensate damages 'He received a legal punishment of compensating for the damages.'
III	REANALYSIS	*tɔ̂ŋ* = verb of receiving a legal obligation NP₁ + *tɔ̂ŋ* + [NP₂] + [VP] เขา **ต้อง** [โทษ] [ชดใช้ ค่าเสียหาย] *khǎw* ***tɔ̂ŋ*** *[thô:t] [chótcháj khâ:sǐahǎ:j]* he punishment compensate damages 'He received a legal punishment of compensating for the damages (and thus had an obligation to do so).'
IV	ANALOGY	*tɔ̂ŋ* = verb of receiving a legal obligation NP₁ + *tɔ̂ŋ* + [_] + [VP] เขา **ต้อง** [_] [ชดใช้ ค่าเสียหาย] *khǎw* ***tɔ̂ŋ*** *[_]* *[chótcháj khâ:sǐahǎ:j]* he (punishment) compensate damages 'He received something (a legal punishment) which imposes on him an obligation to compensate for the damages.'

STAGE	MECHANISM	EXAMPLE
V	REANALYSIS	*tɔ̂ŋ* = modal auxiliary of having a (legal) obligation to do something
		NP + *tɔ̂ŋ* + VP (legal obligation)
		เขา **ต้อง** ชดใช้ ค่าเสียหาย
		khǎw ***tɔ̂ŋ*** *chótcháj khâ:sǐahǎ:j*
		he compensate damages
		'He had an obligation to compensate for the damages.'
VI	ANALOGY	*tɔ̂ŋ* = modal auxiliary of having an obligation to do something
		NP + *tɔ̂ŋ* + VP (general obligation)
		เขา **ต้อง** เดิน กลับ บ้าน
		khǎw ***tɔ̂ŋ*** *də:n klàp bâ:n*
		he walk return home
		'He had an obligation to walk back home.'

In sum, the framework of grammaticalization makes a hypothesis that polysemy and polyfunctionality is a synchronic manifestation of language change. And diachronic development of language, especially in syntax and semantics, is predictable as it usually conform to the generalized cline of [more lexical/more concrete] to [more grammatical/more abstract]. There are two mechanisms that drive the process of grammaticalization, namely, reanalysis (change in constituency, hierarchical structure, category labels, grammatical relations, and type of boundary) and analogy (generalization and an increase in context-types of a form by comparison to an already existing form). In the case of *tɔ̂ŋ*, there are six stages in which the form develops from its verb function to its auxiliary function, and the processes of reanalysis and analogy are both responsible for the change, though at different stages.

3.6. SUMMARY

The two major functions of the form *tɔ̂ŋ* are the verb and the auxiliary. Two theoretical foundations, i.e. the typological, panchronic theory of grammaticalization and the cognitive linguistic approach to categories are relevant to the modeling of the polyfunctional nature of the form. The two functions are viewed as overlapping categories, each of which is built around its prototypical attributes. Some of their functions, however, are peripheral and may be even at the interface. The diachronic process that drives the functional change is responsible for this synchronic variation. Four types of criteria are employed to delineate the two functions: propositionality, distribution, control, and negation. A verb denotes a propositional meaning, in this case an event, whereas an auxiliary denotes a non-propositional meaning, in this case modality. Also, *tɔ̂ŋ* as a main verb can occur independently as the only element in a predicate, controls the arguments of the proposition, and can be negated to denote the non-existence of the event. *tɔ̂ŋ* as an auxiliary, on the other hand, is dependent on its following main verb, exerts control over the whole proposition but has no direct control over the arguments, and when negated, denotes the non-existence of, for example, the obligation imposed on the event, but not the non-occurrence of the event itself. However, there are ambiguous cases in which the function of the form is indeterminate, particularly when the obligation meaning is involved. This functional ambiguity is generally attributable to the fact that the obligation meaning is halfway between lexical and grammatical meanings, and that the noun phrase argument following the main verb *tɔ̂ŋ* can be dropped. Moreover, ellipsis of arguments, and sometimes of main verbs, can give rise to functional indeterminacy as well. It can be said that the grammaticalization of *tɔ̂ŋ* in part involves a change from a lexical function (a verb) into a grammatical function (an auxiliary). Two important mechanisms responsible for this kind of change are reanalysis and analogy. There are altogether six stages in which *tɔ̂ŋ* develops from its verb function to its auxiliary function, and reanalysis and analogy are involved, though at different stages.

CHAPTER IV

MEANINGS OF /tɔ̂ŋ/

4.1. DISTINGUISHING MEANINGS

In order to establish a common ground for the data analysis that will follow in this chapter, a working definition of the term "meaning" as employed in this study is required. It is first of all necessary to state the stance on linguistic analysis taken by this study. According to Evans & Green (2006: 6-7), one of the primary functions of language is symbolic. That is to say, it "encodes and externalizes our thoughts" by means of symbols. A linguistic symbol is a symbolic assembly in nature, as it consists in the pairing of a form, either spoken, written, or signed, and a meaning with which the form is conventionally paired. In this sense, a meaning can be aptly described as "the conventional ideational or semantic content associated with the symbol." It is noteworthy that the meaning associated with a linguistic symbol is linked to a concept, a particular mental representation, which in turn derives from our perception of the world 'out there.'
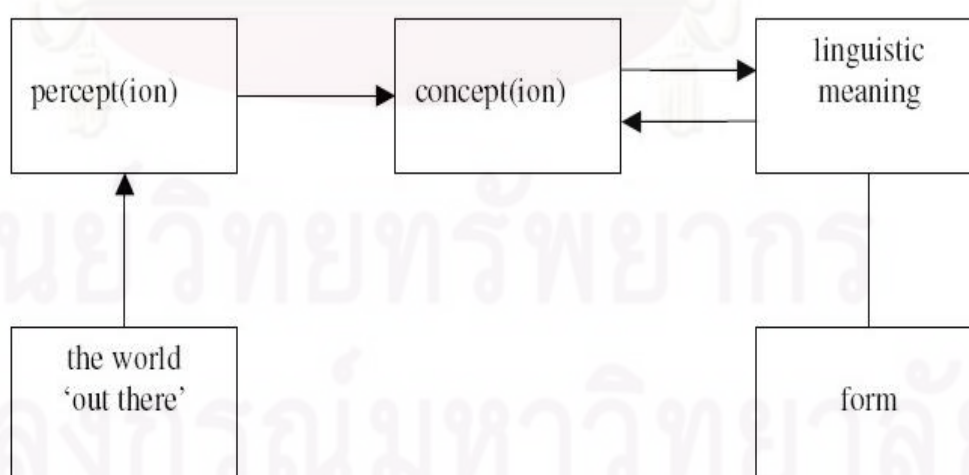
Evans & Green (2006: 7)

Figure 22 The relationship between linguistic meaning, linguistic forms, and the world

This cognitivist viewpoint of meaning is in opposition to a traditional school of thought called truth-conditional semantics. According to Lakoff, 1987: xiii), truth-conditional semantics presents an objectivist approach to linguistic meaning. It is held that a linguistic form gets its meaning by referring to an entity in the world 'out there.' As a result, linguistic forms are merely "internal representations of external reality." This view of meaning is in accord with the mainstream traditional philosophical tenet that the human mind is a "mirror of nature," and good reasoning should reflect the logic of the world 'out there.' However, cognitive linguists hold that meaning derives from conceptualization, which is possible because of the human perception.

It is also important to mention criteria that are used in distinguishing different senses of *tôŋ* in this study. It is widely accepted that the meaning of a linguistic form is not static. Instead, it can vary in line with the context, linguistic and extra-linguistic, in which it appears. This variation in meaning raises an important question. How can we know that we are really dealing with different senses of a form or only its different facets of the same sense? Any answer to this question has implications in terms of both synchrony and diachrony. Firstly, one particular sense of a form has its own place, or node, in the mental representation. That is to say, different senses, though associated somehow, mean different processing paths in the brain. However, different facets of the same sense do not require separate places in the mental representation, as they show a relatively high degree of unification and thus are processed similarly. Diachronically, it is postulated that variation in meaning leads to semantic extension. One particular facet of a sense of a form might get conventionalized and in turn become a separate sense in its own right. Consider the following examples.

(82)   *The periodic **table** is a list of elements arranged according to their atomic structure.*

(83)   *This **table** is made of wood.*

(84)   *His stories kept the whole **table** amused.*

These examples (82)-(84) clearly show semantic variation of the form. The form *table* in (82) means "a list of numbers, facts, or information arranged in rows across and down a page," it denotes "a piece of furniture with a flat top supported by legs" in (83) and "the group of people sitting around a table" in (84). The problem here is how to represent these semantic variants. On the two extremes, these examples represent either three different senses, or the same sense with different facets. More compromisingly, some variants, like (83) and (84), are more unified than others and thus represent different facets of the same sense.

Cruse (2000: 31-34) proposes a set of criteria in distinguishing different senses, or, in his term, different "sense nodules." They are antagonism, independent truth-conditions, independent lexical relations, and definitional distinctness. Firstly, antagonism is based on the concept of competition. If two readings of a word are antagonistic, it means that they compete with each other for a dominant reading, and speakers or hearers are forced to be committed to one of them at a time.

Table 7 Cruse's criteria for distinguishing meanings

Criterion	Description
ANTAGONISM	Two distinct senses compete with each other for a dominant reading, and speakers or hearers are forced to be committed to one of them at a time.
TRUTH-CONDITIONAL INDEPENDENCY	Two distinct senses can be true or false independently of each other
LEXICAL RELATIONAL INDEPENDENCY	Two distinct senses can have different synonymic, antonymic, hypernymic, or hyponymic relations.
DEFINITIONAL DISTINCTNESS	Two distinct senses have no unified definition that can encompass both of them.

(85) สมชาย   ชอบ   **หนัง**   ของ   สมหญิง
      sǒmcha:j   chɔ̂:p **nǎŋ**   khɔ̌:ŋ sǒmjǐŋ
      Somchai   like   movie/skin   POSS Somying
      'Somchai likes Somying's movie/skin.'

In example (85), the movie/skin senses show antagonism. The two readings are exclusive of each other in the comprehension of the sentence. To illustrate the case in point, if the hearer has already been committed to the movie meaning and has learned later that the meaning intended by the speaker is "skin," he/she is forced to reinterpret the sentence, by going back and take another part. Secondly, it is asserted that different senses have independent truth-conditions in semantic logic. In (85), the "movie" reading and the "skin" reading can be true or false independently of each other. Somchai can like Somying's movie, but does not like her skin, for example. Thirdly, distinct senses have independent lexical relations. While *nǎŋ* in the "movie" meaning is synonymous with *pha:pphá?yon* (movie), and thus the sentence can be rephrased as *sǒmcha:j chɔ̂:p pha :pphá?yon khɔ̌:ŋ sǒmjǐŋ* (Somchai likes Somying's movie), *nǎŋ* in the "skin" meaning is synonymous with *phǐw* (skin), and thus the sentence can be rephrased as *sǒmcha:j chɔ̂:p phǐw kh ɔ̌:ŋ sǒmjǐŋ* (Somchai likes Somying's skin). Fourthly and lastly, different senses are marked by definitional distinctness. That is to say, there is no unified definition that encompasses both the "movie" and "skin" meanings.

This study adopts Cruise's criteria to the distinction of the meanings of *tɔ̂ŋ*. Consider the following examples.

(86) กังหัน   **ต้อง**   ลม
      kaŋhǎn   **tɔ̂ŋ**   lom
      pinwheel   wind
      'The pinwheel was in physical contact with the wind.'   [fiction]

(87) กระแสน้ำ   พัด   มา   **ต้อง**   เจดีย์

      krà?sɛ:nâ:m   *phát*   *ma:*   *tɔ̂ŋ*   *ce:di:*

      strwam   flow   come   pagoda

      'The stream flew and came into contact with the pagoda.'   [fiction]

(88) ดาว   โคจร   มา   **ต้อง**   กัน

      da:w   *kho:cɔ:n*   *ma:*   *tɔ̂ŋ*   *kan*

      star   orbit   come   each.other

      'The stars orbited and came into a corresponding position.'   [articles]

At this point a question can be raised. How many different senses of the form are expressed in (86)-(88)? One of the possible answers is two, that is, (86) and (87) express one sense and (88) expresses another. The form *tɔ̂ŋ* in (86) and (87) denotes an event in which two entities come into physical contact with each other, while in (88) it denotes an event in which two entities come into corresponding positions. These two senses are distinct from each other because they are antagonistic, have independent truth-conditions and lexical relations, and are definitionally distinct. That is to say, it is impossible to commit to these two senses simultaneously. For example, in (88) one cannot consider the stars to come into physical contact (the stars touched) and to be in a corresponding position (the stars aligned) at the same time. Also, it is possible for the stars to be in a corresponding position without touching each other, and vice versa. Moreover, while *tɔ̂ŋ* with the physical-contact meaning is synonymous with *tɛ̀?* (touch), *tɔ̂ŋ* with the corresponding-position meaning is synonymous with *troŋ* (correspond). Lastly, there seems to be no definition that can encompass both the physical-contact and corresponding-position meanings of the form. Contrarily, although it might be argued that *tɔ̂ŋ* in (86) and (87) also shows semantic variation, it does not express different senses. Rather, it illustrates a case of different facets of the same sense. In (86), it is the object (the wind) that moves into contact with the subject (the pinwheel), but in (87) it is the subject (the water) that moves into contact with the object (the pagoda). This semantic variation derives from difference in viewpoints.

In sum, a meaning is defined here as the conventional ideational or semantic content associated with a linguistic symbol. This definition is based on the Cognitive approaches to linguistics, in which the meaning associated with a linguistic symbol is linked to a concept, a particular mental representation, which in turn derives from our perception of the world 'out there.' A set of criteria is proposed in order to distinguish a sense, which is widely accepted to vary in line with the context, linguistic and extra-linguistic, in which it appears. These criteria include: antagonism, independent truth-conditions, independent lexical relations, and definitional distinctness.

4.2. LEXICAL MEANINGS OF /tɔ̂ŋ/

The form *tɔ̂ŋ* in its verb function can be distinguished from its auxiliary function in that it: (i) has a propositional, eventive meaning; (ii) is a main predicative element and can occur alone as the only element in the predicate, or co-occur with another preceding or following main element or with a preceding subsidiary element; (iii) exerts controls on the number and the subcategorization of the co-occurring arguments, and (iv), when modified by a negative marker, refutes the occurrence of the event. There are altogether four senses that can be expressed by *tɔ̂ŋ* in its verb function: "coming into physical contact," "being in correspondence," "being subject to supernatural influence," and "receiving a legal obligation," as illustrated in (89)-(92) respectively.

(89) *verb of coming into physical contact*

ภาพวาด	สี	ซีดจาง	เพราะ	**ต้อง**	แสงแดด
phâ:pwâ:t	sǐ:	sî:tca:ŋ	phrɔ́?	tɔ̂ŋ	sɛ̌:ŋdɛ̀:t
painting	color	fade	because		sunlight
จัด	เป็น	เวลา	นาน		
càt	pen	we:la:	na:n		
strong	be	time	long		

'The painting turned faded because it had long been in contact with strong sunlight.' [documentaries]

(90) verb of being in correspondence

ปี	นี้	วันวาเลนไทน์	มา	**ต้อง**	กับ	วันวิสาข
pi:	ní:	wanwa:lentha:j	ma:	**tɔ̂ŋ**	kàp	wanwiʔsǎ:khàʔ
year	this	Valentine's Day	come		with	Vesākha Day

'This year Valentine's Day is also Vesākha Day.' [articles]

(91) verb of being subject to supernatural influence

เธอ	เดิน	เหม่อ	ไร้	สติ	ราวกับ
thə:	də:n	mə̀:	ráj	sàʔtìʔ	ra:wkàp
she	walk	abstracted	without	consciousness	as.if

ต้อง	มัน	แห่ง	จันทรา	และ	มหาสมุทร
tɔ̂ŋ	mon	hɛ̀ŋ	canthra:	lɛʔ	máʔhǎ:sàʔmùt
	charm	of	moon	and	ocean

'She was walking abstractedly and unconsciously as if she had been moonstruck.' [fiction]

(92) verb of receiving a legal obligation

ข้าราชการการเมือง	ผู้ใด	**ต้อง**
khâ:râ:tcháʔka:nka:nmɯaŋ	phû:daj	**tɔ̂ŋ**
political.official	whoever	

คำพิพากษา	ให้	ทรัพย์สิน	ตก	เป็น	ของ	แผ่นดิน
khamphíʔphâ:ksǎ	hâj	sàpsǐn	tòk	pen	khɔ̌:ŋ	phɛ̀ndin
sentence	give	belongings	fall	be	of	land

'Any political official who has received a sentence is required to give up his belongings to the land.' [articles]

It is found that the two nominal arguments of *tɔ̂ŋ* in its verb function vary semantically in accord with its meaning. In (89), the painting has a physical contact with the sunlight. In (90), Valentine's Day corresponds with Vesākha Day. In (91), the woman is influenced by the charm of the moon and the ocean. And in (92), the political official received a sentence. It is noteworthy that these four senses relate to different semantic domains: the physical

domain, the ideational domain, the psychological domain, and the social domain.

Table 8 The lexical meanings of */tɔ̂ŋ/* and their corresponding semantic domains

Meaning	Domain
coming into physical contact	physical
being in correspondence	ideational
submitting to a supernatural influence	psychological
receiving a social obligation	social

It is found that there complicated cases in which it is difficult to distinguishing one sense from another. In some cases, *tɔ̂ŋ* is ambiguous between the physical contact sense and the correspondence sense, as in (93), while in other cases, it is ambiguous between the physical contact sense and the supernatural influence sense, as in (94). In still others, it is difficult to distinguish between correspondence sense and social obligation sense, as in (95).

tɔ̂ŋ = physical contact/correspondence

(93) เมื่อ ดาว สอง ดวง โคจร มา **ต้อง** กัน

  mûːa daːw sɔ̂ːŋ duaŋ khoːcɔːn maː **tɔ̂ŋ** *kan*

  when star two CLASS orbit come each.other

  'when the two stars touch/are in a corresponding position' [articles]

tɔ̂ŋ = physical contact/supernatural influence

(94) ไม่ รู้ เขา **ต้อง** เสน่ห์ นาง เมียน้อย นั้น หรือเปล่า

  mâj rúː khǎw **tɔ̂ŋ** *sàʔnèːnaːŋ mianɔ́ːj nân rɯ̌ːplàːw*

  not know he charm bitch mistress that INT

  'I wonder if he is physically charmed from that bitchy mistress/is attracted to that bitchy mistress.' [fiction]

tɔ̂ŋ = physical contact/legal obligation

(95) นางสม   ทำ   ผิด   **ต้อง**   โทษ   โบย
      na:ŋsǒm   *tham* *phìt* ***tɔ̂ŋ*** *thô:t*   *bo:j*
      Nangsom   do   wrong punishment whip
      'Nangsom did wrong and was subject to/received a punishment of being whipped.'   [fiction]

The ambiguity of *tɔ̂ŋ* in (93) arises because the stars can actually come into physical contact with each other, and thus a physical contact reading, or can just be in a corresponding position without actually touching each other, and thus a correspondence sense. Moreover, the ambiguity of *tɔ̂ŋ* in (94) interacts with the ambiguity of its object *sà:nè:* (charm potion/charm). In the first interpretation, this noun can mean a magical potion or substance, which comes into physical contact with the subject by being put into food and then being eaten, or by being sprung onto the skin of the subject. The result is being charmed. The form *tɔ̂ŋ* in this case belongs to the physical domain. In the second interpretation, however, *sà:nè:* roughly means "attractiveness" or other characteristics like appearance, temperament, and behavior that cause attraction. In this sense, the psychological domain is involved. Lastly, the ambiguity of *tɔ̂ŋ* in (95) depends on whether the subject really received the punishment or not. In the first reading, the subject did wrong and what she did corresponds with what the society or law saw as deserving punishment. In the second reading, the subject did wrong and justly received the punishment.

Firstly, coming into physical contact is the most basic (prototypical) sense of all the lexical meanings of the form. It is the most basic in the sense that: (i) it is involved with the most concrete domain of meaning, the physical domain; (ii) it is the earliest sense to be attested in the written form (Meesat, 1997: 70); and (iii) all the other lexical meanings can plausibly derive from it in a principled way. It is found from the data that *tɔ̂ŋ* in this sense usually occurs with two nominal arguments, the (preceding) subject and the (following) object. These two arguments denote two entities that come into physical contact with each other. Two prevailing constructions involve the use of *tɔ̂ŋ* in

this sense. In the first construction, the subject denotes an entity that undergoes the physical-contact event (Patient). The subject is usually an entity that does not have control over the event, and is affected by it in some way. The subject has a wide semantic range, and can be practically any physical entity capable of being physically contacted. The object, on the contrary, denotes an entity that acts upon the physical-contact event (Agent). The object is usually an entity that is a more forceful and more active participant in the event, though lacking volition. The semantic ranges of the object in this construction of *tɔ̂ŋ* typically involves natural forces like *lom* (wind) and *ná:m* (water), body parts like as *mɯ:* (hand), and weapons like *dà:p* (sword) or other instruments.

NP   +   *tɔ̂ŋ*   +   NP

| | |

Patient   contact   Agent
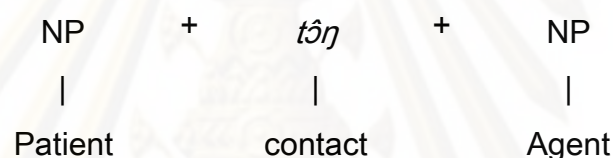
Figure 23 The semantics of /*tɔ̂ŋ*/ in its physical contact meaning (construction 1)

(96) กังหัน   **ต้อง**   ลม

      kaŋhǎn   **tɔ̂ŋ**   lom

      pinwheel   wind

      'The pinwheel came into contact with the wind.'

In this respect, *tɔ̂ŋ* is similar to some other verbs of physical contact like *thù:k* and *do:n*, which can easily replace *tɔ̂ŋ* in (96) and (97) without any perceivable difference in meaning. These three verbs have in common that they all denote a physical-contact event with a patient-subject and agent-object. And it should not a coincident that these three verbs develop grammatical functions that involve the sense of being affected in some way (passivity and obligation). Another verb of physical contact, *tɛ́ʔ*, on the contrary, requires a volitional agent-subject and a patient-object, and does not have any grammatical functions, as exemplified below.

(97) เขา   **แตะ**   หน้าผาก   เธอ
      khǎw   *tɛ̀ʔ*   nâ:phà:k   thə:
      he   forehead   she
      'He touched her forehead.'

In the second construction, the subject denotes an entity that acts upon the physical-contact event (Agent). The subject is usually an entity that is a more forceful and more active participant in the event, though lacking volition. The semantic ranges of the subject in this construction of *tɔ̂ŋ* typically involves natural forces like *lom* (wind) and *ná:m* (water), body parts like as *mɯ:* (hand), and weapons like *dà:p* (sword) or other instruments. The object, on the contrary, denotes an entity that undergoes the physical-contact event (Patient). The object is usually an entity that does not have control over the event, and is affected by it in some way. The object has a wide semantic range, and can be practically any physical entity capable of being physically contacted. Additionally, *tɔ̂ŋ* in this construction is be preceded by manner verbs of motion, such as *phát* (disperse) and/or direction verbs of motion, such as *paj* (go). Together these verbs in series denote a motion event in which the subject moves toward and finally comes into contact with the object.

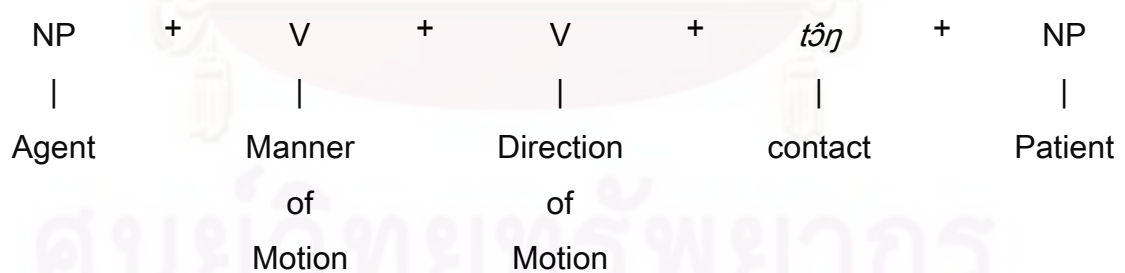| NP	+	V	+	V	+	*tɔ̂ŋ*	+	NP
|		|		|		|		|
Agent		Manner of Motion		Direction of Motion		contact		Patient

Figure 24 The semantics of /*tɔ̂ŋ*/ in its physical contact meaning

(98) ลม   พัด   ไป   **ต้อง**   กังหัน
      lom   phát   paj   *tɔ̂ŋ*   kaŋhǎn
      wind   blow   go   pinwheel
      'The wind blew toward and came into contact with the pinwheel.'

Secondly, being in correspondence is non-basic in the sense that it involves a more abstract semantic domain than and historically follows the physical contact meaning. It is found from the data that *tôŋ* in this meaning usually occurs with one argument, the (preceding) nominal subject, and one obligatory adjunct in the form of a (following) prepositional phrase headed by a preposition like *kàp* (with) or *ta:m* (in accord with). The subject denotes a particular entity, physical or abstract, in question and the obligatory adjunct denotes the point of reference against which the subject is evaluated as being corresponding with or not. The correspondence can be spatial as in (55), temporal as in (90) or ideational as in (99). Though denoting correspondence in different aspects, these three constructions of *tôŋ* are included as subsenses under the same sense as they all involve one entity evaluated as corresponding to another entity. Spatial correspondence as exemplified in (55) involves one entity evaluated as being in a corresponding position to another entity. Temporal correspondence as exemplified in (90) involves one entity evaluated as occurring in a corresponding period with another entity. And ideational correspondence as exemplified in (99) involves one entity evaluated as having some corresponding properties with another entity.

(99)	กรณี	นี้	**ต้อง**	กับ	กฎหมาย	อาญา	
	kɔ:rá?ni:	ní:	*tôŋ*	kàp	kòtmǎ:j	?a:ja:	
	case	this		with	law	civil	

'This case corresponds with the civil law.' [articles]

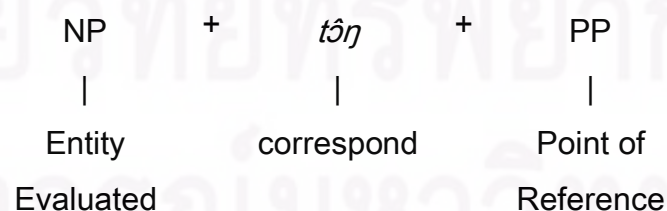| NP	+	*tôŋ*	+	PP
|		|		|
Entity		correspond		Point of
Evaluated				Reference

Figure 25 The semantics of /*tôŋ*/ in its correspondence meaning

More often than not, when the two entities are of equal status and serve as a point of reference for each other, then they are both subjects and then reciprocal pronoun *kan* follows the verb.

(100) กฎหมาย   สอง   ฉบับ   นี้   **ต้อง**   กัน
       kòtmǎːj   sɔ̌ːŋ   chàʔbàp   níː   **tɔ̂ŋ**   kan
       law   two   (classifier)   this   each.other
       'These two laws correspond with each other.'   [articles]

Thirdly, being subject to a supernatural influence is non-basic in the sense that it involves a more abstract semantic domain, mostly psychological, than and historically follows the physical contact meaning. The verb *tɔ̂ŋ* in this meaning requires two nominal arguments: the (preceding) subject denoting an entity that experiences or is subject to a supernatural influence, and the (following) object denoting the kind of supernatural influence involved. It is noteworthy that the semantic range of the subject is typically restricted to a person, but can also be a place or object, and the object is typically restricted to *sàːp* (curse), *mon* (magic), and *sàʔnèː* (charm).

(101) ราชา   ผู้   **ต้อง**   เสน่ห์ ของ   สาวน้อย
       raːchaː   phúː   **tɔ̂ŋ**   sàʔnèːkhɔ̌ːŋ   sǎːwnɔ́ːj
       king   who   charm of   maiden
       'the king who was charmed by the maiden'   [fiction]

(102) เมือง   **ต้อง**   คำสาป
       mɯaŋ   **tɔ̂ŋ**   khamsàːp
       city   curse
       'the cursed city'   [fiction]

```
NP        +        tɔ̂ŋ        +        PP
 |                  |                   |
```

Experiencer or   be subject to   Kind of

Undergoer of   Supernatural
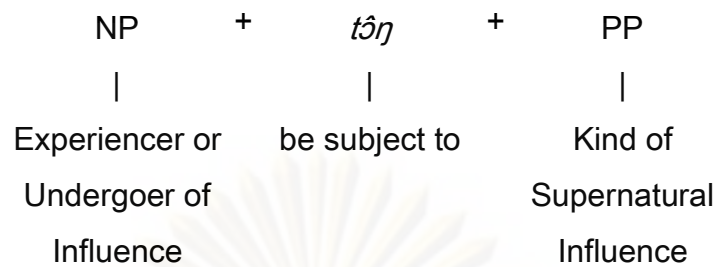
Influence   Influence

Figure 26 The semantics of /tɔ̂ŋ/ in its supernatural influence meaning

Fourthly and lastly, receiving a legal obligation is non-basic in the sense that it involves a more abstract semantic domain, mostly social, than and historically follows the physical contact meaning. The verb *tɔ̂ŋ* in this meaning requires two nominal arguments: the (preceding) subject denoting an entity that receives or is subject to a legal obligation, and the (following) object denoting the kind of legal obligation. It is noteworthy that the semantic range of the subject is typically restricted to a person and the object is typically restricted to kinds of legal regulation and punishment like *thô:t* (punishment), *ʔa:ja:* (civil law), and *khá:ʔdi:* (legal charge).

(103) เขา   **ต้อง**   คดี   ยาเสพติด
      khǎw tɔ̂ŋ   khá:ʔdi: ja:sè:ptìt
      he   charge   drug
      'He received a drug charge.'   [fiction]

```
NP        +        tɔ̂ŋ        +        NP
 |                  |                   |
```

Receiver of   receive   Kind of Legal
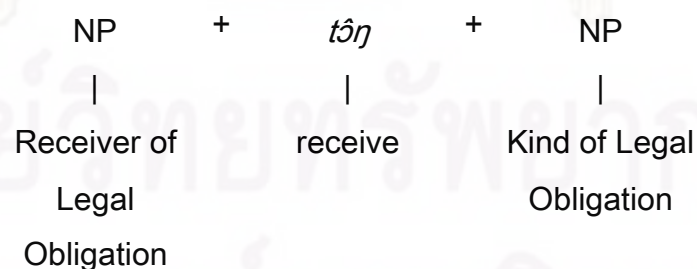
Legal   Obligation

Obligation

Figure 27 The semantics of /tɔ̂ŋ/ in its legal obligation meaning

In summary, the form *tɔ̂ŋ* in its verb function can be distinguished from its auxiliary function in four ways. It has a propositional, eventive meaning. It is a main predicative element and can occur alone as the only element in the

predicate, or co-occur with another preceding or following main element or with a preceding subsidiary element. It exerts controls on the number and the subcategorization of the co-occurring arguments. And when modified by a negative marker, it refutes the occurrence of the event. There are altogether four meanings that can be expressed by *tɔ̂ŋ* in its verb function: "coming into physical contact," "being in correspondence," "submitting to supernatural influence," and "receiving a (legal) obligation," which correspond with the physical domain, the ideational domain, the psychological domain, and the social domain respectively. It is found that the nominal arguments of *tɔ̂ŋ* vary semantically in line with its meaning. Also, it some cases, it is difficult to distinguish between the lexical meanings of *tɔ̂ŋ*.

4.3. GRAMMATICAL MEANINGS OF */tɔ̂ŋ/*

The form *tɔ̂ŋ* in its auxiliary function can be distinguished from its verb function in that it: (i) has a non-propositional, modal meaning; (ii) it is a subsidiary predicative element and can only co-occur with a following main element, possibly with another preceding subsidiary element, but cannot occur alone as the only one element in the predicate; (iii) exerts control over the whole clause by denoting the mode of viewing the event, and (iv), when modified by a negative marker, refutes the mode of viewing, but not the event itself.

NP   +   *tɔ̂ŋ*   +   VP
|　　　　　　　|　　　　　　|
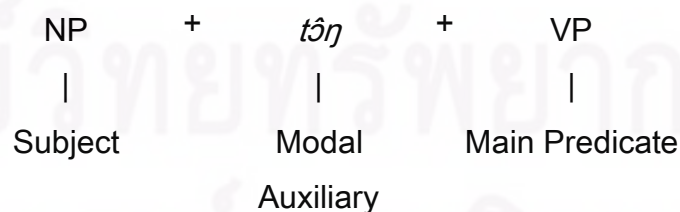Subject　　　　Modal　　Main Predicate
Auxiliary

Figure 28 The syntax of */tɔ̂ŋ/* in its modal meanings

There are altogether four meanings that can be expressed by *tɔ̂ŋ* in its auxiliary function: "obligation," "necessity," "need," and "certainty", as illustrated in (101)-(104) respectively.

(104) แม่ **ต้อง** ไป ทำงาน ต่างจังหวัด
mêː **tɔ̂ŋ** paj thamŋaːn tàːŋcaŋwàt
mother go work upcountry
'The mother has to go work in the upcountry.' [fiction]

(105) ทีวี เสีย **ต้อง** ซ่อม
thiːwiː sǐa **tɔ̂ŋ** sɔ̂m
television broken repair
'The broken television needs repairing.' [fiction]

(106) คืน นี้ มัน **ต้อง** ขอโทษ เรา
khɯːn níː maːn **tɔ̂ŋ** khɔ̌ːthôːt raw
night this he apologize we
'He must apologize to us tonight.' [fiction]

(107) เขา ต้อง มา เชื่อ ฉัน สิ
khǎw **tɔ̂ŋ** maː chɯ̂a chǎn sìʔ
he come believe me (particle)
'He will come, believe me.' [fiction]

The distinction between the four modal meanings corresponds with van der Auwera and Plungian (1998)'s three criteria for distinguishing modal expressions: epistemicity, participant-orientation, and deonticity. Firstly, it is very useful to make a distinction between epistemic modality, which indicates the extent to which the speaker is committed to the truth of the proposition, and non-epistemic modality. By this criterion, the certainty meaning is epistemic, and the obligation, necessity, and need are clearly non-epistemic. Secondly, participant-internal modality reports the existence of internal conditions on a participant, and thus includes the need meaning, whereas participant-external modality, reports the existence of external conditions on a participant, and thus includes the obligation and necessity meanings. Lastly, deontic modality refers to the existence of external conditions on a participant that are imposed by an external source of authority, even by the speaker, while non-deontic modality refers to the existence of external conditions on a

participant that naturally arise. By this criterion, the obligation meaning is deontic, but the necessity meaning is non-deontic.

There are cases in which it is difficult to differentiate between the grammatical meanings of *tɔ̂ŋ*. Consider the following examples.

(108) ฉัน **ต้อง** ไป แล้ว
chǎn **tɔ̂ŋ** paj lɛ́:w
I go already
'I have an obligation/necessity/need to go now.'

(109) เขา **ต้อง** มา พรุ่งนี้
khǎw **tɔ̂ŋ** ma: phrûŋní:
he come tomorrow
'He has an obligation/necessity/certainty to come tomorrow.'

In (108), without any further context, it is really difficult to tell whether the subject will go because of an obligation that has been exerted on him from an authoritative source, like his mother's order, or it is some inevitable condition, like a blaze in the building where he stays, that necessitates this event, or it is his own need to do so. In (109), it is not sure whether the subject is obliged by some authority to come tomorrow, or it is necessary for him to do so, or it is certain for him to do so.

In sum, the form *tɔ̂ŋ* in its auxilairy function can be distinguished from its verb function. It has a non-propositional, modal meaning. It is a subsidiary predicative element and can only co-occur with a following main element, possibly with another preceding subsidiary element, but cannot occur alone as the only one element in the predicate. It exerts control over the whole clause by denoting the mode of viewing the event. And when modified by a negative marker, it refutes the mode of viewing, but not the event itself. The modal meanings can be categorized into epistemic modality, which includes the certainty meaning, and non-epistemic modality, which includes the obligation, necessity, and need meanings. Secondly, the modal meanings can be categorized into participant-internal modality, which includes the need

meaning, and participant-external modality, which includes the obligation and necessity meanings. Lastly, the modal meanings can be categorized into deontic modality, which includes the obligation meaning, and non-deontic modality, which includes the necessity meaning.

4.4. MEANING EXTENSION OF /tɔ̂ŋ/

Traugott & Dasher (2005) propose a model of semantic extension on the basis that semantic meaning (the linguistically encoded meaning of a form) is a result of the conventionalization process of pragmatic meaning (the meaning that arises in actual utterance). The change starts from the coded meaning, to the utterance token meaning, to the pragmatically polysemous meaning, and finally to the semantically polysemous meaning. This process can be briefly diagrammed as M > [M$_1$, M$_2$], where M stands for Meaning (Traugott & Dasher, 2005: 34-35, 39). Later on in the process both meanings of the form may still be in use or one of them might get lost. An example for an semantic explanation based on Traugott & Dasher's approach is *naykhà?nà?thî:* in Thai.

(110) ชูวิทย์   ล้าง   รถ   **ในขณะที่**   ลีน่า   ทำกับข้าว
chu:wít   *lá:ŋ*   *rót*   ***najkhà?nà?thî:***   *li:nâ:*   *thamkàpkhâ:w*
Chuwit   wash   car   while   Lena   cook
'Chuwit was washing the car while Lena was cooking.'

(111) ชูวิทย์   ทำงาน   หนัก   **ในขณะที่**   ลีน่า   นั่ง
chu:wít   *thamŋa:n*   *nàk*   ***najkhà?nà?thî:***   *li:nâ:*   *nâŋ*
Chuwit   work   hard   while   Lena   sit
ดู   ทีวี
du: *thi:wi:*
watch television
'Chuwit was working hard while Lena was sitting watching television.'

(112)	ตอนนี้		ชูวิทย์		ดัง		แล้ว		**ในขณะที่**
	tɔ:nní:		chu:wít		daŋ		lɛ́:w		*najkhà?nà?thî:*
	now		Chuwit		famous		already		while
ปี	ที่แล้ว		เขา	เป็น	เพียง	คน	ธรรมดา		เท่านั้น
pi:	tî:lɛ́:w		khǎw	pen	phiaŋ	khon	thammá?da:		thâwnán
year	previous		he	be	only	man	ordinary		only

'Chuwit is now famous while last year he was only an ordinary man.'

At the first stage, as in (110), the coded meaning of *najkhà?nà?thî:* is the concurrence of two events. However, in actual utterance, the two concurrent events might be contrastive of each other, like in (111), and so the notion of contrast can be pragmatically inferred from *najkhà?nà?thî:*. At his stage, the form shows pragmatic ambiguity. That is to say, it can give either a temporal reading (concurrence) or a relational reading (contrast), or it can give both readings at the same time without mutual exclusion. This pragmatic polysemy develops into semantic polysemy when the new meaning has been conventionalized and become an encoded meaning of the form. Example (112) illustrates the conventionalization of the relational meaning of *najkhà?nà?thî:*. The temporal meaning is now excluded: while the two events are in contrast, they are not concurrent at all. As a result, a new encoded meaning is derived. In Thai the two meanings of *najkhà?nà?thî:* are in current use, and so the form is semantically polysemous.

The semantic extension model proposed by Traugott & Dasher relies on two major mechanisms: metaphor and metonymy. Metaphor can be simply defined as a transfer or mapping of understanding or experience across conceptual domains. It is often observed that such a transfer operates from a more concrete domain to a more abstract domain. The transfer is made possible via iconic relationship (Hopper & Traugott, 2003: 84). An example of semantic change driven by metaphor is *tàm* in Thai.

(113) ฉัน   เห็น   เมฆ   ลอย   **ต่ำ**   กว่า   เครื่องบิน
      chǎn   hěn   mê:k   lɔ:j   **tàm**   kwà: khrɯ̂aŋbin
      I   see   clod   float   low   than   airplane
      'I saw clouds floating lower than the airplane.'

(114) ราคา   นี้   **ต่ำ**   กว่า   ทุน
      ra:kha: ní: **tàm**   kwà: thun
      price   this   low   than   production.cost
      'This price is lower than the production cost.'

In sentence (113), *tàm* is associated with the spatial domain while in (114), it is associated with the numerical domain. In this metaphor, the concept of a lower degree of height is transferred to the concept of a lower degree of quantity. In other words, saying 'this price is lower than the production cost' makes sense because there is a transfer of understanding from a more concrete domain of space to a more abstract domain of numeration. Metonymy, moreover, plays an equally important role in driving semantic change. Metonymy can be simply defined as an access or indexation that allows an understanding or experience of a conceptual entity through another conceptual entity within the same conceptual domain. The access or indexation is made possible by the principle of contextual relationship. That is, the two entities have a high degree of contiguity in context (Hopper & Traugott, 2003: 88). En example of polysemy that derives from metonymy is *prà?tu:* in Thai.

(115) สมชาย   เตะ   ลูก   เข้า   **ประตู**
      sǒmcha:j   tè?   lû:k   khâw   **prà?tu:**
      Somchai   kick   ball   enter   goal
      'Somchai kicked the ball into the goal.'

(116) **ประตู**   รับ   ลูก   ได้
      prà?tu: ráp   lû:k   dâ:j
      goaltender   catch   ball   gete
      'The goaltender was able to catch the ball.'

In sentence (115), *prà?tu:* denotes a space, that is, the area between two posts where the ball must go in order to score in games such as football, but in (116), it denotes a person, that is, the player in a sports team whose job is to try to stop the ball going into the goal. In this metonymic process, the two conceptual entities are in the same domain, that is, the sports game domain, and are contextually contiguous, as the goaltender has as a job to defend the goal and so normally sticks around the area.

In the case of the semantic extension of *tɔ̂ŋ*, there are three paths through which the form develops: Path A from verb of coming into physical contact to verb of supernatural influence, Path B from verb of coming into physical contact to auxiliary of certainty, and Path C from auxiliary of necessity to auxiliary of need. In the first stage of Path A, *tɔ̂ŋ* is a lexical verb of physical contact.

Stage A1: *tɔ̂ŋ* = verb of coming into physical contact

(117) เขา **ต้อง** ยาเสน่ห์

khǎw **tɔ̂ŋ** ja:sà?nè:

he   charm.potion

'He was poisoned with a charm potion.'

At this stage, the fact that he was poisoned with a charm potion gives an implicature that he was charmed and thus was influenced by a supernatural phenomenon of some sort as a result. This result-oriented metonymical inference is strengthened through higher frequency of use, and finally the supernatural influence implicature is semanticized and becomes another conventionalized meaning of *tɔ̂ŋ*, and thus can occur in a context in which physical contact is no longer possible, as in (118).

Stage A2: *tɔ̂ŋ* = verb of supernatural influence

(118) เขา **ต้อง** มนต์เสน่ห์ แห่ง สนามหลวง

khǎw **tɔ̂ŋ** monsà?nè: hὲŋ sà?nǎ:mlǔaŋ

he   charm   of   Sanam Luang

'He was charmed by Sanam Luang.'

Toward another direction, the physical contact meaning as in (119) lends a schematic image of one entity coming into contact with another entity, from which a metaphorical transfer arises. In (120), the case in metaphorically as an entity that is in "contact" with the civil law. The image schema that shows the topographical similarity between the source domain and the target domain of this metaphorical change is below, in which the metaphorical transfer from the physical domain to the ideational domain occurs.

Stage B1: *tɔ̂ŋ* = verb of coming into physical contact

(119) ใบไม้   **ต้อง**   ลม

       bajmá:j   *tɔ̂ŋ*   *lom*

       leaf   *wind*

       'The leaf was in contact with the wind.'

Stage B2: *tɔ̂ŋ* = verb of being in correspondence

(120) คดี   ของ   เขา   **ต้อง**   กฎหมาย   อาญา

       khá?di: khɔ̌ŋ khǎw **tɔ̂ŋ** *kòtmǎ:j*   *?a:ja:*

       case   *of*   *he*   *law*   *civil*
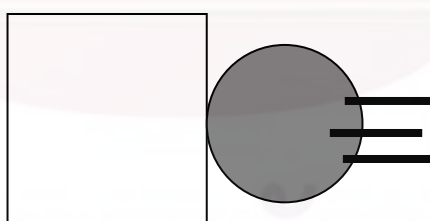
       'His case corresponds to the civil law.'

Figure 29 The image schema of the physical contact/correspondence metaphor

At stage B2, the new meaning of being correspondence is used in contexts in which the subject does something (wrong) that corresponds with the legal regulation of some kind. This context gives ride to an implicature that the subject is to receive that legal obligation.

Stage B2: *tɔ̂ŋ* = verb of being in correspondence

(121)　คดี　　ของ　เขา　**ต้อง**　กฎหมาย　　อาญา
　　　　khá?di:　khɔ̌ŋ　khǎw　**tɔ̂ŋ**　kòtmǎ:j　　?a:ja:
　　　　case　　of　　he　　　　　law　　　　civil
　　　　'His case corresponds to the civil law (and thus he receives some kind
　　　　of punitive obligation).'

This obligation reception reading is pragmatically strengthened through higher frequency of use and finally conventionalized as a separate meaning that can occur in a context in which the correspondence reading is no longer possible.

Stage B3: *tɔ̂ŋ* = verb of receiving a legal obligation

(122)　เขา　　**ต้อง**　โทษ　　　ชดใช้　　　ค่าเสียหาย
　　　　khǎw　**tɔ̂ŋ**　thô:t　　chótcháj　khâ:sǐahǎ:j
　　　　he　　　　　punishment　compensate　damages
　　　　'He received a punishment of compensating for the damages.'

The fourth stage of this semantic change occurs when the lexical meaning of receiving a legal obligation develops into the modal meaning of obligation. For example, the legal obligation reading in (122) can generate a pragmatic inference that the subject is obliged to pay the damages

Stage B3: *tɔ̂ŋ* = verb of receiving a legal obligation

(123)　เขา　　**ต้อง**　โทษ　　　ชดใช้　　　ค่าเสียหาย
　　　　khǎw　**tɔ̂ŋ**　thô:t　　chótcháj　khâ:sǐahǎ:j
　　　　he　　　　　punishment　compensate　damages
　　　　'He received a punishment of compensating for the damages (and is
　　　　thus obliged to do so).'

Parallel with the grammaticalization of the form from its verb function into its auxiliary function, this implicature becomes strengthened and finally conventionalized as a new modal meaning of obligation, as in (124).

Stage B4: *tôŋ* = auxiliary of obligation

(124) เขา **ต้อง** เดิน ไป โรงเรียน

      khǎw **tôŋ** də:n paj ro:ŋrian

      he   walk go school

      'He had an obligation to walk to school.'

At the fifth stage, the obligation reading of (124), in which the subject is obliged by some external source of authority to walk to school, gives rise to an implicature. It can be inferred that it is a necessary condition for the subject to do so (participant-external modality).

Stage B4: *tôŋ* = auxiliary of obligation

(125) เขา **ต้อง** เดิน ไป โรงเรียน

      khǎw **tôŋ** də:n paj ro:ŋrian

      he   walk go school

      'He had an obligation to walk to school (and thus had a necessity to do so).'

This inferred reading becomes semanticized as a legitimate meaning in its own right, and can now appear in a context where the obligation reading is not discernible anymore.

Stage B5: *tôŋ* = auxiliary of necessity

(126) เขา **ต้อง** เดิน เพราะ รถ เสีย

      khǎw **tôŋ** də:n phrɔ́ʔ rót sǐa

      he   walk because car broken

      'He had a necessity to walk because the car had broken down'

The sixth and final stage occurs when the necessity reading of *tôŋ* gives rise to a prediction or certainty reading. When there is a necessary condition on the occurrence of the event, the speaker can therefore feel certain about the occurrence of the event and can say about the certainty for the event to occur by using *tôŋ*.

Stage B5: *tɔ̂ŋ* = auxiliary of necessity

(127) เขา   **ต้อง**   เดิน   เพราะ   รถ   เสีย

khǎw   *tɔ̂ŋ*   də:n   phrɔ́ʔ   rót   sǐa

he   walk   because   car   broken

'He had a necessity to walk because the car had broken down (and certainly he would walk because it was necessary for him to do so).'

This certainty reading is strengthened by higher frequency of use and then becomes conventionalized as an independent meaning of its own, as in (128).

Stage B6: *tɔ̂ŋ* = auxiliary of certainty

(128) เขา   **ต้อง**   ถูก   หวย   แน่

khǎw   *tɔ̂ŋ*   thù:k   hǔaj   nɛ̂:

he   win   lottery   sure

'He had a high probability to win the lottery.'

Alternatively, in a context like (129), besides the necessity reading, it can also be inferred that it is the subject him-/herself that feels the need to do so (participant-internal modality).

Stage C1: *tɔ̂ŋ* = auxiliary of necessity

(129) เขา   ต้อง   ประหยัด   เพื่อ   ลูก

khǎw   *tɔ̂ŋ*   pràʔjàt   phɯ̂a   lû:k

he   economize   for   child

'He had a necessity to economize for his children (and he may feel the need to do so).'

This inferred reading becomes semanticized as a legitimate meaning in its own right, and can now appear in a context where the necessity reading is not discernible anymore.

Stage C2: *tɔ̂ŋ* = auxiliary of need

(130)	เขา	**ต้อง**	เดิน	ให้ได้	โดย	ไม่	ฟัง	เรา	ห้าม
	khǎw	*tɔ̂ŋ*	dəːn	hâjdâːj	doːj	mâj	faŋ	raw	hâːm
	he		walk	anyway	by	not	listen	we	prohibit

'Not listening to our prohibition, he had a need to walk'

The whole process of semantic extension can be summarized in the tables below.

Table 9 The semantic extension of */tɔ̂ŋ/* (A)

STAGE	MECHANISM	EXAMPLE
A1		*tɔ̂ŋ* = verb of coming into physical contact เขา **ต้อง** ยาเสน่ห์ khǎw *tɔ̂ŋ* jaːsàʔnèː he charm.potion 'He was poisoned with a charm potion.'
A2	metonymy	*tɔ̂ŋ* = verb of supernatural influence เขา **ต้อง** มนต์เสน่ห์ แห่ง สนามหลวง khǎw *tɔ̂ŋ* monsàʔnèː hὲŋ sàʔnǎːmlǔaŋ he charm of royal.garden 'He was charmed by the royal garden.'

Table 10 The semantic extension of */tɔ̂ŋ/* (B)

STAGE	MECHANISM	EXAMPLE
B1		*tɔ̂ŋ* = verb of coming into physical contact ใบไม้ **ต้อง** ลม bajmáːj *tɔ̂ŋ* lom leaf wind 'The leaf was in contact with the wind.'

STAGE	MECHANISM	EXAMPLE
B2	metaphor	*tɔ̂ŋ* = verb of being in correspondence คดี ของ เขา **ต้อง** กฎหมาย อาญา *khá?di: khɔ̌ŋ khǎw* **tɔ̂ŋ** *kòtmǎ:j ?a:ja:* case of he law civil 'His case corresponds to the civil law.'
B3	metonymy	*tɔ̂ŋ* = verb of receiving a legal obligation เขา **ต้อง** โทษ ชดใช้ ค่าเสียหาย *khǎw* **tɔ̂ŋ** *thó:t chótcháj khâ:sǐahǎ:j* he punishment compensate damages 'He received a punishment of compensating for the damages.'
B4	metonymy	*tɔ̂ŋ* = auxiliary of obligation เขา **ต้อง** เดิน ไป โรงเรียน *khǎw* **tɔ̂ŋ** *də:n paj ro:ŋrian* he walk go school 'He had an obligation to walk to school.'
B5	metonymy	*tɔ̂ŋ* = auxiliary of necessity เขา **ต้อง** เดิน เพราะ รถ เสีย *khǎw* **tɔ̂ŋ** *də:n phrɔ́? rót sǐa* he walk because car broken 'He had a necessity to walk because the car had broken down'
B6	metonymy	*tɔ̂ŋ* = auxiliary of certainty เขา **ต้อง** ถูก หวย แน่ *khǎw* **tɔ̂ŋ** *thù:k hǔaj nɛ̂:* he win lottery sure 'He had a high probability to win the lottery.'

Table 11 The semantic extension of /tɔ̂ŋ/ (c)

STAGE	MECHANISM	EXAMPLE
C1		*tɔ̂ŋ* = auxiliary of necessity
		เขา ต้อง ประหยัด เพื่อ ลูก
		khǎw ***tɔ̂ŋ*** prà?jàt phɯ̂a lûːk
		he economize for child
		'He had a necessity to economize for his children.'
C2	metonymy	*tɔ̂ŋ* = auxiliary of need
		เขา ***ต้อง*** เดิน ให้ได้ โดย ไม่ ฟัง
		khǎw ***tɔ̂ŋ*** dəːn hâjdâːj doːj mâj faŋ
		he walk anyway by not listen
		เรา ห้าม
		raw hâːm
		we prohibit
		'Not listening to our prohibition, he had a need to walk'

In sum, the process of semantic extension is claimed to be driven by a pragmatic principle of inferencing. It is theorized that an utterance can give rise to a conversational implicature, and when it becomes strengthened by higher frequency of use, it is semanticized as a new meaning. Two major mechanisms are claimed to account for semantic change in general. Firstly, metaphor, the process of transferring or mapping understanding or experience across conceptual domains, usually from a more concrete domain to a more abstract domain, relies upon iconic relationship between entities. Secondly, metonymy, the process of accessing or indexing an understanding or experience of a conceptual entity through another conceptual entity within the same conceptual domain, relies on contextual relationship. In the case of *tɔ̂ŋ*, there are altogether six stages though which its semantic development goes, and both metaphor and metonymy are involved, though at different stages.

4.5. SUMMARY

A meaning is defined as the conventional ideational or semantic content associated with a linguistic symbol. In order to distinguish meanings, a set of criteria is proposed: antagonism, independent truth-conditions, independent lexical relations, and definitional distinctness. The form *tôŋ* in its verb function can be distinguished from its auxiliary function semantically and syntactically. There are altogether four meanings that can be expressed by *tôŋ* in its verb function: "coming into physical contact," "being in correspondence," "being subject to supernatural influence," and "receiving a (legal) obligation," which correspond with the physical domain, the ideational domain, the psychological domain, and the social domain respectively. The modal meanings can be categorized into epistemic modality, which includes the "certainty" meaning, and non-epistemic modality, participant-internal modality, which includes the "need" meaning, deontic modality, which includes the "obligation" meaning, and non-deontic participant-external modality, which includes the "necessity" meaning. Moreover, the process of semantic extension is claimed to be driven by a pragmatic principle of inferencing. It is theorized that an utterance can give rise to a conversational implicature, and when it becomes strengthened by higher frequency of use, it is semanticized as a new meaning. Two major mechanisms are claimed to account for semantic change in general: metaphor, the process of transferring or mapping understanding or experience across conceptual domains, usually from a more concrete domain to a more abstract domain, and metonymy, the process of accessing or indexing an understanding or experience of a conceptual entity through another conceptual entity within the same conceptual domain. In the case of *tôŋ*, there are altogether six stages though which its semantic development goes, and both metaphor and metonymy are involved, though at different stages.

CHAPTER V

CONCLUSION

Polyfunctionality is defined as a linguistic phenomenon in which one form is associated with more than one semantic meaning, and the multiple meanings of a polyfunctional form belong to more than one syntactic category. One important qualification for polyfunctionality is that the semantic multiplicity is polysemic, that is, is not accidental but derives from diachronic relationship, and thus probably has synchronic relationship as well. In this sense, polyfunctionality entails polysemy. Polyfunctionality is an interesting topic from linguistic typological, historical linguistic, and cognitive linguistic points of view, as this phenomenon deserves a serious study in the aspects of areal distribution, diachronic development, and conceptual association. Due to its methodological limitations, this study primarily focuses on *tɔ̂ŋ* in Thai as its main object, which is meant to be representative of the set of tactile-sensation verbs in the languages of Southeast Asia. Although the polyfunctional nature of *tɔ̂ŋ* surely constitutes a linguistic phenomenon that is worth serious treatment, but so far no known research has been substantially dedicated to it. Hence, this study is primarily intended to fill in this gap. The main research questions of this study are as follows. (i) What functions/meanings are associated with the word form *tɔ̂ŋ*? (ii) In what direction and on what path does the form develop its syntactic and semantic multiplicity? (iii) And what motivates and governs the diachronic development from some functions/meanings to others? To answer these questions, this study is aimed to analyze the functions and meanings of the word form *tɔ̂ŋ* in Thai; to trace the path and direction of the grammaticalization and semantic extension of *tɔ̂ŋ*; and to identify the mechanisms that trigger the grammaticalization and semantic extension of *tɔ̂ŋ*.

Accordingly, this study makes three hypotheses: Firstly, the word form *tɔ̂ŋ* is categorized as a main verb and an auxiliary verb. As a lexical verb, *tɔ̂ŋ* has four lexical senses, i.e. (i) coming into physical contact, (ii) being in

correspondence, (iii) being subject to a supernatural influence, and (iv) receiving a legal obligation. As an auxiliary, it expresses four modal senses, i.e. (v) having an obligation to do something, (vi) an having a necessity to do something; (vii) having a need to do something, and (viii) having a certainty to do something. Secondly, the verb function precedes and develops into the auxiliary function. Thirdly and lastly, metaphor and metonymy are the processes which trigger the semantic changes of *tɔ̂ŋ*. Specifically, metaphor was involved in the earlier stages of semantic changes whereas metonymy was involved in the later stages of semantic changes. As a result of the limitations aforementioned, the scope of this study is restricted to constructions in which *tɔ̂ŋ* occurs as an independent word, while compounds of which it is part are mentioned only when relevant, and corpus-based synchronic data of the word form. The data drawn from the electronic corpus come from news items, documentaries, academic articles, and fiction. The data employed in this study is processed by Thai Concordance. And the data processing process includes retrieving data with their concordance lines using the Thai Concordance program, screening out inapplicable data or data that fall outside the scope of the study, randomly choosing representative data, and drawing secondary data drawn from other relevant studies when necessary.

This study presents a literature review on key concepts and representative works on polysemy and polyfunctionality, linguistic typological works on expressions of modality, and previous studies on the word form *tɔ̂ŋ* in Thai. Polyfunctionality is defined as a phenomenon related to but distinct from other phenomena of multiplicity, such as polysemy without syntactic multiplicity and syntactic multiplicity without polysemy. Furthermore, modality can be simply defined as the grammaticalization of speakers' attitudes and opinions. Modality can be subcategorized in many ways, but this study makes a distinction between participant-internal modality (ability and need), participant-external modality (possibility and necessity), deontic modality (permission and obligation), which is a special subdomain of participant-external modality, and epistemic modality (epistemic possibility and epistemic

necessity). Moreover, it is posited that the semantic category of modality is formally encoded by means of morphology, syntax, and lexicology. The Thai language, in particular, relies on a number of syntactic and lexical means to encode modality. It is proposed that there are four classes of modality markers in Thai: preverbal auxiliaries, initial particles, adverbs, and final particles. Then, three groups of previous studies of the form *tôŋ* are reviewed. These works are grouped in accord with the different aspects of the word form that they deal with. Works in the first group are meant to be reference grammars. This first group includes Nawanwan Phandhumetha's *Thai Grammar* (2008) and Ruengdet Pankhuenkhat's *Thai Linguistics* (2009). The second group is works that are entirely devoted to the study of The Thai modality system, and thus include information about the form. The second group includes Phornthip Phatranawig's *Modal Expressions in the Thai Language* (1972) and Suda Rangkupan's "A System of Epistemic Modality in Thai" (2005). The third and last group is works that take on the diachronic development of sets of word forms in Thai, including *tôŋ*, and thus provide historical evidence. This group includes Amara Prasithrathsint's *Change in the Passive Constructions in Written Thai during the Bangkok Period* (1985) and Paitaya Meesat's *A Study of Auxiliary Verbs Developed from Verbs in Thai* (1997).

It is found in this study that the two major functions of the form *tôŋ* are the verb and the auxiliary, and this finding corresponds with the study's first hypothesis. Two theoretical foundations, i.e. the typological, panchronic theory of grammaticalization and the cognitive linguistic approach to categories are relevant to the modeling of the polyfunctional nature of the form. Its polyfunctionality is a synchronic manifestation of an ongoing process called auxiliation, which derives the auxiliary function out of the verb function. Four syntactic-semantic criteria are employed to delineate the two functions: propositionality, distribution, control, and negation. The form *tôŋ* as a verb: denotes a propositional meaning, in this case an event; can occur independently as the only element in a predicate; controls the arguments of the proposition; and can be negated to denote the non-existence of the event.

On the contrary, the form *tɔ̂ŋ* as an auxiliary: denotes a non-propositional meaning, in this case modality; is dependent on its following verb; exerts control over the whole proposition but has no direct control over the arguments; and when negated, denotes the non-existence of, for example, the obligation imposed on the event, but not the non-occurrence of the event itself. However, it is found there are ambiguous cases in which the role of the form is indeterminate, particularly when the obligation meaning is involved. This functional ambiguity is generally attributable to the fact that the obligation meaning is halfway between lexical and grammatical meanings, and that the noun phrase argument following the main verb *tɔ̂ŋ* can be dropped. Lastly, there seems to be discourse/pragmatic uses of the form that are based on its auxiliary function, but the main verb along with the arguments are usually ellipted altogether. It is found that this study's second hypothesis is correct, as the grammaticalization of *tɔ̂ŋ* involves a change from a lexical function (a verb) into a grammatical function (an auxiliary). Two important mechanisms responsible for this kind of change are reanalysis and analogy, in accordance with the third hypothesis of the study. There are altogether six stages through which *tɔ̂ŋ* develops from its verb function to its auxiliary function, and reanalysis and analogy are both involved, though at different stages.

A meaning is defined as the conventional ideational or semantic content associated with a linguistic symbol. In order to distinguish senses, a set of criteria is proposed: antagonism, independent truth-conditions, independent lexical relations, and definitional distinctness. The form *tɔ̂ŋ* in its verb function can be distinguished from its auxiliary function semantically and syntactically. There are altogether four lexical senses that can be expressed by *tɔ̂ŋ* in its verb function: "coming into physical contact," "being in correspondence," "being subject to supernatural influence," and "receiving a (legal) obligation," which correspond with the physical domain, the ideational domain, the psychological domain, and the social domain respectively. In addition, there are four modal senses that can be expressed by *tɔ̂ŋ* in its auxiliary function. The modal meanings can be categorized into epistemic modality, which includes the "certainty" meaning, and non-epistemic modality,

participant-internal modality, which includes the "need" meaning, deontic modality, which includes the "obligation" meaning, and non-deontic participant-external modality, which includes the "necessity" meaning. This finding is an elaboration of this study's first hypothesis.

Table 12 The functions /tôŋ/ and the meanings associated with those functions

VERB		AUXILIARY	
(i)	coming into physical contact	(v)	having an obligation to do something
(ii)	having correspondent properties	(vi)	having a necessity to do something
(iii)	being subject to a supernatural influence	(vii)	having a need to do something
(iv)	receiving a legal obligation	(viii)	being certain to do something

Moreover, the process of semantic change is claimed to be driven by a pragmatic principle of inferencing. It is theorized that an utterance can give rise to a conversational implicature, and when it becomes strengthened by higher frequency of use, it is semanticized as a new meaning. Two major mechanisms are claimed to account for semantic extension in general: metaphor, the process of transferring or mapping understanding or experience across conceptual domains, usually from a more concrete domain to a more abstract domain, and metonymy, the process of accessing or indexing an understanding or experience of a conceptual entity through another conceptual entity within the same conceptual domain. In the case of *tôŋ*, there are altogether three paths though which its semantic development goes, and both metaphor and metonymy are involved, though at different stages. This finding is also an elaboration of this study's second and third hypotheses. The paths and directions of the grammaticalization and semantic extension of the form can be summarized as follows.
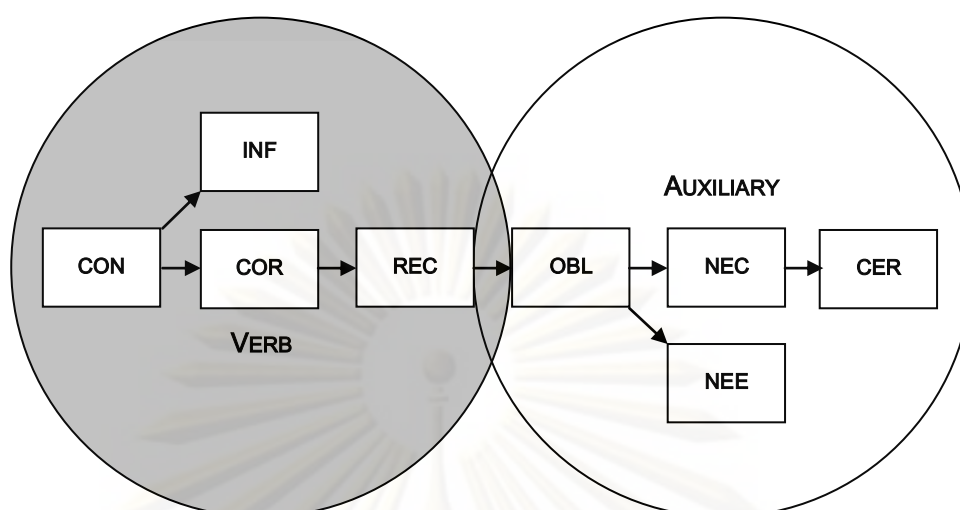
Figure 30 The hypothesized paths and directions of the grammaticalization and semantic extension of /tɔ̂ŋ/ (CON = physical contact, INF = supernatural influence, COR = correspondence, REC = punitive reception, OBL = obligation, NEE = need, NEC = necessity, and CER = certainty)

This study bears some important implications for future research. Firstly, this study proposes an innovative way of looking at the phenomenon of polyfunctionality. No known previous attempts have been made to define and constrain what should be termed a polyfunctional form and what should not. In this proposed model, polyfunctionality is considered as a subset of polysemy, and should be distinguished from homonymic multifunctionality, in which the formal sameness of different functions is not motivated. It is interesting to find out whether this model is well applicable to the studies of other polyfunctional forms in Thai and also in other languages. Secondly, this study presents a functional view of a form's multiple functions. That is to say, both the syntax and semantics of the form should be taken into account in order to fully explain polyfunctionality. Lastly, there are other forms in Thai that have both lexical and grammatical functions. Serious research into the polyfunctional nature of those forms should be conducted in order to compare and contrast the paths and directions of the grammaticalization and semantic extension of those forms with those of tɔ̂ŋ.

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