



PLANT-BASED NUMERAL CLASSIFIERS IN TAI DAM

Somsong Burusphat

Research Institute for Languages and Cultures of Asia

Mahidol University, Thailand

<sburusphat@gmail.com >

Abstract

Inanimate entities are basically classified into different categories based on their physical forms. The geometric shapes themselves are drawn from naturally occurring forms. They refer to plants, in their component parts (Conklin 1981). This paper aims to study numeral classifiers which are plant-based lexemes in Tai Dam or Black Tai spoken in Vietnam. The result of this study shows that classifications of inanimate objects are based on various parts of plants, namely, stalk/stick, leaf, fruit, seed, flower, tuber, and shoot. The extension of plant classes to other semantic domains is evident in the classifications of similarly shaped objects.

Keywords: numeral classifiers, lexicon, Black Tai

ISO 639-3 codes: blt, soa

1. Introduction

The primary dichotomy of the Tai classifier system is animate versus inanimate (Morev 2000). Animate classifiers are divided into human and non-human. The classification of inanimate nouns is mostly based on a perceptual basis, i.e., their observed characteristics like shape, size, and consistency. Inanimate entities are grouped according to their similar shapes. Conklin points out that the geometric shapes are derived from plants, in their component parts as detailed below:

Looking at the classes lexicographically, the abstract, geometric shapes which are the organizing principles of the categories can be seen as themselves drawn from the natural world. Not circles, spheres, lines, cubes, and golden rectangles have inspired these categories, but rather the categories are geometric generalizations derived from naturally occurring forms. They refer to plants, in their component parts. These shapes are generalized to encompass much of the material, and sometimes spiritual world.
(Conklin 1981:136)

Allan (1977) also notes that inanimacy covers a large number of classifiers. The commonest inanimate classifier is one for trees and wooden objects and the 'tree' classifier is frequently related to the class of long or saliently one-dimensional objects.

A large number of inanimate classifiers in Tai Dam or Black Tai, a language of Southwestern Tai (Li 1960), tend to draw heavily on plant parts. This paper, therefore, focuses on a semantic analysis of the plant-based numeral classifiers in Tai Dam. It attempts to show that the Tai Dam data is an example in support of Allen (1977).

Tai Dam refers to people dressed in black costumes. The original hometown of Tai Dam people was in Muang Thaeng (presently Dien Bien Phu in northwestern Vietnam) in the northern part of Laos which used to be under the Luang Prabang government (Sribusara 1987). A number of Tai Dam people migrated from Muang Thaeng to Thailand as prisoners of war. The forced movements took place during the reign of King Taksin (1767-1782) and during the reigns of Rama I, Rama II, and Rama III (Baker and Phongpaichit 2005). The original settlement of Tai Dam people in Thailand was in Phetchaburi province. Later on, Tai Dam people moved to other provinces such as Kanchanaburi, Ratchaburi, Suphanburi, Nakhonpathom, Samut

Sakhon, and Samut Songkhram. In Thailand, Tai Dam people are addressed by various names such as Lao Song, Song, Lao Song Dam, Thai Song, Thai Song Dam.

Most previous studies of the Tai Dam language were devoted to a phonological description or comparison. A number of lexical studies have also been found. They are geared towards a lexical comparison of Tai Dam dialects (Praphin 1996) and a lexical variation and change according to age group (Buranasing 1988, Liamprawat and Wattanaprasert. 1996, Saeng-ngam 2006). Few works have been found on Tai Dam classifiers. Yensamut (1981) studied words and meanings in the Lao Song spoken in Samutsakhon province. Two aspects of Lao Song classifiers are reviewed in this study, that is, classifiers in numeral noun phrases and classifier types. The author categorizes Lao Song classifiers into three groups: human classifiers, animal and plant classifiers, and inanimate classifiers. She lists sixteen classifiers and describes what nouns these classifiers are used with. Jiranathanaporn et al (2003) studied the grammatical system in the Thai Song spoken in Phitsanulok province. The study of Thai Song classifiers in this work covers the syntactic structure of Thai Song classifiers and classifier types which include material classifiers and shape-based classifiers. The material classifiers are categorized into human and non-human. Non-human classifiers are used with animals, plants, and objects. The shape-form classifiers class the accompanying nouns according to the shape of their referents, that is, round, long, and flat. This study also describes the word classes that Thai Song classifiers are derived from such as verbs, nouns, and pronouns. Finally, the authors list sixty-three classifiers and the nouns that are used with these classifiers.

This research¹ departs from previous studies of Tai Dam classifiers in that it analyzes the semantic components of Tai Dam numeral classifiers that are derived from plant parts and a metaphorical extension of these numeral classifiers. Moreover, the research sites are also different. This study collects data from three provinces in Vietnam, Yen Bai, Dien Bien Phu, and Son La. As Tai Dam speakers in Vietnam and in Thailand have been in contact with Lao and Thai speakers respectively, some plant-based numeral classifiers of Tai Dam will also be compared with Vientiane Lao and Bangkok Thai.²

2. Methodology and framework

The classification of the entities into different semantic domains is based on Adams and Conklin (1973) and Allen (1977). The continuum model posited by Conklin (1981) is adapted to illustrate a metaphorical extension of plant-based numeral classifiers in Tai Dam, Thai and Lao.

A list of 356 nouns was prepared for data collection. Most of these nouns denote plant parts. The nouns referring to non-organic entities were also included in the list because a number of plant-based numeral classifiers are extensively used by Tai Dam speakers for classifying non-organic objects. All nouns used in this study can be categorized into a number of classifier groups. This list was used for interviews with the two main informants. The data were checked with six additional informants. The eight informants are listed below with their ages, genders, and locations.

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² Detailed discussion of Lao and Thai classifiers can be found in the work of Burusphat (2009)

Gender	Age	Location
male (main informant)	75	Komi village, Sathaengjan, Dien Bien Phu
male (main informant)	47	Thaengluang village, Sachiangtung, Son La
female	73	Komi village, Sathaengjan, Dien Bien Phu
male	81	Kangna village, Nghia Lo, Yen Bai
female	87	Thaengsuan village, Sammuen, Dien Bien Phu
female	47	Boong village, Saboonglaw, Dien Bien Phu
male	85	Piang village, Sanampa, It Ong (Muong La), Son La
female	62	Kangna village, Nghia Lo, Yen Bai

3. Numeral classifiers in numeral noun phrases

Word order in Tai Dam numeral noun phrases is numeral-classifier-noun as in example 1.

- (1) $s\omega\eta^1$ $ka:n^5$ bet^3
 two CLF fishing rod
 ‘Two fishing rods’

With numeral one, the word order is altered to classifier-noun-numeral one as in example 2.

- (2) $k^h a\omega\eta^5$ $c\omega k^3$ $nu\eta^1$
 CLF glass one
 ‘A glass’

In addition to numerals, quantifiers and demonstratives also occur in numeral noun phrases. The quantifiers are such non-specific numbers as ρe^3 ‘many’ as in example 3. The demonstratives include, for example, ni^6 ‘this’ and nan^6 ‘that’ as in example 4. The word order of numeral noun phrases consisting of quantifiers and demonstratives is classifier-noun-quantifier/demonstrative.

- (3) $nuaj^3$ $ma^3 \rho u^3$ ρe^3
 CLF pumpkin many
 ‘Many pumpkins’

- (4) $k\omega^1$ maj^6 ni^6
 CLF tree this
 ‘This tree’

It should be noted that some quantifiers may precede nouns as found in the work of Edwards (2011: 194) below.

- (5) $not^{22} to^{44}$ to^{22} $\eta i\partial \rho^{55}$
 many CLF dragon
 ‘Many dragons’

4. The semantic analysis of the plant-based classifiers in Tai Dam

The semantic analysis of the plant-based numeral classifiers in Tai Dam is based on the approaches proposed by Adams and Conklin (1973) and Allen (1977).

The study of Adams and Conklin (1973) focuses on the semantics of classification by binary oppositions and hierarchically structured sets of discrete categories. They divide the classifiers into qualifiers and quantifiers. The qualifiers are further subdivided into inanimate (long versus round) and animate (non-human versus human). The quantifiers are subcategorized into temporary measures and standard measures.

Allen (1977) proposes seven categories of classification: material (animacy and inanimacy), shape (dimensional and non-dimensional), consistency (flexible, hard, non-discrete), size (big and small), location, arrangement (pleat, fold, twist, coil, etc.), and quanta (measure, volume, weight, time.).

The semantic classification of both works has been applied to this study in order to determine the semantic components of plant-based numeral classifiers. Some plant-based numeral classifiers are compared with those of Lao and Thai. The comparison is based on the work of Conklin (1981) in which a number of semantic fields were selected for comparing classificatory categories across Tai languages. Conklin (1981) proposes that the classifiers can be arranged on a theoretical continuum ranging from the extreme left to the extreme right. This paper uses this continuum model for a comparison of numeral classifier development in Tai Dam, Lao and Thai.

The plant-based classifiers are broadly categorized into two groups, namely, the classifiers of the whole plant and plant parts.³ The numeral classifiers listed in tables 1-8 develop from nouns which form the part of terminology for plants.

4.1 Numeral classifiers of the whole plant

The whole plant is classified by different plant-based numeral classifiers depending on its physical shape as characterized by the semantic components in table 1. That is, a tall and upright tree is classed by the plant-based classifier *kɔ̌¹* ‘plant/tree’; a small and fast growing plant by *ton⁵* ‘plant’; a climbing plant by *cuə̌²* ‘slender stem of a climbing plant’; and a cluster of plants by *sum¹* ‘clump’.

Table 1: Numeral classifiers of the whole plant

Whole plant classifiers		
Lexically plant-based	Semantic components	Plant names
<i>kɔ̌¹</i> ‘plant/tree’	whole plant, uprights, tall	<i>kɔ̌¹ma³paw⁶</i> ‘coconut tree’
<i>ton⁵</i> ‘plant’	whole plant, small, fast growing	<i>ton⁵fak³ka:t³</i> ‘cabbage plant’
<i>cuə̌²</i> ‘slender stem of a climbing plant’	whole plant, climbing	<i>cuə̌²ma³nɔ̌j²</i> ‘luffa/gourd plant’
<i>sum¹</i> ‘clump’	whole plant, cluster	<i>sum¹maj⁶faj³</i> ‘a clump of bamboo’

4.2 Numeral classifiers of plant parts

Based on semantic components, the classifiers of plant parts are placed into six groups, i.e., stick/stalk; seeds; fruit; leaf; flower/sprout; and tuber/root.

4.2.1 Stick/stalk-based numeral classifiers

There are nine stick/stalk-based classifiers. Eight classifiers share the one dimensional or long and inflexible semantic feature. The eight stick/stalk-based classifiers are differentiated by their particular semantic components as specified in Table 2. The upright trunk of a tree which is made into posts is classed by *ko¹* ‘stalk’. The classifiers *tɔ̌n⁴* ‘a piece of wood’, *lam²* ‘trunk of a tree’, and *lon⁵~don⁵* ‘stick of wood’⁴ specify different shapes, lengths, and sizes of wood. That is, a piece or a fragment of wood is classed by *tɔ̌n⁴*; and a large, round and rod-like piece of wood by *lam²*; and a small, round and rod-like piece of wood, especially firewood, by *lon⁵~don⁵*. A branch of tree is typically classed by *ɲa⁴* ‘branch of tree’. A midrib or the stem of a leaf is put into the *ka:n⁵* class having the slender and pointed semantic components. The classifier *baɲ³* ‘segment of jointed stem’ is used with a segment of jointed stem which is hollow and has open ends. The classifier *plɔ̌ɲ⁵* is used with a similar objects as *baɲ³* but is blocked at both ends. The last classifier, *pen³* ‘board’ has two-dimensional or flat and inflexible semantic components.

³ The tones of sample words are marked with numbers 1-6. The phonetic characteristics of these tones are [33] for tone 1; tone 2 [55]; tone 3 [35]; tone 4 [44]; tone 5 [31]; and tone 6 [42].

⁴ Tai Dam has a phonological free variation of *l* and *d* which are derived from the proto **ʔd*.

Table 2: Stick/stalk-based numeral classifiers

Stick/stalk-based classifiers		
Lexically plant-based	Semantic components	Plant parts
	One dimension (long), inflexible	
<i>ko</i> ¹ ‘stalk’	uprights (posts, pillars)	<i>maj</i> ⁶ <i>ko</i> ¹ ‘post, pillar’
<i>tɔn</i> ⁴ ‘a piece of wood’	piece/fragment	<i>tɔn</i> ⁴ <i>maj</i> ⁶ ‘block’
<i>lam</i> ² ‘trunk of a tree’	large, round, rod-like	<i>lam</i> ² <i>ɔj</i> ⁵ ‘trunk of sugarcanes’
<i>lon</i> ⁵ ~ <i>don</i> ⁵ ‘stick of wood’	small, round, rod-like	<i>lon</i> ⁵ <i>luə</i> ¹ ~ <i>don</i> ⁵ <i>luə</i> ¹ ‘firewood’
<i>ŋa</i> ⁴ ‘branch of tree’	branch	<i>ŋa</i> ⁴ <i>maj</i> ⁶ ‘branch’
<i>ka:n</i> ⁵ ‘midrib, the stem of a leaf’	slender, pointed	<i>ka:n</i> ⁵ <i>kuaj</i> ⁵ ‘midrib of a banana leaf’
<i>baɲ</i> ³ ‘segment of jointed stem’	segment, hollow, open ends	<i>baɲ</i> ³ <i>maj</i> ⁶ <i>faj</i> ³ ‘jointed stem of bamboo, one end or both ends open’
<i>plɔŋ</i> ⁵ ‘segment of the many-jointed stem’	segment, blocked at both ends	<i>plɔŋ</i> ⁵ <i>maj</i> ⁶ <i>faj</i> ³ ‘jointed stem of bamboo, both ends blocked’
	Two dimension (flat)	
<i>pen</i> ³ ‘board’	flat, inflexible	<i>faɽ</i> ⁴ <i>maj</i> ⁶ <i>faj</i> ³ ‘flooring made of split bamboos’

It should be noted that small pieces of plant parts can also be classed by the classifier *kim*⁵ ‘small pieces’ which is not derived from plant parts and has no lexical meaning, for example, *ma*⁴ *teŋ*¹ *sɔŋ*¹ *kim*⁵ ‘two small pieces of cucumber’ and *maj*⁶ *pen*³ *sɔŋ*¹ *kim*⁵ ‘two small pieces of board’.

In addition to *kim*⁵ ‘small pieces’, there are some other non plant-based classifiers which share the one dimensional and inflexible semantic components as the eight classifiers mentioned above. These classifiers are productive so it is worth mentioning here. They include *ma*⁴, *lem*⁵, and *la:m*⁵. The classifier *ma*⁴ is used with long, straight, inflexible, sharp, and penetrating utensils such as tools. The classifier *lem*⁵ categorizes long, thin, and inflexible entities, but also long, thin, and flexible objects such as *lem*⁵ *pʰom*¹ ‘hair’ and *cuə*² ‘rope’. The classifier *la:m*⁵ classes long and inflexible entities with handles. Some sample entities which are classed by these classifiers are listed in Table 3.

Table 3: Non plant-based numeral classifiers (one dimensional and inflexible)

Other non plant-based classifiers (one dimensional and inflexible)		
No lexical/nominal reference	Semantic components	entities
<i>ma</i> ⁴	straight, bladed implements	<i>ma</i> ⁴ <i>kʰem</i> ¹ ‘needle’ <i>ma</i> ⁴ <i>la:p</i> ³ ‘sword’ <i>ma</i> ⁴ <i>kiaw</i> ² ‘sickle’
<i>lem</i> ⁵	thin	<i>maj</i> ⁶ <i>tʰu</i> ³ ‘chopstick’ <i>kʰew</i> ⁵ ‘tooth’
<i>la:m</i> ⁵	handle	<i>sa</i> ⁴ / <i>la:m</i> ⁵ <i>tam</i> ¹ <i>cəw</i> ³ ‘pestle’ <i>la:m</i> ⁵ <i>faj</i> ² ‘matches’

4.2.2 Seed-based numeral classifiers

The seed-based numeral classifiers consist of *mit*⁴ ‘seed’ and *kən*³ ‘kernel/seed’ which share three dimensional or small and round semantic components. The former is used with grains while the latter with seeds of fruit as exemplified in table 4.

Table 4: Seed-based numeral classifiers

Seed-based classifiers		
Lexically plant-based	Semantic components	Plant parts
	Three dimension	
<i>mit</i> ⁴ ‘seed’	round, small, granular	<i>mit</i> ⁴ <i>k</i> ^h <i>a</i> : <i>w</i> ⁵ ‘grain’
<i>kən</i> ³ ‘kernel/seed’	round, small, kernel	<i>kən</i> ³ <i>m</i> ³ <i>k</i> ^h <i>a</i> : <i>m</i> ¹ ‘seeds of tamarind’

4.2.3 Fruit/vegetable-based numeral classifiers

There are two fruit/vegetable-based numeral classifiers as listed in table 5. The classifier *nuəj*³ is lexically ‘fruit’. It has round, globular and spherical semantic components. The classifier *fak*³ ‘pod’ possesses long and pod semantic components.

Table 5: Fruit/vegetable-based numeral classifiers

Fruit-based classifiers		
Lexically plant-based	Semantic components	Plant parts
<i>nuəj</i> ³ ‘fruit’	round, globular, spherical	<i>m</i> ³ <i>t</i> ^ə <i>ŋ</i> ¹ <i>n</i> ⁶ <i>m</i> ⁶ ‘watermelon’
<i>fak</i> ³ ‘pod’	long, pod	<i>t</i> ^h <i>u</i> ³ <i>s</i> <i>a</i> : <i>j</i> ¹ <i>s</i> <i>u</i> ⁵ <i>ə</i> ⁵ ‘long bean’

4.2.4 Leaf-based numeral classifier

One leaf-based numeral classifier was found in this study as seen in table 6. The noun *bau*¹ ‘leaf’ serves as the classifier ‘leaf-like’ which has flexible, flat, and sheet-like semantic components.

Table 6: Leaf-based numeral classifier

Leaf-based classifiers		
Lexically plant-based	Semantic components	Plant parts
<i>bau</i> ¹ ‘leaf’	flexible, flat, sheet-like	<i>bau</i> ¹ <i>m</i> ³ <i>a</i> ³ <i>h</i> <i>u</i> <i>ŋ</i> ³ ‘papaya leaf’

4.2.5 Flower/sprout-based numeral classifiers

The flower/sprout-based numeral classifiers include *bɔɔ*³ ‘flower’, *t^huəŋ*³ ‘sprout of mushroom’, and *duəŋ*¹~*luəŋ*¹ ‘shoot’ as illustrated in table 7. The classifier *bɔɔ*³ ‘flower’ classes flowers only. The classifier *t^huəŋ*³ ‘sprout of mushroom’ is restrictively used for mushrooms, and *duəŋ*¹~*luəŋ*¹ is used for a variety of shoots or sprouts.

Table 7: Flower/sprout-based numeral classifiers

Flower/sprout-based classifiers		
Lexically plant-based	Semantic components	Plant parts
<i>bɔɔ</i> ³ ‘flower’	flower-shaped, blossom	<i>bɔɔ</i> ³ <i>m</i> ³ <i>a</i> ³ <i>ŋ</i> <i>u</i> ³ ‘pumpkin flower’
<i>t^huəŋ</i> ³ ‘sprout of mushroom’	sprout, mushroom	<i>t^huəŋ</i> ³ <i>h</i> <i>e</i> <i>t</i> ³ ‘mushroom’
<i>duəŋ</i> ¹ ~ <i>luəŋ</i> ¹ ‘shoot’	self-extended ⁵	<i>duəŋ</i> ¹ <i>n</i> ³ / <i>l</i> ³ <i>n</i> ³ <i>m</i> <i>a</i> <i>j</i> ⁶ ‘bamboo shoot’ <i>duəŋ</i> ¹ <i>n</i> ³ <i>k</i> <i>u</i> <i>ə</i> <i>j</i> ⁵ ‘banana shoot’ <i>n</i> ³ <i>k</i> ^h <i>a</i> : ³ ‘galingale shoot’

⁵ Conklin (1981) states that in White Tai, the cognate *doŋ*¹ has the ‘radiant’ semantic component because it is derived from round/radiating’ objects and this semantic characteristic is employed to classify rapidly growing life forms that have the appearance of internal volition or self-initiated action such as mushrooms and sprouts.

4.2.6 Tuber/root-based numeral classifiers

The numeral classifiers derived from tuber/root are *ban*⁵ ‘tuber’ and *hua*¹ ‘head/front’ which share the round semantic component. These two classifiers are distinguished by bulb and head-like semantic features respectively.

Table 8: Tuber/root-based numeral classifiers

Tuber/root-based classifiers		
Lexically plant-based	Semantic components	Plant parts
<i>ban</i> ⁵ ‘tuber’	round, root, bulb	<i>fiuəʔ</i> ³ ‘taro’
<i>hua</i> ¹ ‘head/front’	round, head-like	<i>həm¹buə³</i> ‘onion’

5. Metaphorical extension

The plant-based numeral classifiers are lexemes. They are derived from nouns which can be used as their own classifiers called “repeaters”. An example of repeaters is *fak*³ which is derived from the noun ‘pod’. As a numeral classifier, it repeats the first part of such noun as *fak³ma³k^ha:m¹nuj³fak³* ‘a pod of tamarind’. Some of these repeaters remain nominal and some have undergone a metaphorical extension from the original plant parts to other non-organic entities of similar shapes and finally have been grammaticalized into classifiers. The extension of plant names to other semantic domains is a typical feature of Tai languages according to Conklin (1981: 137) who noted that “Although the specific range of plant-based lexemes varies from language to language, the extension of plant classes to other semantic domains is a consistent feature in Tai.”⁶

Some repeaters have a small degree of extension and some have a wide range of extension as seen in Table 9:

Table 9: A metaphorical extension of plant-based numeral classifiers

Lexically plant-based	Semantic components	Non-plant entities
<i>sum</i> ¹ ‘clump’	whole plant, cluster	<i>sum¹puəʔ³</i> ‘anthill, termite hill’
<i>lon</i> ⁵ ~ <i>don</i> ⁵ ‘stick of wood’	round, small, rod-like	<i>maj⁶t^hu¹k^hew⁵</i> ‘toothbrush’ (also <i>ʔan</i>) <i>maj⁶taw⁶</i> ‘walking stick’
<i>kən</i> ³ ‘kernel/seed’	round, small, kernel	<i>kən³ta.¹</i> ‘pupils’ <i>kən³ham¹</i> ‘testicles’
<i>nuəj</i> ³ ‘fruit’	round, globular, spherical	<i>saj³</i> ‘egg’ <i>ma³pa³</i> ‘beads’ <i>ma³ket⁴</i> ‘botton’ <i>haj¹nuj⁴k^ha:w⁵</i> ‘small earth jar for steaming rice’
<i>fak</i> ³ ‘pod’	long, pod	<i>fak³p^ha.⁶</i> ‘knife sheath’
<i>ka:n</i> ⁵ ‘midrib, the stem of a leaf’	slender, pointed	<i>ka:n⁵buəj³</i> ‘small spoon’ <i>ka:n⁵cəj⁵</i> ‘large spoon’ <i>ka:n⁵huəj¹</i> ‘joss stick’ <i>ka:n⁵/ma² but⁴mək³</i> ‘pen’ (also <i>ma²</i>) <i>ka:n⁵/ma² but⁴ci²</i> ‘pencil’ (also <i>ma²</i>) <i>ka:n⁵vi¹/ka:n⁵bi¹</i> ‘pencil’ <i>bet³/vet³</i> ‘fishing rod’ <i>ʔo¹hom⁴</i> ‘umbrella’ <i>ka:n⁵ju²</i> ‘broom stick’

⁶ Conklin (1981) studied the classifiers of eight Tai languages, namely, Siamese, Shan, Kam-muang, Lii, White Tai, Nung, Wu-ming, and Dloi.

Lexically plant-based	Semantic components	Non-plant entities
<i>baŋ</i> ³ ‘segment of jointed stem’	segment, hollow, open ends	<i>baŋ</i> ³ <i>fum</i> ² ‘reed of a loom’ (also <i>k</i> ^h <i>aŋ</i> ⁵) <i>huə</i> ² ‘boat’ <i>se</i> ¹ <i>kwa:j</i> ² <i>la</i> ² ‘buffalo cart’ <i>se</i> ¹ <i>dap</i> ⁴ ‘bicycle’ <i>se</i> ¹ <i>maj</i> ⁴ ‘motorcycle’ <i>baŋ</i> ³ <i>ʔ</i> ¹ <i>to</i> ¹ ‘car’ <i>baŋ</i> ³ <i>se</i> ¹ <i>bin</i> ¹ ‘air plane’
<i>bau</i> ¹ ‘leave’	flexible, flat, sheet-like	<i>cia</i> ¹ ‘paper’ <i>be</i> ³ <i>c</i> ^h <i>e</i> ² ‘ticket’ (also <i>be</i> ³) <i>bau</i> ¹ <i>ŋən</i> ¹ ‘bank note’ <i>bau</i> ¹ <i>doŋ</i> ⁵ ‘winnowing basket’ (also <i>k</i> ^h <i>aŋ</i> ⁵) <i>kup</i> ³ ‘hat’ <i>le</i> ³ <i>k</i> ^h <i>a:w</i> ⁵ ‘plate’ (also <i>le</i> ³) <i>t</i> ^h <i>uj</i> ⁵ ‘bowl’
<i>duəŋ</i> ¹ ~ <i>luəŋ</i> ¹ ‘shoot’	shoot	<i>duəŋ</i> ¹ <i>mə</i> ⁵ ‘pot’ <i>mə</i> ⁵ <i>k</i> ^h <i>uə</i> ⁴ ‘pan’ <i>da:w</i> ¹ ‘star’ <i>ta</i> ³ <i>wen</i> ² ‘sun’ <i>buən</i> ¹ ‘moon’

The classifier *sum*¹ ‘clump’ for a cluster of trees, shrubs, or plants extends to some non-plant things which can be conceived as a cluster such as *sum*¹*puə*² ‘anthill, termite hill’.

Tai Dam has extended the round, small, rod-like classifier *lon*⁵~*don*⁵ ‘stick of wood’ to cover some other stick-like objects such as *maj*⁶*t*^h*u*¹*k*^h*ew*⁵ ‘toothbrush’⁷ and *maj*⁶*taw*⁶ ‘walking stick’.

The small round classifier *ken*³ ‘kernel/seed’ is extended to class other small round non-plant entities such as *ken*³*ta*¹ ‘pupils’ and *ken*³*ham*¹ ‘testicles’. On the other hand, the seed-based classifier *mit*⁴ ‘seed’ is much less wide-ranging as a classifier. It is restricted to grains,

The fruit-based classifier *nuə*³ ‘fruit’ extends from fruits through a considerable range of round/globular and bulky entities such as *da:n*⁵*ʔoŋ*³ ‘bullet’ and *haj*¹*nam*⁶ ‘water jar’. Since *nuə*³ ‘fruit’ has a broad extension, it has become generic.⁸ The pod-based classifier *fak*³ ‘pod’ is a more specific class. It is restrictively extended to class some pod-like objects such as *fak*³*p*^h*a*⁶ ‘knife sheath’.

The classifier *ka:n*⁵ ‘midrib, the stem of a leaf’ is widely used for inflexible, long, extended, inanimate objects such as *ka:n*⁵*cəŋ*⁵ ‘large spoon’ and *ka:n*⁵*huəŋ*¹ ‘joss stick’.

The classifier *baŋ*³ ‘segment of jointed stem’ which has long, round, and hollow semantic features has undergone a metaphorical extension to class tube-like, concave, and hollow objects such as *baŋ*³*fum*² ‘reed of a loom’⁹, *huə*² ‘boat’, and *baŋ*³*se*¹*bin*¹ ‘air plane’. The extension goes further beyond hollow form of transport to other kinds of vehicles such as *se*¹*kwa:j*²*la*² ‘buffalo cart’, *se*¹*dap*⁴ ‘bicycle’, *se*¹*maj*⁴ ‘motorcycle’, and *baŋ*³*ʔ*¹*to*¹ ‘car’.

The leaf-based classifier *bau*¹ ‘leaf’ is a widely-used classifier. It has developed to a considerable degree beyond its original referent.¹⁰ It is extended to cover sheet-like materials such as *cia*¹ ‘paper’, *be*³*c*^h*e*² ‘ticket’¹¹, and *bau*¹*ŋən*¹ ‘bank note’. *bau*¹ has further crossed the flat flexible semantic domain to encompass

⁷ A toothbrush can also be classed by the general classifier *ʔan*.

⁸ Conklin (1981: 149) points out that “The most generalized plant-based classes are those extended from ‘fruit’.”

⁹ This noun is also classed by the general classifier *k*^h*aŋ*⁵ which has no lexical reference.

¹⁰ Conklin (1981: 160) notes that “The broadest extensions of ‘leaf-like’ as a classifier are found in Black Tai. The category has been generalized to indicate any round-flat thing.”

¹¹ *be*³*c*^h*e*² ‘ticket’ is also classed by the partial repeater *be*³.

flat and inflexible containers such as *baw¹don⁵* ‘winnowing basket’¹² and *le³k^ha:w⁵* ‘plate’¹³. It also goes beyond flat inflexible containers to non-flat containers such as *t^huj⁵* ‘bowl’ and even *kup³* ‘hat’.

The sprout-based classifier *duəŋ¹~luəŋ¹* ‘shoot’¹⁴ has much potential as a generalizable class. It has evolved broad semantic ranges. It is widely applied to round-shaped and star-shaped entities such as *duəŋ¹mɔ⁵* ‘pot’, *mɔ⁵k^huə⁴* ‘pan’, *da:w¹* ‘star’, *ta³wen²* ‘sun’, and *buən¹* ‘moon’. Conklin (1981) has found that actually this classifier originally classes round and radiating objects in other Tai languages such as Shan and White Tai. In White Tai, this classifier is etymologically an indication of round, illuminated entities such as the moon, lamps, and stars. It has expanded beyond these round and radiating objects to encompass mushrooms, sprouts, flowers, cross bows and cooking pots while the cognate *loŋ¹* in Shan is used for things that open out, which extend themselves circularly such as umbrellas and pock marks. In Siamese, the cognate *duang¹* indicates radiation from a center, classifying the sun, lamps, arrows, scars and pocks, seals, medallions and, for some speakers, eyes.

6. Conclusion and Discussion

This paper studies the numeral classifiers that are derived from plants in the Tai Dam language spoken in Vietnam. The analysis of semantic components is based on the works of Adams and Conklin (1973), Allen (1977) and Conklin (1981). Two major kinds of plant-based numeral classifiers have been found in this study, that is, the numeral classifiers of the whole plant and plant parts.

The whole plant numeral classifiers include *kɔ¹* ‘plant/tree’; *ton⁵* ‘plant’; *cuə²* ‘slender stem of a climbing plant’; and *sum¹* ‘clump’. These numeral classifiers are differentiated by virtue of their physical shapes. Based on semantic components, the numeral classifiers of plant parts are categorized into six groups, namely, stick/stalk-based classifiers, seed-based classifiers, fruit-based classifiers, leaf-based classifiers, flower/sprout-based classifiers; and tuber/root-based classifiers. Some numeral classifiers of these six groups have undergone a metaphorical extension to be used with other non-organic entities.

The following sections will discuss eight important issues emerging from this study that should be noted.

6.1 It was found that the development of plant-based numeral classifiers in Tai Dam is similar to White Tai studied by Conklin (1981). For example, the round/radiating classifier *duəŋ¹~luəŋ¹* ‘shoot’ in Black Tai and *duang¹* in White Tai are widely applied to round-shaped and star-shaped things such as sprouts, pots, pans, bowls, and heavenly bodies. In addition, the classifier *lem⁵* in Black Tai and the cognate *lim⁵* in White Tai are more widely used than in other languages (Shan, Siamese, Kam-muang, Lii, Nung, Wu-ming, and Ddoi). In White Tai *lim⁵* is included in a plant-based class since it is the only classifier for a part of a plant, namely, for trunks, stalks, or stems of whole plants. Both Black Tai and White Tai use this classifier for both long, inflexible and long, flexible entities whereas other languages limit its use to long, inflexible, pointed objects.

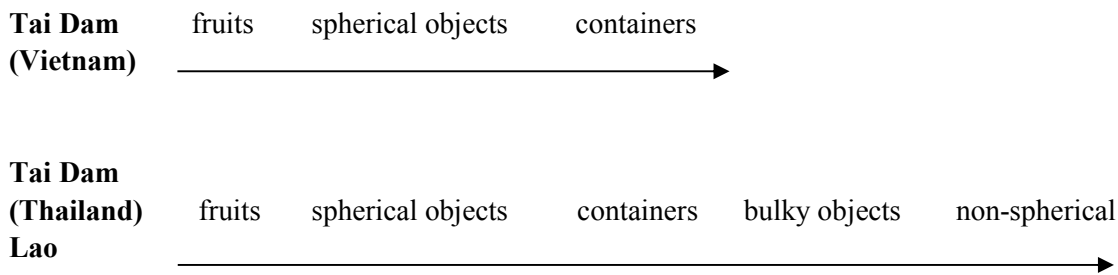
6.2 The classification of entities with plant-part names in Tai Dam is geographically varied. Tai Dam in Nakhornpathom province, Thailand has extended the use of *nuaj³* which originally classes fruit and spherical objects in the same way as Lao. This round classifier has expanded beyond the round objects to encompass containers, woven baskets, utensils and bulky objects such as mountain as well as non-spherical objects such as furniture and appliances. On the other hand, Tai Dam in Vietnam limits the use of this classifier to fruits and some spherical objects such as eggs, beads, buttons, bullets, and small jars. In Thai, the word *nua³* is rarely used as a classifier but used in the sense of ‘unit’ such as *nua³jrâ:tc^haka:n* ‘government office’ (Weera Ostapirat p.c. 2013). A comparison of the extended usage of this classifier in Tai Dam and Lao is illustrated in the following continuum model.

¹² This noun is also classed by the general classifier *k^haŋ⁵*.

¹³ *le³k^ha:w⁵* ‘plate’ is also classed by the partial repeater *le³*.

¹⁴ Conklin (1981: 165) points out that “this classifier is used in all the Southwestern Tai languages and in none of the Central or Northern Tai languages.

Diagram 1: A comparison of the extended usage of *nuaj*³ in Tai Dam (Vietnam), Tai Dam (Thailand), and Lao



6.3 Objects may be used with different classifiers depending on how they are perceived. A pencil *but*⁴*ci*² is used with three classifiers, *lon*⁵ (stick), *maɽ*⁴ (bladed implement), *ka:n*⁵ (slender, pointed), by three different informants. Another example is the noun *kup*³ ‘Vietnamese hat’ which is perceived as flat (two dimensional) so the classifier *bau*¹ ‘leaf’ is used with this object whereas *mu*³ ‘hat’ is used with the general classifier *k^haj*⁵.

It should be noted that Tai Dam in Vietnam has two general classifiers *ʔan*¹ and *k^haj*⁵. The latter is more productive than the former. It can be used with a variety of objects such as implements, utensils, containers woven baskets, appliances, and newly-introduced items such as radio, television, computer, camera, electric fan, and refrigerator. As noted by a 75 year old informant “*k^haj⁵ man¹ wa:⁴ ɲa:j¹” ‘It’s easy to use *k^haj*⁵.*

6.4 Some plant-based numeral classifiers have not undergone a metaphorical extension to class non-organic objects. For example, the classifier *mit*⁴ ‘seed’ is used only with grains in Tai Dam (Vietnam) whereas Tai Dam (Thailand) also uses this classifier to class *ja:²mit⁴* ‘tablet (medicine)’. Tai Dam (Vietnam) uses the classifier *tɔn*¹ ‘small pieces’ with ‘tablet’ instead. Tai Dam in Thailand might have been influenced by the Thai language as Thai use *mét* with a variety of granular and small entities such as buttons, rain drops, pimples, moles, salt, pills, and pearls.

6.5 Tai Dam people, both in Vietnam and Thailand, have developed their own classifier system resulting in some innovative classifiers such as *ban*⁵ ‘tuber’ and *t^huaj*³ ‘sprout’. Tai Dam people in Thailand use the classifier *t^huaj*³ with both bamboo shoots and mushrooms whereas Tai Dam in Vietnam use this classifier only with mushrooms and the classifier *duaj*¹~*luaj*¹ with shoots. The classifier *duaj*¹~*luaj*¹ has been extended to class pots, pans, and heavenly bodies.

In Lao and Thai, shoots are classed with *nɔ:* and mushrooms are put in the same class as flowers, thus they are classed with *dɔ:k*. The Lao classifier *d^uaj* has been shifted from the original ‘round and radiating’ domain to be used with round and bladed tools such as sickles and finally to the ‘long’ domain which includes long bladed tools (e.g., spears, swords) and long musical instruments (reed organ).

The Thai cognate *duaj*¹ remains within the ‘round’ class. In addition to round and illuminated entities, it also classes a variety of objects perceived as round such as heart, eyes, stamps, seals, soul, spirit, and abstract nouns. A comparison of the extended usage of this classifier in Tai Dam, Lao, and Thai is illustrated in the following continuum model.

Diagram 2: A comparison of the extended usage of *duəŋ*¹ in Tai Dam, Lao, and Thai

Tai Dam	shoots	heavenly bodies	containers	→
Lao	round and illuminated (the sun, moon, stars)	round and bladed tools (sickle)	long bladed tools (spear, sword)	Long musical instrument: reed organ
Thai	round and illuminated (the sun, moon, stars)	round (heart, eyes)	perceived as round (stamp, seals, soul)	Abstract nouns

While bladed tools are classified with *duəŋ*¹ in Lao, they are classed with *maʔ*⁴ in Tai Dam. The classifier *maʔ*⁴ is shared by other Tai languages as well, such as Shan, Bouyei, and Southern Zhuang.¹⁵ It is speculated that this classifier might be derived from a noun meaning ‘a mark made by bladed tools’. The bladed semantic component has been transferred from the noun to a new classifier. As a result, this noun has been grammaticalized as a classifier for bladed implements. This classifier corresponds to the Thai verb *ba:k*² ‘to make a mark, to bevel’ which has not been grammaticalized as a classifier. In Thai, bladed implements are classed by *lem*³.

6.6 An overlapping of different semantic domains may be found in one language but absent in another. For example the Tai Dam plant-based numeral classifier *bau*¹ ‘two dimension (flat), flexible’ has been extended to the ‘two dimension (flat), inflexible’ and ‘three dimension (round), inflexible’ semantic domains as seen in the following continuum model. This classifier does not overlap with other classifiers in other semantic domains as in Lao and Thai.

Diagram 3: The extended usage of *bau*¹ in Tai Dam

Tai Dam	leaves	flat, flexible (paper, tickets bank notes)	flat, inflexible (winnowing basket, Vietnamese hat, plate)	round, inflexible (bowls)	→
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On the other hand, this classifier overlaps with *p^hə̃:n* ‘flat, inflexible’ and *nūaj* ‘round, inflexible’ in Lao and *p^hə̃:n* ‘flat inflexible’ and *lū:k* ‘round (nominal meaning ‘offspring’)’ in Thai. A photograph may be classed with both *baj* and *p^hə̃:n* in Lao and Thai. A bowl may be classed with both *bā:j* and *nūaj* in Lao and with both *baj* and *lū:k* in Thai.

6.7 Language contact plays an important role in the development of the classifier system in Tai Dam. The classifier *luʔ*⁴, classifier for ‘round objects’ such as fruits which is derived from the noun *luʔ*⁴ ‘offspring’ is absent in Tai Dam in Vietnam but present in Tai Dam in Thailand because of the influence of the Thai language. Conklin (1981:152) remarks that *lū:k* is not found as a classifier in any other language except Siamese.

¹⁵ See further discussion of this classifier in Burusphat (2010).

6.8 While most numeral classifiers of Tai Dam are plant-based, there are some non-plant-based numeral classifiers which are not derived from plants but used with plant parts. Take the classifier *huə¹* for an example. This classifier is lexically ‘head/front/beginning’ and used as a classifier for root vegetables, bulbs, head-like vegetables, cabbages, etc. such as *huə¹həm¹kip³* ‘garlic’, *həm¹buə³* ‘shallot’, and *ma³k^huə¹* ‘round eggplant’.

As mentioned in section 2, the data used in this study are limited to 356 nouns and elicited from two main informants. It is suggested that more nouns should be added to future study as well as more main informants and locations.

References

- Adams, Karen L. and Nancy F. Conklin, 1973. “Toward a theory of natural classification.” *Papers from the 9th Regional Meeting of the Chicago Linguistic Society*, 1-10.
- Allan, Keith .1977. “Classifiers.” *Language* 53(2), 285-311.
- Baker, Chris and Pasuk Phongpaichit. 2005. *A History of Thailand*. Cambridge: Cambridge University Press.
- Buranasing, Anchulee. 1988. An analysis of lexical change among three generations in Thai Song dialect. MA thesis. Mahidol University. (In Thai)
- Burusphat, Somsonge. 2009. “Lao numeral classifiers in comparison to Central Thai.” In *Contemporary Lao Studies*, edited by John Hartmann, Carol Compton, and Vinya Sysamouth, 135-166. The Center for Lao Studies, San Francisco and the Center for Southeast Asian studies, Northern Illinois University, DeKalb.
- Burusphat, Somsonge. 2010. “A comparison of shaped-based numeral classifiers in Tai-Kadai languages” In *Multidisciplinary Perspectives on Lao Studies*, edited by Karen L. Adams and Thomas John Hudak, 73-95. Tempe: Southeast Asia Research, Arizona State University.
- Conklin, Nancy Faires. 1981. The semantics and syntax of numeral classification in Tai and Austronesian. Ph.D. dissertation, University of Michigan, Ann Arbor.
- Edwards, Timothy Alan. 2011. Participant reference in Tai Dam narrative discourse. MA. Thesis. Payap University.
- Jiranathanaporn, Supatra, Unchalee Singnoi, and Siriporn Maneechukate. 2003. *Grammatical System in Thai Song*. Linguistic Department, Faculty of Humanities, Naresuan University. (In Thai)
- Li, Fang Kuei.1960. “A tentative classifications of Tai dialects.” In *Culture in History Essay In Honor of Paul Radin*, edited by Stanley Diamond, 951-959. New York: Columbia University Press.
- Liamprawat, Suwattana and Kantima Wattanaprasert. 1996. *An Analysis of Lexical Use and Variation among Three Generations in Lao Language Communities of Thaicin River Basin*. Nakhonpathom: Silpakorn University Printing House. (In Thai)
- Morev, Lev N. 2000. “Some afterthoughts on classifiers in the Tai languages.” *Mon-Khmer Studies* 30: 75-82.
- Praphin, Woranuch. 1996. Comparative lexical study of Lao-Song in Nakhonpathom, Ratchaburi and Phetchaburi Province. MA thesis. Silpakorn University. (In Thai)
- Saeng-ngam, Suntharat. 2006. Lexical and tonal variation by age group and language attitude in the Song language (Black Tai) of Amphoe Khao Yoi, Changwat Phetchaburi. MA thesis. Chulalongkorn University. (In Thai)
- Sribusara, M. (pen-name). 1987. *Thai Dam Wailing*. Bangkok: Bannakij Press. (In Thai)
- Yensamut, Panida. 1981. Words and meanings in Lao Song: Selected topic. MA thesis. Silpakorn University. (In Thai)