A comparison of numeral classifiers and their use in Yucatec Maya and Mandarin Chinese

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Introduction

Numeral classifiers are linguistic elements that accompany numbers in many languages, serving to classify or quantify nouns in a particular way. These linguistic phenomena vary significantly across languages, reflecting cultural, cognitive, and grammatical differences. This study explores and compares numeral classifiers and their usage in two distinct languages: Yucatec Maya and Mandarin. Both languages feature a similar structure when using numeral classifiers, providing an intriguing basis for comparative linguistic analysis.

Method

Little, Moroney & Royer (2022) introduce four key diagnostics to distinguish two types of classifiers: *classifiers-for-numerals* and *classifiers-for-nouns*. The authors applied their diagnostics to two languages of different backgrounds and found cross-linguistic variation in the strategies for numeral classification. In the paper, it is argued that Ch'ol, a Mayan language spoken in Mexico, is a *classifier-for-numeral* language, while Shan, a Kra-Dai language spoken in Myanmar, is a *classifier-for-noun* language.
This project aims to compare two different languages of similar backgrounds that nonetheless seem to show the same structure when using numeral classifiers. The four diagnostics will be employed to find out whether the criteria are applicable here and if so, which category Yucatec Maya and Mandarin belong to, respectively. This study is hypothesized to yield similar results to the referenced paper.

References

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Numeral classifiers in Yucatec Maya

(1) a. hun-p'éel tunich
one-CLF stone
a/one stone
b. ka-p'éel tunich
two-CLF stone
two stones

(2) a. hun-túul xib
one-CLF man
a/one man
b. ka-túul xib
two-CLF man
two men (Lehmann 2010)

(Yucatec Maya)

p'éel is the classifier for inanimates, *túul* for animates. Classifiers attach to the numeral. (CLF = classifier)

Numeral classifiers in Mandarin

(3) a. yī zhāng zhuōzi
one CLF table
a/one table
b. liǎng zhāng zhuōzi
two CLF table
two tables

(4) a. yī běn shū
one CLF book
a/one man
b. liǎng běn shū
two CLF book
two men

(Mandarin)

zhāng is the classifier for flat objects, *běn* for bound print matter. The classifiers are separate morphemes.

Results

Prediction 1:

"If a classifier is semantically connected to the numeral, we may expect to find idiosyncrasies in whether or not a numeral requires a numeral classifier."

Numerals in Yucatec Maya obligatorily appear with numeral classifiers (see Lehmann 2010: 1). However, speakers generally only use Mayan numerals up to three, sometimes four (see Lehmann 2010: 4). According to Lehmann (2010), "Spanish numerals in Yucatec Maya do not allow the numeral classifier" (Lehmann 2010: 5). As a result, Yucatec Maya shows the same idiosyncrasy concerning Spanish numerals as Ch'ol. Mandarin, on the other hand, does not show any idiosyncrasies like this at all (see Bale & Coon: 695).

Prediction 2:

"If a classifier is semantically connected to the noun, we may expect to find idiosyncrasies in whether or not a noun requires a classifier."

In Mandarin, the noun determines the classifier. This leads to idiosyncrasies concerning certain nouns: "If the noun itself denotes a measure, it does not take a classifier" (Li & Thompson 1981: 105). Examples of this include the Mandarin words for *piece*, *mile* and *day*. Not only do measure words not take classifiers but can also *be* classifiers and combine with other nouns (see Li & Thompson 1981: 106). However, Yucatec Maya also exhibits measure words being used in place of classifiers (see Law 2024, from minute 9:30).

Prediction 3:

"If a classifier is semantically connected to the noun, we may expect to find it with the noun in places other than with numerals."

In Mandarin, classifiers are frequently found with nouns in places other than with numerals. For example, Mandarin requires the use of classifiers when using demonstratives (Zhang 2007: 43), which Yucatec does not. However, classifiers can also serve different functions. An example of this are noun-classifier compounds which "always indicate a collective or a plural noun" (Li & Thompson 1981: 82). An example for this is *shū-běn* which means *books* in contrast to example (4)a. In Yucatec Maya, classifiers generally never occur without a numeral and the only exception is still limited to counting (see Lehmann 2010: 5).

Prediction 4:

"If a classifier is semantically connected to the numeral, we may expect to find it with the numeral when it is not combining with a noun."

Yucatec Maya exhibits what Lehmann (2010) calls "naked numeral classifier phrases" (Lehmann 2010: 3) where only a numeral and a classifier are used in place of a complete noun phrase. Phrases like these are "typically used in anaphora" (Lehmann 2010: 4). In Mandarin, the classifiers do not appear without the classified noun. For example, classifiers are not required when counting with cardinal numbers:

(5) yī, èr, sān, sì, wǔ …
one two three four five
1, 2, 3, 4, 5 …

(Mandarin)

Discussion and conclusion

As stated in the hypothesis, prediction 1 and 4 apply to Yucatec Maya and prediction 2 and 3 apply to Mandarin. This is interesting because it entirely reflects the results generated by Little, Moroney & Royer (2022).

Yucatec Maya shows idiosyncrasies in whether or not a numeral requires a numeral classifier, and classifiers are semantically connected to the numeral because they can combine with a numeral in the absence of a noun. These findings suggest a stronger relationship between numeral and classifier than between noun and classifier.

Mandarin on the other hand shows idiosyncrasies in whether or not a noun requires a classifier, and classifiers are semantically connected to the noun because they can combine with a noun in the absence of a numeral. This suggests a stronger relationship between noun and classifier than between numeral and classifier.

However, prediction 2 also applies to Yucatec Maya as measure words are shown to be used in place of classifiers. At first glance, this seems to break the hypothesis, but Law (2024) mentions that the measure word only occupies the same slot as the classifier instead of *being* the classifier. This is different in Mandarin as Li & Thompson (1981) explicitly state that measure words *are* classifiers. To make a clear statement on this matter, further investigation would be needed. Nevertheless, the predictions still apply as expected and this is just an additional aspect.

To sum up, Yucatec Maya can be categorized as a *classifier-for-numeral* language while Mandarin can be categorized as a *classifier-for-noun* language.

This raises the question whether a broad generalization could be made that all Mayan languages with numeral classifiers are *classifier-for-numeral* languages while all Asian languages with numeral classifiers are *classifier-for-noun* languages. This question is up for further investigation.

Further information

Please see https://spw.uni-goettingen.de/projects/maya/index.htmls for more information on Mayan Languages. I am available through E-mail at lea.george@stud.uni-goettingen.com if you have a question or comment.

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