

THE /KA-/ AND /KRA-/ PREFIXES IN THAI

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1.0. INTRODUCTION

It has been noted (Varasarin 1984; Siri-aksornsat 1996) that the Thai language has many words beginning with the prefixes /**ka-**/ and /**kra-**/ . The same prefixes /**ka-** **kra-**/ exist in Khmer. Jenner (1982) shows that Khmer prefixes phonologically realized as /**ka-**/ or /**kra-**/ may in fact be one of three different prefixes: a velar prefix which indicates “generalized intensification”; a reduplicated initial consonant, also indicating intensification; and a velar prefix which designates nouns of five specific types (pp. xxxviii-xli). We find that the velar prefixes behave the same way in Thai as they do in Khmer, and Varasarin argues that not only are the prefixes borrowed, but that the whole process of derivation is borrowed from Khmer into Thai.

In *Les Éléments khmers dans la formation de la langue siamoise*, Varasarin focuses mainly on Khmer and Thai derivatives of the first two types of prefix mentioned above, the velar prefix that serves to intensify its root and the reduplicated prefix that has the same function. Although both of these prefixes will receive treatment here, I will focus mainly on the third type of velar prefix, the one that designates specific nouns.

The nouns in question cover rather specific semantic fields in the Khmer language, such as human beings, other animate beings, and substances. A few of these fields appear to be related to each other, e.g., by extension based on likeness of form and/or function. For instance, human beings and other animate beings have in common the fact that they are both alive.

In Thai as well as in Khmer there are many semantic senses of the /**ka-** **kra-**/ prefixes. In fact, it looks as though Thai has innovated other senses of /**ka-** **kra-**/ that do not exist in Khmer, the language from which the process of derivation was borrowed in the first place. Can the semantics of the Thai (and Khmer) prefixes be explained in a systematic way? The idea of a radial category of /**ka-** **kra-**/ derivatives offers us a mechanism for understanding how the semantic fields indicated by the /**ka-** **kra-**/ prefixes are related.

In this paper I will show that the third type of /**ka-** **kra-**/ prefix outlines a radial category which existed in Khmer and was borrowed into Thai. It is well known that mainland Southeast Asia is an especially complex linguistic area due

to the number of languages spoken there and the large degree of language contact. The borrowing of a radial category from Khmer into Thai is a unique example of language contact and the only one of its kind of which I am aware.

Before describing the radial categories of /*ka- kra-*/ prefixes in Thai, I will give some reasons why I believe the direction of borrowing to be from Khmer to Thai and not otherwise. Pursuant to this, I will explain the concept of radial categories, briefly describe the Khmer language and its prefixational system, and also briefly describe the Thai language.

2.0. DIRECTION OF BORROWING

In order to more fully understand the contact situation between Thai and Khmer, it is necessary to give a short historical account of the two groups, going back to the 6th century. The Tai people, ancestors of the modern Thai, inhabited what is now Thailand in small numbers prior to the 11th century. Their original home was in the south of China, and they had their capital in Nanchao (modern Yunnan). In the 13th century, Kublai Khan's invasion of their home forced large numbers of Tai southward. At that time, the Khmer people, who are indigenous to the Southeast Asian mainland, were already in the region. Evidence of Khmer presence from as early as the 11th century has been found in archaeological ruins in modern-day Thailand, and it is estimated that the Khmers were there from around the 6th century until the 13th century, through the end of the Angkorian period. During this early period, Khmer rule extended over much of present-day Thailand, and the culture flourished. In the 13th century, the Tai took the city of Sukhothai, and this conquest more or less began the end of Khmer dominion in Thailand. Nevertheless, Thai and Khmer documents attest to the fact that contact continued between the two peoples even after the conquest of Sukhothai. The cultural influence of the Khmer in art and language is abundant both before and after the period of Khmer dominion. Architecture, sculpture, and old inscriptions tell us how strong the cultural and linguistic influences were. In this paper, we will be concerned with an aspect of the latter: the linguistic influence of Khmer on Thai.

It is accepted here that the borrowing of the process of prefixation went from Khmer to Thai and not the other way around. Evidence of the Khmer presence in what is now Thailand dates back to the 6th century (although they may have been there as far back as the 2nd century), and includes linguistic evidence in the form of inscriptions. This is approximately five centuries before any evidence of Thai presence in the area. Although the Thai ultimately defeated the Khmer and drove them out, the Khmer culture was definitely the prestige culture. The Thai thus borrowed much from the Khmer in the areas of art, the writing system, and language in general. In fact, the Khmer language

was so prestigious that up until the early 20th century, the elite of Thailand were learning Khmer as well as Thai (Varasarin 1984:26). So while Khmer has borrowed from Thai, especially in more recent historical periods, it is clear that in earlier times Thai borrowed much more heavily from Khmer than *vice versa*.

Another indication that this borrowing is from Khmer to Thai is revealed when considering other languages related to them, i.e. other Tai and Mon-Khmer languages. Other languages of the Mon-Khmer family exhibit the traits we are considering here. On the other hand, for the most part none of the languages of the Tai-Kadai family apart from Siamese Thai have words with the segments /**ka- kra-**/ following this pattern.

Finally, it would seem that educated native speakers of Thai recognize Khmer borrowings in their language. Native speakers have commented to me along the lines of "Anything with [**ka-**] or [**-am-**] in it is a Khmer word," or "*camùuk* ['nose'] is a Khmer word." Although not all words with /**ka- kra-**/ prefixes are entirely borrowed from Khmer (since the whole process of derivation is borrowed), it is both interesting and significant that even (nonlinguist) native speakers recognize the "Khmerness" of these words.

As one might suspect, there are many prefixed root words in Thai which are of Khmer origin. However, prefixed words which are Tai or borrowings from Chinese, Sanskrit, or Pali also exist in modern Thai. Siri-aksornsat (1996:2) shows that of all the modern Thai /**ka- kra-**/ words in her data, about one third are loan words. Of this third, nearly half are Khmer. The other half of the data are what Siri-aksornsat terms "new formation words", or prefixed words formed in Thai. This serves as evidence that Thai has borrowed the prefixational (and, incidentally, infixational) process, as opposed to just borrowing Khmer words into the language. Varasarin confirms that "[s]i leur racine est thaïe, il y a de fortes chances pour que ces dérivés aient été formés par les siamois au moyen de procédés de dérivation khmère" (1984:21). Likewise, a situation may arise where Khmer has borrowed a Tai word and derived another prefixed form from it in Khmer.

3.0. RADIAL CATEGORIES

It was claimed earlier that /**ka- kra-**/ words in Thai cover several semantic fields and that these fields together form a radial category. According to Lakoff 1987, a radial category has a central member and peripheral members. The central or *prototypical* member of a category is one that is considered to be a "best example" of that category. For instance, a four-door sedan may be judged as more representative of the category *car* than a mini-van or truck and may thus be considered that category's prototypical member. Another example can be found in the research of Heider 1971. In one of Heider's experiments, young

children were given color chips. The researcher would turn her back and ask the child to show her a color. The children overwhelmingly chose focal colors, those judged as "best examples" of colors, according to the research of Berlin and Kay 1969 (Lakoff 1987:40-41).

The peripheral or noncentral members of a category are "motivated" by the central member (or another category member) through some sort of resemblance, and the peripheral members are linked to the central member via cognitive links. Thus we might think of a radial category as a network which radiates outward, using cognitive links to chain the peripheral members to the central one. The nature of these links may be based on certain general principles, among them similar domains of experience and likeness of form or function between the central (or another) category member and the more peripheral one(s). In general, a speaker will focus on some aspect of a concrete, basic-level object and make a cognitive extension based on that aspect.

An example of a radial category given in Lakoff 1987 is that of the Dyirbal classification system, originally researched by R. M. W. Dixon and published as Dixon 1982. Classifiers are words which identify certain nouns with a particular category. The Dyirbal language has four classifiers: *bayi*, *balan*, *balam*, and *bala*. Briefly, the classifiers represent the following categories:

- bayi*: (human) males; animals
- balan*: (human) females; water; fire; fighting
- balam*: nonflesh food
- bala*: everything else (Lakoff, 1987:93)

In Dyirbal, women, fire, and dangerous things are designated using the same classifier—*balan*. This seemingly random grouping is not as ad hoc as it may first appear. Women are in their own category, separate from men. The sun in Dyirbal myth is the moon's wife, and it is therefore in the same category as women. The sun is fiery, and so, of course, is fire. Fire is dangerous, and therefore dangerous things are also grouped in this category. Thus we see that in Dyirbal, categories are extended from their basic or central member (woman) via a series of cognitive extensions which, while not initially obvious, make sense once explained.

When metonymy is involved in cognitive extensions, some salient aspect of an object comes to stand for the entire object or for some other part of it. Metonymical extension is a process by which peripheral members are linked to more central members. Another type of cognitive extension that links particular objects to a category is image metaphor. A noun may be associated with a category or an object in a category based on likeness of form or function. We shall see that metonymy and image metaphors are the chief cognitive processes that account for the radial category borrowed (and extended) by Thai speakers.

Verbs that relate to these objects are also included in the semantic category that describes them.

4.0. DESCRIPTION OF KHMER AND ITS PREFIXES

Before discussing the radial category of /**ka-** **kra-**/ prefixes, some mention of the Khmer language and its prefixes is necessary. Khmer is the most widely spoken language of the Mon-Khmer branch of the Austroasiatic language family, and it is the national language of Cambodia. It differs from its neighboring languages, i.e. Thai, Vietnamese, and Lao, in having no tones. Ehrman (1972:44) claims that Khmer should be called an isolating language despite its affixational system. Her claim is that, while Khmer words can include affixes, grammatical distinctions are mainly achieved through word ordering. She states: “[W]hile the patterns of affixation are complex, the affixes are seldom used in new combinations and so are more helpful in recognizing relations between words than in the creation of new words” (p. 3). In other words, affixes are neither productive nor predictable in modern Khmer.

The phonemes of Khmer (adapted from Ehrman 1972:4) are presented in Appendix B toward the end of this paper. This is done mainly for the sake of comparison with the Thai phonemes, which appear as Appendix C.

It was just mentioned that Khmer is considered to be primarily an isolating language, despite the fact that it has what Jenner and Pou term a “tolerably elaborate affixational system” (1982:xxi). Khmer permits the combination of affixes with both nouns and verbs. Jenner and Pou divide the prefixes into simple and complex prefixes, the simple ones being those that consist of only a consonant, while the complex ones consist of a consonant followed by a rhotic element plus a vowel (*CrV-*).

There are two velar prefixes in Khmer. Jenner and Pou (1982) refer to these as /**k-**¹ and /**k-**², and their explication, beginning on p. xxxix, is presented below. In this paper I am more interested in /**k-**² and will therefore discuss it first.¹

The prefix /**k-**² + root word results in derivatives of five different classes:

- (1) nouns designating human beings, for example **meek** ‘limb, branch’ > **kmeek** ‘relative by marriage, in-law’;

¹ The examples are from Jenner and Pou (1982), who use a slightly different phonemic transcription than Ehrman (1972), whose system is presented above.

- (2) nouns denoting other animate beings;² sometimes these are derived from verbs (e.g., **-túuəj** ‘to stand out/up’ > **ktúuəj** ‘small greyscorpion’), but often animal names begin with prefixal *k*- even if there is no obvious verb from which they derive (e.g., **kḡaa** ‘species of ibis’; **kqaaep** ‘centipede’; and **kbaak** ‘a type of fish’ (ibid.:xl-xli);
- (3) nouns denoting substances, e.g., **-tih** ‘to exude’ > **ktih** ‘coconut milk’;
- (4) nouns designating instrumentality, locus, or object of wordbase, e.g., **-diiəŋ** ‘to pound (rice) in a mortar’ > **kdiəŋ** ‘large mortar’ (see below, VESSELS/CONTAINERS);
- (5) verbs involving transitivity or implying the use of an instrumentality, e.g., **wáj** ‘to turn’ > **kwaj** ‘to turn on a spit’ (ibid.:xxxix-xl).

On the other hand, Khmer /*k*-/¹ indicates what Jenner and Pou call “generalized intensification”. The prefix denotes:

- (1) concentration of form or range of action, e.g., **ḡooc** ‘to draw back’ > **kḡooc** ‘to flinch, wince’; **cap** ‘to fold’ > **kcap** ‘to wrap, pack’;
- (2) distinction of form or feature, e.g., **wil** ‘to turn’ > **kwəl** ‘to turn rapidly, whirl’; **ríiəp** ‘to be flat’ > **kraap** ‘to prostrate oneself’;
- (3) something negative or indicating pejoration or qualitative inferiority, e.g., **weək** ‘to be blocked’ > **kwak** ‘to be blind’; or **diiəp** ‘to be of small stature’ > **kdiəp** ‘to be runty, stunted’ (ibid.:xxxix)

Finally, Jenner and Pou mention the “complex prefixes” /*kṛə*-/ ~ /*kra*-/ (the latter phonetically [kṛə]), noting that they do not function any differently from /*k*-/¹ and /*k*-/².

Another Khmer prefix of interest here is the prefix /*R*-/, where the symbol “*R*” designates the initial consonant of a wordbase which has been reduplicated as a prefix. In cases where the root word’s initial consonant is velar, /*R*-/ surfaces as yet another /*k*-/ prefix, further complicating the map of velar prefix semantics in Khmer. The semantics of /*R*-/ focus on repetition. However, there is some semantic overlap with the “generalized intensification” of /*k*-/¹.

According to Jenner and Pou, /*R*-/ attached to a root word indicates:

² Matisoff (personal communication) comments that this has been borrowed into Tibeto-Burman in the form of a “velar animal prefix”, appearing in such TB etyma as ***k-la** ‘tiger’, ***k-lag** ‘eagle; bird of prey’, ***k-rak** ‘chicken’, ***k-roŋ** ‘wildcat’, etc.

- (1) rapid, usually light, repetitive movement, e.g., **sət** 'to clean, comb, curry' > **ssət** 'to preen';
- (2) regularly alternating or steady sequential movement, e.g., **puun** 'to heap' > **ppuun** 'to heap up (in increments), amass by repeated additions';
- (3) figurative repetition for the sake of intensification, e.g., **-muuər** 'to be round' > **-mmuuər** 'to be all round, roly-poly';
- (4) light repetitive movement leading to spatial distance, e.g., **crəəh** 'to select with care' > **ccrəəh** 'to move here and there while picking';
- (5) repetitive movement suggesting habitual or characteristic action, e.g., **lɔp** 'to move stealthily' > **llɔp** 'to be sneaky, constantly spying';
- (6) any light or sudden (but not necessarily repetitive) movement, e.g., **troom** 'to drop, sink' > **ttroom** 'to flop down' (ibid.:xxxv)

The authors add that the /R-/ prefix is also found as the initial of complex prefixes. That is, some R prefixes also contain an -r-, and thus have the shape RrV. For example, **puun** 'to heap' > **ppuun** ~ **prəpuun** 'to heap up (in increments), amass by repeated additions'.

In summary, we have seen that the Khmer prefixes /R-/, /RrV-/, /k-/¹, /k-/² and /krɔ-/ ~ /kra-/ perform a variety of derivational tasks in the language.

5.0. DESCRIPTION OF THAI

Having briefly looked at briefly at Khmer and some aspects of its prefixational system, we can now turn to the Thai language. Thai is a member of the Tai-Kadai family and is the national language of Thailand. The Tai branch can be split into three subgroups—Northern, Central, and Southwestern Tai. Thai is a language of the Southwestern Tai subgroup.

Thai has five phonemic tones. These will be indicated as follows:

<i>Mid tone</i>	a (no diacritic)
<i>High tone</i>	á
<i>Low tone</i>	à
<i>Rising tone</i>	ǎ
<i>Falling tone</i>	â

I adopt here the phonemic transcription system used in Haas 1964, with some slight modifications. The Thai phonemes and initial consonant clusters are presented in Appendix C at the end of this paper.

6.0. RADIAL CATEGORIES IN THAI

The primary semantic fields represented by the radial category of /**ka- kra-**/ derivatives in Thai are the following:

- Animals, including fish and insects
- Substances
- Plants
- Vessels and Containers

There are other, more peripheral category members as well. Among these categories, I treat animals and plants as the central members, and the others as noncentral or somehow “motivated” by animals and plants.

•ANIMALS³

We saw earlier that some of Jenner and Pou’s /**k-/**² derivatives designate “other animate beings”. The following list of Thai words in phonemic transcription should serve as evidence that Thai has a wealth of /**ka-/** or /**kra-/** prefixed words in this semantic field as well. In Thai, it is common, although not always necessary, to refer to certain insects, fish, and shells using the general noun that defines their category, followed by the name of the particular organism. Some of the general names that appear below are **mɛɛŋ**- ‘insect’, **plaa-** ‘fish’, and **hǎj-** ‘shell’. Where these appear, I have used a dash to indicate a morpheme boundary.

- | | |
|-------------------------|---|
| 1. mɛɛŋ-k(r)atɛɛ | a small insect emitting a bad odor when crushed |
| 2. plaa-kaphoŋ | kind of bass (popular food fish) |
| 3. hǎj-kaphoŋ | general name for a sea mussel |
| 4. mɛɛŋ-kaphrun | jellyfish |
| 5. plaa-karaŋ | grouper (saltwater fish) |
| 6. plaa-krasùup | <i>Hampala macrolepidota</i> (freshwater fish) |
| 7. krajǎk | sparrow |
| 8. k(r)athaa | quail; partridge |
| 9. kracàap | baya or weaver bird |
| 10. kracìp | small warblers; titmice; wrens |
| 11. krathuŋ | pelican |
| 12. k(r)asǎa | grey or common heron |
| 13. kracǎn | squirrel |
| 14. kratàaj | rabbit; hare |
| 15. kratɛɛ | chipmunk |
| 16. krabli | monkey (also: sword) |
| 17. krabyy | water buffalo |
| 18. krabeen | skate; ray (fish) |
| 19. krarǎk | squirrel |
| 20. kratiŋ | bison |

³ The lists given in this paper by no means exhaust the sum total of examples of the phenomenon.

21. k(r)acon	mouse-deer; chevrotain
22. k(r)añòok	peacock (poetic)
23. krachòon	beetle; mole cricket
24. krasûu	Asiatic two-horned rhinoceros
25. kradli	species of freshwater fish
26. k(r)atôjtiwít	plover
27. k(r)atràp	freshwater fish (<i>Pristolepsis fasciata</i>)
28. k(r)atûa	cockatoo
29. kratíd	Indian pipit
30. kratùn	bamboo rat; mole
31. kratrùm	adjutant bird
32. k(r)atén	kingfisher

Besides names of animal species, other words relating to animals begin with the /ka- kra-/ prefixes as well. Consider the following:

•ANIMAL-RELATED WORDS

33. katòonhòon	cry of a peacock
34. krajàppli	musical instrument shaped like a tortoise
35. kradòon	shell of a crab or tortoise
36. kradoon	dorsal fin of a fish
37. kralaa	shell
38. k(r)ateen	fish trap used in Phitsanulok (a city in N. Thailand)

The preceding words all exhibit a clear relationship to the category of animals. Number 34 is an example of an image metaphor based on likeness of form: since the **krajàppli** is shaped like an animal, the prefix used to designate animals can be used to designate this wind instrument as well.

•PLANTS

The number of plant names beginning with /ka- kra-/ is impressive.

39. kalàampli	cauliflower
40. kalàamdòok	cabbage
41. kathyy	ginger-type plant
42. kapraw	basil
43. karaj	coral
44. kalaa	costus root ⁴
45. kalapanhăa	coralline
46. kracàp	water chestnut
47. krachut	bulrush
48. kracaaw	jute plant

⁴ Cf. also PLANT PARTS and VESSELS/CONTAINERS MADE OF PLANTS.

49. kracíap	roselle
50. kracè	ochna
51. krachèet	galingale
52. krasăa	plant sp. (also: a type of bird; see #12 above)
53. krawaan	cardamom
54. kramon	lotus
55. krabèek	type of herb with an offensive odor
56. krabaaw	chaulmoogra
57. krathiam	garlic
58. krathôm	robust, semi-climbing or spreading shrub
59. krathôn	lemon grass
60. krathokrok	santol; wild mangosteen
61. krachaa	j
62. kradaṇṇataj	ylang-ylang
63. krathin	lead tree
64. kracfi	genus of loganiaceous tropical trees
65. k(r)acfaṇ	dendrobium orchid
66. kraciaw	<i>Curcuma domestica</i> ; turmeric curcuma
67. krachòet	watercress eaten as salad
68. krachôm	fragrant vegetable, used medicinally
69. kracháp	cockle-burr
70. k(r)adôm	climbing plant
71. k(r)adâat	tuberous herbaceous, perennial plant
72. kradṇcháj	species of climber
73. kradṇphráaam	species of flycatcher
74. kradoom	Patana oak
75. k(r)ataṇk(r)atfaw	woody climbers yielding rubber
76. kalôn	variety of mango (also: a glib talker)

Since there are so many plant species beginning with one of the two /ka- kra-/ prefixes, we should not be surprised to find an array of other words relating to plants that also contain these prefixes. The following words containing /ka- kra-/ are used to describe parts of plants and plant products.

•PLANT PARTS AND PRODUCTS

77. kachêe	liquor made from the sap of a palm
78. kalaa	hard shell of a coconut ⁵
79. kalâapăa	variety of rose apple (also: the name of an ancient Indonesian city)
80. kathí	coconut cream
81. kataṇ	birdlime, gum; sticky like gum
82. kalôccli	boiled rice flour
83. kraphíi	inner layer of bark
84. krabôck	section of bamboo stem

⁵ Cf. also PLANTS and VESSELS/CONTAINERS MADE OF PLANTS.

- | | |
|---------------------|--|
| 85. krachlīt | sauce made of grated coconut and sugar |
| 86. krasúm | arbor |

Examples (77-78), (80), (82), and (85) refer to plant products, and the reasons they are designated as part of the **/ka- kra-/** group is clear. Examples (83) and (84) refer to parts of a plant. The connection of item (81) to the plant category, however, may be somewhat opaque. I have grouped it with the other terms because it describes a substance that a plant might produce. Since tree sap, e.g., is sticky and gummy, it does not seem unreasonable to think that speakers took the same prefix used to refer to a tree to refer to the texture or feel of its secretion.

The next semantic category to be examined is that of vessels or containers. This group of items is related to the plant category via part-whole metonymy. Many containers and vessels are or were once made of plant parts. Several of these container and/or vessel names in Thai incorporate the prefixes **/ka-/** or **/kra-/**, a testimony that speakers consciously (and rightfully!) regarded them as related to the plants from which they were made. Consider the following list. All baskets have been included here under the reasoning that baskets are generally woven out of plant parts—particularly leaves and stems.

•VESSELS/CONTAINERS MADE OF PLANTS

- | | |
|----------------------|--|
| 87. kalaa | half a coconut used as a bowl ⁶ |
| 88. kalòok | hard shell of coconut used as a cup ⁷ |
| 89. kalòo | large, flat, round tray of bamboo coated to make it waterproof |
| 90. kracàa | special spoon of coconut shell with wood handle |
| 91. kracàat | basket |
| 92. krachaj | floating basket |
| 93. krachú | large bamboo basket |
| 94. krachəə | bamboo basket |
| 95. kracháaw | basket with handle for fruits and vegetables |
| 96. kradaŋ | winnowing basket |
| 97. krathoŋ | vessel made of banana leaves (also: young) |
| 98. krathaaŋ | basket |
| 99. krabaaŋ | small basket |
| 100. krabuŋ | woven bamboo basket |
| 101. kracūu | bottle-shaped eel-trap made of woven bamboo strips |
| 102. krachəən | sieve made of fine bamboo strands (for straining grated coconut) |
| 103. kradōŋ | wide, flat, shallow basket for winnowing rice |

⁶ Cf. also PLANTS and PLANT PARTS.

⁷ Cf. also BODY PARTS.

- | | |
|---------------------|--|
| 104. kratrōṅ | half-egg-shaped basket fastened to a pole to remove fruit from trees |
| 105. kratip | small, round, woven bamboo container for sticky rice |

At this point we would do well to recall that one of Jenner and Pou's /k-/ noun derivatives are those that indicate instrumentality, locus, or object of wordbase. The above nouns are examples of nouns designating instrumentality.

The radial category continues to expand. The preceding list shows the names of vessels and containers made from plants or plant parts. Yet there are also /ka-/ or /kra-/ derivatives which designate vessels and containers that are not made of plant parts. In keeping with my theory that /ka- kra-/ derivatives are members of a radial category, I assert that this second group of vessel and container names results by extension from the plant-made vessels and containers we just saw. The extension is based on image metaphor due to likeness of function and shape. Although they may not be plant derivatives, the objects listed below have the same function as those in the preceding word set.

•VESSELS/CONTAINERS

- | | |
|-----------------------|--|
| 106. kalaməŋ | enameled bowl or basin |
| 107. kathá | frying pan |
| 108. kabya | mortar |
| 109. krachōṅ | strainer; colander; lawn sieve |
| 110. kradyəŋ | stamp mill, mortar; pestle ⁸ |
| 111. kratìk | water canteen; flask |
| 112. krathāəŋ | flowerpot |
| 113. krathōṅ | spittoon |
| 114. krabuuj | dipper (spoon) |
| 115. krabà | tray |
| 116. krapōŋ | can; tin; canister |
| 117. krapùt | earthen pot; fat (pot-like) |
| 118. krasōṅp | bag; sack; gunnysack |
| 119. krapō | protuberance, bulb |
| 120. kraphúŋ | bulge; bag; to bulge |
| 121. krasínthú | river; stream |
| 122. kracìp | smallest-sized cup for drinking or sipping |
| 123. kracùp | cup, bottle, or tin used as a lamp |

⁸ Note that this is the same word as the Khmer example **kdiəŋ** given earlier. However, unprefixed ***dyəŋ** does not exist in Thai. Thus we can be sure that in this case the prefixed word was borrowed directly from Khmer.

I have chosen to group the words **krasòp** and **kraphúŋ** (numbers 118 and 120) with the category of vessels and containers because they describe the appearance of a full container, specifically a bag or a sack.

There are several /ka- kra-/ word referring to parts of the human body which serve as physiological containers. For example, the skull is the container for the brain, while the stomach is the (internal) container for one's food. The palm of the hand can function as a container. Thus the cognitive extension here is based on likeness of function (and for the most part form as well). The following are body part containers and/or containers for body parts:

•**BODY PARTS which are CONTAINERS**

- | | |
|----------------------|--|
| 124. kalòk | skull ⁹ (alternative word: hǔa for 'head') |
| 125. kahǎam | testicle (colloquial; the learned word is ankhá) |
| 126. krabɛemy | palm of the hand |
| 127. krapòk | scrotum; testicles (also thúuŋ ankhá) |
| 128. kraphó | bladder; stomach; bowels (another word is thóŋ) |

Not surprisingly, the likeness between containers and certain body parts has been remarked on by speakers of other languages as well. In English, for example, we use the word *chest* to designate both a box or coffer and a human body part. Other examples include French *pot*, used colloquially for a pot or one's head, and French *tête* from Vulgar Latin *testa* 'potsherd'.¹⁰

There are other body parts, however, which are not containers and whose Thai names begin with the prefixes in question. By categorial extension from the above body parts, which are containers, the following /ka-/ and /kra-/ derivatives can refer to other body parts, although they do not perform a "holding" function. The list is short.

•**BODY PARTS (other)**

- | | |
|----------------------|--|
| 129. kaʔeew | waist (poetic) |
| 130. kradùuk | bone |
| 131. kradyak | Adam's apple; swallow hard with difficulty |
| 132. krabaan | pate |
| 133. kramòom | crown of the head; also 1st person pronoun |
| 134. k(r)adɔɔ | penis |

The first two words on this list are interesting because, if the language user were to drop the prefixes, the words would mean exactly the same thing. That

⁹ Cf. also VESSELS/CONTAINERS MADE OF PLANTS.

¹⁰ I thank John McWhorter and Eve Sweetser for calling my attention to these examples.

is, **ʔeew** means ‘waist’ and **dùuk** means ‘bone’. So why add the morpheme **/ka-/** or **/kra-/**? Matisoff (personal communication) suggests that phonological bulking may be a reason to do this. The addition of another syllable may achieve certain stylistic or rhythmic effects in Thai, a largely monosyllabic language. Varasarin (1984) offers another reason, which indirectly supports Matisoff’s suggestion. She hypothesizes that Thai poets would add these prefixal syllables to words in order to obtain the appropriate number of syllables for their verse:

les poèmes thais sont caractérisés par la limitation du nombre de pieds pour chaque vers. Il est donc permis de penser que les poètes thais ont pu recourir aux procédés de la dérivation khmère pour équilibrer un vers lorsque ce dernier ne comportait pas le nombre de pieds requis, un monosyllabe devenant alors un dissyllabe sans pour autant changer de sens. (p. 266)¹¹

In fact, according to So Sethaputra’s *New Model Thai-English Dictionary* (1967/1978), **kaʔeew** for ‘waist’ is a poetic form. This idea is further supported in McFarland’s *Thai-English Dictionary* where, as part of his definition of the prefix **/kra-/** he says that it is “used for the sake of euphony and in poetry” (1944:19).

Another interesting word on the list above is **kramðom**, used for ‘crown of the head’ or for the first person pronoun. The sense meaning ‘crown of the head’ may be based on likeness of function with other containers, the head being a physiological container. Perhaps the use of **kramðom** as a first person pronoun is a case of synecdoche, where the part (the head) is used to stand for the whole (the person).

On the other hand, Jenner and Pou specifically say that “**/k-/** derivatives referring to human beings of high status were common in Old Khmer”, for example **kpoñ**, a dignity higher than that of **poñ** ‘elder’; or **kloñ**, a dignity higher than that of **loñ** ‘chief’ (p. xl). In Thai, **mðom** is the title of the wife of a prince, and the word also appears as a part of other royal titles, e.g., **mðom caw** (child of a prince), **mðom rachawoŋ** (grandchild of a prince), **mðom lŭaŋ** (great grandchild of a prince). The first person pronoun **kramðom** should be used to refer to oneself when addressing royalty. In addition, there is a first person (male) pronoun—**kraphõm**—which should also be used in formal

¹¹ “Thai poems are characterized by a limit on the number of feet per verse. It is thus reasonable to think that Thai poets could have resorted to Khmer derivational processes to balance any verse that did not have the required number of feet, a monosyllable becoming a dissyllable while remaining unchanged in meaning.” (translation mine)

company. By itself, **phǒm** is a first person (male) pronoun, but it is not as polite as when the prefix /kra-/ is attached. Although I am not sure exactly how these two words link to the radial category I am proposing, it looks as though /kra-/ conveys politeness and formality when prefixed to the above words. Furthermore, they seem related to the Khmer derivatives that Jenner and Pou discuss in that they also designate human beings.

A final semantic area that bears examination here is that of liquids and substances. Jenner and Pou claim that Khmer /k-/ derivatives can denote, among other things, substances. Liquids and substances are probably semantically linked to the other categories discussed here via the plant group. There were a couple of plant derived substances listed under the category of PLANT PARTS/PRODUCTS, such as coconut cream and palm sap liquor. I think these two substances may serve as part of a proposed link with the category SUBSTANCES. SUBSTANCES could also be linked to the rest of this group via VESSELS/CONTAINERS. After all, vessels can hold substances in them. Most of the substances below are liquids, but I also include verbs which are related to liquids, such as 137, 138, 139, and 143.

•**SUBSTANCES, LIQUIDS and RELATED VERBS**

135. kachêe	liquor made from the sap of a palm (same as #77)
136. kathí	coconut cream (repeated from above)
137. kaprìpkaprɔj	dribbling, trickling
138. kracòk	to spill, splash
139. krasen	(of water) splash, spray, spill; be splashed
140. krathùm	to splash
141. krasǎaj	solvent; diluent
142. krasěe	current, stream, tide, flow
143. krahǎaj	to thirst for
144. krachìit	sauce made of grated coconut and sugar (same as #85)

To sum up: thus far we have been able to trace a relatively neat radial category for words with the prefix /ka-/ or /kra-/. An extension was shown to exist between /ka-/ and /kra-/ words for plants and the words for plant parts and products, the nature of which is metonymical. Since a type of plant product is a vessel or container, it was possible to make a connection between plant products and vessels and containers that are not made of plants. Another extension could be drawn to body parts that are containers, and then from there to body parts which are not containers. At this point it was necessary to go back to the category of plant products to explain how the semantic field of substances links to the rest of the fields. Some plant products are substances; but another possibility is that substances are connected to the rest of the radial

category via the field of vessels and containers, which often hold substances. Metonymy is involved, since the prefix that indicates the container is also used to indicate that which is held within the container. In any case, it looks as though these semantic groupings form a plausible radial category that explain the relationships among derivatives formed with the prefixes /**ka-**/ and /**kra-**/. A diagram of the radial category is provided at the end of the paper showing the proposed connections.

Our classifications also fit in with Jenner and Pou's description of derivatives formed with /**k-/** in Khmer, and would lead us to believe that a similar radial category existed in Khmer (although previous researchers did not have access to current cognitive linguistic theories and therefore did not recognize the radial category that I am proposing). In Thai so far we have seen body part names and pronouns, which match with the notion that /**k-/** derivatives designate human beings (or at least parts of them!). Khmer /**k-/** refers to other animate beings, and Thai has a long list of /**ka- kra-**/ animal names as well. Jenner also shows that /**k-/** designates substances. The Thai evidence again corroborates this. The relationship of the other Thai categories, e.g. **VESSELS/CONTAINERS**, to these has been explored already. Thus it would seem that the only area for which Thai has a plethora of /**ka- kra-**/ words where Khmer does not is the area of plant names and metaphorical or metonymic extensions from plant names. Using /**ka- kra-**/ derivatives for plants may thus be a Thai innovation. Such an innovation makes sense, however, since just as animals are phenomena of nature, so are plants.

7.0. OTHER TOKENS

Despite the extensiveness of our radial category, many /**ka- kra-**/ words remain that do not fit into it. On the other hand, it looks as though many of the other data pattern with prefixed words containing the Khmer prefix /**k-/**. /**k-/** is characterized by the property of "generalized intensification" of its derivatives.¹² Varasarin states: "Les procédés plus couramment utilisés par le siamois sont la préfixation et le redoublement donnant des dérivés à valeur intensive" (1984:267). The following Thai words are considered to be examples of /**k-/** prefixation:¹³

- | | |
|--------------------------|-------------------------------------|
| 145. kabì | chunk, lump (of anything) |
| 146. karûṇkarîṇ | to be ragged; in tatters; in shreds |
| 147. karîakkarâat | to be scattered; strewn about |
| 148. kaṇṇōṇkaṇṇēṇ | limp |

¹² See the discussion of /**k-/** above for more details.

¹³ It should, however, be noted that there are many Thai derivatives which I have not been able to classify neatly. Further investigation is required.

149.	kaŋʔɔnkaŋɛ̃n	infirm
150.	kaŋawkaŋʔɔt	peevish
151.	katáak	(hen) cackle; inform against, betray
152.	katɛ̃ɛw	(cry, complain) repeatedly, incessantly
153.	katoonkateɛŋ	swinging
154.	kathanhǎn	sudden; abrupt
155.	kabʔɔnkaɓɛ̃n	irregular; incomplete; scrappy
156.	kabyŋkabʔɔn	tantrum; querulous; peevish
157.	kaprìpkaprɔ̃j	dribbling; trickling
158.	kaplòkkapliaw	feeble; weak; decrepit
159.	kaphrûatkaphrâat	rush
160.	kaphrʔɔŋkaphrêɛŋ	incomplete; scrappy; incoherent
161.	kaphríp	wink; blink
162.	kaphrûutkaphrâat	rushing
163.	kamɔ̃ɔmkamɛ̃m	dirty
164.	karýykarâa	awkward
165.	karðokkaree	tumbledown
166.	kalímkaɭaw	act covetously; leer with desire
167.	karðɔŋ	emaciated; lean; thin
168.	krachán	close; near; soon
169.	kracháp	close-fitting; tight; snug
170.	krachâak	pull sharply; jerk
171.	krachòok	to shout; bawl
172.	krasík	giggle
173.	krasíp	whisper
174.	krasáaw	banter; tease; wheedle
175.	krasyyŋ	uncombed; disheveled; tousled
176.	kradòk	tip; tilt; move up and down
177.	kradʔɔn	spring; bounce; rebound
178.	kradâaŋ	harsh; stiff; rough; coarse
179.	kradìk	move; wag
180.	kradìŋ	small bell
181.	kradyŋ	cow bells; small temple bells
182.	kraden	spurt; shoot; fly
183.	kradâaaw	move up and down; move to and fro
184.	kradýt	to tip
185.	kradìat	carry on hip like Thai women
186.	kratàk	cackle; gaggle
187.	kratùk	pull; jerk
188.	krathə̃əp	move; budge
189.	krathʔɔn	rebound
190.	krathə̃əp	to crush (with foot); stamp; tread
191.	krathûŋ	knock; tamp; pound
192.	krathêe	leaning to one side
193.	krathyan	shake
194.	kratɛ̃ɛk	bang; bump; crash
195.	krabì	layer; flake; scale; chip; chunk; piece
196.	kraphríp	blink
197.	kraphúnŋ	bulge; bag; to bulge (same as #120)
198.	krasǎaj	ailment
199.	krasǎn	yearn

200. kranòk	alarmed
201. kranàam	to pound repeatedly
202. krawàt	to flick
203. krahým	humming; purring
204. krakrêən	spreading far and wide
205. krakriaw	boisterous; tempestuous
206. krakriaw	grinding; grating (ancient poetic form)

In the above words we see many examples of the “valeur intensive” discussed by Varasarin. We note concentration of form or range of action, for example, in a word like **kraden** ‘shoot; spurt; fly’, a specialized type of action. The word **krathêe** ‘leaning to one side’ is an example of a distinction of form or feature. Jenner and Pou also cite negative derivatives resulting from the prefixation of /k-/; **kamwɔmkamɛɛm** ‘dirty’ would be an example of this. **kabɔɔnkabɛɛn**, meaning ‘irregular; incomplete; scrappy’, is only one example of the attribute of pejoration or qualitative inferiority that also falls under the larger heading of “generalized intensification”.

It would appear, then, that Thai has borrowed the morphological process of prefixation from Khmer and more or less retained the characteristics of these prefixes. Yet there is more to notice about the expressions in which these prefixes appear in Thai. For the most part, the derivative words consist of two syllables. There are, however, some which consist of three or four syllables. These terms fall into the category which Mary Haas (1964) and others refer to as “elaborate expressions.”

According to Haas, an elaborate expression in Thai is generally composed of four syllables. She says the expressions are often based on compounds and that they are

expanded by repeating a part of the compound and adding a new part, by inserting a syllable for the sake of rhyme, or by inserting a syllable which has some vague semantic relationship to one of the original parts. (1964:xvii)

Elaborate expressions are mostly colloquial. In the case of four-syllable expressions, either the first and third, or the second and fourth, syllables are usually identical.

My reason for discussing elaborate expressions here is that many of them contain /ka- kra-/. The prefixes serve as the first and third syllables of a four-syllable elaborate expression, and frequently the even-numbered syllables will also begin with the same initial segment. This always seems to be the case when the second and fourth syllables begin with a consonant. When the second

syllable starts with a vowel, the fourth also begins with a vowel. However, it is not necessarily the same initial vowel as in the second syllable.

In an elaborate expression, phonological bulking, which was mentioned earlier, results. This leads not only to an increase in the number of syllables but also in certain pragmatic effects. For example, the “intensification” that the prefixes convey is often desirable in an elaborate expression. A four-syllable expression is particularly salient in a language largely composed of monosyllables. Besides this, using elaborate expressions makes the speaker’s language more interesting and colorful for the listener. The elaborate expressions included above are re-listed here for consideration.

207.	karûṅkarîṅ	to be ragged; in tatters; in shreds
208.	kariakkarâat	to be scattered; strewn about
209.	kaṇṇōṅkaṇṇēṅ	limp
210.	kaṇṇōṅkaṇṇēṅ	infirm
211.	kaṇawkaṇṇōṅ	peevish
212.	katoṅkateṅ	swinging
213.	kabōṅkabēṅ	irregular; incomplete; scrappy
214.	kabyṅkabōṅ	tantrum; querulous; peevish
215.	kapriṭkaprōṅ	dribbling; trickling
216.	kaplōṅkaplîaw	feeble; weak; decrepit
217.	kaphrûatkaphrâat	rush
218.	kaphrōṅkaphrēṅ	incomplete; scrappy; incoherent
219.	kaphrûatkaphrâat	rushing
220.	kamōṅkameṅ	dirty
221.	karîykarâa	awkward
222.	karōṅkkaree	tumbledown
223.	kalîmkalîaw	act covetously; leer with desire
224.	krakràṅkrakriap	rough; tough; hard
225.	kraṅókkrāṅ	awkward; clumsy; uncouth
226.	kraṇṇōṅkraṇṇēṅ	loose; infirm; shaky (see #210)

Varasarin claims that the /ka- kra-/ prefixes could be added to any phonological type of wordbase regardless of euphony in Thai (as opposed to the situation in Khmer, where certain euphonic rules are observed). Based on the elaborate expressions above, I feel that at times euphony does play a role. Specifically, an expression which must be of three or four syllables is achieved, and a rhyme within the expression is usually created by using velar prefixes in every other syllable. In these instances, the other syllables must also start with the same initial consonant or both start with a vowel. Meanwhile, the characteristic “intensive value” of the /ka- kra-/ prefixes is ever present in the elaborate expressions.

Thus I have shown that the /ka- kra-/ words which do not fit into the radial category described above could be related to the meaning of different

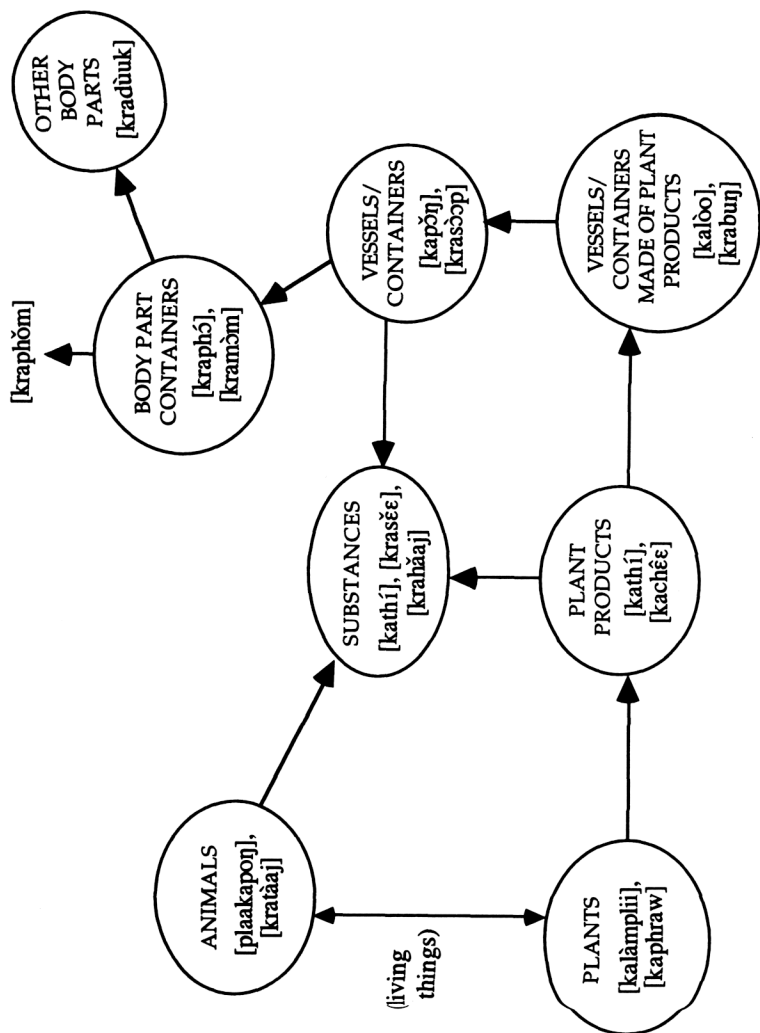
Khmer prefixes, specifically /**k-**/ "generalized intensification". Any remaining words may not in fact be borrowings from Khmer or derived according to the Khmer process of derivation but rather borrowings from other languages, such as Pali, Sanskrit, or Tamil. It was further shown that Thai uses the prefixes /**ka- kra-**/ in multisyllabic elaborate expressions. These expressions convey the "generalized intensification" of the other /**ka- kra-**/ derivatives, but they also carry with them pragmatic intensification by virtue of the fact that they are prominent multisyllabic words in an otherwise (mostly) monosyllabic language. Finally, it would seem that, contrary to Varasarin's claim about the nonobservance of euphonic rules in the creation of prefixed words in Thai, such rules are sometimes observed in the coining of elaborate expressions.

8.0. CONCLUSION

In conclusion, I hope to have shown that the velar prefixes /**ka-**/ and /**kra-**/ function in Thai in ways clearly related to their uses in Khmer, the language from which they were borrowed. In fact, it is not just the prefixes or particular derivatives containing the prefixes that have been adopted from Khmer, but the entire morphological process of prefixation. I have demonstrated that Thai has a radial category of /**ka- kra-**/ derivatives, which has been borrowed from Khmer and expanded upon in Thai. The morphological category is comprised of several semantic fields related through metonymy, through likeness of form or function of the objects designated, or through categorial extension. There seems to be some overlap between the fields, i.e., words that could fit into more than one semantic field of the radial category. This is certainly one of the ways the category was extended to include semantic fields that are further away in meaning from the central cases.

The notion of radial categories has challenged the classical notion of categories. The classical category is clearly defined with set boundaries. This paper should serve as strong evidence for the existence of radial categories in the minds of speakers of natural languages. The borrowing of the Khmer process of derivation into Thai along with the radial category outlined by these prefixes is thus far the only instance of the borrowing of a radial category of which I am aware. However, the plenitude of examples of Thai /**ka- kra-**/ prefixed words, their demonstrable relationship(s) to each other, and Thai innovations of semantically related prefixed words should serve as clear evidence in favor of the cognitive reality of radial categories and the cognitive links that form them.

APPENDIX A
RADIAL CATEGORY OF SEMANTIC FIELDS
of /ka-/² and /kra-/² derivatives



APPENDIX B

PHONEMES OF KHMER

Consonants

		<i>Bilabial</i>	<i>Dental</i>	<i>Palatal</i>	<i>Velar</i>	<i>Glottal</i>
Stops	<i>Vd. Unasp.</i>	b	d			
	<i>VI. Unasp.</i>	p	t	c	k	ʔ
	<i>VI. Asp.</i>	ph	th	ch	kh	
Fricatives	<i>Voiceless</i>		s			h
Sonorants	<i>Semivowels</i>	w		j		
	<i>Nasals</i>	m	n	ɲ	ŋ	
	<i>Lateral</i>		l			
	<i>Flap</i>		r			

Vowels and Diphthongs

	<i>Front</i>	<i>Central</i>	<i>Back</i>
	<i>Unrounded</i>		<i>Rounded</i>
High	i, ii, iə	ɿ, ʈʈ, ʈə	u, uu, uo
Mid	e, ee, é, ei	ə, əə, əʈ	o, óo, ó, oa
Low	ɛɛ	a, aa, aə, aɛ, ao	ɔ, ɔɔ

APPENDIX C

PHONEMES AND INITIAL CONSONANT CLUSTERS OF THAI

Consonants

		<i>Bilabial</i>	<i>Dental</i>	<i>Palatal</i>	<i>Velar</i>	<i>Glottal</i>
Stops	<i>Vd. Imploded</i>	b	d			
	<i>VI. Unasp.</i>	p	t	c	k	ʔ
	<i>VI. Asp.</i>	ph	th	ch	kh	
Spirants	<i>Voiceless</i>	f	s			h
Sonorants	<i>Semivowels</i>	w		j		
	<i>Nasals</i>	m	n		ŋ	
	<i>Lateral</i>		l			
	<i>Trill</i>		r			

*Vowels and Diphthongs*¹⁴

	<i>Front</i>	<i>Central</i>	<i>Back</i>
	<i>Unrounded</i>		<i>Rounded</i>
High	i, ii, ia	y, yy, ya	u, uu, ua
Mid	e, ee	ə, əə	o, oo
Low	ɛ, ɛɛ	a, aa	ɔ, ɔɔ

Consonant Clusters

All of the stops shown in the preceding consonant phoneme chart (except for glottal stop) may occur in initial position, followed by one of the approximants /l, r, w/.

	<i>p</i>	<i>t</i>	<i>k</i>	<i>ph</i>	<i>th</i>	<i>kh</i>
w			kw			khw
l	pl		kl	phl		khl
r	pr	tr	kr	phr	thr	chr

¹⁴ The overall similarity of the Thai vowel system to that of Khmer should be noted.

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