A cover analysis of the plural classifier in Hmong

In this paper, I show that Hmong[1] *cov* is a plural classifier that generates a set of subsets (a cover). Classifiers in Hmong (Hmong-Mien) typically give rise to definite readings via an ι operator in the absence of an indefinite article. The plural, group classifier *cov* generates a cover that can be seen clearly in definite and indefinite contexts.

Data

Fact 1: Bare classifier phrases with *cov* have a definite reading (1) which refers to the maximal group of that noun in the context.
Fact 2: Indefinite phrases with *cov* have a non-specific indefinite reading (2) and instead of referring to the maximal group, they refer to a random subgroup of that noun in the context.

(1) Keng pom cov aub
Keng see CLF dog
"Keng sees all the dogs."

(2) Keng pom ib cov aub
Keng see INDEF CLF dog
"Keng sees some of the dogs."

Proposal

The lexical contribution of *cov* is to convert a type *e* bare noun (a kind) into a property (Chierchia 1998) and generate a cover; in other words, it generates a set of subsets of entities that fit the noun's descriptive content in the context. A formal definition is shown in (3), and an example of this for the English noun *cups* is shown in (4).

(3) **Cov** *covers* A if: (Schwarzschild 1996)
a. **Cov** is a set of subsets of A
b. Every member of A belongs to some set in **Cov**
c. $\emptyset$ is not in **Cov**
d. $\mathbf{Cov}(\mathrm{A}) = \wp\,(A)$, *without* $\emptyset$

(4) $[\![\text{ cups }]\!]^g =$
a. $\{\ \{c_1 \oplus c_2 \oplus c_3\ \},$
b. $\{c_1 \oplus c_2\ \}, \{c_1 \oplus c_3\ \}, \{c_2 \oplus c_3\ \},$
c. $\{c_1\}, \{c_2\}, \{c_3\}\ \}$
d. $cups = \wp(cup)$, *without* $\emptyset$

In (5), the **Cov** portion generates a cover of things in the relevant situation context that are of the property P. Since **Cov** doesn't operate over kinds and instead operates over properties, I assume there is an $\cup$ operator (following Chierchia 1998) in the denotation to show that P must be a property by the time *cov* combines with the noun, though this operator is not explicitly shown in the following denotations.

(5) $[\![\ cov\ ]\!]^g = \lambda P.\lambda x.x \in \mathbf{Cov}(P)$

As for the determiners of these DPs, there are two relevant D options: ι, which gives a definite reading, and *ib*, which gives a non-specific indefinite reading. I adopt the standard formulation of ι (Jenks 2018). For the indefinite article *ib*, I analyze it as a choice function indefinite (Winter 1997) rather than an existential quantifier. A choice functional definition for *ib* more clearly explains the fact that Hmong indefinite *ib cov* DPs have a non-specific meaning and they select a random subset from the powerset generated by *cov*. *Ib* doesn't quantify over anything in this implementation; it solely chooses a subset from the set of options.

(6) $[\![\ \iota\ ]\!]^g = \lambda P : \exists! x[P(x)].\iota x[P(x)]$

(7) $[\![\ ib\ ]\!]^g = \lambda P.f_{cf}(\lambda y.P(y) = 1)$

[1] All data in this project comes from two White Hmong speakers from Wisconsin: one is 24 (KX), one is 34 (YX), and they are siblings. The Hmong examples are all written in the Romanized Popular Alphabet (RPA) as it is the most-utilized orthography by Hmong speakers in the US.

Once the DP structure is built via standard functional application, we see a case of anti-presupposition. Anti-presupposition is visible at the DP level since it takes the semantics of the D head into account. In the case of *ib cov aub*, the choice function does not select the largest entity; otherwise, the definite ι operator would be the determiner chosen for the utterance instead of *ib*. The choice function also does not select an atomic entity; otherwise, the singular classifier *tus* would have been chosen instead of *cov*. This anti-presupposition yields the non-singular and non-maximal entities as the pragmatically sound options when *ib cov aub* is uttered (8c).

(8) AUB_C: {Apollo, Mars, Copper}

a. $[\![$ cov aub $]\!]^g$ = { {A, M, C}, {A, M}, {A, C}, {C, M}, {A}, {M}, {C} } $\wp$(**dog**)

b. *"cov aub"* = {A, M, C}

c. *"ib cov aub"* = {A, M} ∪ {M, C} ∪ {A, C}

In (8), the first line lists the three dogs in the context. (8a) shows the cover that these lexical items (*cov* and *aub*) generate. (8b) and (8c) show which subsets are possible referents when a speaker utters *cov aub* and *ib cov aub*, respectively.

At the end of both derivations, these are the corresponding semantic representations of *cov aub* (9) and *ib cov aub* (10).

(9) **Plural definite**

$[\![\, \textit{cov aub} \,]\!]^g = \exists! x[x \in \mathbf{Cov}(\textsc{dog})].\iota x[x \in \mathbf{Cov}(\textsc{dog})]$

(10) **Plural indefinite**

$[\![\, \textit{ib cov aub} \,]\!]^g = f_{cf}(\lambda y.y \in \mathbf{Cov}(\textsc{dog}) = 1)$

Discussion & Implications

Some theoretical implications of this work are as follows. First, the only defining characteristic of a classifier in Hmong (and likely other Chinese-type languages) is to convert a kind into a property. I have not applied this analysis to any languages with optional classifiers.

Second, we expect plural classifiers in any language to have this cover property, so long as the classifier is the sole morphological contributor to the plural meaning of the noun phrase. This is an interesting prediction for Mandarin, which has also been said to have a plural classifier *xie* (Wu 2019). It's not clear without more thorough investigation whether indefinite *xie* phrases are compatible with this because we would first need to establish that the word for 'one' *yi* is a choice function indefinite and solidify the claim that *xie* is a plural classifier.

Finally, there is minimal semantic work on Hmong and any previous discussion of classifiers is brief, descriptive, and focused on classifier choice (Bisang 1993). My analysis is unique in that it explains definiteness facts as well as the number facts of definite and indefinite uses of *cov*.

References

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