The Story of /mà:k/, from 'Betel Nut' to 'Board Game': A Tai Study in Cognitive Linguistics through Compound Nouns

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Abstract

This research paper is a synchronic study of the tendency of the grammaticalization pathway of the noun /mà:k/, focusing on its semantic extension from 'betel nut' to 'board game,' with data collected through compound nouns in some Tai languages currently spoken in Thailand. In the analysis, we employ cognitive linguistics such as functional-typological grammar and cognitive semantics as its basis. The result shows that the pathway begins with a true or regular noun referring to a specific edible plant, 'betel nut.' The noun has been grammaticalized, with some semantic bleaching or generalizing, to a class term. As a class term, its meaning has further extended through four distinctive phases: 'edible plant;' 'inedible plant;' 'small, round object;' and 'board game.' The pathway of /mà:k/ is quite complex due to the fact that while the extension from the regular noun to the first two plant categories is via semantic generalization, the further extension to the last two object categories does not persist via the same model: it is via metaphorical models. The five categories are overlapping, gradient from a true noun to many class-term phases.

Keywords: Tai study, cognitive linguistics, compound nouns, grammaticalization, semantic extension

Introduction

Betel nut, also known as areca nut, is the fruit seed of the areca palm. It grows mostly in the tropical Pacific, South Asia, and Southeast Asia (including Thailand and its neighboring countries). When wrapped with betel leaves, it is known as betel nut chewing, an important traditional practice in Tai cultures (Mehrtash et al., 2017). Despite the medical report that its consumption can have harmful effects on health and even that it is carcinogenic to humans (Alcohol and Drug Foundation, 2021), some cultures still practice chewing betel nut to this day. Moreover, it has traditionally played an important role in social customs, religious practices, and cultural rituals.

Figure 1 Betel nut

In Tai languages, betel nuts or areca nuts are referred to as /mà:k/, with different tones for each language. According to Royal Society (2013), the noun refers to four different items, as follows:

1) areca tree or nut, as occurring in the noun phrase /mà:k dìp/ (betel nut–raw) 'raw betel nut,'
2) fruit, as occurring in the compound noun /mà:k kʰǎ:m/ (fruit–tamarind) 'tamarind fruit,'
3) small, round object, as occurring in the compound noun /mà:k rúk/ (small, round object–to offend) 'chess game,'
4) classifier classifying objects that are round or look like fruit, as occurring in the noun phrase /sě:ŋ sìp mà:k/ (light–ten–small, round object) (The word is marked with [archaic] in the definition).

The occurrence of /mà:k/ suggests that it has three distinctive grammatical functions in Thai, a Tai language; namely, regular noun (as in 1), class term (as in 2 and 3), and classifier (as in 4). A number

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of past research works, such as Singnoi (2008) and Wongwattana (2014, 2016), suggest that the three grammatical categories are on a grammaticalization continuum, from pure nouns to class terms and classifiers eventually, according to the number of semantic and syntactic behaviors which various morphemes manifest. That is, while true nouns can stand independently, class terms only occur in lexicalized compounds and semantically function in a more particular way than nouns do – to identify kinds and shapes of their modified nouns. As for classifiers, they occur with their classified terms elsewhere (DeLancey, 1986; Singnoi, 2008).

However, the grammaticalization continuum of /mà:k/, from true noun to class term and finally, classifier, needs a more detailed description with adequate evidence in order to answer questions, such as how does its meaning extend in all three grammatical steps and what is the semantic connection between class term and classifier states. With more synchronic data from various Tai languages, we believe that we can provide a clearer and more detailed explanation of the grammaticalization of /mà:k/ than past studies. Specifically speaking, in this paper, we attempt to provide the tendency of the grammaticalization pathway of the noun /mà:k/, focusing on its semantic extension and to account for how its meaning has been extended in each grammaticalization stage.

Methodology

Methodologically, this research paper is qualitative in nature. Research data are compound nouns collected from a variety of Tai languages spoken in the northern part of Thailand. Data were drawn from two sources: the research projects, Wongwattana, et al. (2018),[1] and Wongwattana and Jirananthanaporn (2014).[2] In the first project, a certain amount of data were collected via the wordlist checking form by

Kingkham (2017), where a large number of words were elicited from two-to-three informants from each ethnic group who participated in the projects. In our analysis, compound nouns with the morpheme /mà:k/ are selected from the wordlist. Also, a number of compound nouns with the morpheme /mà:k/ were selected form the second source. The total number of compound nouns containing /mà:k/ is more than 200 words. The criteria to determine compound words are based on Singnoi (2008), where compound words are defined as word combinations that are less semantically transparent and less productive. Their meanings are enclosed and bound to particular cultures so that it is quite difficult to create new compound words from the same compound head. The analysis was carried out in a holistic manner in terms of the study of the Tai family, rather than each Tai language.

The Tai languages in this study include Thai and other Tai ethnic groups' languages such as Tai Lue, Tai Khun, Tai Ya, Tai Yai/ Shan, Lao Wiang, Lao Khrang, Lao Phuan, and Lao Song, spoken in the northern region of Thailand. The nine Tai languages are in the Southwestern branch of the Kra-dai language family, which has been regionally divided into three groups: Northern, Central, and Southwestern Tai (Ostapirat, 2005). The Tai languages in our research include both central and local Thai dialects spoken in the northern region. Tai Lue, Tai Khun, and Tai Ya, whose speakers immigrated from southern China and Myanmar, are spoken in the upper part of this region. Tai Yai or Shan, is from Shan State, Myanmar. Nowadays, its native speakers reside along the border between Thailand and Myanmar. Lao Wiang, Lao Phuan, Lao Khrang,[3] and Lao Song,[4] whose speakers migrated from Laos 150-200 years ago because of wars, and reside mainly in the lower part. Besides speaking their own languages, all the Tai ethnic groups still maintain their traditional lifestyles and practices, including dress, food, house styles, beliefs, spirit worship, dance, and handicrafts, which are well-known to local Thai people in nearby areas.

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[1] The research title is "Language Wisdom and Inheritance of Tai Ethnic Groups in the Lower Northern Part: A New Paradigm in the Study of Thai Regional Dialects and Literature," funded by the National Research Council of Thailand (NRCT) in the years 2015-2017.
[2] The research title is "A Study of Plant Names in Ethnic Tai languages in the Northern Part," funded by the National Research Council of Thailand (NRCT) in the year 2013.

[3] The name "Lao Khrang" has been used by Thai people since they had immigrated from Laos with shellac called "khrang," which is traditionally used to dye cloth red (Wongwattana, et al., (2018).
[4]   It is also known as Black Tai. In fact, it was previously spoken by some ethnic groups in the north of Vietnam. Later, a part of its native speakers moved down to Laos (Wongwattana, et al., (2018).

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Theoretical Background

In our analysis, we employ linguistic concepts, such as functional-typological grammar (Givón, 2001) and cognitive semantics (Lakoff and Johnson, 1980; Lakoff, 1987; Kövecses and Radden, 1998; Kövecses, 2000, 2002), which, we believe, are among the best methodological approaches to accounting for the grammaticalization process. The former framework allows other linguistic aspects such as semantics and pragmatics in the consideration of syntactic functions and the knowledge of the world when needed. The latter is excellent in accounting for categories and people conceptualization. Importantly, neither approach ignores the dynamic perspectives, such as grammaticalization/ categorial extension, or cross-language diversity, such as grammatical typology/ prototype, much based on the work of Rosch (1973, 1977, 1978). Therefore, they support us to provide a useful account for our analysis in a harmonious way.

In the view of functional-typological grammar, it is suggested that the nature of grammatical categories is dynamic, constantly changing according to human behavior. Grammatical categories thus may expand (increasing the number of members) by the similarity called the process of metaphorically spreading. Metaphor is therefore important to category changing or creating new categories. The metaphorical change or extension of categories is the beginning of the process of grammaticalization. It is the process of developing grammatical morphemes from vocabulary or lexical words through at least the following steps, as suggested by DeLancey (1997).

1) There exists the phenomenon in which certain words repeatedly occur in a certain structure to convey any meaning.
2) Later, in this situation, it is found that the meaning is lost, which is referred to as "semantic bleaching" in Givón (2001), or may change metaphorically.
3) That word later begins to disassociate from the other word members in the original category, a process called "de-categorization," because some grammatical functions showing membership of that category are lost.
4) The process of changing of that word ends up becoming a new category or belongs to another category that already exists in the language system.

Areas of categorial extensions that overlap with other categories are seen as fuzzy boundaries, where members convey properties of more than one category and therefore are not good representatives of the original category. This process of spreading metaphorical categories is a common phenomenon in the categorization of humanity.

Cognitive semantics has provided the great explanatory power of conceptual metaphor and metonymy. Its aim is to make a model of human understanding and reasoning and how they are reflected in language. Metaphor and metonymy in this view are cognitive mechanisms for drawing inferences and for reasoning about and understanding the world. These cognitive operations are accomplished by means of conceptual mappings of knowledge from a source domain into a target domain and are crucial for concept formation and concept understanding. In the view of metaphor, it is suggested that clusters of semantically related lexis are mapped onto an abstract semantic domain, recreating the lexical relationships which hold in the concrete source domain. Take Zeng (2019), for example, where metaphors are found with a frequent source, ANIMAL. It illustrates how ideas are talked of in terms of animals in an account of the simple ontological/ resemblance metaphor, such as PEOPLE ARE ANIMALS. For example, the well-known film title, *Raging Bull* (2013), illustrates the metaphorical operation where the energetic, combative, and aggressive protagonist who is a BOXER in the film plot as the target can be conceptualized in terms of a raging, uncontrollable and violent BULL in the film title as the source (Zeng, 2019: 8).

While metaphor involves the mapping from a source domain to a corresponding target domain which are independent, metonymy operates a "stand for" (e.g., Lakoff and Johnson, 1980; Lakoff and Turner, 1989) or highlights relations (e.g., Kövecses 2000, 2002). In terms of interpretation, Warren (1999: 133) basically differentiates

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metonymy from metaphor by arguing that "the interpretation of metonyms involves retrieving a relation, whereas the interpretation of metaphors involves retrieving at least one attribute, shared by the conventional and intended referents." Since metonymy operates enormously in our everyday language use and thus is less marked, it is less noticeable.

Grammaticalization/Semantic Extension Pathway of /mà:k/: Schema Orientation

Our research findings show that the grammaticalization/semantic extension of /mà:k/ starts from a true/regular NOUN referring to a specific kind of edible plant produce, which is the seed-associated fleshy structure of areca palms called *betel nut*. With some semantic bleaching or generalizing, it further extend to grammatically function as a CLASS TERM occurring as the head of compound nouns. Interestingly enough, as a class term, our data suggests that it semantically extends through at least four distinctive stages or categories: *edible plant produce*; *inedible plant produce*; *small, round object*; and *board game*. While the extension of the noun /mà:k/ to the first two noun-class categories is via semantic generalization, the further extension to the last two noun-class categories is via metaphorical models. All the grammatical or semantic extension stages of /mà:k/ can be diagramed as follows.
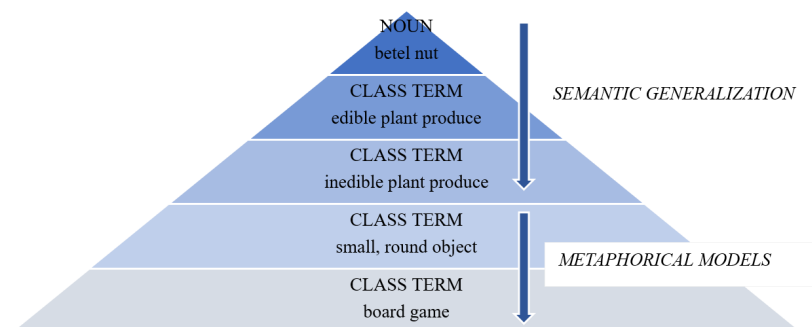

Figure 2 Pathway tendency of semantic extension of /mà:k/

Each stage of the semantic extension is discussed in detail with evidence from the Tai languages mentioned above.

From Noun 'Betel Nut' to Class Term, 'Edible Plant Produce'

The grammaticalization or semantic extension of /mà:k/ from a (true) noun referring to 'betel nut' to a class term marking for 'edible plant produce' is discussed separately in order below.

Noun 'Betel Nut'
Appearing independently as the core of the plant name, the lexical noun /mà:k/ refers to 'betel nut' (Areca catechu Linn). Therefore, it basically may occur alone as a single noun and thus part of compound nouns, as in the examples from Thai given in (1).

(1) a. lû:k   mà:k
         produce   betel nut
         'betel nut fruit'
     b. tôn   mà:k
         tree   betel nut
         'betel nut tree'

As mentioned earlier, this kind of plant grows or is common throughout Thailand. Traditionally, Tai people (elders) used betel nut in several practices such as betel nut chewing, religious ceremonies, cultural rituals, and politics. Therefore, this noun has been widely used in general so that it is re-conceptualized or becomes the metaphorical source of a number of things other than fruits, as shown in Wongwattana (2022: 16) below.

(2) lû:k–mà:k
     'betel nut fruit'
     'prostate (body part)'
     'stabilizer link (auto part)'

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It should be noted here that (1) and (2) are different sets of compound nouns, distinguished in terms of the meanings, non-metaphorical and metaphorical, which put them into two types of compound nouns, i.e., endocentric and exocentric compounds in past studies.

Class Term for 'Edible Plant Produce'

At the very first stage of generalization, as stated by DeLancey (1997), there exists the phenomenon in which /mà:k/ has been widely used and thus occurs repeatedly in a certain structure to convey its meaning. It occurs that /mà:k/ starts to extend semantically to mark for all kinds of *edible plant produce* (EPP), rather than only 'betel nut.' At this stage, it is grammatically encoded as a class term occurring as the heads of compound nouns. Consider the following evidence from Tai Yai in (3) where /mà:k/ no longer convey the original (specific) meaning 'betel nut' since it is used as a plant produce marker for the same referent that is referred to by the other word /mû:/ as in (3a), in the same manner as marking for other types of fruit as in (3b) and (3c).

(3) a. mà:k–mû:[5]   (EPP–betel nut fruit)   'betel nut fruit'
     b. mà:k–la:ŋ   (EPP–jackfruit)   'jackfruit'
     c. mà:k–tǎ:káp   (EPP–west Indian cherry)   'west Indian cherry'

When repeatedly occurring, its specific meaning is consequently bleached out and generalized to mean all types of edible plant produce. This semantic extension model can be diagramed as shown in the following figure where the SOURCE, 'betel nut,' is imbedded in the TARGET, 'edible plant produce,' which is broader than the source.

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[5] Tonal transcriptions in this article are from the version of Haas (1964) where the middle tone is shown by no mark, the low tone by / ` /, the rising tone by / ˇ /, the high tone by / ´ /, and the falling tone by / ˆ /.
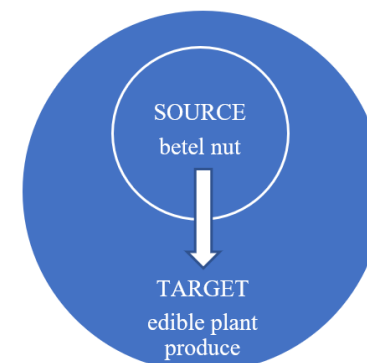

Figure 3 Semantic extension model of 'betel nut' to 'edible plant produce'

At this stage, /mà:k/ begins a grammatical function as an independent morpheme called class term, attached to a specific plant name to mark for its produce. Based on our data analysis, it is suggested that Tai people categorize them into, at least, five produce types such as *fruit*, *crop*, *pod*, *seed,* and *bulb*. Our data, however, do not strongly suggest that these five categories are in chronological order; namely, the meaning extension of the class term begins with fruit, then crop, pod, seed, and ends with bulb. Rather, the categories overlap, resulting in fuzzy boundaries (as will be discussed later on). The overlapping conceptual categories of edible plant produce are better presented by the following diagram.
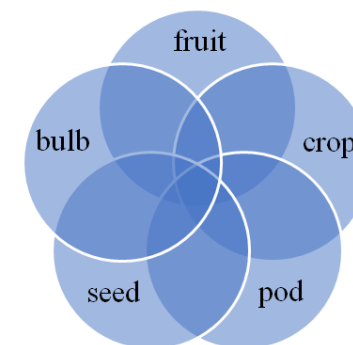

Figure 4 Overlapping conceptual categories of 'edible plant produce'

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Moreover, according to Wongwattana (2014), our data suggest that its form has gradually cliticized to a linguistic marker for edible plant produce, at least with the reductions of the vowel to /màk/, final consonant to /mà:/ and tone to /ma/, eventually.[6] Evidence from some Tai languages is shown below.[7]

(4) a. mà:k–mò:ŋ   (EPP–be gigantic)   'mango'   Sh
    b. màk[8]–sǐ:da: (EPP–Ramayana character) 'guava'   LK
    c. mà:–nâ:m   (EPP–water)   'calabash'   Th[9]
    d. [ma–na:w]–kʰə: (EPF–lemon]–tree vine)   'passion fruit'   TK

Grammatically, the statuses of the cliticized terms /màk/, /mà:/ and /ma/ here are theoretically regarded as bound morphemes and need to be re-analyzed as complex word components.

1. Class Term for 'Fruit'

The class term /mà:k/ is generally used as a marker (both in the full form and reduced forms) for fleshy produce such as *fruit* (EPF), most of which are sweet (although some kinds are sour, bitter, etc.), as evidence from the Thai language where /ma-/, a reduced form of the class term /mà:k/, is attached to a variety of fruit, for example, /ma–pʰrá:w/ 'coconut', /ma–na:w/ 'lemon', /ma–kʰǐa/ 'eggplant' and so on. Evidence in the other Tai languages is shown in (5).

(5) a. mà:k–tɕompʰû: (EPF–rose apple)   'rose apple'   LP
    b. mà:–tǎ:n   (EPF–sugar palm)   'sugar palm'   TL
    c. màk–kɛ:ŋ   (EPF–curry)   'tamarind'   Sh
    d. ma–fai   (EPP–fire)   'Burmese grape'   LS

It should be noted here that, in the stages beyond the regular noun, besides proper names such as /tɕompʰû:/ 'rose apple' in (5a) and

/tǎ:n/ 'sugar palm' in (5b), both metonymic and metaphorical models can freely operate throughout the compound-word lexicon. We can see that /kɛ:ŋ/ 'curry' in (5c) is a metonymic use while /fai/ 'fire' in (5d) is a metaphorical one.

2. Class Term for 'Crop'

Aside from fruit, /màk/ has also extended to several kinds of yearly edible plant produce called *crops* (EPC), that are also fleshy but not commonly viewed as fruits by the Tai people. They include produce such as cucumber, zucchini, squash, pumpkin, eggplant, chili and the like, which are conceptualized as vegetables, as evidence from a number of Tai languages in (6).

(6) a. mà:–tɛ:ŋ   (EPC–cucumber)   'cucumber'   TL
    b. màk–nɔ:j   (EPC–zucchini)   'zucchini'   Sh
    c. mà:–[fǎk–mòn]   (EPC–[squash–blue])   'squash, wax gourd'   LP
    d. mà:–[fǎk–tʰɔ:ŋ]   (EPC–[squash–gold])   'pumpkin'   Th
    e. mà:k–kʰɔ̌:   (EPC–eggplant)   'eggplant'   TY
    f. mà:–pʰèt   (EPC–be spicy)   'chili'   TY

3. Class Term for 'Pod'

The category of edible plant produce includes edible plant *pods* (EPP), also conceptualized as vegetables, as appearing in some Tai languages as in (7).

(7) a. mà:–[tʰùa–[fàk–ja:w]]   (EPP–[pea–[pod–long]])   'long bean'   Th[10]
    b. mà:–[tʰùa–po:ŋ]   (EPP–[pea–big])   'winged bean'   TL
    c. ma–rum   (EPP–surround, beset)   'moringa'   LS

4. Class Term for 'Seed'

The category further extends to non-fleshy kinds of produce which are obviously seen as edible plant *seeds* (EPS) or grains and thus conceptualized as neither fruits nor vegetables. Evidence from some Tai languages is shown in (8).

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(8)   a. mà: - [tʰùa–kʰɪ̆aw]   (EPS–[pea–green])   'Mung bean'   TL
      b. màk–[tâ:wáp]   (EPS–sunflower)   'sunflower seeds'   TY
      c. màk–[tʰùa–din]   (EPS–[pea–ground])   'groundnut'   TL

It should be noted here that the class term does not mark for all plant seeds. Plant seeds or grains such as rice, millet, corn/maize and so on, for example, are marked with /kʰâ:w/, commonly referring to rice or meal, their main courses, as shown in (9).

(9)   a. kʰâ:w–tɕâ:w   (rice–royal)   'rice'   Th
      b. kʰâ:w–fâ:ŋ   (rice–millet)   'millet'   LS
      c. kʰâ:w–kà:p   (rice–husk)   'corn, maize'   Sh

5.   Class Term for 'Bulb'

Moreover, there is evidence showing that the edible plant produce category also extends to include edible plant *bulbs* (EPB). Take the evidence in (10) from some Tai languages as examples.

(10) a. mà–kʰatŭm   (EPB–ankle bone)   'yam bean'   Th[11]
     b. mà–[man–tâŋ]   (EPB–[yam–stand])   'tapioca'   TL
     c. mà–nɛw   (EPB–frown)   'truffle'   Sh

However, some plant bulbs such as taro and seasoning bulbs are excluded from the category, as shown in (11).

(11) a. hŏ:–pʰɔ̀:k   (bulb–taro)   'taro'   TY
     b. kʰɪ̆ŋ   (ginger)   'ginger   Th
     c. kʰî:mîn   (turmeric)   'turmeric'   LP
     d. hɔ̆:m   (red union)   'red union'   TL
     e. hɔ̆:m–kʰǎ:w   (union-white)   'garlic'   Sh

As mentioned earlier, such edible plant produce sub-categories in the Tai peoples' views are not that clear-cut. For instance, some fruits

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[11] Northern Thai

in their views such as gooseberry, tamarind, olive, etc., marked with / mà:k/ (in different forms mentioned above), are not sweet or have the taste of crop produce. In turn, some kinds of crop produce such as tomato are as sweet as fruit. Some plant pods and seeds are referred to as /tʰùa/ 'pea' as if they are in the same species, as seen in the example (7) and (8). Some plant seeds are underground as if they are plant bulbs, as seen in the example (8c).

From Class Term 'Edible Plant Produce' to 'Inedible Plant Produce'

The class term /mà:k/ is also found marking for *inedible plant produce* (IPP). That is, according to DeLancey (1997), the semantic extension of /mà:k/ still persists the process of semantic bleaching or generalization, extending from edible plants to another plant category, inedible plants. Likewise, the phenomenon occurs in the way that the category of edible plant produce is the source and the category of inedible plant produce is the target, as in figure 5 below.
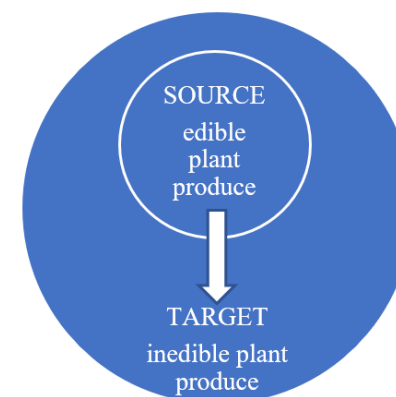

Figure 5 Semantic extension model of 'edible plant produce' to 'inedible plant produce'

Evidence from a number of Tai languages is shown in (12).

(12) a. mà:k–[kǎ:j–jɔ:n]   (IPP–[body–itchy])   'nettle'   Sh
     b. mà–ɲǐaŋ   (IPP–nettle)   'nettle'   TL
     c. jâ:–[mà–[nîw–mǔ:]] (grass–[IPP–[frown–pig]]) 'nut grass' Th[12]
     d. mà:k–tɕompʰɔ: (IPP–paradise flower]   'paradise flower'   TY
     e. mà:k–[jâ:–kʰàk]   (IPP – [grass–catch]   'burdock, love grass' LW
     f. màk–hò:phɛ̀:p   (IPP–water hyacinth)   'water hyacinth'   LW

From Class Term 'Inedible Plant Produce' to 'Small, Round Object'

Furthermore, the category of inedible plant produce is found metaphorically extending to objects that have fruit-like shapes or *small, round objects* (SRO). According to DeLancey (1997), in this stage, the class term /mà:k/ begins to disassociate from the compound words in the plant categories and then de-categorizes from the plant categories. The extension process ends up becoming a new category–small, round objects–that already exists in the language systems. Therefore, the extension operates in the conceptual manner that the category of inedible plant produce is the source and the category of small, round objects is the target, as shown in the following model.
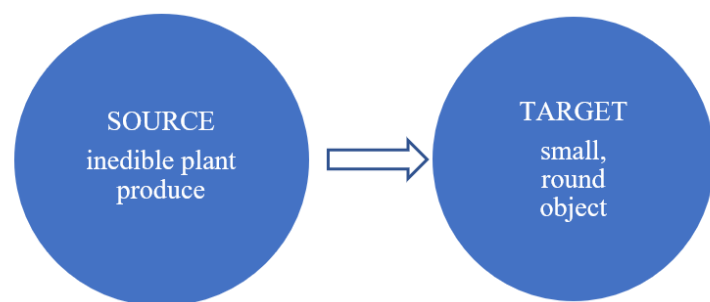

Figure 6 Metaphorical extension model of 'inedible plant produce' to 'small, round object'

In this case, evidence is found in Tai Yai, as shown in (13).

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[12] Northern Thai

(13) a. mà:k–hǐn   (SRO–rock)   'small rock'
     b. mà:k–ʔù:t   (SRO–brick)   'brick'
     c. mà:k–tɔ̀m   (SRO–button)   'button'
     d. mà:k–ko:jlì: (SRO–glass ball) 'glass ball'

It is noted that small, round artifacts are also included in the current category, as evidence from Tai Yai again in (14).

(14) a. mà:k–bo:ŋ   (SRO–bomb)   'bomb'
     b. mà:k–kɔ:ŋ   (SRO–gun)   'bullet'
     c. mà:k–[pɔ:ŋ–lom] (SRO–[inflate–wind]) 'balloon'
     d. mà:k–hǒ: (SRO–head)   'hat'

Interestingly enough, as shown in (14d), the class term /mà:k/ is also used to mark for human organs like 'head' as a small, round object. Furthermore, if we grammatically investigate beyond the compound noun referring to 'hat,' we see an unexpected innovation, 'helmet,' included in the category, as evidenced from Tai Yai shown in (15).

(15) [mà:k–hǒ:]–lèk   ([SRO–head]–steel)   'helmet'

Considering the steps of the semantic extension of /mà:k/, one may see that the step from the category, 'edible plant produce,' can be regarded to extend directly to 'small, round object' since they both have the same basic characteristics – tiny roundish shape. In our study, however, we see that since there exists the category 'inedible plant produce' in the same domain – plants – as 'edible plant produce,' the stage should be placed afterward, before the category 'small, round object.'

From Class Term 'Small, Round Object' to 'Board Game'

Besides simple objects that are concrete, it is likely that the class term /mà:k/ has also metaphorically extended to more abstract entities like *board games* (BG) such as chess, checkers, and *go*, each of which

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consists of a board, game pieces, and strategy. Since most of the game pieces in all of the board games are small objects, it is very convincing that the co-occurrence of /mà:k/ is to metaphorically mark for the shape as such. Therefore, we can conclude that, in this extension step, the metaphorical source is the small, round object category and the target is the small object category, such as board game, as diagramed below.
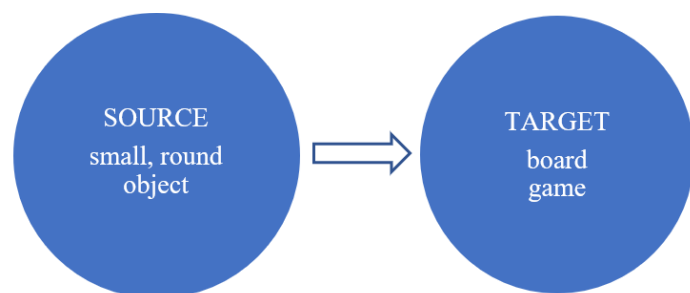

Figure 7 Metaphorical extension model of 'small, round object' to 'board game'

This extension step is more complex than the previous step in that the extension of /mà:k/ also includes a differently shaped object, such as board/flat, and a more abstract entity, such as strategy. The link between the category 'small, round object' and the two different entities is not that difficult to make since the game pieces are played on boards and in particular ways.

Evidence from Thai is illustrated in the example (16).

(16) a. mà:k–krada:n   (BG–board)   'board games'
     b. mà:k–hɔ́:s   (BG–horse)   'checkers'
     c. mà:k–rúk   (BG–offend)   'chess'
     d. mà:k–lɔ́:m   (BG–surround)   'go'

In (16), we can also see that there are certain metonymic models such as parts for the whole–'board' and 'horse'–operating in /mà:k–krada:n/ and /mà:k–hɔ́:s/ and strategies–'offend' and 'surround'–operating in /mà:k–rúk/ and /mà:k–lɔ́:m/, respectively. Moreover,

'horse' in /mà:k–hɔ́:s/ reveals another metaphorical use, differently from the metaphorical extension step in the higher level. Thus, we can see a systemic, complex implementation of the modeling concept in the compound words as such.

From Class Term 'Small Object' to Classifier?

Even though the evidence in literature indicates that in the old Tai it can also occur as a classifier (Royal Society, 2013), semantically marked for small round objects, as illustrated in (17), we have not found the use of /mà:k/ as a classifier in our data synchronically. We may regard this form as used only in rhetoric or personal style and the relation between /mà:k/ here and /mà:k/ in other cases is not clear and not yet verified due to the nature of our analysis. As a result, it is too early to claim or posit that it is a possible further semantic extension step of the noun /mà:k/ 'betel nut' to a classifier for small objects.

(17) sɛ̌:ŋ   sìp   mà:k
     light   ten   CLF
     'Lit.: ten lights'
     'ten gems'

Conclusion

In our synchronic analysis, we investigated the tendency of the grammaticalization pathway of the noun /mà:k/, focusing on the semantic extension from 'betel nut' to 'board game' through compound nouns in some Tai languages spoken in Thailand. Our finding shows that the true noun /mà:k/ referring to a specific kind of edible plant produce has been grammaticalized, with some semantic bleaching or generalizing, to a class term. As a class term, its meaning further extends through four distinctive phases: edible plant produce; inedible plant produce; small, round object; and board game. The varieties of edible plant produce are categorized into five unclear-cut types such as fruit,

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crop, pod, seed, and bulb in the Tai peoples' view. While the extension from the regular noun to the first two plant categories operates via semantic generalization, the extension to the two last object categories is via metaphorical models. However, the five semantic categories from the true noun to the last phase of class terms are overlapping and gradient from a true noun to class-term phases since all the categories still exist in the present time. This is why a synchronic study can be carried out. This paper therefore sheds light on the category extension that manifests more than one model of conceptualization and overlapping categories revealing that the noun /mà:k/ is still in the process of semantic extension or grammaticalization.

Even though our data collection and analysis methods, which are in a synchronic manner, are sufficient for the study of the tendency of the extension pathway of /mà:k/, this research still is open for further diachronic studies on /mà:k/ in Tai languages since diachronic/ chronological evidence may be helpful to clarify the on-going process of semantic extension and grammaticalization. Moreover, it would be interesting to investigate further whether the /ma:k/ morpheme is grammaticalized in the uniform manner in each Tai language. This would also reveal how far the /ma:k/ morpheme is grammaticalized on the grammaticalization path in each language.

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