6.1 Previous Studies

As stated in the number nouns chapter (chapter 9), Modern Khmer numbers and classifiers are constituents of noun phrases that normally appear together.

For Maspero (1915:294), ‘les déterminatifs spécifiques’ are used for enumerating things, people, animals and time. They are placed immediately after the number.

Jacob (1968:83-90) called classifier nouns ‘numeral coefficients’, and they occur in close junction immediately after the ‘numeral’ (e.g., neok (for human reference), thnaj (for day), daaom (trunk of a tree), peep (for cup of measurement)).

Ehrman (1972:17-18) said the classifier class in Khmer is used for indicating units of time, for measuring things and for other non-measuring words.

Huffman (1967) said that classifiers in Modern Khmer belong to the noun class.

Headley (1977: xviii) set up a ‘classifier class’ for words that occur in the context of noun + numeral + classifier.

All of the previous analyses agree on the distribution of the classifiers: they must cooccur with number nouns.
Based on the requirements of the lexicase dependency grammar, my first goal is to determine the syntactic word class of classifier words. The second goal is to show the syntactic dependency relationships between classifiers and other words in the same NP constructions, particularly with number nouns.

6.2 What Word Class do Classifier Words Belong to?

In Old Khmer, classifiers are nouns, as demonstrated by Sak-Humphry (1992:200). In Modern Khmer, I propose to analyze this group of words as nouns due to their syntactic distributions as demonstrated in the following section. This analysis would be consistent with the characterization of Khmer as a right-branching language.

6.2.1 Classifiers Function as the Predicate Dependents of the Anaphoric Noun qaa

Let us examine these sentences:

1. lôô₁ néh lqaa nah
   lot this good very
   ‘This lot is very nice.’

1a. qaa lôô₁ or lôô₂ néh lqaa nah
    the one lot or twelve this good very
    ‘This lot is very nice.’ or ‘These twelve are good.’
In example 1, the nominative noun *lòò₁* [+Nom, -clsf] is the regent of the LOC pronoun *néh*. It has the meaning of ‘lot’ or plot of land (loan word from French).

Example 1a can have two interpretations. The dependent of the anaphoric noun *qaa* could be *lòò₁* [-clsf] (*lòò₁* as a ordinary noun meaning ‘lot’ or plot of land (loan
word from French)), or \( \text{lơơ}_2 [+\text{clsf}] \) (\( \text{lơơ}_2 \) as a classifier noun which means six pairs or 12
or one dozen (referring to something that can be counted). Its interpretation depends
upon the context.

Comparing examples 1 and 1a, we can conclude that the classifier word \( \text{lơơ}_2 [+\text{clsf}] \)
cannot occupy the subject slot and function as the Nom-PAT of the verb \( \text{lgaa} \).
Only the ordinary or common noun \( \text{lơơ}_1 [-\text{clsf}] \) can function as the Nom-PAT of the verb
\( \text{lgaa} \); thus it is the head noun of a free NP. I conclude from this that \( \text{lơơ}_2 \) is lexically
marked \([+\text{clsf}, +\text{prdc}]\).

2. \( \text{kʰñom} \ \text{luk} \ \text{snỳt}_1 \ \text{nóh} \ \text{haaəj} \)
I sell comb that already
‘I sold that fine-toothed comb already.’

2a. \( \text{kʰñom} \ \text{luk} \ \text{qaa} \ \text{snỳt}_1 \ \text{or} \ \text{snỳt}_2 \ \text{nóh} \ \text{haaəj} \)
I sell the one comb clsf that already
‘I sold the fine-toothed comb already.’ or ‘I sold that bunch already.’

In example 2, the word \( \text{snỳt}_1 [-\text{clsf}] \) functions as the Acc-PAT of the verb \( \text{luk} \). In
turn, \( \text{snỳt}_1 \) is the regent of the LOC locational demonstrative pronoun \( \text{nóh} \).

In example 2a, the dependent of the anaphoric noun could be (1) \( \text{snỳt}_1 [-\text{clsf}] \) (as
an ordinary noun meaning ‘very fine-toothed comb’), or (2) \( \text{snỳt}_2 [+\text{clsf}] \) (as a classifier
meaning ‘bunch of bananas’), and thus, the interpretation is based up on the context. By
comparing these two examples, we can hypothesize that \( \text{snỳt}_1 [-\text{clsf}] \) is an ordinary noun
and the \( \text{snỳt}_2 [+\text{clsf}] \) is lexically a predicate \([+\text{prdc}]\) noun because it cannot occupy the
object slot.
Although they are presumably derivationally related--that is, although these two pairs of words $lôôô_i [-\text{clsf}]$ and $lôôô_i [+\text{clsf}, +\text{prdc}]$, or $snûyô_t_i [-\text{clsf}]$ and $snûyô_t_i [+\text{clsf}, +\text{prdc}]$, are identical in form--they differ consistently in meaning and distribution.

As analyzed in chapter 4, the anaphoric noun $qaa$ can have verbs and nouns as its dependents. Consequently, based on these examples, we can claim that the classifier word $lôôô_i [+\text{clsf}]$ or $snûyô_t_i [+\text{clsf}]$ is a noun because only a noun (beside the verb) can be the dependent of the anaphoric noun $qaa$. Of course, it is etymologically related to $snûyô_t_i$, which is an ordinary free noun and may also function as a dependent of $qaa$.

3. $qaa$ $lôôô_i$ $tum$ $nêh$ $phqaaem$ $nah$
   the one lot or twelve this good very
   ‘These twelve which are ripe, are very sweet.’

3a. $qaa$ $snûyô_t_i$ $tum$ $nôh$ $kûô$ $tîh$ $hahaôj$
   the one bunch ripe there they buy already
   ‘That one bunch which is ripe, they bought it already.’

In example 3, the noun $lôôô_i$ functions as the dependent of the anaphoric noun $qaa$ and has the predicate relative verb $tum$ and the LOC $nôh$ as its co-dependents. From this context, it is clear that the noun $lôôô_i [+\text{clsf}, +\text{prdc}]$ is the classifier noun, because only a dozen of some kind of fruit or something can be sweet, and not the ordinary noun $lôôô_i [-\text{clsf}]$ (a lot of land). Thus, the classifier noun $lôôô_i$ bears the predicate feature required by its regent, the anaphoric noun $qaa$. 
In this stemma (example 3a), the k noun $snýt₂ [-dfnt, +clsf]$ functions as the dependent of the anaphoric noun $qaa$ and has the predicate relative verb $tum$ and the LOC $nóh$ as its co-dependents. From this context, it is clear that the predicate noun $snýt [+prdc]$ is the classifier noun $snýt₂ [+dfnt, +clsf, +prdc]$ because only a bunch of banana can get ripe, and not the ordinary noun $snýt₁ [-clsf]$, ‘fine-toothed comb’.

Thus, in summary we can state that classifier words belong to the noun class, because they can function as the predicate dependent of the anaphoric noun $qaa$, and have etymologically related words which are ordinary free nouns.

### 6.2.2 Classifiers Function as Predicate Dependents of Number Nouns

<table>
<thead>
<tr>
<th>múuaj</th>
<th>$snýt₂$</th>
<th>kheɔdjoj</th>
</tr>
</thead>
<tbody>
<tr>
<td>one</td>
<td>bunch</td>
<td>green</td>
</tr>
</tbody>
</table>

‘One bunch (of fruit) is green.’

---

1The classifier noun $snýt₂ [+clsf]$ cannot function as COR dependent of $qaa$ because the two nouns do not refer to two separated entities; and it cannot function as LOC because it is not a locational noun.
By comparing this set of examples 4, 4a and 4b, we can claim that the non-definite classifier word \textit{snỳt}_2 must cooccur with the number word \textit{muuəj}, that both words \textit{muuəj snỳt}_2 form a constituent, and that the classifier word \textit{snỳt}_2 must be the dependent of number noun \textit{muuəj}. The same analysis is applied to examples 5, 5a and 5b.

5. \textit{pram sanlyk}_2 naa\textsubscript{1} dac five sheet where tear ‘Which five sheets are torn?’

5a. \textit{pram naa}_1 dac five where tear ‘Which of those five are torn?’
In examples 4 and 5, the number nouns *múoaj* and *pram* function as the Nom-PAT of the intransitive verbs *khcəəj* and *dac*, and can have the non-definite words *snỳtr₂* and *sanljək₂* as their dependents. The reason that they are the dependents rather than the regents of the number nouns *múoaj* and *pram* is because they cannot appear as free nouns themselves and cannot function as the Nom-PAT of those verbs (see examples 4b and 5b), and also because this analysis is consistent with the strongly right-branching structure of Khmer syntax. Technically, as dependents of nouns, the words *snỳtr₂* and
sanlŷk₂ could be determiners, adjectives or nouns. As justified and stated in my papers,² Khmer could not otherwise have determiners and adjectives as word classes; thus, it leaves noun class as the last possible solution. This is not an arbitrary proposal, because, as shown in examples 1a and 2a, these words have (1) homophonous and etymologically related forms which are free nouns (more examples of homophones of classifier nouns are discussed in the following section), and (2) they are nouns because they are the dependents of the anaphoric noun qaa, and have a predicate function in relation to its regent. In lexicase, only nouns, verbs and prepositions can bear the predicate syntactic feature, and the word qaa occurs otherwise only with N or V dependents.

As a subclass of nouns, these classifier nouns could bear one of the following three syntactic functions to a regent noun: Correspondent (COR), locus (LOC) or predicate ([+prdc]). The classifiers snỳ₂t₂ and sanlŷk₂ cannot function as the COR to its regent number nouns muuaj and pram because: both the words snỳ₂t₂ and muuaj, or sanlŷk₂ and pram, are not perceived as entities which are distinct from their regent. In addition, a paraphrasing with the predicate indirect possessive noun rbah₂ is unacceptable (as in *muuaj rbah₂ snỳt néh khcơaj, or *pram rbah₂ sanlŷk nóh dac). This test supports the claim that snỳ₂t₂ and sanlŷk₂ cannot bear the (COR) case relation.

²Details of the discussion that Khmer has no determiners and adjectives can be found in my papers on ‘The Analysis of the Words néh, nóh and hnįg’ and ‘Adjectives or Stative Verbs in Khmer’ (Sak-Humphry forthcoming).
They cannot function as the LOC dependent either, because lexically \textit{snýt} and \textit{sanlyk}[-lctn] are not location nouns. In addition, in applying the \textit{nów} paraphrasing test to these two constructions, the results are also ungrammatical (as in \textit{*múuaj nów snýt néh khcóej}, or \textit{*pram nów sanlyk nóh dac}).

In summary, we can claim that classifier nouns must cooccur with the anaphoric noun \textit{qaa} and the number nouns, and that they must have predicate functions in relation to these two regent nouns.

The following section will show the direction of the syntactic dependency relationships in number-classifier pairs, and determine the cooccurrence constraints that obtain between them.

6.3 Syntactic Relationship Between Classifier Nouns and Number Nouns

Let us examine these two sentences:

6. \textit{kʰnom \, ríːən \, maaən\textsubscript{1} \, dap}  
   \begin{tabular}{lll}
   I & study & hour & ten \\
   ‘I study at 10 o’clock.’
   \end{tabular}

6a. \textit{kʰnom \, ríːən \, dap \, maaən\textsubscript{2}}  
   \begin{tabular}{lll}
   I & study & ten & hour \\
   ‘I study for ten hours.’
   \end{tabular}
In example 6, the ordinary noun *maaoŋ₁ [+N, -clsf]* functions as the Acc-PAT in relation to its intransitive verb *riiœn*. This noun is the regent of the number noun *dap* where *dap [+nmbr, -dfnt, +prdc]* bears the predicate feature in relation to the ordinary *maaoŋ₁ [+N, -clsf]*.

In example 6a, the word *maaoŋ₂* is the dependent of the number noun *dap*. As a dependent of a noun, *maaoŋ₂* generally could be a determiner, a verb or a noun. The
possibility of being a determiner is ruled out because Khmer does not have a determiner class. It could not be a verb either because it cannot be negated. Thus the last possibility is a noun. This choice (being a noun) is more appropriate than the other previous two because (1) we have a related word *maaon* as a noun (as shown in example 6), and (2) it is consistent with Khmer right-branching typology.

This analysis therefore supports our claim that the non-definite classifier noun *maaon*, which comes after a number noun, bears the predicate feature in relation to that regent number noun.

7. wió saaën kpaal₁
   he    sacrifice head
   ‘He sacrifices the head to the spirit.’

7a. wió saaën kpaal₁ múuøj
    he    sacrifice head one
    ‘He sacrifices one head to the spirit.’

7b. wió saaën kpaal₁ cruuk múuøj
    he    sacrifice head pig one
    ‘He sacrifices one pig’s head to the spirit.’
Comparing examples 7, 7a and 7b, we can say that the ordinary noun *kpaal₁* is a non-predicate [-prdc] noun because it functions as the Acc-PAT of the verb *saaën*. It has two dependents, the COR noun *cruuk* and the predicate number noun *múuŋj*.

8. *siiəwpʰow  nôh  wɪiə  míən  bʊəj*
   book  that  she  have  three
   ‘That book, she has three.’

8a. *siiəwpʰow  nôh  wɪiə  míən  bʊəj  kpaal₂*
    book  that  she  have  three  clsf
    ‘That books she has three volumes.’

8b. *siiəwpʰow  nôh  wɪiə  míən  kpaal₂*
    book  that  she  have  clsf
In example 8, the number noun $bəəj$ functions as the Acc-PAT of the transitive verb $miiən$.

Comparing examples 8, 8a and 8b, we can say that the noun $kpaal2$ cannot function as the dependent of the verb $miiən$ (example 8b is ungrammatical) but can be the dependent of the number noun $bəəj$ (example 8a). As the dependent of the number
noun $b\tilde{\theta}\tilde{a}j$, $kpaal_2$ can only function as the predicate dependent to its regent, the number noun $b\tilde{\theta}\tilde{a}j$.

In conclusion, we can state that a classifier noun is a predicate noun in relation to its regent, the anaphoric noun $qaa$ or a number noun. It terms of its distribution, it must come after its regent noun.

### 6.4 Syntactic Relationship Between Classifier Nouns, Number Nouns and Regent Nouns

9. tnaaot $p\tilde{\nu}\tilde{u}n$ thlii$\tilde{a}j_2$ tum
   sugar palm four cluster ripe
   Nom +nmbr +clsf +V
   PAT -dftnt -dftnt -trns +prdc +prdc
   ‘Four clusters of sugar palms are ripe.’

9a. *tnaaot thlii$\tilde{a}j_2$ tum
    sugar palm cluster ripe

9b. tnaaot $p\tilde{\nu}\tilde{u}n$ tum
    sugar palm four ripe
    Nom +nmbr +V
    PAT -dftnt -trns +prdc
    ‘Four sugar palms are ripe.’

9c. $p\tilde{\nu}\tilde{u}n$ thlii$\tilde{a}j_2$ tum
    four cluster ripe
    Nom +clsf +V
    PAT +prdc -trns
    ‘Four clusters (of palm fruits) are ripe.’

9d. tnaaot mathlii$\tilde{a}j_2$ tum
    sugar palm one cluster ripe
    ‘One cluster (of palm fruits) is ripe.’
By comparing examples 9, 9a, 9b and 9c, we can state that the classifier noun \textit{thli\textbar i}_\textsubscript{2} cannot function as the dependent of the ordinary noun \textit{tnaaot} (example 9a is ungrammatical), but can function as the predicate dependent of the number noun \textit{p\textbar u\textbar e\textbar n} (supported by example 9c). Thus in construction 9, the number noun \textit{p\textbar u\textbar e\textbar n} functions as the predicate of the dependent noun \textit{tnaaot}, and in turn, is the regent of the predicate classifier noun \textit{thli\textbar i}_\textsubscript{2}.

In example 9d, the word \textit{m\textbar a\textbar thli\textbar i}_\textsubscript{2} is a contraction form of the two words \textit{m\textbar u\textbar a\textbar j thli\textbar i}_\textsubscript{2}; lexically it bears the features [+nmbr, +clsf, +prdc]. Only the number noun \textit{m\textbar u\textbar a\textbar j} forms a contraction with its dependent classifier.

10. kr\textbar da\textbar a\textbar h pram \underline{san\textbar l\textbar y\textbar k}_\textsubscript{2} naa\textsubscript{1} dac
   paper five clsf where tear
   ‘Which five sheets of paper are torn?’

10a. \underline{*san\textbar l\textbar y\textbar k}_\textsubscript{2} naa\textsubscript{1} dac
    clsf where tear

10b. pram \underline{san\textbar l\textbar y\textbar k}_\textsubscript{2} naa\textsubscript{1} dac
    five clsf where tear
    ‘Which five sheets (of something) are torn?’

10c. \underline{*kr\textbar da\textbar a\textbar h} san\textbar l\textbar y\textbar k\textsubscript{2} naa\textsubscript{1} dac
    paper clsf where tear

10d. kr\textbar da\textbar a\textbar h pram naa\textsubscript{1} dac
    paper five where tear
    ‘Which five papers are torn?’
By comparing examples 10, 10a, 10b, 10c and 10d, we can conclude that the non-definite classifier noun *sanlỳk₂* can only function as the predicate dependent of the number noun *pram* (supported by examples 10b and 10c) and can have the non-definite interrogative locational pronoun *naa₁* as the LOC co-dependent of the number noun *pram* (supported by examples 10a and 10b).

### 6.5 Conclusion

In summary we can claim that a classifier is a noun which can function only as the predicate dependent of an anaphoric noun and a number noun. Thus, it is a predicate noun and cannot have a dependent of its own but can have co-dependents.

### 6.6 Classifier Nouns Function as Dependents of Other Nouns

In this section we are checking the possible occurrence of classifier nouns as the dependents of nouns of other classes.
6.6.1 Classifier Nouns as Dependents of the Anaphoric Noun *qaa*

In the above section we have seen that classifier nouns can function as the predicate dependent of the anaphoric noun *qaa*.

11. *qaa nỳm néh thlaj*
    the one yoke this expensive
    ‘This one yoke (of animals) is expensive.’

As shown in this example and in previous examples, classifier nouns can function as the predicate dependents to the anaphoric noun *qaa*. This construction is in effect a way around the inability of classifiers to occur in the syntactic position of other free nouns.

6.6.2 Classifier Nouns as Dependents of Pronouns

12. *jóøj piir neøk rïøn*
    we two clsf study
    ‘We two are studying.’

12a. *piir neøk rïøn*
    two clsf study
    ‘Two people are studying.’

12b. *jóøj neøk rïøn*
    we clsf study

12c. *jóøj piir rïøn*
    we two study

Comparing these four examples (12 to 12c), we can conclude that the classifier *neøk* can function as the predicate dependent of the number noun *piir* (as shown in
examples 12 and 12a), but it cannot function as the dependent of the pronoun $j\ddot{o}g$ (as shown in example 12b).

13. qampéw piir daaem$_2$ naamúuaj$_1$ phqaaem
   sugar cane two trunk which one sweet
   Nom +nmbr +clsf +prnn +V
   PAT +prdc +prdc +prdc -trns
   ‘Which two trunks of sugar canes are sweet?’

13a. * naamúuaj$_1$ daaem$_2$ phqaaem
    which one clsf sweet

In comparing examples 13 and 13a, we see that the pronoun naamúuaj$_1$ cannot function as the regent of the classifier noun daaem$_2$, but instead it is the dependent of the regent noun qampéw. These examples also show that a classifier noun must follow rather than precede a number noun.

Thus pronouns can never take classifier nouns as their dependents.

### 6.6.3 Classifier Nouns as Dependents of Extension Nouns

14. kröc múuaj phlòn rãlúuaj
   orange one forty rot
   ‘Forty oranges are rotten.’

14a. *kröc daaél phlòn rãlúuaj
    orange which forty rot

15. wi₆ cõolec₆t skaq piir praqap tòoc néh
    he like candy two boxes (clsf) small here
    ‘He likes these two small candy boxes.’

---

³This classifier word is used for counting trees, sticks, pencils, or cigarettes.

⁴This classifier word is equivalent to forty and is used for counting fruit and vegetables.
Based on these examples (14, 14a, 15 and 15a) we can conclude that the classifier nouns cannot be the dependents of the extension noun *daae1 or *kaar.*

### 6.6.4 Classifier Nouns as Dependents of Relator Nouns

Relator nouns require their dependents to bear the COR dependent; this implies that classifier nouns can never function as their dependents, since classifiers are lexically [+prdc].

16a. *khmawdaj* piir *daaem*₂ *bak*  
    pencil two clsf brake

17a. *phteah* rbah₂ *pram* khnaan₂ *koê* chɔh  
    house five clsf possession of he burn

Examples 16 (ungrammatical) and 16a suggest that the locational relator noun *muk* cannot take the classifier noun *daaem*₂ as its dependent.

Examples 17, 17a and 17b show us that the non-locational relator noun *rbah₂* cannot function as the regent of the classifier noun *khnaan₂.*
6.6.5 Classifier Nouns as Dependents of Location Nouns

18. **phteəh** pram **khnaan**2 naa1 chəh
    house five clsf where burn
    ‘Which of these five houses got burned down?’

18a. *phteəh* **khnaan**2 naa1 chəh
    house clsf where burn

18b. pram **khnaan**2 naa1 chəh
    five clsf where burn
    ‘Which of the five (houses) got burned down?’

Comparing examples 18, 18a and 18b, we can state that the classifier noun
**khnaan**2 cannot function as the dependent of the location noun **phteəh**. Thus a classifier
noun does not take a location noun as its dependent.

6.6.6 Classifier Nouns as Dependents of Ordinary Nouns

As illustrated in section 5, when ordinary nouns, number nouns and classifier
nouns cooccur together, ordinary nouns cannot take classifier nouns as their dependents.

19. **kóo** piir **ným** daaæl nów1
    cow two yoke which locate
    kraaom phteəh chýy
    under house sick
    ‘The two yokes of cows which are under the house are sick.’

19a. *kóo* **ným** daaæl nów1
    cow yoke which locate
    kraaom phteəh chýy
    under house sick

These two examples show that the ordinary noun **kóo** cannot function as the
regent of the classifier noun **ným**.
6.7 Conclusion

In Modern Khmer, classifiers are nouns because they can function as the dependents of the anaphoric noun qaa and the number nouns, and must bear the predicate [+prdc] feature required by these two regents. Thus they are predicate nouns. They are etymologically related to free ordinary nouns. Their syntactic distribution is consistent with the strongly right-branching structure of Khmer syntax. They cannot have any other nouns as their regents. In terms of their distribution, classifiers must come after their regents, must bear the predicate function, and never have dependents of their own.