Optional classifiers in a 'classifiers-for-numerals' language

Overview. Jinghpaw (Tibeto-Burman; Myanmar) presents a curious case in numeral modification: while classifiers are available for some of its count nouns, they are always optional and a numeral can always directly combine with a count noun. This pattern puts Jinghpaw in between Chierchia's (2019) Type II languages aka *classifier* languages such as Chinese and Type I languages such as English (see also Chierchia 1998). Building on previous accounts (Krifka 1995, Sontras 2014) with novel field data, I provide an analysis that captures this distribution of Jinghpaw classifiers: the classifiers are overt realizations of the head of a cardinal measure phrase that takes a d type numeral as argument to produce a modifier. Jinghpaw thus constitutes a case where a bare NP language is not simultaneously a 'classifiers-for-nouns' language (cf. Chierchia 1998). The Jinghpaw data also show that idiosyncrasies in whether a noun requires a classifier is not necessarily tied to special semantics of a subset of nouns or a trait of classifiers for nouns (cf. Little et al. 2022).

Background. JINGHPAW NOUNS. Jinghpaw is a bare NP language. This is reflected in three aspects: (i) Jinghpaw has generalized bare NP arguments (1)-(3); (ii) Jinghpaw generally does not mark plurality (2)-(3); (iii) Jinghpaw has no definite or indefinite articles (3). This might seem to suggest Jinghpaw nouns as kinds, as has been proposed for other bare NP languages such as Mandarin (Chierchia 1998). However, unlike Mandarin, Jinghpaw shows a clear count/mass distinction in numeral modification and pluralization: (i) count nouns can always combine directly with a numeral while mass nouns cannot unless a measure unit intermediates (4); (ii) count nouns of all types can form plurals (by combining with the plural marker *nī*) while mass nouns cannot (5). Thus it is reasonable that not all Jinghpaw nouns are kind-denoting. I treat Jinghpaw count nouns as predicates.

(1)   T̲s̲á̲p̲ ̲h̲p̲r̲à̲w̲ gàw grài tâw ài.
       panda   TOP very rare NFUT
       'The panda is very rare.' (kind)

(2)   Ù̲   káw mūn tū ài.
       chicken LOC feather grow NFUT
       'Chickens have feathers.' (generic)

(3)   Ngāi m̲ă̲g̲w̲ī̲ mù ài.
       1SG elephant see NFUT
       'I see an elephant/elephants.' (indef.)
       or 'I see the elephant(s).' (definite)

(4)   a.   nùm   lăhkâwng
             woman two
             'two women'

       b.   hká   *(d̲ì̲b̲ū̲) lăhkâwng
             water *(pot)   two
             'two pots of water'

(5)   a.   nùm   / bràngtái / hpún n̲ī̲
             woman / rabbit   / tree PL
             'women / rabbits / trees'

       b.   *hká   / jùm n̲ī̲
             water / salt PL

THE INVENTORY OF JINGHPAW CLASSIFIERS. Jinghpaw only contains a very small number of classifiers, which optionally occur with selected nouns (Dai 2012, Kurabe 2017, a.o.). Based on the data I have collected, I work with the hypothesis there are two classifiers in Jinghpaw, *mărāi* and *hkùm*. The former is the classifier for humans; the latter is for edibles such as cooked animals and harvested fruits. The majority of the Jinghpaw nouns never appear with a classifier, for the simple reason that there they are not humans or edibles.

Jinghpaw classifiers are CardP head. Jinghpaw classifiers have the following properties. (i) Classifiers form a constituent with the numeral they co-occur with. We see in (6) that [Clf Num] phrases can be used pronominally; as a matter of fact, both numerals and [Clf Num] phrases can. We also see in (9) that [Clf Num] phrases can be used as answer fragments. (ii) Classifiers must co-occur with a numeral. Classifiers appearing without a numeral yields ungrammatical results (7). The only two non-numeral items that may co-occur with classifiers are 'how many' and 'every', which I will argue do not constitute true exceptions to the generalization in (ii), as 'how many' is unique among quantifiers in that it really is a *wh*-word equivalent to 'what number' that denotes the set of type d elements, while Jinghpaw 'every' comes with a covert numeral 'one' (8). (iii) Numerals can freely occur by themselves without a classifier. In (9) any of the four answers is allowed; the difference is only found in formality/registers.

(6)   Ngāi jàwngmà (m̲ă̲r̲ā̲i̲) mălī mù ài.   (M̲ă̲r̲ā̲i̲) măsūm gàw làikā   htí ngà ài.
       1SG student (CL)   five see NFUT (CL)   three   TOP literature read PROG NFUT
       'I see five students. Three are reading.'

(7) a. Ngāi jàwngmà (*<u>mǎrāi</u>) mù ài.   b. jàwngmà (*<u>mǎrāi</u>) grài lāw
     1SG student (*CL) see NFUT   student (*CL) many
     'I saw a/the student(s).'   'many students'

(8) Jàwngmà (**mǎrāi**) (*<u>mī</u>) shăgù, māwdāw shăbrāi gūmhpràw láp   măngā shī jàw rà   ài.
     student (CL) (*one) every motorcar ticket money   tender fifty   give need NFUT
     Jàwngmà (**mǎrāi**) <u>lăhkâwng</u> shăgù, māwdāw shăbrāi gūmhpràw láp   mătsát shī jàw rà   ài.
     student (CL) two   every motorcar ticket money   tender eighty   give need NFUT
     'For every one student, the ticket costs 50 dollars. For every two students, the tickets cost 80 dollars.'

(9) Q: How many students are there?   A₂: *Jàwngmà mǎsūm.* 'Three students.'
     A₁: Jàwngmà <u>mǎrāi</u> măsūm.   A₃: *Mǎrāi mǎsūm.* 'Three.'
         student CL three   A₄: *Mǎsūm.* 'Three.'
         'Three students.'

To capture the said properties, I propose that Jinghpaw classifiers are overt realizations of the head of a cardinal measure phrase (Scontras 2014). The Card head may be phonologically empty. I assume that numerals denote degrees and form a Numeral Phrase. Syntactically, Card head selects a Numeral Phrase and CardP adjoins the NP to its right (10). Semantically, Card head takes a d-type number as argument and returns a modifier (11). This analysis successfully captures that both numerals and [Clf Num] phrases can be pronominal and that classifiers cannot occur without numerals.

(10)

NP₁
- NP₂
  - N
- CardP
  - Card
    - (Clf)
  - NumP
    - Num

(11) a. ⟦ Card$_\varnothing$ ⟧ = λnλPλx. P(x) & $\mu_\#$(x)=n
     b. ⟦ *mǎrāi* ⟧ = λnλPλx. P(x) & $\mu_\#$(x)=n
         presupposes x is human

Cross-linguistic implications. (i) CLASSIFIER TYPOLOGIES. Cross-linguistically classifiers do not form a homogeneous class. Research has debated on whether classifiers are needed to allow numerals to count or to allow nouns to be counted (classifiers 'for' numerals or 'for' nouns) (Krifka 1995, Chierchia 1998, Bale & Coon 2014 a.o.). Little et al. 2022 argues that both two types of classifiers exist across languages and predict that there are idiosyncrasies in whether a noun requires a classifier in a classifiers-for-nouns language (see also Simpson & Ngo 2018). Jinghpaw classifiers are 'for' numerals; however only a small set of Jinghpaw nouns may appear with classifiers, for the simple reason that most of the nouns do not satisfy the semantic requirement, e.g., humanness, of the very few classifiers available. Jinghpaw thus appears to be a classifiers-for-nouns language on the surface despite being the opposite. Similarly, Tiwa (Tibeto-Burman) is also argued to have classifiers-for-numerals (though in a different sense) but specialized 'reciprocal plural kinship terms' cannot appear with classifiers due to special semantics (Dawson 2022). The cases of Jinghpaw and Tiwa suggest we be careful when applying the diagnostic of idiosyncratic appearance as 'exceptions' appear to be not unusual.

(ii) BARE NP ≠ CLASSIFIER-FOR-NOUN. Since Chierchia 1998, bare NP/[+arg, −pred] languages have been effectively considered synonymous with classifiers-for-nouns languages (in Chierchia's original terms they are simply *classifier languages*; in the light of subsequent research they are specifically classifiers-for-nouns languages). Chierchia suggests the reason is that in a bare NP language, all nouns are kind terms and a classifier helps to create a set of atoms out of a kind term. In other words, a bare NP language has 'atomizer' classifiers. We have seen that Jinghpaw makes a count/mass distinction and its count nouns are predicates, which explains why Jinghpaw is a bare NP language but doesn't have classifiers-for-nouns. The case of Jinghpaw suggests being a bare NP language doesn't equate to all nouns denoting kinds or being a classifiers-for-nouns language (see also Dëne Sułiné (Na-Dené) in Wilhelm 2008).

References. Chierchia 1998. Reference to kinds across languages. Chierchia 2019. Mass vs. Count: Where do we stand? Dai 2012. [A Reference Grammar of Jingpo]. Dawson 2022. Numeral modification and selection in a classifier language. Krifka 1995. Common nouns: a contrastive analysis of English and Chinese. Little et al. 2022. Classifiers can be for classifiers or nouns. Scontras 2014. The Semantics of Measurement. Wilhelm 2008. Bare nouns and number in Dëne Sułiné.