Title	Word Formation and Morphological Processes in Lakkja
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Citation	Proceedings of the 51st International Conference on Sino-Tibetan Languages and Linguistics (2018)
Issue Date	2018-09
URL	http://hdl.handle.net/2433/235272
Right	
Type	Conference Paper
Textversion	author

Word Formation and Morphological Processes in Lakkja

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[Abstract] This article concerns both the internal structures of words and the mechanisms of word formation in Lakkja, a Tai-Kadai language in South China. Emphasis will be laid on the major word-formation devices such affixation, reduplication, compounding and segmental morphologic alternation.

Lakkja is one of the most representative examples of isolating and analytic types: it is tonal, lacking in morphological forms such as grammatical agreement and inflection. There is no distinction for number or gender. A number of lexical items are being increasingly used as prefixable morphemes, to indicate number and gender. A small number of prefixes syntactically functions as nominalizers, displaying SVO typology, and some as verbalisers or adjectivers, exhibiting valence-decreasing features.

Contact-induced word order change can be observed in Lakkja, where in some cases the constituent order has the tendency of shifting to left-branching with modifiers preceding the modified in contrast to the native order where modifiers follow the modified. This latter tendency that is less common in other Kam-Tai languages.

[Key words] Lakkja morphology, morphological processes, constituent order change, Kam-Tai

1. Introduction

1.1 Language and its speakers

The Lakkja language (also spelled as Lakkia), is a member of the Kam-Tai language family of the Tai-Kadai or Kra-Dai stock, spoken in Jinxiu Yao Autonomous County, Guangxi Province in south China, with approximately 9,000 speakers.
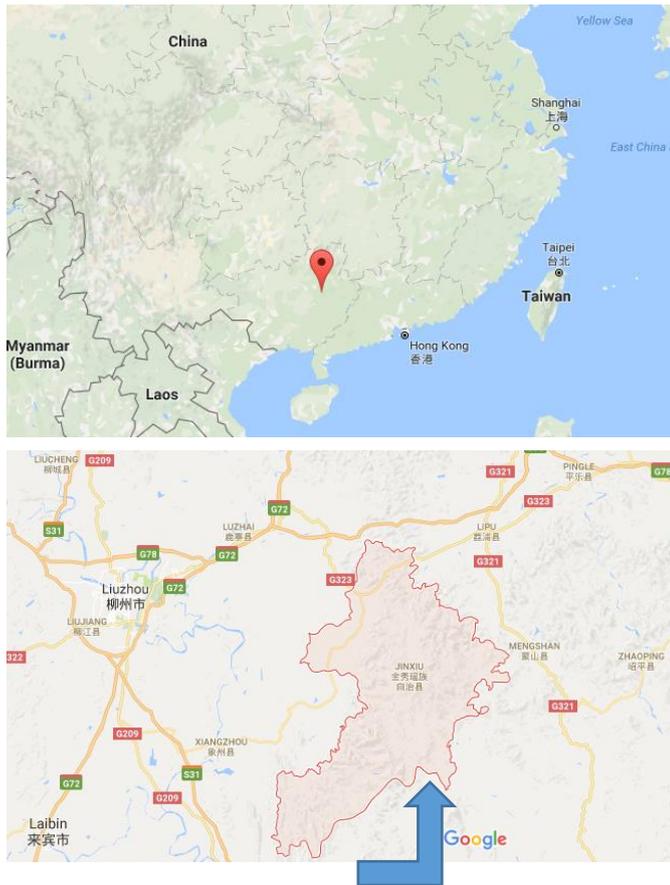
Lakkja is the autonym or self-designation of this speech community. In the language, *lak¹²* means "people, person" and *kja²⁴* means "mountain". Lakkja thus designates "people who live in the mountains". Although this language comes from the Kam-Sui linguistic branch, the Lakkja people are culturally similar to some Yao people, which is a highly diverse linguistic group in China.

From a linguistic perspective, Lakkja is genetically classified as a language within the Kam-Tai family of languages, one of the largest language families in mainland southeastern Asia. The Kam-Tai family is also one of the best-known language families in southeastern Asia. Its position within Kam-Tai and Kadai can be represented in the following diagram:
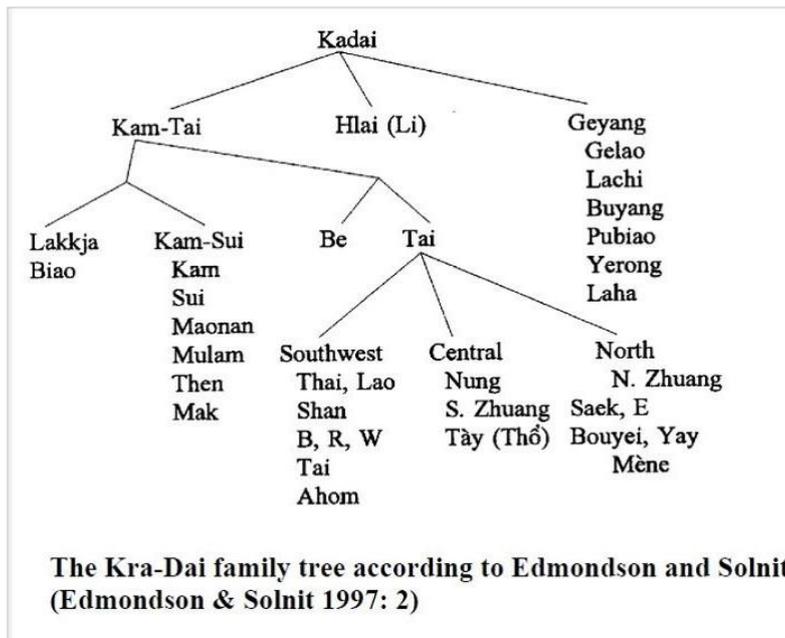
The Kra-Dai family tree according to Edmondson and Solnit (Edmondson & Solnit 1997: 2)

Lakkja is one of the most representative examples of isolating and analytic types: it is tonal, lacking in morphological forms such as grammatical agreement and inflection. In morphology, there are four major word-formation devices in Lakkja: affixation, reduplication, compounding and segmental morphologic alternation. Lakkja has no distinction for number or gender, but does carry several lexical items, which are increasingly used as prefixable morphemes, to indicate number and gender.

Furthermore, as a basically monosyllabic language, an overwhelming number of Lakkja words are monosyllabic. Disyllabic and polysyllabic words make up only a small number.

Like many other Tai-Kadai and Sino-Tibetan languages, a number of Lakkja words have overlapping membership: they can function as both nouns and verbs, or as full words or grammatical words.

Lakkja occupies an important position within Kam-Tai. Some scholars claim that Tai-Kadai may be analyzed as a subgroup of Austronesian and that Lakkja may contain significant evidences in its phonology and morphology (Benedict 1975; Sagart 2005). However, this language is disappearing due to geographic and cultural reasons. A systematic description of Lakkja has thus become an urgent task.

1.2 Methodology

Data in this article are based on my fieldwork in 2017, as well as Liu's Han-Yao Dictionary (1999), and Lan's Studies on Lakkja (2011).

The first set of data was collected between May and November 2017, in cooperation with Chinese Languages Protection Center. During the fieldwork, there were mainly three speakers who offered significant assistance with my data collection. We designed a local vocabulary list of 3000 words for them, as well as texts of natural speech such as legends, stories and conversations. A small sample came from folk songs and common sayings. Throughout the project, all the three speakers showed strong

sense of responsibility and love for their own language and culture, and provided us valuable data all with video or sound files.

Besides, Liu's dictionary offers us a significant database, while Lan focuses mainly on Chinese loanwords in Lakkja, along with a general grammatical sketch.

2. Affixation

Affixation is a morphological operation where bound morphemes are attached to the stems (Payne 1997:30), and it is also one of the most significant devices in Lakkja morphology. The criteria of distinguishing an affix and a free morpheme are twofold, that is, (a) lexical meaning or grammatical meaning, which is a semantic criterion, and (b) ability to occur in a sentence independently or function as a bound element of a word, which is a syntactic criterion. However, it is the fact that some content words in Lakkja are losing their lexical meaning to become affixes. Therefore, in many cases, there is a continuum between an affix and a free morpheme.

Lakkja affixation includes prefixation, suffixation and circumfixation. Prefixation and suffixation characterize Lakkja morphology. Besides, there is only one circumfix found in Lakkja.

2.1 Prefixation

A significant number of Lakkja words are formed through prefixation, which can be grammatically regarded as nominalization. In other words, a prefix can combine with many word classes to form a nominative word. Words taking the same root but different prefixes could have different meanings. For example:

(1)
a. *lak²⁴ - kjei⁵¹*   'PRE: person   - male   = man'
b. *nuŋ¹¹ - kjei⁵¹*   'PRE: offspring   - male   = boy'
c. *lak²⁴ - bok⁵⁵ - kjei⁵¹*   'PRE: person - big - male   = elder brother'

Prefixation is a very productive device in Lakkja. The majority of prefixes derive from classifiers for human beings, animals, vegetables, general objects and abstract things, among others. Thus Lakkja prefixes also function in taxonomy. This is an important feature of Lakkja prefixes. For example, the prefix *lak²⁴* (PRE: person) forms a noun denoting a human being, for instance, *lak²⁴ – kja²⁴* (PRE: person - mountain) 'a savage'. The prefix *tu²³¹* (PRE: animal) forms a noun denoting an animal, for instance, *tu²³¹ – kja²⁴* (PRE: animal - mountain) 'beast, wild animal'. And the prefix *wok²⁴* (PRE: plant) forms a noun denoting a plant, for instance, *wok²⁴ - jɛ⁵¹* (PRE: plant - mountain) 'wild herbs'.

2.1.1 Morphosyntactic features of prefixes

A Lakkja prefix can precede nearly any content word. Elements following prefixes

can be various word classes, phrases and clauses, with the following structures:

PRE + N; PRE + NP; PRE + V; PRE + VP; PRE +ADJ; PRE + AP;

PRE + Demonstrative; PRE + clause

Moreover, the construction of 'multi-prefix' is also found in our data, for example:

(2)

a. *kjɛu^{51} lak^{24} khjuk^{55}*   PRE: head – PRE: person – pierce = hair clasp

b. *tsei^{55} lak^{24} faŋ^{51}*   PRE: tree – PRE: person – peach = peach tree

c. *tu^{231} nuŋ^{11} kjã:u^{24}*   PRE: animal – PRE: offspring – female = daughter

2.1.2 Special features of Lakkja prefixes

A number of Lakkja prefixes have not fully become bound morphemes and still take lexical meanings, which can be considered as a process of grammaticalization. They are actually still somewhere between a bound root and a prefix, the former functioning as head and the latter dependent. While some Lakkja prefixes are used exclusively as bound morphemes, others appear to overlap with free morphemes. There seems to be a continuum between bound morphemes and free morphemes (Lu 2008:121). For example, while the prefix *tu^{231}* as in *tu^{231} - ka^{51}* (PRE: animal – croak) 'crow', *tu^{231} - kjak^{24}* (PRE: animal – steal), *tu^{231} – kja^{24}* (PRE: animal - mountain) 'beast, wild animal' only has grammatical meaning rather than semantic meaning, *tu^{231}* can also be used freely in a sentence, though its usage as a free morpheme seems to be limited as a quantifier.

Lakkja prefixes sometimes seem to function as the head. For example, in the word *tu^{231} - ka^{51}* (PRE: animal – croak) 'crow', *tu^{231}* also can be regarded to function as a head with a semantic meaning of 'animal'. It can also be treated as overlapping a prefix and a head, that is, [*tu^{231} - ka^{51}*] = [prefix – root] + [head – dependent]. Taking the phrase *tu^{231} - ka^{51} - ni:u^{55} - ni^{231}* (PRE: animal – croak – little - this) 'this little crow' as an instance, as shown in example below, if we remove each element one by one, we will finally find that only the so-called 'prefix' *tu^{231}* cannot be deleted, or the phrase is ungrammatical in Lakkja:

(3)

a. *tu^{231}*   *ka^{51}*   *ni:u^{55} ni^{231}*   'this little crow'

  PRE: animal   croak   little   this

b. *   *ka^{51}*   *ni:u^{55} ni^{231}*   'this little crow'

       croak   little   this

(3b) is unacceptable in Lakkja. The reason is that without the prefix *tu^{231}*, the onomatopoeia *ka^{51}* alone cannot precede the modifier *ni:u^{55}* 'little' and the demonstrative *ni^{231}* 'this'. The morpheme *ka^{51}* 'croak' is a bound root with lexical meaning. Indeed, *tu^{231} - ka^{51}* (PRE: animal – croak) can be recognized structurally as Figure 1 and Figure 2 below.

NP

NP   DEM

N   ADJ

PRE: animal   STEM

tu^{231} ka^{51} $ni{:}u^{55}$ ni^{231}

PRE: animal   croak   little   this

'this little crow'

Figure 1. Morpheme tu^{231} as prefix

NP

NP   DEM

N   ADJ

HEAD   DEP

tu^{231} ka^{51} $ni{:}u^{55}$ ni^{231}

PRE: animal   croak   little   this

'this little crow-like animal'
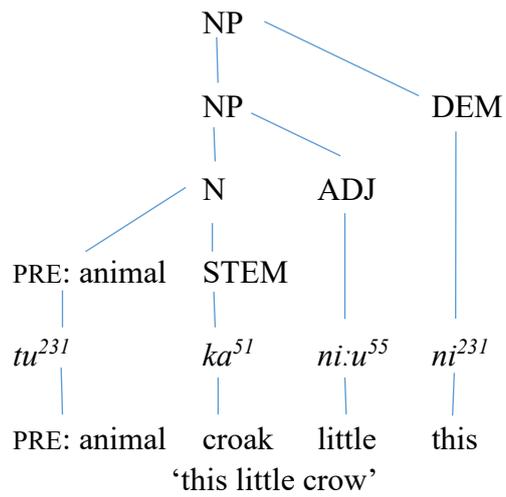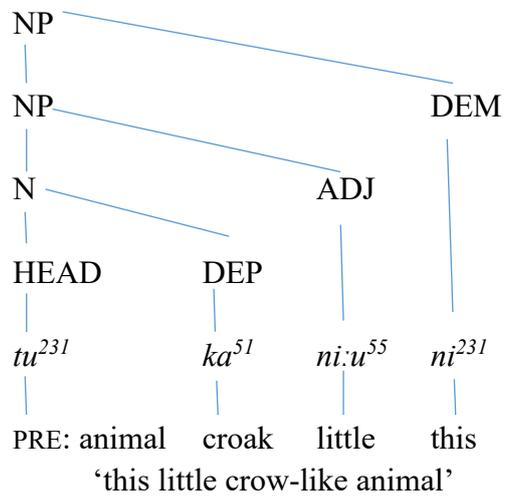
Figure 2. Morpheme tu^{231} as head

Similarly, in *lak²⁴ pla⁵¹ thie²⁴ lou¹¹ na²¹⁴* (person – eye – skew – old – that) 'that old skew-eyed person', the headless combinations *pla⁵¹ thie²⁴ na²¹⁴* (eye – skew – that), *pla⁵¹ thie²⁴ lou¹¹* (eye – skew – old) , *pla⁵¹ thie²⁴ lou¹¹ na²¹⁴* (eye – skew – old – that) all are ungrammatical. So the remarkable feature of the prefixes is that they can be modified by a demonstrative: *tu²³¹ ni²³¹* (animal - this) 'this animal', *lak²⁴ na²¹⁴* (person - that) 'that person', with *tu²³¹* and *lak²⁴* as the head.

However, case is a little different with the prefix *nam⁵⁵* (PRE: object, item), which sometimes functions as the head but could not be modified by a demonstrative alone. For example, in *nam⁵⁵ ʦen⁵¹ bəp²⁴ na²¹⁴* (object – eat – rotten – that) 'that rotten fruit', *nam⁵⁵* is regarded as the head, whereas the headless combinations *ʦen⁵¹ na²¹⁴* (eat – that)*, ʦen⁵¹ bəp²⁴* (eat – rotten)*, ʦen⁵¹ bəp²⁴ na²¹⁴* (eat – rotten – that) are not acceptable in Lakkja. And unlike *lak²⁴* and *tu²³¹*, *nam⁵⁵* cannot be modified by a demonstrative. That is, *nam⁵⁵ ni²³¹* (object - this) 'this item', and *nam⁵⁵ na²¹⁴* (object - that) 'that item' are ungrammatical in Lakkja.

As illustrated above, we can safely conclude that some prefixes can be also analyzed as the head of a word or a phrase, implying a continuum between a prefix and a free morpheme.

2.1.3 Prefixes for human beings

In lakkja, human beings are categorized into different groups according to age, gender, profession, etc, by different prefixes.

lak²⁴ is a typical Lakkja prefixable morpheme. As a morpheme, *lak²⁴* means 'he/she', 'other people', as well as a quantifier for human beings, animals and plants. Meanwhile, it is also one of the most productive prefixes in Lakkja. As a prefix for human beings in general, *lak²⁴* functions somewhat like the English suffix *-er*. But there is a subtle difference between Lakkja *lak²⁴* and English *-er*. The former refers to human beings only, whereas the latter can denote a human being, an object or both, for example, 'worker', 'banker', 'trader', etc, refers to human beings only; whereas 'dipper', 'heater', 'dryer', etc, refers to appliance only; and 'modifier', 'killer', 'whipper', etc, to either a person or an object.

As a prefix for human beings, *lak²⁴* often takes a verb phrase or an adjective phrase as the modifying element, and functions as a nominalizer.

Following examples for *lak²⁴* illustrate:

(4)
a. *lak²⁴ ta:u²¹⁴*   PRE: person – Taoism = Taoist
b. *lak²⁴ toŋ²³¹pa:n²⁴*   PRE: person – buddy = fellow villager
c. *lak²⁴ la¹¹ phla⁵¹*   PRE: person – search – fish = fisherman

It is noteworthy that *lak²⁴* is very productive as a prefix and can even form new word with Chinese loan words. For instance, in example (4b) *lak²⁴ toŋ²³¹pa:n²⁴* 'fellow villager', *lak²⁴* functions as a prefix with *toŋ²³¹pa:n²⁴* which is a loan word meaning 'peer, buddy' in Chinese.

In some cases, words formed with this prefix do not necessarily denote a human being; rather, they can denote various animate or inanimate objects that are regarded as

'small' in size, such as fruits, plants, and living goods. This function probably derives from the meaning 'offspring'. We will discuss its function as a prefix for fruit and vegetables in Section 2.1.5.

(5)
a. *lak²⁴ ɛn⁵⁵*   PRE: offspring – trace = trace
b. *lak²⁴ pla:i⁵⁵*   PRE: offspring – waxberry = waxberry

However, when metaphorically denoting offsprings of animals or small-sized parts of human body, *lak²⁴* functions as a suffix rather than a prefix, for example, *ma¹¹ lak²⁴* (horse – SUF: offspring) 'colt', *wie⁵¹ lak²⁴* (sheep - SUF: offspring) 'lamb', *puk⁵⁵ po:ŋ²³¹ lak²⁴* (leg - belly – SUF: offspring) 'calf'. Discussions will be given in Section 2.2.1.

Furthermore, *lak²⁴* is the prefix for 'craftsman' in Lakkja, denoting various professions. No other prefixes are found for this semantic function. Examples are as follows:

(6)
a. *lak²⁴ tsẽŋ²⁴ tsuə:n²³¹*   PRE: person – punt – boat = boatman
b. *lak²⁴ pok²⁴ hã⁵¹*   PRE: person – do – weave
       = a craftsman who makes articles from bamboo strips

ŋjũn²³¹ is also a prefix for human beings in general, which is believed to newly derive from Chinese word *rén* 'people'. Though it possesses the same function with prefix *lak²⁴* for human beings, *ŋjũn²³¹* is less productive and its position is less fixed. That is, *ŋjũn²³¹* functions as a suffix (see Section 2.2.1) more often than as a prefix, which apparently is influenced by the word order of Mandarin Chinese. But there is a general tendency that *ŋjũn²³¹* is replacing *lak²⁴* in forming new words. To be more specific, young generations of Lakkja tend to use *ŋjũn²³¹*, while old generations tend to use *lak²⁴*.

Examples for prefix *ŋjũn²³¹* are as follows:

(7)
a. *ŋjũn²³¹ lai⁵¹*   PRE: person – good = good person
b. *ŋjũn²³¹ wa:i²¹⁴*   PRE: person – bad = bad person
c. *ŋjũn²³¹ hɛ:k²⁴*   PRE: person – guest = guest

koŋ²⁴ is a prefix derived from the free morpheme 'grandfather'. A noun formed with this prefix generally designates an elderly person. For example:

(8)
a. *koŋ²⁴ ta⁵⁵*   PRE: grandfather – material grandfather = material grandfather
b. *koŋ²⁴ to²⁴ti²⁴*   PRE: grandfather – earth = The Earth God

pa²¹⁴, from the free morpheme 'grandmother', is a prefix denoting an elderly woman or a female professional. For example:

(9)
a. *pa²¹⁴ ti⁵⁵*   PRE: grandmother – material grandmother
       = material grandmother
b. *pa²¹⁴ ja²³¹*   PRE: grandmother – cheat = sorceress

pa²⁴, derived from the free morpheme 'mother', is to form a noun indicating a middle-aged female. For example:

(10)

a. *pa²⁴ loŋ²¹⁴* PRE: mother – father's elder brother
= wife of father's elder brother
b. *pa²⁴ jen¹¹* PRE: mother – sibling = sisters
c. *pa²⁴ ła²⁴* PRE: mother – later = stepmother

nuŋ¹¹, from the meaning 'offspring, designates younger generations. In most cases, words with this prefix are used when elders talk to younger generations. Examples of *nuŋ¹¹* are shown as follows:

(11)
a. *nuŋ¹¹ kjei⁵¹* PRE: offspring – male = son, young man
b. *nuŋ¹¹ khja:n⁵¹* PRE: offspring – grandson = grandson

2.1.4 Prefixes for animals

tu²³¹ is a highly productive prefix for animals. The majority of animal names take this prefix. For example:

(12)
a. *tu²³¹ ka⁵¹* PRE: animal – croak = crow
b. *tu²³¹ kja⁵¹* PRE: animal – insect = insect

tu²³¹, in addition, also functions in the place of the human prefix *lak²⁴* to form a noun which carries certain demeaning overtones. As a prefix for human beings, in very rare cases *tu²³¹* metaphorically designates those people who are least respected. For example:

(13)
a. *tu²³¹ kjak²⁴* PRE: animal – steal = robber, thief

The derogatory sense is absent when it is used to indicate a child or a junior person. For example:

(14)
a. *tu²³¹ nuŋ¹¹ kjã:u²⁴* PRE: animal – PRE: offspring – female = daughter
b. *tu²³¹ nuŋ¹¹ kjei⁵¹ bok⁵⁵* PRE: animal – PRE: offspring – male – big = eldest son

phla⁵¹ is a prefix for 'fish'. For example:

(15)
a. *phla⁵¹ fa:ŋ⁵⁵* PRE: fish – carp = carp
b. *phla⁵¹ tho²⁴* PRE: fish – crucian = crucian

mlok⁵⁵ is a prefix for birds. For example:

(16)
a. *mlok⁵⁵ di:n⁵¹* PRE: bird – sparrow = sparrow
b. *mlok⁵⁵ num¹¹* PRE: bird – water = water bird

Some birds, however, are categorized as a different class in Lakkja with the prefix *tu²³¹* rather than *mlok⁵⁵*. For example:

(17)
a. *tu²³¹ kjĩŋ⁵¹* PRE: animal – woodpecker = woodpecker
(not * *mlok⁵⁵ kjĩŋ⁵¹* PRE: bird – woodpecker = * woodpecker)
b. *tu²³¹ kji:u⁵¹* PRE: bird – thrush = thrush

(not * *mlok⁵⁵ kji:u⁵¹*   PRE: bird – thrush = * thrush)

We can infer that the prefix *mlok⁵⁵* functions as the name of genera, that is, 'undomesticated Aves' in the Lakkja folk taxonomy. For 'domesticated Aves', which often grow bigger from better nutrition, the general animal prefix *tu²³¹* is used.

khuə̃⁵¹, derived from the free morpheme 'dog', is a prefix for the canine family. For example:

(18)
a. *khuə̃⁵¹ ho:m²¹⁴ tu²³¹*   PRE: canine: animal – chase – animal = hunting dog
b. *khuə̃⁵¹ kja²⁴*   PRE: canine: animal – mountain = wolf, dingo

2.1.5 Prefixes for plants and vegetables

There are a number of prefixes for botanical categories. However, compared to other Tai Kadai languages, Lakkja lacks a generic prefix for plants. For example, in Maonan, there is prefix *zɔŋ²³¹* located higher in the taxonomic hierarchy than the prefix for 'tree' in the biological systematics. But there is not a generic prefix in Lakkja, while multiple prefixes are found to subdivide plants and vegetables in Lakkja.

tsei⁵⁵, to start with, derives from the free morpheme 'tree' and functions as a prefix denoting various kinds of arboreal or tall plants. For example:

(19)
a. *tsei⁵⁵ pɛ:k²⁴*   PRE: tree – cypress = cypress
b. *tsei⁵⁵ tsɛ²³¹*   PRE: tree – tea = tea tree

wok²⁴ is a prefix for edible vegetables. For example:

(20)
a. *wok²⁴ lo¹¹*   PRE: vegetable – mustard = mustard
b. *wok²⁴ pie:k¹¹*   PRE: vegetable – white = Chinese cabbage

Note that both edible and inedible herbs also use *wok²⁴* as their prefixes. For example:

(21)
a. *wok²⁴ fan⁵¹*   PRE: herb – bamboo = oplismenus compositus
b. *wok²⁴ wie:t²⁴*   PRE: herb – wormwood = wormwood

lak²⁴, from the meaning 'offspring', is a highly productive prefix for fruit and some root crops which are regarded as 'small'. For example:

(22)
a. *lak²⁴ tsɛn²³¹*   PRE: offspring – water chestnut = water chestnut
b. *lak²⁴ man¹¹*   PRE: offspring – plum = plum

kou²⁴ is a prefix for crops and/or their seeds. It is derived from the free morpheme 'rice, grain'. Examples are shown as follows:

(23)
a. *kou²⁴ khjam⁵¹*   PRE: rice – burnt = rice crust
b. *kou²⁴ kjãŋ⁵¹*   PRE: rice – glutinous = glutinous rice

nam⁵⁵ is also a highly productive prefix for fruit, root crops, and melons, with the meaning 'offspring'. Nouns formed with *nam⁵⁵* are regarded larger than those with prefix *lak²⁴*. In addition, *nam⁵⁵* is also a frequently used prefix for materials, body parts

and various objects except human beings and animals. We will discuss this function in the following sections. Examples of prefix *nam^{55}* for plants and vegetables are as follows:

(24)
a. *nam^{55} tsen^{51}*   PRE: offspring: large – eat = fruit
b. *nam^{55} tsie^{214}*   PRE: offspring: large – eggplant = eggplant

2.1.6 Prefixes for materials and abstract things

The following prefixes are found for materials and abstract things. They can be grouped according to their shape, quality, uility, etc.

nam^{55} is the most commonly used prefix for things concrete or abstract, including kitchenware, tools, buildings, fruits, skills, etc.

(25)
a. *nam^{55} tsie:k^{11}*   PRE: object – dipper = dipper
b. *nam^{55} tsen^{51}*   PRE: object – eat = fruit
c. *nam^{55} wa:n^{11}*   PRE: object –hoop = necklace
d. *nam^{55} ba:n^{24}*   PRE: object – village = village
e. *nam^{55} num^{11}*   PRE: object – water = blister
f. *nam^{55} khja:u^{24}*   PRE: object – liquor = dimple
g. *nam^{55} tshuə:i^{51}*   PRE: object – blow = a reed-pipe wind instrument

mi^{24}, deriving from the meaning 'stick', often refers to something long. It can be either soft or hard. For example:

(26)
a. *mi^{24} khjɛu^{24}*   PRE: object – whip = whip
b. *mi^{24} tsi^{231}*   PRE: object – flag = flag

num^{11}, from the meaning 'water', often refers to liquid, especially 'drops' or something the like:

(27)
a. *num^{11} mi^{55}*   PRE: water – vinegar = vinegar
b. *num^{11} pla^{51}*   PRE: water – eye = tear

2.1.7 Prefixes for abstract concepts

These include concepts of space and time.

2.1.7.1 Prefixes of time

bən^{51}, from the free morpheme 'sky', is a prefix denoting time during the day/night.

(28)
a. *bən^{51} wõŋ^{231}*   PRE: time – dusk = dusk

b. *bən⁵¹ wan²³¹*   PRE: time – daytime = daytime

bən⁵¹ is also used to form concepts about weather, for example:

(29)

a. *bən⁵¹ ŋom⁵¹*   PRE: weather – shade = cloudy day

b. *bən⁵¹ fen⁵¹*   PRE: weather – rain = rainy day

wan²³¹, from the free morpheme 'daytime', is a prefix denoting a longer period of time.

(30)

a. *wan²³¹ ŋ̥ã:i²⁴*   PRE: day – today = today

b. *wan²³¹ la²⁴*   PRE: day – after = later

It can also be used to denote festivals or special days.

(31)

a. *wan²³¹ pok²⁴ kong⁵¹*   PRE: day – do – work = workday

b. *wan²³¹ kjam⁵⁵ tsei⁵⁵*   PRE: day – cut – tree = Firewood-cutting Day

to¹¹ is a prefix for season. Besides, *kwei⁵⁵* is also recognized as a suffix for season in Lakkja, which will be discussed in Section 2.2.2.

Examples for *to¹¹* are as follows:

(32)

a. *to¹¹ tshuə:n⁵¹*   PRE: season – spring = spring

b. *to¹¹ ja²¹⁴*   PRE: season – summer = summer

2.1.7.2 Prefixes of space

There are quite a number of prefix found in Lakkja for spatial concepts such as location, area, etc. Many of them are close synonyms with only subtle differences in usage.

pie:ŋ²¹⁴, from the meaning 'surface', denotes locations or areas.

(33)

a. *pie:ŋ²¹⁴ pak⁵⁵*   PRE: patch – north = place in the north

b. *pie:ŋ²¹⁴ li²³¹*   PRE: patch – here = here

pi:n⁵¹, from the meaning 'side', serves a similar function to *pie:ŋ²¹⁴*.

(34)

a. *pi:n51 tsiẽ51*   PRE: side – river = place by the river

b. *pi:n⁵¹ li²³¹*   PRE: side – here = here

kjɛu⁵¹, from the free morpheme 'head', serves as a prefix for location which is the entrance or the end of an area.

(35)

a. *kjɛu⁵¹ ni²³¹*   PRE: end – this = this end

b. *kjɛu⁵¹ ba:n²⁴*   PRE: end – village = the entrance of a village

tsak⁵⁵, from the free morpheme 'corner', has two functions. When serving as a prefix, it has similar function as *pi:n⁵¹*. However, *tsak⁵⁵* is less productive since it only precedes four words: *ou¹¹* 'in', *uk⁵⁵* 'out', *hjie:n⁵¹* 'up', *hãn⁵¹* 'down'. The second function is serving as a suffix for 'corner', which will be discussed in Section 2.2.2.

(36)
a. *tsak⁵⁵ ou¹¹*   PRE: corner – in = inside
b. *tsak⁵⁵ uk⁵⁵*   PRE: corner – out = outside

2.1.8 Prefix of plurality

Plurality in Lakkja is expressed by the prefix *kjoŋ⁵⁵*. For example:
(37)
a. *kjoŋ⁵⁵ jie:t⁵⁵*   PRE: PL – grass = grasses
b. *kjoŋ⁵⁵ la:u¹¹sɛ⁵¹*   PRE: PL – teacher = teachers
c. *kjoŋ⁵⁵ nuŋ¹¹ łie²⁴*   PRE: PL – PRE: offspring – wife = wives of brothers

Furthermore, we can see from (43c) that this prefix can also occur with another prefix to form double prefix constructions.

2.1.9 Prefixes for ordinals

Two ordinal prefixes are recognized in Lakkja: one for general ordination and the other only used in naming the days in a month.

The prefix *ta:i¹¹* seems to have similar function as the English ordinal suffix -th, which precedes a numeral. For example:
(38)
a. *ta:i¹¹ et⁵⁵*   PRE: ordination: number – one = first
b. *ta:i¹¹ ŋĩ²¹⁴*   PRE: ordination: number – two= second

The prefix *tsho⁵¹*, probably a Chinese loan *chū*, is used with the numerals 1 to 10 to express the days in the month of the Chinese lunar calendar. For example:
(39)
a. *tsho⁵¹ et⁵⁵*   PRE: ordination: date – one = the 1ˢᵗ day of a month
b. *tsho⁵¹ ŋĩ²¹⁴*   PRE: ordination: date – two = the 2ⁿᵈ day of a month

2.1.10 Verbal prefixes

Derived from the verb 'do', the prefix *pok²⁴* is a verbalizer. The morphemes after *pok²⁴* can be a noun, a verb, etc. For example:
(40)
a. *pok²⁴ fiŋ⁵⁵*   PRE: do – enrage = get angry
b. *pok²⁴ wan²⁴hep⁵⁵*   PRE: do – dream = have a dream

This verb prefix is also a reciprocal maker denoting reciprocal action. The agents of the actions expressed by such verbs normally involve two or more than two people. It is a very productive bound morpheme. For example:
(41)
a. *pok²⁴ kjo⁵¹*   PRE: do – hide = hide and seek

b. *pok²⁴ ho:ŋ²³¹*   PRE: do – wrangle = quarrel

2.1.11 Prefixal reflexive pronoun

The reflexive pronoun *tie²³¹* functions as an adjective or an adverb that modifies the NPs or VPs that follow it. When it precedes a NP, it means 'self'. When it pronouns a VP, it means 'by oneself'. More importantly, *tie²³¹* combines with pronouns to form compound reflexive pronouns: *tie²³¹ tsi⁵¹* 'myself', *tie²³¹ lak²⁴* 'himself, herself'.

Syntactically speaking, *tie²³¹* is always bound to the right, that is, it is a constituent of the element following it. For example:

(42)

a. *tie²³¹ - pok²⁴*

(self – do)

'do by oneself'

b. *tie²³¹ - fie:ŋ²⁴*

(self – think)

'think about sth. yourself'

Note that *tie²³¹* never occurs after a verb. Since *tie²³¹* is only bound to the right, it must always occur on the left. It cannot occur at the end of a sentence or after a verb as in the English structure 'He think about it *himself*', where the reflexive pronoun functions as anaphor.

2.1.12 Prefixable adjectival morphemes

Three prefixable adjectival morphemes *lai⁵¹, na:n²³¹,* and *kho⁵¹* are recognized in Lakkja, which usually function to adjectivize verbs. In other words, they are prefixed to transitive verbs or adjectival verbs.

The prefix ***lai⁵¹**,* from the free morpheme meaning 'good', expresses a meaning of 'easy to', 'suitable for'. The prefix deverbalizes the verbs that follow and make an adjective that can be modified by an adverb like *hou²⁴* 'very'. For example:

(43)

a. *lai⁵¹ tsen⁵¹*   PRE: good – eat = delicious

b. *lai⁵¹ lo:m⁵¹*   PRE: good – look = good-looking

The prefix ***na:n²³¹***, derived from the Chinese loan free morpheme 'bad', is also an adjectiviser and deverbaliser. It forms compounds contrasting in the meaning with *lai⁵¹* above.

(44)

a. *na:n²³¹ tsen⁵¹*   PRE: bad – eat = tasteless

b. *na:n²³¹ lo:m⁵¹*   PRE: bad – look = ugly

The prefix ***kho⁵¹***, also derived from the Chinese, means 'need', 'be worth (doing)' as an adjectiviser and deverbaliser.

(45)

a. *kho⁵¹ lien⁵¹*   PRE: bad – pity = pitiable

b. *kho⁵¹ sik⁵⁵*   PRE: bad – feel sorry for = pitiful

2.2 Suffixation

Suffixation in Lakkja is a very important morphological process for describing properties, actions and other complex ideas expressed by the roots to which they are bound. Some syllables still show the features half way between onomatopoeia and suffixation.

2.2.1 Suffixes for human beings and animals

ŋjũn²³¹ is a typical Lakkja suffix for human beings, though it also functions as a prefix (see Section 2.1.3). *ŋjũn²³¹* is much more productive than the native affix *lak²⁴*. Examples are as follows:

(46)
a. *tsoŋ⁵⁵ ja¹¹ ŋjũn²³¹*   grow – field – SUF: person = farmer
b. *lak²⁴ kjã:u²⁴ ŋjũn²³¹*   PRE: person – female – SUF: person = woman

lak²⁴, similarly, can also function as a suffix for human beings. Words formed with suffix *lak²⁴* usually denotes two or more people. For example:

(47)
a. *liu²⁴ hou²⁴ lak²⁴*   you – two – SUF: person = you two
b. *tau⁵¹ fa:m⁵¹ lak²⁴*   we – three – SUF: person = we three

In most cases, however, words with this suffix denotes small objects, small body parts, and the offsprings of animals.

(48)
a. *mɛ¹¹ phlei⁵¹ lak²⁴*   knife – sharp – SUF: object: small = dagger
b. *kjaŋ⁵¹mie²³¹ lak²⁴*   finger – SUF: object: small = little finger
c. *wie⁵¹ lak²⁴*   sheep – SUF: offspring = lamb

2.2.2 Suffixes for time and space

kwei⁵⁵ is a suffix for season. For example:

(49)
a. *tshuə:n⁵¹ kwei⁵⁵*   spring – SUF: season = spring
b. *ja²¹⁴ kwei⁵⁵*   summer – SUF: season = summer

huə:ŋ⁵¹ functions as a suffix for direction.

(50)
a. *toŋ⁵¹ huə:ŋ⁵¹*   east – SUF: direction = east
b. *na:m²³¹ huə:ŋ⁵¹*   south – SUF: direction = south

tsak⁵⁵, from the free morpheme 'corner' as mentioned in Section 2.1.7.2, functions as a suffix for location or area.

(51)

a. *pla⁵¹ tsak⁵⁵*   eye – SUF: corner = canthus
b. *toŋ⁵¹ na:m²³¹ tsak⁵⁵*   east – south – SUF: corner = southeast corner

2.3 Circumfixation

There is only one pair, *jak⁵⁵... jak⁵⁵...,* which could be analyzed as a circumfix in Lakkja. No other items can be categorized as such.

jak⁵⁵... jak⁵⁵... possesses a meaning of 'reciprocal', functioning as a reciprocal maker.

(52)
a. *tau⁵¹*   *jak⁵⁵*   *pa:ŋ⁵¹*   *jak⁵⁵*
   1SG   CIR: reciprocal   help   CIR: reciprocal
   'We help each other.'

3. Reduplication

Reduplication is an important grammatical operation in Lakkja. Reduplication typically takes two forms. The first sort is the reduplication of classifiers or nouns of space or time to express universality, frequency, etc. The second sort is the reduplication of verbs to express a meaning of (do something for) a short period of time'.

3.1 Reduplication or echo classifiers or nouns

Like many other Tai-Kadai and Sino-Tibetan languages in this area, reduplication of classifiers or nouns in Lakkja express the meaning of 'every' or 'all'. For example:

(53)
a. *tu²³¹ tu²³¹*   *ko:n²⁴*   *pu:i²³¹*
   CL: animal – CL: animal   together   fat
   'Every one (e.g. livestock) is all fat.'
b. *lak²⁴ lak²⁴*   *ko:n²⁴*   *taŋ²³¹*
   CL: person – CL: person   together   come
   'Everyone came.'

Note that this kind of reduplication nominals occurs before the main verb. It never occurs after the main verb.

3.2 Reduplication of verbs

When two verbs are reduplicated, they express the meaning of 'doing something quickly' or 'doing something tentatively'. For example:

(54)

a. *lak²⁴ pa⁵¹ tsu²³¹ tsu:i²¹⁴pi:n²¹⁴ huk²⁴ huk²⁴.*
   3SG PREP sweet potato casually wash wash
   'He washed the sweet potato casually.'

b. *tsi⁵¹ lie:m¹¹ lie:m¹¹ ma²³¹ pən²⁴ sɛu⁵¹ ni²³¹ lai⁵⁵ hwã:i⁵¹?*
   1SG look look 1SG CL:book book this okay no
   'Let me have a look at your book, okay?'

4 Disyllabic monomorphemic words

There are a small number of monomorphemic words that are made up of two syllables. Examples below contain only one morpheme each. They cannot be further analyzed.

(55)

a. *pei¹¹ pa²³¹* loquat   b. *tsoŋ²⁴ kwa:i⁵⁵* mantis
c. *kai¹¹ ŋjit⁵⁵* cricket   d. *man¹¹ lie:ŋ²¹⁴* moon

5 Compounding

A compound is a 'word' made up of two or more free morphemes. Most compounds in Lakkja are disyllabic. The meaning of compounds is not necessarily accordant with the accumulative meaning of parts of the structure.

According to the syntactic criteria or the semantic relationships between the constituents, compounds can be classified into Subordinate Compounds and Coordinate Compounds among others. For example:

Subject-predicate compounds:

(56)

a. *tei²⁴ łoŋ⁵¹* (mouth – many) long-tongued

b. *fɛm⁵¹ lai⁵¹* (heart – good) kindhearted

Predicate-object compounds:

(57)

a. *ka:n²⁴ hu⁵¹* (rush for – street) go to a fair

b. *jak¹¹ si:u⁵¹* (study – book) go to school

Subordinate compounds:

(58)

a. *jəm²³¹ lou¹¹* (wind – old) fierce wind

b. *lo:m⁵¹ kjai²⁴* (look – small) despise

Coordinate compounds

(59)

a. *lo:m⁵¹ wei⁵⁵* (look – see) see

b. *koŋ²⁴ pa²¹⁴* (husband– wife) couple

6 Segmental morphologic alternation

It is also worthy to note a phenomenon in Lakkja where initials or vowels alternate to form etymologically related word groups. We refer to such a device as segmental morphologic alternation. However, alternation of initials or vowels in this type is not common in Lakkja.

A typical set of examples is definite demonstrative pronouns in Lakkja, as follows.
(60)

a. ni^{231} 'this'

b. ηan^{231} 'that' (proximal)

c. nu^{231} 'that' (distal)

d. *li231*   'here'

e. *la:n231*   'there' (proximal)

f. *lu231*   'there' (distal)

7 Summary

As illustrated in the analysis of this article, Lakkja is an isolating language which lacks morphological forms such as grammatical agreement and inflection. Emphasis has been laid on four major word-formation devices in Lakkja: affixation, reduplication, compounding and segmental morphologic alternation. Lakkja morphological processes are by and large derivational. Therefore, morphology in Lakkja involves word formation rather than grammatical agreements and other grammatical processes such as gender, number, tense and case that are commonly found in inflectional languages.

Lakkja possess a rich system of noun classifiers, some of which play a significant role in ethno-biological taxonomy imbedded in morphological system. Like many other Tai-Kadai and Sino-Tibetan languages, a number of words have overlapping membership: they can function as both nouns and verbs, or as full words or grammatical words, indicating that there exists a continuum between morphology and syntax in Lakkja word-formation. A large number of prefixes show features of a bound morpheme and a free root. This phenomenon can be attributed to the overwhelming head first characteristics of the Lakkja word-formation. Besides, a small number of prefixes syntactically functions as nominalizers, showing SVO typology; some as verbalisers or adjectivers, exhibiting valence-decreasing features. Many compound words display complex syntactic relations and semantic features.

Contact-induced word order changes have been sighted in Lakkja. For example, in Kam-Tai, modifiers generally follow the modified (right-branching), while Lakkja does not always follow this principle. In many cases, it behaves like Chinese in having the modifiers coming before the modified (left-branching). Such morphological processes and some affixable morphemes illustrate the general tendency.

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