

## **VERBS FOR GLOBAL LOCOMOTORY BODY MOTION IN THAI**

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Global locomotory body motion (GLBM) is defined as an animate being's locomotion by means of body parts that results in the change of its location as a whole. Verbs for GLBM (e.g. walk, run, crawl, swim, etc.) are so basic as to be found in every natural language. The main purpose of this paper is to investigate semantic properties of GLBM verbs in Thai. It is found that Thai GLBM verbs show at least three levels of specificity in depicting the respective GLBMs: general level, rather specific level, and specific level. In addition, the paper demonstrates that incorporate meanings of the verbs give rise to their syntactic constraints in collocating with directional verbs.

**Keywords:** Thai, manner-of-motion verbs, body motion, locomotion, specificity.

### 1. INTRODUCTION

In her study on serial verb constructions in Thai, an isolating language, Chuwicha (1993) states that when a verb for “primary action” and a verb for “non-primary action” co-occur in the string, the former occurs in the first position and the latter occurs in the second position. Primary action and non-primary action are defined as action in which we can perceive clearly which body parts are used in carrying out the action and as action in which we cannot perceive clearly so, respectively. A sentence composed of a primary action verb and a non-primary action verb represents a single but semantically complex event (e.g. *wi<sup>N</sup> lo\$p* ‘run and avoid someone or something at the same time’). Such a cognitive and psychological distinction between primary and non-primary actions is crucial in examining the interface between meanings and syntactic behaviors of Thai verbs. I assume further that primary action verbs can be classified into subclasses according to the degree of specificity in representing the action events.

This paper deals with verbs for global locomotory body motion (e.g. walk, run, crawl, swim, etc.) in Thai. By the term “global locomotory body motion” (henceforth, GLBM), I mean an

animate being's locomotion by means of body parts that results in the change of its location as a whole. A GLBM verb can be labelled either as a manner-of-motion verb and/or a primary action verb. Like other manner-of-motion verbs (e.g. rush, march, drive, row, roll, swing, twist, drift, soar, etc.), GLBM verbs express a motion in a manner. In addition, GLBM verbs, as well as other primary action verbs (e.g. sit, kick, throw, scratch, clap, nod, cry, sip, look, smell, wink, etc.), specifically indicate body parts. In this paper, semantic properties of Thai GLBM verbs are mainly investigated. Their syntactic constraints in collocating with directional verbs are also examined in a tentative fashion.

## 2. DATA <sup>1</sup>

All of GLBM verbs have the following two semantic characteristics in common. First, they represent a locomotion event. By the term "locomotion," I mean motion that involves a horizontal or vertical change of location. What is more, they explicitly specify as to what body parts to be used for the locomotion. Accordingly, neither motion verbs which do not indicate particular body parts (e.g. khlu^a^n 'move,' thajaan 'lunge,' hee\$ 'parade,' la^y 'chase,' etc.) nor primary action verbs (or agentive motion verbs) which do not necessarily indicate locomotion (e.g. lo@m 'topple,' lu@k 'stand,' thaas& 'lean to one side,' etc.) are our present concern. As far as the data I have collected are concerned, there are thirty GLBM verbs (including four pairs of synonyms) in Thai. All items of Thai GLBM verbs that I have found in my data are listed below:

1. d^a^n 'walk,' 2. kaa^w 'stride,' 3. khajee\$k 'limp, hobble,' 4. jcç^N 'walk stealthily, walk on tiptoe,' 5. ram 'move about gracefully or rhythmically,' 6. luy 'wade, walk through,' 7. jaa^N 'walk slowly,' 8. wi^N 'run,' 9. kradoo\$t / doo\$t 'jump, hop, skip,' 10. kracoon / coon 'take a leap, bounce into,' 11. kracoom / coom 'pounce upon,' 12. khj''\$p 'move little by little,' 13. krath' \$p 'move little by little in a sitting posture,' 14. tha\$t 'move forward little by little in a sitting posture,' 15. kratho\$t / tho\$t 'move backward little by little in a sitting posture,' 16. khlaan 'crawl,' 17. khmu^p 'crawl little by little [worm]<sup>2</sup>,' 18. lua@y 'crawl [rather long animate thing without limbs],' 19. ta\$y 'climb or creep on something,' 20. piin 'clamber,' 21. takaay 'climb quickly,' 22. bin 'fly [winged creature],' 23. phoo& 'fly to and fro [bird],' 24. choo\$p 'swoop down to snatch away [bird of prey],' 25. chay 'worm into [worm],' 26. waa^y 'swim'

## 2. SEMANTIC COMPONENTS EMPLOYED IN ANALYZING THAI GLBM VERBS

It has been found that the semantic incorporation of Thai GLBM verbs can be analyzed by employing the following five semantic components: (1) INSTRUMENTALITY, (2) VELOCITY, (3) DIRECTIONALITY, (4) MEDIUM, and (5) MANNER. Besides the above five semantic components, Thai GLBM verbs have other semantic components, i.e., (6) TRAVEL or the fact of motion and (7) ACT or cause of motion, in common.<sup>3</sup> However, the aim of this study is to investigate the internal system of Thai GLBM verbs. Therefore, we will examine semantic incorporation of Thai GLBM verbs by focusing exclusively on the five components whose specific features function as distinctive features among Thai GLBM verbs. All of these components are employed in Miller and Johnson-Laird's (1976) analysis of verbs for motion in English. But my usage of these terms in this study is not the same as theirs.

Miller and Johnson-Laird (1976: 526-558) investigate English motion verbs from a psychological, especially perceptual, point of view. They comment that intransitive 'travel' expresses the simplest type of change of location, and they exemplify several patterns of semantic incorporation, i.e. the relation between the complex concept and its components, of English verbs of travelling. 'Hurry,' for example, incorporates the fact of the simple motion (TRAVEL) and its manner (RAPIDITY). They, thus, regard rapidity or velocity as a subset of the MANNER category, whereas I regard it as an independent category. This modification is on the grounds that conceptualized values of VELOCITY are significant to differentiate among Thai GLBM verbs.

Miller and Johnson-Laird (1976: 547-552) examine English intransitive agentive motion verbs (e.g. walk, run, crawl, swim, etc.), which mean that an agent (animate being) uses an instrument (his body parts) to allow him to travel along a path (from a starting point via intermediate locations to an end point) through the air or on land or water. They have concluded that this type of verbs incorporate the following four semantic components: TRAVEL (the motion per se), ACT (the agent's intention to make himself move), PATH (the whole path along which the motion is carried out), and INSTRUMENTALITY (the agent's body). Miller and Johnson-Laird (1976: 550-551) define 'walk, run, crawl, climb and swim' as verbs for "main global locomotory motion," and furthermore take 'walk and run' and their hyponyms (e.g. march, lumber, saunter, mince, stagger, sprint, etc.) as well as further specialized types (e.g. dance, skate, skip, hop, etc.) for subsets of the major category of verbs for "travelling by foot on land." They suggest that since we have no trouble to understand walking on air or water, the conventional restriction to "land" could be considered part of our general knowledge rather than our linguistic knowledge. I think that the semantic feature "on land" is a "default value" of MEDIUM in the case of locomotion of animate things living on land, especially human beings, and such a default value is marked only when contrasted with other possible specific values.

Miller and Johnson-Laird's MEDIUM category consists of the following three subsets: moving on land or air or water. But I categorize its subsets in another way: moving through a gas or liquid or solid thing. This rearrangement is based on the fact that Thai has an unique GLBM verb that is distinguished from other GLBM verbs because of having a specific value of MEDIUM, i.e., moving through a solid thing. Moreover, I think that the distinction between the features "on land" and "in air" is redundant, because of the fundamental distinction between the features "legs or limbs" and "wings" of INSTRUMENTALITY. That is, when using "wings" as instrument of locomotion, the medium in which the locomotion takes place must be "air."

In my opinion, the features of PATH should be restricted to concepts concerning "path orientation" or "relative direction" which may be formed with a starting point and an endpoint (e.g. towards an endpoint) or which may arise from interaction with a certain object (e.g. cross an object). It appears that Thai GLBM verbs do not entail the PATH component at all. Directional features as determined by the gravity or a global orientation or "absolute directions" (e.g. up, north, downhill) or determined by an intrinsic orientation of the moving body or "intrinsic directions" (e.g. back, left side) should be considered DIRECTIONALITY, independantly from PATH. In addition, path configuration or "path gestalt" (e.g. meander path, path with some obstacle, rather short path, path on something) should be considered features of MANNER, but not of PATH.<sup>4</sup> In short, in my analysis of Thai GLBM verbs, I have found that the general, rather inclusive PATH category is divided into the three distinct categories: (1) DIRECTIONALITY, (2) PATH and (3) MANNER. The features of DIRECTIONALITY are characterized either by "absoluteness" if related to gravity or a global orientation (e.g. up/down, north/south/east/west) or by "intrinsicness" if related to an intrinsic orientation of the moving body (e.g. front/back, left/right). The features of PATH (e.g. towards an endpoint, thither/hither, around something, through something) are characterized by "relativeness," while the features of MANNER (e.g. path configuration) are characterized by "uniqueness."<sup>5</sup> Apart from path configuration, the MANNER component of Thai GLBM verbs encompasses such miscellaneous things as agent's intention or attitude, agent's posture, body parts used in a supplementary fashion to characterize the movement, and so on. They are all characterized by uniqueness and we cannot differentiate among Thai GLBM verbs accurately unless we take such uniqueness into consideration.

There is evidence in favor of my hypothesis that the general concept "path of motion" might be composed of the three different semantic components, namely, (1) DIRECTIONALITY ("absolute directions" such as 'downward' and "intrinsic directions" such as 'forward'), (2) PATH ("path orientation" or "relative directions" such as 'towards a goal'), and (3) MANNER ("path gestalt" such as 'meander path'). These three semantic components are cognitively and psychologically distinguishable, as follows. The features of DIRECTIONALITY, inherent directions, can have a "positive default value." Inherent directions, I assume, should have a

“contrary” relationship (rather than a “contradictory” relationship) with one another in the system.<sup>6</sup> Therefore, we can choose one of the directions as a default value. The features of MANNER, on the other hand, cannot have a “positive default value,” because each of them is unique and incomparable with any other features in the component. That is, they have a “contradictory” relationship. We cannot choose such a unique and incomparable feature as a default value. But, instead, we may think of a “negative default value” or “contradictory value” of them (i.e. ‘unmarked’). By contrast, features of PATH cannot have any default values, since the relationship among them is neither “contrary” nor “contradictory.” They are arbitrarily chosen in each context. Their relationship is, therefore, highly “relative.” It is impossible to determine a default value among such “relative” features. This very “relativeness” (or “context-dependency”) in forming “path orientation” seems to prevent its specific features from being incorporated in GLBM verbs. In comparison, natures of “absolute” and “intrinsic” directions are inherent in GLBMs (or “context-free”), so that they could be incorporated in GLBM verbs.

To summarize, Miller and Johnson-Laird’s MANNER, PATH and MEDIUM categories must be re-examined for the purpose of describing semantic incorporation of Thai GLBM verbs as follows. First, their MANNER is divided into VELOCITY and MANNER; secondly, their PATH is divided into DIRECTIONALITY, MANNER and PATH (though Thai GLBM verbs do not incorporate PATH); and thirdly, their MEDIUM is viewed in a fresh perspective (gaseous or liquid or solid matter). Hence the following novel categories of semantic components for analysis of Thai GLBM verbs: (1) INSTRUMENTALITY: body parts used for locomotion, which may specify the agent type as well (e.g. wings of bird); (2) VELOCITY: rapidity of locomotion; (3) DIRECTIONALITY: direction of locomotion, including “absolute” and “intrinsic” directions; (4) MEDIUM: a gaseous or liquid or solid thing in which locomotion takes place; (5) MANNER: various kinds of manner with respect to locomotion, including “mental” and “physical” manner. Each semantic component above has a default value as follows: (1) INSTRUMENTALITY: legs (or ‘wings’ in case of locomotion through the air; ‘fins and a tail’ in case of locomotion in the water); (2) VELOCITY: a conceptualized speed for each type of GLBM, or a speed that we regard as natural and normal; (3) DIRECTIONALITY: forward; (4) MEDIUM: gaseous matter; (5) MANNER: unmarked manner.

## 2. SEMANTIC PROPERTIES OF THAI GLBM VERBS

Tables below show specific or marked values of semantic components that Thai GLBM verbs incorporate.

Table 1 Semantic incorporation of WALK/RUN group

	VELOCITY	DIRECTIONALITY	MANNER
d̚n			stride
kaa^w			hobble
khajee\$ <sup>k</sup>			stealthily/on tiptoe
j̚s^N			gracefully/rhythmically
ram			path-with-obstacle
luy		forward?	
jaa^N	slow		
wi^N	fast		

Table 2 Semantic incorporation of JUMP group

	DIRECTIONALITY	MANNER
kradoo\$t/doo\$t	up	
kracoon/coon	up&forward	jump once
kracoom/coom	up&forward	to catch at something

Table 3 Semantic incorporation of MOVE LITTLE BY LITTLE group

	INSTRUMENTALITY	DIRECTIONALITY	MANNER
khj' \$p			little by little
krath' \$p	hip (arm)		in a sitting posture
tha\$t	hip (arm)	forward	in a sitting posture
kratho\$t/tho\$t	hip (arm)	backward	in a sitting posture

Table 4 Semantic incorporation of CRAWL/CLIMB group

	INSTRUMENTALITY	VELOCITY	DIRECTIONALITY	MANNER
khlaan	TY			
khmu'p	leg&arm			
lpa@y	wormlike body	slow		little by little
ta\$y	limbless body	fast		meander-path
piin	arm&leg	slow	up/down	path-on-something
takaay	arm&leg	fast	up/down&forward	with difficulty
				with effort

Table 5 Semantic incorporation of FLY group

	INSTRUMENTALITY	VELOCITY	DIRECTIONALITY	MANNER
bin	TY			
phoo&	wing			
choo\$p	wing	slow		
	wing	fast	down&forward	rather short path
				to snatch away

Table 6 Semantic incorporation of WORM/SWIM group

	INSTRUMENTALITY	DIRECTIONALITY	MEDIUM
chay	wormlike body(&limb)	forward	solid
waa'y	fin&tail/arm&leg		liquid

#### 4.1 WALK/RUN group

d''n 'walk' is the simplest GLBM verb, for all of its semantic components have a default value, i.e., legs (INSTRUMENTALITY), a natural and normal speed to move by legs on land (VELOCITY), forward (DIRECTIONALITY), gaseous matter (MEDIUM), and unmarked manner (MANNER). It is concluded that d''n 'walk' expresses the simplest and general locomotion of animate beings, especially human beings.

kaa^w 'stride,' khajee\$k 'hobble,' jcç^N 'walk stealthily,' ram 'move about gracefully or rhythmically,' and luy 'wade, walk through' represent walking in a particular manner. kaa^w 'stride' gives attention to every step. khajee\$k 'hobble' emphasizes an unbalance between the right leg and the left leg. Besides legs, we use other body parts in the locomotion events denoted by jcç^N 'walk stealthily' and ram 'move about gracefully or rhythmically': in the former event, we walk on 'tiptoe' in order not to make a sound; and in the latter event, we move 'arms and fingers' as well as legs. luy 'wade, walk through' implies the agent's determination in moving ahead against some obstacle that lies along the path of locomotion (e.g. wade, walk through fire, walk in muddy water, etc.).

jaa^N 'walk slowly' and wi^N 'run' have every default value except VELOCITY. jaa^N 'walk slowly' specifies a low speed, while wi^N 'run' specifies a high speed. That is, jaa^N 'walk slowly' and wi^N 'run' represent respectively walking at a lower or higher speed than the walking denoted by d''n 'walk.' According to Miller and Johnson-Laird (1976: 551-552), the distinction between 'walk' and 'run' in English is not based on velocity of motion. Rather, it is

based on whether or not one foot or the other is always touching the ground. Indeed, it is possible to speak of walking rapidly or walking slowly, or to speak of running rapidly or running slowly. Yet, I insist that it is “velocity” that distinguishes *wi<sup>N</sup>* ‘run’ and *jaa<sup>N</sup>* ‘walk slowly’ from *d<sup>N</sup>n* ‘walk.’ I should make it clear what I mean by the term **VELOCITY**. I use it not in a physical sense (i.e. moving slowly or rapidly in the real world) but in an abstract sense (i.e. moving at a slower or faster pace than what we regard as natural and normal). Naturally, physical values of the speed of a locomotion may vary according to each individual or each situation. The important point to note is that the speed of a locomotion denoted by each GLBM verb is not related to such physical rapidity. But it is conceptualized **VELOCITY** of each locomotion type.

*jaa<sup>N</sup>* ‘walk slowly’ and *wi<sup>N</sup>* ‘run’ represent rather simple GLBM events which specify no other semantic features with respect to locomotion than **VELOCITY** (i.e. slower or faster than the normal locomotion by legs on land). That is to say, specific values of **VELOCITY** function as distinctive features among the three verbs for ‘simple walking’ in Thai (i.e. *d<sup>N</sup>n* ‘walk,’ *jaa<sup>N</sup>* ‘walk slowly,’ and *wi<sup>N</sup>* ‘run’). In addition, as we shall see later, verbs for ‘crawling’ (i.e. *khlaan* ‘crawl,’ *kh<sup>N</sup>u<sup>N</sup>p* ‘[worm] crawl,’ and *l<sup>N</sup>ua@y* ‘[rather long animate thing without limbs] crawl’), verbs for ‘climbing’ (i.e. *ta\$y* ‘climb or creep something,’ *piin* ‘clamber’ and *takaay* ‘climb quickly’) and verbs for ‘flying’ (i.e. *bin* ‘fly,’ *ph<sup>N</sup>ç&* ‘fly to and fro’ and *choo\$p* ‘swoop down and snatch away’) are also differentiated from one another according to their specific values of **VELOCITY** (i.e. normal or slow or fast speed). **VELOCITY** is so significant as to differentiate among subtypes of Thai GLBM verbs.

#### 4.2 *JUMP* group

Jumping is a sudden spring by legs. Of course, jumping is not as natural for human beings as walking or running, but it is by no means abnormal. Sometimes we have to jump for a certain reason, so that our jumping is a familiar sight in everyday life.

The distinction among members in this group is due to their different values of **DIRECTIONALITY**. *kradoo\$t/doo\$t* ‘jump’ represents the simplest type of jumping. It specifies neither which horizontal direction, how long, nor how many times to jump, so that it encompasses various hyponyms such as springing, leaping, hopping, skipping, prancing, etc. *kracoon/coon* ‘bounce into’ expresses very sudden jumping for a certain reason (e.g. because of surprise) whose direction must be upward and forward at the same time, that is, moving ahead by spring. In addition, it implies jumping only once, not many times. If the direction of jumping is not the combination of upward and forward, or the number of times of jumping is more than once, we do not name the jumping *kracoon/coon*, but *kradoo\$t/doo\$t*. On the other hand, *kracoom/coom* ‘pounce upon’ expresses a complex event. It expresses not only jumping in the combined direction of upward and forward (like *kracoon/coon* ‘bounce into’ just mentioned), but also catching at something eventually. The last two types can be distinguished from the first type on the basis of their distinct directions of jumping. It may be also possible to account for their difference in terms of agent’s intention in jumping. *kradoo\$t/doo\$t* ‘jump’ and *kracoon/coon* ‘bounce into’ are neutral in this regard, i.e., the agent may or may not have a certain intention in jumping. In contrast, *kracoom/coom* ‘pounce upon’ expresses the agent’s specific intention and the eventuality, i.e., the agent pounces upon something and catches it at last.

#### 4.3 *MOVE LITTLE BY LITTLE* group

GLBMs in this group are characterized by their common **MANNER** feature: moving little by little. Its steps are shorter than the normal walking steps. While *khj<sup>N</sup>\$p* ‘move little by little’ represent moving little by little regardless of the agent’s posture; *krath<sup>N</sup>\$p* ‘move little by little in a sitting posture,’ *tha\$t* ‘move forward little by little in a sitting posture,’ and *kratho\$t/tho\$t* ‘move backward little by little in a sitting posture’ depict moving little by little in a sitting position, which may be somewhat strange because of moving by hips (and arms) instead of

legs. Sitting on the floor and moving in a sitting posture are never extraordinary for those who are familiar with Thai traditional style of living, however. We may say that the feature “moving in a sitting posture,” which some Thai GLBM verbs incorporate, is a specimen of culturally significant cognitive feature.

Since khj<sup>~\$p</sup> ‘move little by little’ has the default value of INSTRUMENTALITY (i.e. lcgs), it can be regarded as a rather simple verb for ‘moving little by little.’ khj<sup>~\$p</sup> ‘move little by little’ and krath<sup>~\$p</sup> ‘move little by little in a sitting posture’ are neutral with respect to direction of locomotion. In contrast, tha\$t ‘move forward little by little in a sitting posture’ and kratho\$t/tho\$t ‘move backward little by little in a sitting posture’ specify contrastive directions: forward vs. backward. DIRECTIONALITY is the only factor that can distinguish the former from the latter.<sup>8</sup> This supports my argument that specific features of DIRECTIONALITY can function as distinctive features among Thai GLBM verbs.

#### 4.4 CRAWL/CLIMB group

Common characteristics among GLBMs denoted by verbs of this group, except a special one indicated by ta\$y ‘climb or creep on something,’ is that the axis of the locomotory body is parallel to the direction of a path along which the locomotion is carried out. The direction of a path of ‘crawling’ is normally horizontal, whereas the direction of a path of ‘climbing’ is normally vertical.

khlaan ‘crawl’ has a specific value of INSTRUMENTALITY: moving by both legs (or knees) and arms (or elbows). It expresses the simplest ‘crawling.’ khμμ<sup>~p</sup> ‘[worm] crawl’ and lμa@y ‘[rather long animate thing without limbs] crawl’ denote further specific types of crawling in terms of INSTRUMENTALITY and MANNER. The agent of the former is a worm with many limbs (e.g. measuring worm, silk worm, etc.); therefore, it is inevitable for it to move “little by little.” The agent of the latter is, on the other hand, a rather long animate thing without limbs (e.g. snake, tapeworm, etc.); accordingly, it is inevitable for it to move along a “meander path.” The speeds of the two types of ‘crawling’ are also contrastive. The former is slow, the latter is rapid.

The simplest verb for ‘climbing’ is ta\$y ‘climb or creep on something.’ This versatile verb has a specific, though rather inclusive, value regarding MANNER: moving along a path on something (e.g. mountain, tree, wall, rock, rope, or whatever). It does not specify as to what agent, what speed, and what direction to climb. For example, “a human’s careful walk on a log lying horizontally” or “a squirrel’s tree-climbing” or “an ant’s crawling on the floor” can be regarded as a kind of locomotion indicated by ta\$y. piin ‘clamber’ and takaay ‘climb quickly’ denote further specific types of climbing. Both of them represent moving by both arms and legs more or less vertically. But they differ in terms of DIRECTIONALITY, VELOCITY, and MANNER. The former indicates an upward or downward, as well as forward or backward, climbing with difficulty at a rather low speed, such as human being’s clambering over steep rocks; whereas the latter indicates an upward or downward, as well as forward but never backward, climbing quickly with effort for some reason (e.g. to escape from a dager), such as cat’s going up a tree. If the climbing is not rapid, it is not called takaay. VELOCITY is an important factor of takaay ‘climb quickly.’

#### 4.5 FLY group

What is common among the three GLBMs of this group is that they are locomotions of winged creatures such as bird, butterfly, and so on. Flying or moving by wings in the air is the most natural and normal locomotion for winged creatures. The flying event expressed by bin ‘[winged creature] fly’ is universal. It is not limited to any particular flying manner of any particular type of winged creature. In contrast, phoo& ‘[bird] fly to and fro’ and choo\$p ‘[bird of prey] swoop down to snatch away’ express specific types of flying. They are different from bin ‘fly’ in terms of VELOCITY, DIRECTIONALITY and MANNER. The former expresses

flying along a rather short path. The speed of flying must not be swift. The latter specifies one phase of a particular flying event carried out by a bird of prey. Properly speaking, the bird's swooping event encompasses at least the following three phases. The initial phase is swooping down at the target prey (i.e. moving down); the next phase is taking hold of it by talons (i.e. reaching the target and then turning the direction); and the final phase is snatching it away (i.e. moving up). But the event denoted by *choo\$p* 'swoop down to snatch away' specifies the first phrase only. The last two phases are expected, but not necessarily take place, i.e., the bird may fail to snatch a prey away. In contrast to *phoo&* 'fly to and fro,' the speed of *choo\$p* 'swoop down to snatch away' must be swift.

#### 4.6 WORM/SWIM group

This type of GLBM verbs have specific values of MEDIUM. chay 'worm into' indicates moving through a solid matter (or anything to be holed by worms) and waa<sup>ny</sup> 'swim' indicates moving in a liquid matter (or water). Human beings' locomotion normally takes place in a gaseous matter (or air). Especially, it is impossible for human beings to move through a solid thing by means of their body parts. The agent of 'worming' is naturally limited to worms that can eat a hole in something solid (e.g. the ground, wall, book, tree, body, etc.). On the other hand, the most natural agent of 'swimming' is a fish who has fins and a tail. It is possible, however, for other animate beings, including human beings, to swim about by means of arms and legs instead of fins and a tail.

Apart from their specificity concerning MEDIUM, chay 'worm into' and waa<sup>ny</sup> 'swim' are not specific very much. They are, so to speak, all-round GLBM verbs. chay 'worm into' can represent almost all kinds of moving through a solid thing. Similarly, waa<sup>ny</sup> 'swim' can represent almost all kinds of moving in a liquid thing.<sup>9</sup> It is not necessary for us to categorize locomotions that occur in a solid or liquid medium into detailed subclasses, because such categories are of little use for us who live on land and who do not have any body parts developed for burrowing into something. We cannot easily observe how fish swim about and how worms worm into solid things, either.

## 5. SYNTACTIC CONSTRAINTS DERIVED FROM MARKED DIRECTIONAL FEATURES

It is noteworthy that, unlike manner-of-motion verbs in English (cf. Levin 1993), some Thai GLBM verbs show their specific features of DIRECTIONALITY. When I speak of DIRECTIONALITY, I do not mean “physical” directions. But I mean “conceptualized” or “lexicalized” directions. Some of the verbs entail “absolute” directions (e.g. directions denoted by such lexical items as ‘up/down’) and “intrinsic” directions (e.g. directions denoted by such lexical items as ‘front/back’) that belong to the DIRECTIONALITY component. But Thai GLBM verbs do not entail “relative” directions or “path orientation” that belong to the PATH component (e.g., direction determined by relative points, deictic directions, directions denoted by such lexical items as ‘across,’ ‘through,’ etc.). In this chapter, it will be shown that the conceptualized values of DIRECTIONALITY that some Thai GLBM verbs incorporate, indeed, affect syntactic behaviors of the verbs.

Although Thai GLBM verbs by themselves can be understood to mean a locomotion in a certain direction implicitly, they can appear together with various kinds of directional verbs to characterize a path of the locomotion explicitly, as exemplified below.

(3) no@k naaNnuan      kamlaN      choo\$p      fuu&N plaa      lc@k  
 gull      IMPERFECTIVE      swoop down      school of fish      small  
 'A gull is swooping down onto the small school of fish'

(4) no@k insii& da^y      choo\$p      loN      ci\$k      luu^k ka\$y

eagle                   PERF. swoop down descend           peck   chick  
 ‘An eagle swooped down to peck at a chicken’

(5) de\$k   kradoo\$t           chua^k  
 child   jump           rope  
 ‘A child jumped a rope’

(6) luN   kaa                   kradoo\$t           khua^n           pay   bon   weethii  
 uncle   PROPER N.   jump                   ascend go           on   stage  
 ‘Uncle KAA jumped up onto the stage’

Thai GLBM verbs of some specific kinds are incompatible with the following three directional verbs: thçç&y ‘retreat,’ or/and khua^n ‘ascend’ or/and loN ‘descend.’ The first verb indicates an “intrinsic” direction (i.e. ‘backward’). The last two indicate “absolute” directions (i.e. ‘upward’ and ‘downward’). Let us consider the following infelicitous examples.

(7) \*       luy                   thçç&y<sup>10</sup>  
 wade, go through           retreat

(8) \*       kracoon/coon   thçç&y  
 bounce into               retreat

(9) \*       kracoom/coom thçç&y  
 pounce upon               retreat

(10) \*      tha\$t                   thçç&y  
 move forward little by little in a sitting posture           retreat

(11) \*      takaay   thçç&y  
 climb quickly           retreat

(12) \*      choo\$p                   thçç&y  
 swoop down to snatch away           retreat

(13) \*      chay                   thçç&y  
 worm into               retreat

(14) \*      ram                           loN  
 walk about gracefully or rhythmically descend

(15) \*      luy                   loN  
 wade, walk through           descend

(16) \*      ram                           khua^n  
 walk about gracefully or rhythmically ascend

(17) \*      luy                   khua^n  
 wade, go through           ascend

(18) \*      choo\$p                   khua^n  
 swoop down to snatch away           ascend

I assume that the GLBM verbs that cannot appear with thçç&y ‘retreat’ have a common lexicalized directional feature, namely, “moving ahead,” which is contrary to the direction denoted by thçç&y ‘retreat.’ The infelicity of sentences in (7) to (13) comes from the

incompatibility between the moving direction specified by the GLBM verb (i.e. forward) and the direction denoted by *thçç&y* ‘retreat’ (i.e. backward). Since we can say, for example, *d''n thçç&y* ‘move back by walking,’ *kradoo\$t/doo\$t thçç&y* ‘move back by jumping,’ and *bin thçç&y* ‘move back by flying,’ the agent of a locomotion expressed by *d''n* (simple walking) or *kradoo\$t/doo\$t* (simple jumping) or *bin* (simple flying) can retreat. In contrast, the agent of locomotions expressed by the above-mentioned verbs that are incompatible with *thçç&y* ‘retreat’ must make progress always and never retreat. It is concluded that those verbs specify a directional feature “forward” or “anti-backward,” while *d''n* ‘walk,’ *kradoo\$t/doo\$t* ‘jump’ and *bin* ‘fly’ do not specify such a directional feature.

*choo\$p* ‘swoop down to snatch away’ is not compatible with *khμ^N* ‘ascend,’ either, as in (18). *choo\$p* denotes the first step of swooping, that is, moving down at a prey. The resultative phase of the swooping event cannot be named by *choo\$p*, but expressed by another verb for ‘flying’ (i.e. *bin khμ^N* ‘flying up’) instead. In this regard, it should be noticed that English ‘swoop’ can collocate with either ‘down’ or ‘up’ (i.e. ‘swoop down’ or ‘swoop up’). Furthermore, ‘swoop’ can collocate with other lexical items that have a certain directional meaning (e.g. ‘swoop off,’ ‘swoop away’). Thus, it is obvious that Thai *choo\$p* has higher specificity in terms of DIRECTIONALITY than English ‘swoop.’ Levin and Rappaport Hovav (1992: 264) argue that no English verb which inherently specifies direction also specifies manner. But the same is not said of Thai verbs.

*ram* ‘move about gracefully or rhythmically’ can appear together with neither *IoN* ‘descend,’ as in (14), nor *khμ^N* ‘ascend,’ as in (16). This verb expresses moving about gracefully or rhythmically, or dancing. Usually such a locomotion is carried out within a limited space of a stage. The normal stage (of Thai dance) is flat, so that we can hardly imagine upward or downward movements during the dance. This constraint arises from our world knowledge.

*luy* ‘wade, walk through’ is incompatible with all of the three verbs (i.e. *thçç&y* ‘retreat,’ *khμ^N* ‘ascend’ and *IoN* ‘descend’) as respectively exemplified in (7), (15) and (17). The locomotion denoted by this verb is carried out against an obstacle that prevents the agent from moving ahead in a certain way (i.e. river, marsh, fire, etc.). The vertical directions of the locomotion should be variable according to sorts of the obstacle. *luy* indicates just “forward” or “anti-backward” direction, paying no regard to its vertical distinction (i.e. upward or downward). This verb refuses to specify “absolute directions.” The reason may be that it depicts an integrate locomotion event composed of multiple phases. Each phase may have a different absolute direction from one another. The cohesion among the phases of the event is owing to the agent’s firm attitude in moving ahead. It is implied that, even though there is a obstacle, the agent is determined to keep progressing by getting over the difficulty. It may be said that the event expressed by *luy* highlights a specific feature of MANNER, i.e., the agent’s attitude (or “mental manner”).

## 6. SYNTACTIC CONSTRAINTS DERIVED FROM NOT INCORPORATING PATH COMPONENT

Now we shall discuss on collocation between a Thai GLBM verb and an adverbial/verb phrase that specifies salient locations on a path of locomotion: a departure point or an endpoint (i.e. phrases including *caa\$k* ‘leave’ or *thμ&N* ‘reach’ respectively). Since all of Thai GLBM verbs behave in the same way in this regard, the simplest GLBM verb (i.e. *d''n* ‘walk’) alone is discussed below.

(19) \* *d''n thμ&N baa^N*  
walk reach home

(20) *d''n caa\$k rooNrian*  
walk leave school

‘walk from school’

(21) d̄'n pay/maa      thu&N baa^n  
       walk    go/come      reach    home  
       ‘walk (TOWARDS) and reach home’

(22) d̄'n caa\$k rooNrian      thu&N baa^n  
       walk    leave    school      reach    home  
       ‘walk from the school to home’

d̄'n ‘walk’ cannot be followed directly by *endpoint marker* (i.e. *thu&N* ‘reach’), but by *starting-point marker* (i.e. *caa\$k* ‘leave’), as in (19) and (20) respectively.<sup>11, 12</sup> It is likely that the incompatibility of d̄'n ‘walk’ with *thu&N* ‘reach’ in (19) comes from the fact that d̄'n ‘walk’ does not have any features of PATH. A locomotion event without a certain endpoint, like expression (20), does not necessarily involve “path orientation,” because its path may have not yet been determined. Yet a locomotion event with a certain endpoint, like expression (19), must involve “path orientation,” because its path has already been determined. Consider sentence (21), in which either of deictic directional verbs (i.e. *pay/maa* ‘go/come’ or ‘towards here/there’ or ‘thither/hither’) is placed before *thu&N* ‘reach’ or *endpoint marker*. Sentence (21) is acceptable, perhaps because *pay/maa* ‘go/come’ functions as *path marker*, which is interpreted as ‘TOWARDS’ in the English gloss. It seems reasonable, therefore, to conclude that d̄'n ‘walk,’ or rather Thai GLBM verb, does not involve concepts concerning PATH or “relative directions.” In other words, it is impossible for us to imagine a certain “path orientation” of a locomotion denoted by a Thai GLBM verb by itself. The verb needs *path marker* (e.g. *pay/maa* ‘go/come’) or *starting-point marker* (e.g. *caa\$k* ‘leave’) when followed by *endpoint marker* (e.g. *thu&N* ‘reach’), in order to specify a certain “path orientation” towards the endpoint, as shown in (21) and (22) respectively. In sentence (22), both the starting point (i.e. *rooNrian* ‘school’) and the endpoint (i.e. *baa^n* ‘home’) are expressed, so that we can determine the whole path without *path marker*.

## 7. CONCLUSION

In conclusion, Thai GLBM verbs show at least three degrees of specificity in depicting the respective locomotion events: the lowest degree, low degree, and high degree. In other words, they express GLBMs on at least three levels: general level, rather specific level, and specific level. d̄'n ‘walk’ shows the lowest degree of specificity. *luy* ‘wade, go through’ and *ta\$y* ‘climb or creep on something,’ for example, show a rather low degree of specificity. The former specifies the agent’s determination in moving (“mental manner”). By contrast, the latter specifies a route of locomotion (“physical manner”). *choo\$p* ‘swoop down to snatch away,’ on the other hand, shows a high degree of specificity. It specifies a particular value of the four semantic components: INSTRUMENTALITY (wings), VELOCITY (fast), DIRECTIONALITY (anti-backward as well as downward), and MANNER (in order to snatch a prey away). I assume that Thai manner-of-motion verbs as a whole must have a systematic variety with respect to specificity. This paper also illustrates, though in a tentative fashion, that the facts that some of Thai GLBM verbs entail specific features of DIRECTIONALITY (i.e. “absolute” or “intrinsic” directions) and that all of them do not entail any features of PATH (i.e. “relative” directions or “path orientation”) do cause syntactic constraints in co-occurring between the verbs and directional verbs. I hope to have made some contribution to typological study of languages by offering new data with respect to manner-of-motion verbs of the primary sort, i.e. GLBM verbs, in Thai.

## FOOTNOTES

<sup>1</sup> The data for this study are derived partially from the Thai language corpora which belong to the Linguistics and Knowledge Science Laboratory (LINKS) within the National Electronics and Computer Technology Center

(NECTEC) of the National Science and Technology Development Agency (NSTDA), the Ministry of Science, Technology and Environment, Thailand. Thanks are due to the organization for permission to use the corpora.

<sup>2</sup> Aminate things shown in the braces after English glosses are the agents of locomotions denoted by the respective GLBM verbs.

<sup>3</sup> In Talmy's (1985) terminology, the five semantic components may be called as followings: (1) Figure or Manner, (2) Rate, (3) Path, (4) Manner, (5) Manner or Attitude, (6) Motion and (7) Agentive.

<sup>4</sup> Zubin and Choi (1984: 334) argue that "gestalt" and "orientation" are conceptual organizing principles underlying the entire spatial lexicon. I assume that these contrastive spatial concepts are also useful in analyzing conceptualized path of motion.

<sup>5</sup> The characterization is based on Levinson's (1996) categorization of frames of reference for spatial description: "intrinsic, relative and absolute frames of reference."

<sup>6</sup> For details of the distinction between the two concepts with regard to negation, i.e. 'contraries' and 'contradicories,' see Lyons (1977: 772).

<sup>7</sup> Although 'forward' is the default value of DIRECTIONALITY, I intentionally give some verbs 'forward' value, because the locomotions expressed by the verbs are incompatible with 'backward' direction. That is, 'forward' in the chart stands for 'anti-backward.'

<sup>8</sup> tha\$t and kratho\$t/tho\$t are hardly used to represent locomotion in modern colloquial Thai. Moreover, it appears that nowadays most Thai people do not differentiate among the meanings of the four verbs for 'moving little by little.'

<sup>9</sup> A human being's moving about in the deep water is denoted by another verb, i.e., dam 'dive, submerge.'

<sup>10</sup> '\*' before an example means that the expression is unacceptable.

<sup>11</sup> My term "marker" does not have grammatical connotations. I mean by the term a lexical item that semantically marks a certain concept. It does not matter, therefore, what grammatical status the lexical item has.

<sup>12</sup> It is, however, possible for expression (19) to appear in limited special context, in which the notion of physical movement is not regarded as significant. For example, d' n thu&N ba^an kç^ pha@k phç\$on 'When we (walk and) reach home, we will take a rest.' But the following expression, from which d' n 'walk' is removed, is more natural than the above example: thu&N ba^an kç^ pha@k phç\$çn 'When we reach home, we will take a rest.'

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