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

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1.0. INTRODUCTION

It has been noted (Varasarain 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 Varasarain 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, Varasarain 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 (Varasaraw 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. Varasaraw confirms that “[s]i leur racine est thaie, 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

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.
nouns denoting other animate beings;\(^2\) sometimes these are derived from verbs (e.g., -\text{túuaj} ‘to stand out/up’ > \text{kтуuaj} ‘small greyscorpion’), but often animal names begin with prefixal \text{k}- even if there is no obvious verb from which they derive (e.g., \text{k̥n̥a} ‘species of ibis’; \text{k̥qaap} ‘centipede’; and \text{kbaak} ‘a type of fish’ (ibid.:xli-xlii);

(3) nouns denoting substances, e.g., -\text{tih} ‘to exude’ > \text{ktih} ‘coconut milk’;

(4) nouns designating instrumentality, locus, or object of wordbase, e.g., -\text{diiŋ} ‘to pound (rice) in a mortar’ > \text{kdiiŋ} ‘large mortar’ (see below, VESSELS/CONTAINERS);

(5) verbs involving transitivity or implying the use of an instrumentality, e.g., \text{wáj} ‘to turn’ > \text{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., \text{jnooc} ‘to draw back’ > \text{kjnooc} ‘to flinch, wince’; \text{cap} ‘to fold’ > \text{kcap} ‘to wrap, pack’;

(2) distinction of form or feature, e.g., \text{wil} ‘to turn’ > \text{kwəl} ‘to turn rapidly, whirl’; \text{riap} ‘to be flat’ > \text{kraap} ‘to prostrate oneself’;

(3) something negative or indicating pejoration or qualitative inferiority, e.g., \text{weak} ‘to be blocked’ > \text{kwak} ‘to be blind’; or \text{diiap} ‘to be of small stature’ > \text{kdiiap} ‘to be runty, stunted’ (ibid.:xxxix)

Finally, Jenner and Pou mention the “complex prefixes” /krə-/ ~ /kra-/ (the latter phonetically [kɾə]), 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-rong ‘wildcat’, etc.
(1) rapid, usually light, repetitive movement, e.g., sat ‘to clean, comb, curry’ > ssat ‘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., -muuër ‘to be round’ > -mmuuër ‘to be all round, roly-poly’;
(4) light repetitive movement leading to spatial distance, e.g., craah ‘to select with care’ > ccraah ‘to move here and there while picking’;
(5) repetitive movement suggesting habitual or characteristic action, e.g., loop ‘to move stealthily’ > llooop ‘to be sneaky, constantly spying’;
(6) any light or sudden (but not necessarily repetitive) movement, e.g., trom ‘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 ~ prpuun ‘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 /kra-/ ~ /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:

<table>
<thead>
<tr>
<th>Tone</th>
<th>Representation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mid</td>
<td>a (no diacritic)</td>
</tr>
<tr>
<td>High</td>
<td>á</td>
</tr>
<tr>
<td>Low</td>
<td>à</td>
</tr>
<tr>
<td>Rising</td>
<td>ã</td>
</tr>
<tr>
<td>Falling</td>
<td>â</td>
</tr>
</tbody>
</table>

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
• Plants
• Substances
• 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.

• ANIMALS

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 meen- ‘insect’, plaa- ‘fish’, and hsoj- ‘shell’. Where these appear, I have used a dash to indicate a morpheme boundary.

1. meen-k(r)atēe a small insect emitting a bad odor when crushed
2. plaa-kaphon kind of bass (popular food fish)
3. hsoj-kaphon general name for a sea mussel
4. meen-kaphrun jellyfish
5. plaa-karaŋ grouper (saltwater fish)
6. plaa-kraasūp Hampala macrolepidota (freshwater fish)
7. krajɔk sparrow
8. k(r)athaα quail; partridge
9. kraçəap baya or weaver bird
10. kraçip small warblers; titmice; wrens
11. krathuŋ pelican
12. k(r)asåa grey or common heron
13. kraçɔn squirrel
14. kratåaj rabbit; hare
15. kratɛe chipmunk
16. krabîi monkey (also: sword)
17. krabyy water buffalo
18. krabèen skate; ray (fish)
19. kraɔŋ 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)acoŋ  mouse-deer; chevrotain
22. k(r)aŋ̄ok  peacock (poetic)
23. krachcoon  beetle; mole cricket
24. krasūu  Asiatic two-horned rhinoceros
25. krædlï  species of freshwater fish
26. k(r)atâajtiwït  plover
27. k(r)atràap  freshwater fish (Pristolepis fasciata)
28. k(r)atûa  cockatoo
29. kratîd  Indian pipit
30. kratûn  bamboo rat; mole
31. kratûm  adjutant bird
32. k(r)atên  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. katôoŋhôoŋ  cry of a peacock
34. krajâappïi  musical instrument shaped like a tortoise
35. kradoong  shell of a crab or tortoise
36. kradoonŋ  dorsal fin of a fish
37. kralaa  shell
38. k(r)ateenŋ  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 krajâappïi 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. kalàamplii  cauliflower
40. kalàamdòok  cabbage
41. kathyỳ  ginger-type plant
42. kapraw  basil
43. karâŋ  coral
44. kalaa  costus root
45. kalapaŋhâa  coralline
46. kracâp  water chestnut
47. kracûut  bulrush
48. kracaaw  jute plant

4 Cf. also PLANT PARTS and VESSELS/CONTAINERS MADE OF PLANTS.
49. **kraciap**  
roselle

50. **kracê**  
ochna

51. **krachèêt**  
galingale

52. **kraśāa**  
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. **krathom**  
robust, semi-climbing or spreading shrub

59. **krathôn**  
lemon grass

60. **krathokrok**  
santol; wild mangosteen

61. **krachaaaj**  
galingale

62. **kradaŋŋataj**  
ylang-ylang

63. **krathin**  
lead tree

64. **kraciī**  
genus of loganiaceous tropical trees

65. k(r)acfaŋ  
dendrobium orchid

66. **kraciaw**  
*Curcuma domestica*; turmeric curcuma

67. **krachɔêt**  
watercress eaten as salad

68. **krachōom**  
fragrant vegetable, used medicinally

69. **krachâp**  
cockle-burr

70. k(r)adɔom  
climbing plant

71. k(r)adåat  
tuberous herbaceous, perennial plant

72. **kradʒøcháŋ**  
species of climber

73. **kradʒøphráraam**  
species of flycatcher

74. **kradoom**  
Patana oak

75. k(r)atæŋ(r)atfaw  
woody climbers yielding rubber

76. **kalōön**  
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

79. **kalâapâa**  
variety of rose apple (also: the name of an ancient Indonesian city)

80. **kathi**  
coconut cream

81. **kataŋ**  
birdlime, gum; sticky like gum

82. **kalbɔçiści**  
boiled rice flour

83. **kraphîi**  
inner layer of bark

84. **krabbɔok**  
section of bamboo stem

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5 Cf. also PLANTS and VESSELS/CONTAINERS MADE OF PLANTS.
85. **krach"it** sauce made of grated coconut and sugar
86. **kraśum** 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
88. **kalōok** hard shell of coconut used as a cup
89. **kalōo** large, flat, round tray of bamboo coated to make it waterproof
90. **kracāa** special spoon of coconut shell with wood handle
91. **kracāat** basket
92. **krachaña** floating basket
93. **krachú** large bamboo basket
94. **krachē∅** bamboo basket
95. **krachāaw** basket with handle for fruits and vegetables
96. **kradaŋ** winnowing basket
97. **krathoŋ** vessel made of banana leaves (also: young)
98. **krathaaj** basket
99. **krabaa∅** small basket
100. **krabuŋ** woven bamboo basket
101. **kracīu** bottle-shaped eel-trap made of woven bamboo strips
102. **krachoon** sieve made of fine bamboo strands (for straining grated coconut)
103. **kradōŋ** wide, flat, shallow basket for winnowing rice

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6  Cf. also PLANTS and PLANT PARTS.
7  Cf. also BODY PARTS.
104. kratrōph 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-/^2 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.

**VEASELS/CONTAINERS**

106. kalamāɲ enameled bowl or basin
107. kathá frying pan
108. kabya mortar
109. krachōṇ strainer; colander; lawn sieve
110. krađyāɲ stamp mill, mortar; pestle^8
111. kratik water canteen; flask
112. krathāɲ flowerpot
113. krahōn spittoon
114. krabuuj dipper (spoon)
115. krabà tray
116. krapōɲ can; tin; canister
117. kraput earthen pot; fat (pot-like)
118. krasöp bag; sack; gunnysack
119. krapō protuberance, bulb
120. krafhuŋ bulge; bag; to bulge
121. krasîñthū river; stream
122. kracip smallest-sized cup for drinking or sipping
123. kracūp cup, bottle, or tin used as a lamp

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^8 Note that this is the same word as the Khmer example kdiāɲ given earlier. However, unprefixec *dyāɲ 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 krasdɔ̄p and kraphūn (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. kalɔ̄ok  
   skull⁹ (alternative word: hūa for 'head')
125. kahāam  
   testicle (colloquial; the learned word is ankhá)
126. krabsɛmmy  
   palm of the hand
127. krapɔ̄ok  
   scrotum; testicles (also thūn̥ ankhá)
128. kraphɔ̄  
   bladder; stomach; bowels (another word is thɔ̄ŋ)

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. kraɗuuk  
   bone
131. kraɗyak  
   Adam's apple; swallow hard with difficulty
132. kraɓaan  
   pate
133. kramɔm  
   crown of the head; also 1st person pronoun
134. k(r)adɔ̄  
   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

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⁹ Cf. also VESSELS/CONTAINERS MADE OF PLANTS.
¹₀ I thank John McWhorter and Eve Sweetser for calling my attention to these examples.
is, ?eeew means ‘waist’ and diuk 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. Varasarain (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 thaïs sont caractérisés par la limitation du nombre de pieds pour chaque vers. Il est donc permis de penser que les poètes thaïs 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 disyllabe sans pour autant changer de sens. (p. 266)  

In fact, according to So Sethaputra’s *New Model Thai-English Dictionary* (1967/1978), ka?eeew 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 kramɔ̄m, 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 kramɔ̄m 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-/² derivatives referring to human beings of high status were common in Old Khmer”, for example kpoŋ, a dignity higher than that of poŋ ‘elder’; or kloŋ, a dignity higher than that of loŋ ‘chief’ (p. xl). In Thai, mɔ̄m is the title of the wife of a prince, and the word also appears as a part of other royal titles, e.g., mɔ̄m caw (child of a prince), mɔ̄m rachawon (grandchild of a prince), mɔ̄m luəŋ (great grandchild of a prince). The first person pronoun kramɔ̄m should be used to refer to oneself when addressing royalty. In addition, there is a first person (male) pronoun–kraphɔ̄m–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 disyllable while remaining unchanged in meaning.” (translation mine)
company. By itself, phōm 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/-² 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. kachēe — liquor made from the sap of a palm (same as #77)
136. kathī — coconut cream (repeated from above)
137. kaprīpkaprcōj — dribbling, trickling
138. kracōk — to spill, splash
139. krāsen — (of water) splash, spray, spill; be splashed
140. kraithūm — to splash
141. krāsāaj — solvent; diluent
142. krāsēe — current, stream, tide, flow
143. krahāaj — to thirst for
144. krachīlit — 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-/² 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-/² derivatives designate human beings (or at least parts of them!). Khmer /k-/² refers to other animate beings, and Thai has a long list of /ka- kra-/ animal names as well. Jenner also shows that /k-/² 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-/¹. /k-/¹ is characterized by the property of “generalized intensification” of its derivatives. 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-/¹ prefixation:

145. kabì chunk, lump (of anything)
146. karùŋkarìŋ to be ragged; in tatters; in shreds
147. karìakkaràat to be scattered; strewn about
148. kaŋŋòŋkaŋèŋ limp

12 See the discussion of /k-/¹ 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. kaŋcbaŋkaŋbēn infirm
150. kaŋawaŋkaŋbōt peeish
151. katāāk (hen) cackle; inform against, betray
152. katēew (cry, complain) repeatedly, incessantly
153. katoŋkęakęeŋ swinging
154. kathanhān sudden; abrupt
155. kabsōŋkabēn irregular; incomplete; scrappy
156. kabyŋkabōon tantrum; querulous; peeish
157. kapripkapičôj dribbling; trickling
158. kapliokkapliaw feeble; weak; decrepit
159. kaphrautkaphrāat rush
160. kaphrōŋkaphrēęŋ incomplete; scrappy; incoherent
161. kaphrip wink; blink
162. kaphrōutkaphrāat rushing
163. kamoomkameęem dirty
164. karīýykarāa awkward
165. karōōokkaree tumbledown
166. kalimkalaw act covetously; leer with desire
167. karōōŋ emaciated; lean; thin
168. krachān close; near; soon
169. krachāp close-fitting; tight; snug
170. krachāak pull sharply; jerk
171. krachōoök to shout; bawl
172. krasīk giggle
173. krasīp whisper
174. krasāaw banter; tease; wheedle
175. krasyyŋ uncombed; disheveled; tousled
176. kradoōk tip; tilt; move up and down
177. kradoōn spring; bounce; rebound
178. kradańŋ harsh; stiff; rough; coarse
179. kradīk move; wag
180. kradiŋ small bell
181. kradyŋ cow bells; small temple bells
182. kraden spurt; shoot; fly
183. kradaaw move up and down; move to and fro
184. krady特 to tip
185. kradiat carry on hip like Thai women
186. kratāk cackle; gaggle
187. kratūk pull; jerk
188. krathēap move; budge
189. krathōōn rebound
190. krathēap to crush (with foot); stamp; tread
191. krathūŋ knock; tamp; pound
192. krathēe leaning to one side
193. krathyān shake
194. kratēek bang; bump; crash
195. krabī layer; flake; scale; chip; chunk; piece
196. kaphrip blink
197. kraphūŋ bulge; bag; to bulge (same as #120)
198. krasāaj ailment
199. krasān yearn
200. kranòk alarmed
201. kranàam to pound repeatedly
202. krawàt to flick
203. krahým humming; purring
204. krakròan spreading far and wide
205. krakriàw boisterous; tempestuous
206. krakriàw 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 krathèe ‘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-/. kamɔɔmkameem ‘dirty’ would be an example of this. kabɔɔnkabèen, 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. karûŋkarîŋ to be ragged; in tatters; in shreds
208. karâkkâraat to be scattered; strewn about
209. kaŋjûŋkâŋjêŋ limp
210. kaŋjûŋkâŋjêŋ infirm
211. kaŋjawkâŋjût peevish
212. katoŋkâkateeq swinging
213. kâbûŋkâbêŋ irregular; incomplete; scrappy
214. kâbyûŋkâbêŋ tantrum; querulous; peevish
215. kapîŋkaprîŋj dribbling; trickling
216. kapîŋkapplaw feeble; weak; decrepit
217. kaphûŋtakaphráat rush
218. kaphûŋkâŋkaphêŋ incomplete; scrappy; incoherent
219. kaphûŋtakaphráat rushing
220. kâmuŋkamêem dirty
221. karîŋkarâa awkward
222. karûŋkkaree tumbledown
223. kâlfmkâliaw act covetously; leer with desire
224. krâkâŋkrâkriap rough; tough; hard
225. krâŋkâŋkâraŋ awkward; clumsy; uncouth
226. krâŋjûŋkâraŋjêŋ 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-/* and /kra-/* derivatives

ANIMALS
[plaakapon],
[kratāaj]

(living things)

PLANTS
[kalāmplii],
[kaphraw]

SUBSTANCES
[kathí], [krašē],
[kraň[aaj]

PLANT PRODUCTS
[kathí],
[kachēe]

VESELS/
CONTAINERS
[kapōn],
[krašōp]

VESELS/
CONTAINERS
MADE OF PLANT
PRODUCTS
[kalōo],
[krabuŋ]

BODY PART
CONTAINERS
[kraphō],
[kramōm]

[kradûuk]

OTHER
BODY PARTS
[kraphōm]
APPENDIX B
PHONEMES OF KHMER

Consonants

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<th>Glottal</th>
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Vowels and Diphthongs

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APPENDIX C

PHONEMES AND INITIAL CONSONANT CLUSTERS OF THAI

Consonants

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Vowels and Diphthongs

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<td>y, yy, ya</td>
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<tr>
<td>Mid</td>
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</tr>
<tr>
<td>Low</td>
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<td>a, aa</td>
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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/.

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</table>

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


