Hmong Classifiers*
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The data presented in this problem set come from Hmong, a language spoken by minority hill-tribe people in southern China and Southeast Asia. Many of those living in Laos had to flee to Thailand following the fall of the Lao government in 1975 and were resettled in the Western world, so that there are now about 60,000 Hmong speakers in the United States. As to genetic affiliation, Hmong belongs to the Hmong-Mien (also known as Miao-Yao) language family; the wider relationship of the Hmong-Mien family, however, remains a controversial issue among linguists, with some affiliating it to Austro-Tai and others to Sino-Tibetan.

Hmong nouns appear in a single form: there are no suffixes, no grammatical genders, no case markings, no definite/indefinite articles. What characterizes them is that they have a classifier associated with them; the choice of which classifier goes with a particular noun is determined by what the noun refers to. For instance, all nouns referring to spoken words (e.g. 'story', 'legend', 'song', 'prayer') are preceded by the classifier zaŋ. While as many as 76 classifiers have been recorded for the language, we will look only at some of the most common ones in this problem set. In the first section of the exercise you will categorize nouns semantically depending on the classifier associated with them, and in the second section you will determine the syntactic functions of classifiers.

Transcription notes: the data are presented in the Romanized Popular Alphabet (RPA), which was developed in the early 1950's by missionaries. The RPA is like the IPA, except for the following:

<table>
<thead>
<tr>
<th>RPA</th>
<th>IPA</th>
</tr>
</thead>
<tbody>
<tr>
<td>x</td>
<td>/s/</td>
</tr>
<tr>
<td>s</td>
<td>/ʃ/</td>
</tr>
<tr>
<td>r</td>
<td>/t/</td>
</tr>
<tr>
<td>ee</td>
<td>/ɛŋ/</td>
</tr>
<tr>
<td>z</td>
<td>/ʒ/</td>
</tr>
<tr>
<td>w</td>
<td>/i/</td>
</tr>
<tr>
<td>oo</td>
<td>/ɔŋ/</td>
</tr>
</tbody>
</table>

Since Hmong words are primarily monosyllabic, and since the language does not have final consonants (except for /z/), the developers of the RPA chose 7 arbitrary consonant letters and attached them at the end of words to represent the 7 tones of the language. The consonants and their tonemic values are listed below:

Final "b" represents a high level tone (55).
Final "j" represents a high falling tone (52).
Final "v" represents a mid rising tone (24).
Final "ø" (i.e. no consonant) represents a mid level tone (33).

* Editor's Note: This problem set was prepared for a graduate seminar at Berkeley called "Analysis of Linguistics Problem Sets" [Ling. 302], a course intended to give students practice in constructing and debugging self-contained corpora of data for classroom use.

Hmong is rapidly becoming the object of classroom study in the U.S. This summer it will be offered for the third year in a row at the SEASSI Language Institute (this time at the University of Hawaii). High school teachers in several California towns (e.g. Merced and Visalia) are beginning to receive training in the basics of Hmong phonetics and grammar to help them deal with the huge influx of Southeast Asian students to their classes.
**Final "s"** represents a low level tone (22).
**Final "g"** represents a breathy tone (4 ʐ).
**Final "m"** represents a short, slightly falling tone ending in a glottal stop (21?)

**SECTION I: SEMANTIC CATEGORIZATION**

**Part A:** Carefully examine the data below and determine which semantic categories of nouns the following classifiers are associated with:

<table>
<thead>
<tr>
<th>Classifier</th>
<th>Noun</th>
<th>1.</th>
<th>2.</th>
<th>3.</th>
<th>4.</th>
<th>5.</th>
<th>6.</th>
</tr>
</thead>
<tbody>
<tr>
<td>txoj hlua</td>
<td>rope</td>
<td>18</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>daim txiag</td>
<td>(wooden) board</td>
<td>19</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>rab rauj</td>
<td>hammer</td>
<td>20</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>daim nplooj</td>
<td>leaf of a tree</td>
<td>21</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>tawb qaub ncauj</td>
<td>spit, spittle</td>
<td>22</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>rab phom</td>
<td>rifle</td>
<td>23</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>daim tiab</td>
<td>skirt</td>
<td>24</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>tsab xov</td>
<td>(written) message</td>
<td>25</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>daim ntawv</td>
<td>sheet of paper</td>
<td>26</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>rab hneev</td>
<td>crossbow</td>
<td>27</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>phau nyiaj</td>
<td>wad (of money)</td>
<td>28</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>txoj hmab</td>
<td>creeper (vine)</td>
<td>29</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>rab koob</td>
<td>needle</td>
<td>30</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>txoj sia</td>
<td>life</td>
<td>31</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>tawb zis</td>
<td>urine</td>
<td>32</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>rab tsjab</td>
<td>scissors</td>
<td>33</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>daim pam</td>
<td>blanket</td>
<td>34</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>txoj hauj lwm</td>
<td>work</td>
<td>36</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Part B:** Classifiers and body parts. Carefully examine the data below and determine the characteristics of the body parts the following classifiers are associated with:

<table>
<thead>
<tr>
<th>Classifier</th>
<th>Noun</th>
<th>1.</th>
<th>2.</th>
<th>3.</th>
<th>4.</th>
</tr>
</thead>
<tbody>
<tr>
<td>txhais</td>
<td></td>
<td>14</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>tus</td>
<td></td>
<td>15</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>txoj</td>
<td></td>
<td>16</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>lub</td>
<td></td>
<td>17</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>nplaq</td>
<td>liver</td>
<td>18</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>ncev</td>
<td>tongue</td>
<td>19</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>leeg</td>
<td>body</td>
<td>20</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>plawv</td>
<td>nerves</td>
<td>21</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>qau</td>
<td>heart</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>taub hau</td>
<td>pents</td>
<td></td>
<td></td>
<td>19</td>
<td></td>
</tr>
<tr>
<td>caj npab</td>
<td>head</td>
<td></td>
<td></td>
<td>20</td>
<td></td>
</tr>
<tr>
<td></td>
<td>arm</td>
<td></td>
<td>21</td>
<td></td>
<td></td>
</tr>
<tr>
<td>9. lub mis</td>
<td>breast</td>
<td>22. lub ntaaws</td>
<td>navel</td>
<td></td>
<td></td>
</tr>
<tr>
<td>10. txoj sawv</td>
<td>tendons</td>
<td>23. txhais ko taw</td>
<td>foot</td>
<td></td>
<td></td>
</tr>
<tr>
<td>11. txhais ncej puab</td>
<td>thigh</td>
<td>24. lub qhov muag</td>
<td>eye</td>
<td></td>
<td></td>
</tr>
<tr>
<td>12. lub poh ntseg</td>
<td>ear</td>
<td>25. tus ntiiv</td>
<td>finger</td>
<td></td>
<td></td>
</tr>
<tr>
<td>13. txoj ntaaws</td>
<td>umbilical cord</td>
<td>26. lub pim</td>
<td>vagina</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Part C:** Using your answers to Parts A and B determine which classifier is associated with the following words:

1. qhib ntsia  | screwdriver
2. plab  | stomach, abdomen
3. ntawv sau  | notebook
4. xov hlau  | iron wire
5. tav  | rib
6. duab  | photograph, picture
7. caj hlaub  | lower leg
8. duav hlau  | shovel
9. hauv siab  | chest
10. ntaub  | (piece of) cloth
11. ntiiv taw  | toe
12. diav hmuv  | fork
13. raum  | kidney
14. kab dab  | blackboard
15. quav twm  | cow-dung

**SECTION II: SYNTACTIC FUNCTIONS OF HMONG CLASSIFIERS**

Carefully examine the data on pages 5-6 and determine in what type of noun phrases the classifier is obligatory. You should come up with 5 types of noun phrases; please list them below:

1. 
2. 
3. 
4. 
5. 

**DATA** (CLF = classifier, Q = question marker, NEG = negation marker):

1. Tus tsov tshaib tshaib plab
   CLF tiger be hungry be hungry stomach
   *Tsov tshaib tshaib plab
   'The tiger was very hungry'

2. Muaj ib tus tsov
   be one CLF tiger
   *Muaj ib tsov
   'There was a (literally 'one') tiger'

3. Tus txiv neeb kho tau txhia tus mob
   CLF shaman cure can all CLF illness
   *Txiv neeb kho tau txhia mob
   'The shaman can cure all illnesses'

4. Lawv lub zos puas deb?
   their CLF village Q be far
   *Lawv zos puas deb?
   'Is their village far?'

5. Lub tsev no
   CLF house this
   *Tsev no
   'This house'

6. Ntau lub tsev
   many CLF house
   *Ntau tsev
   'Many houses'
7. Tus tswj lub tsev
   CLF chief CLF house
   *tswj tsev
   'The chief's house'

8. Lawv muaj pes tsawg tus me nyuam?
   they have how much CLF child
   *Lawv muaj pes tsawg me nyuam?
   'How many children do they have?'

9. Tus npua ntawd zoo siab
   CLF pig that be happy
   *Npua ntawd zoo siab
   'That pig is happy'

10. Tooj tus dev
    Tong CLF dog
    *Tooj dev
    'Tong's dog'

11. Lawv muaj rau tus me nyuam
    they have six CLF child
    *Lawv muaj rau me nyuam
    'They have six children'

12. Tshuav tsawg tus ntoo
    remain few CLF tree
    *Tshuav tsawg ntoo
    'Few trees are left'

**************************************************************************

Now look at #13 and #14: with what type of noun phrases are classifiers not used?

13. Kuv ntshai tsov
    I fear tiger
    *Kuv ntshai tus tsov
    I fear CLF tiger
    'I'm afraid of tigers'

14. Mob tsis tu
    disease NEG go away
    *Tus mob tsis tu
    CLF disease NEG go away
    'Disease never disappears'

To summarize: What general statement can you make about the use of classifiers? Fill in the blank below with a single word:

Classifiers are used in ______________ noun phrases (cf. #1-12).
Classifiers are not used in ______________ noun phrases (cf. #13-14).
HMONG CLASSIFIERS: ANSWER SHEET

This problem set is designed to familiarize students with the concept and use of classifiers. If students are already familiar with classifier languages, this will provide further exposure and practice. If they are not, this will serve as an introduction. In the latter case, to introduce the concept of classifiers, you may want to start by explaining that there is a concept resembling "classifiers" in English: note that we can talk of a stick of gum but not *a gum, a grain of salt but not *a salt, a glass of water but not *a water, and so on. The words stick, grain, and glass in the examples above are parallel to classifiers in Hmong. But in Hmong every noun must appear with a classifier, whereas in English only certain nouns have a similar feature.

As you and your students may have noticed, a given noun can select more than one classifier, and hence have a different meaning depending on the classifier. For instance, daim ntau (Part A, #9) means sheet of paper, phau ntau (Part A, #19) means book, and tsab ntau (Part A, #34) means letter (piece of mail). Or tsab xov (Part A, #8) means (written) message, while tsoj xov (Part A, #24) means string/twine. This raises an interesting theoretical question: is a "noun" the noun by itself, or is it the noun together with its classifier, since classifiers can affect meaning? I do not have the answer to this question, but you may want to point this out to your students (if they do not point it out to you).

In the first section of the problem set, the students are asked to determine the semantic categories of nouns which certain given classifiers are associated with. This section includes three parts: in Part A the nouns to be categorized are of a general nature, in Part B the focus is on body parts, and in Part C the students will apply their answers from Parts A and B by associating given nouns with the (hopefully!) correct classifier.

In the second section of the problem set, the students are asked to analyze the syntactic functions of classifiers by determining in what types of noun phrases classifiers are obligatory and in what types they are not. This will appeal to the notion of definiteness vs. indefiniteness in NP's.

Transcription note: the data are presented in the Romanized Popular Alphabet (RPA), the writing system which was developed for Hmong in the early 1950's by missionaries. The most "counter-intuitive" feature of the RPA is that graphic final consonants function as tone markers, and thus have to be converted into tonemic values rather than be pronounced as consonant sounds (cf. page 1 of the problem set for details). Nevertheless, since this problem set deals with semantics and syntax (and not with phonetics and/or phonology) and since the RPA is close to the IPA otherwise (cf. page 1 of the problem set for exceptions), the former was chosen over the latter for the purposes at hand. If students find the writing system troublesome, you may want to remind them, for example, of the glaring discrepancies between the written and the spoken language in English, or of the fact that most final consonants of written French are not pronounced. The RPA fares rather well, comparatively speaking.

On to answers and techniques for finding them.

SECTION I: SEMANTIC CATEGORIZATION

Part A: In order to determine the semantic categories of nouns the given classifiers are associated with, the students should start by grouping together the nouns that share the same classifier. This yields the following:
1. rab:
  3. rab rauj  hammer
  6. rab phom  rifle
  10. rab hneev  crossbow
  13. rab koob  needle
  16. rab txiab  scissors
  18. rab ciaj  pliers
  21. rab diav  spoon
  23. rab taus  axe
  25. rab liaj  sickle
  27. rab kaw  saw
  29. rab hlau  hoe
  31. rab riam  knife

2. daim:
  2. daim txiag  (wooden) board
  4. daim nplooj  leaf of a tree
  7. daim tiab  skirt
  9. daim ntawv  sheet of paper
  17. daim pam  blanket
  22. daim teb  field
  28. daim liaj  rice paddy
  30. daim sev  apron

3. txoj:
  1. txoj hluaj  rope
  12. txoj hmab  creeper (vine)
  14. txoj sia  life
  18. txoj hauj lwm  work
  20. txoj cai  law
  24. txoj xov  string, twine
  26. txoj hmoov  destiny, fate
  32. txoj kev  road, path

4. phau:
  11. phau nyiaj  wad (of money)
  19. phau ntawv  book
  36. phau khaub  pile of clothes

5. tawb:
  5. tawb qaub ncauj  spit, spittle
  15. tawb zis  urine
  33. tawb quav  dung

6. tsab:
  8. tsab xov  (written) message
  34. tsab ntawv  letter (mail)

Next, the students should determine what semantic properties the nouns associated with each of the classifiers have in common. They should come up with the following:

1. rab: this classifier is used with nouns referring to *implements* (tools, kitchen utensils) and *weapons*.
2. daim: this classifier is used with nouns referring to *flat things* and *surfaces*.
3. txoj: this classifier is used with nouns referring to *long and thin things*. It is also used with *abstract nouns* which are metaphorically considered to be long: life, destiny, law, work (the latter two may require a stretch of the imagination, but this is a different culture, after all).
4. phau: this classifier is used with nouns referring to *stacks of things*, things *piled up on each other*.
5. tawb: this classifier is used with nouns referring to *bodily excretions*.
6. tsab: this classifier is used with nouns referring to *written* messages. (Recall from the introduction that there is a separate classifier for *spoken words*, zaj).

Part B: Again, the student should start by grouping together the nouns that share the same classifier. This yields the following:
1. **txhais:**
   8. txhais caj npab arm
   11. txhais ncej puab thigh
   14. txhais tes hand

2. **tus:**
   2. tus nplaig tongue
   6. tus qau penis
   16. tus tw tail

3. **txoj:**
   4. txoj leeg nerves
   10. txoj sawv tendons
   13. txoj ntaws umbilical cord

4. **lub:**
   1. lub siab liver
   3. lub cev body
   5. lub plawv heart
   7. lub taub hau head
   9. lub mis breast
   12. lub pob ntseg ear

   17. lub xub pwg shoulder
   19. lub hauv caug knee
   22. lub ntaws navel
   24. lub qhow muag eye
   26. lub pim vagina

Next, the students should determine what semantic properties are shared by the body parts associated with each of the classifiers. They should come up with the following:

1. **txhais:** this classifier is used for arms, legs, hands, and feet, i.e. limbs and their extremities.

2. **tus:** this classifier is used with body parts that come in “short” lengths. (Compare and contrast with **txoj** below).

3. **txoj:** this classifier is used with body parts that come in “great” lengths, and are thin and flexible. (Recall from Part A that **txoj** is also used with non-body-part nouns referring to long and thin things).

4. **lub:** this classifier is used with round and/or bulky body parts (a kind of "elsewhere" category here).

**Part C:** Using their answers to Parts A and B the students should associate the following words with the following classifiers:

1. qhib ntsia screwdriver rab
2. plab stomach, abdomen lub
3. ntaawv sau notebook phau
4. xov hlau iron wire txoj
5. tav rib tus
6. duab photograph, picture daim
7. caj hlaub lower leg txhais
8. duav hlau shovel rab
9. hauv siab chest lub
10. ntaub (piece) of cloth daim
11. ntiv taw toe tus
12. diav hmuv \textit{fork} \quad \text{rab}
13. raum \textit{kidney} \quad \text{rub}
14. kab dab \textit{blackboard} \quad \text{daim}
15. quav twm \textit{cow-dung} \quad \text{tawb}

\textbf{Note:} Should some of your students answer \textit{tsab} for \#3 and/or \#14, you can provide the following explanation: some classifiers preempt others; in this case, although notebooks and blackboards are used for writing, they do not directly refer to written messages. For "notebook" the salient feature in the Hmong world view is that it is made up of a stack of sheets of paper (hence \textit{phau}), and for "blackboard" the salient feature is that it is a flat surface (hence \textit{daim}).

\textbf{SECTION II: SYNTACTIC FUNCTIONS OF HMONG CLASSIFIERS}

To determine in what type of noun phrases classifiers are obligatory, the students should start by grouping together the sentences which have the same types of NP's, and label them: 1 and 3 (definite NP's), 2 and 11 (NP's with numerals), 3, 6, 8, and 12 (NP's with quantifiers), 4, 7, and 10 (possessive NP's), and 5 and 9 (NP's with demonstratives). By comparing the grammatical sentences with their ungrammatical counterparts, the students should be able to conclude that classifiers are obligatory in these types of NP's.

To summarize, the 5 types of noun phrases classifiers are obligatory in are the following:

1. definite NP's in the narrow sense, i.e. NP's which take a definite article in English (cf. \#1, 3)
2. NP's with numerals (cf. \#2, 11)
3. NP's with quantifiers (cf. \#3, 6, 8, 12)
4. possessive NP's (cf. \#4, 7, 10)
5. NP's with demonstratives (cf. \#5, 9)

On the other hand, classifiers are not used in indefinite NP's (i.e. when nouns are used generically, cf. \#13-14).

The generalization the students should be able to make goes as follows:

- Classifiers are used in \textit{definite} noun phrases (cf. \#1-12).
- Classifiers are not used in \textit{indefinite} noun phrases (cf. \#13-14).

(Note to TA: Since numerals and quantifiers are not precisely "definite", a better set of terms might be determined or specified. Credit, however, should be given for any of these.)

\textbf{Note:} Should you and your students wonder about the classifiers \textit{tus} and \textit{lub} in \#1-14, here is the explanation: \textit{tus} and \textit{lub} are the most common classifiers in Hmong: \textit{tus} is used with nouns referring to human beings, animals, things that closely affect people (such as "illness"), and things that come in "short" lengths (such as "tree"); \textit{lub} is used with nouns referring not only to round and bulky things, but also to buildings (such as "house"), places (such as "village"), and means of transportation (such as "car", "boat", etc), which all fall into the "container" category. As far as I know, \textit{lub} is the most inclusive classifier in Hmong; this is supported by the fact that new loanwords from English or French often (possibly exclusively, but I do not know this for a fact) appear with this classifier.