Indonesian classifiers are required by syntax, not semantics

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The main points:

Indonesian classifiers are **adjuncts required to attach to numerals**: they carry an unvalued selectional feature uNum.

Introduction

Setting the stage

- I have studied Standard Indonesian as spoken/written in Jakarta
- Main sources of data:
  - texts in Indoneisan media
  - elicitation (two educated consultants from Jakarta)
- Main focus: syntax and semantics of sortal classifiers (*buah*, *ekor* etc.)

- Bigger theoretical problem: classifier theories are based on (compositional) semantics, and explain syntactic facts in a semantic framework (e.g. Chierchia 1998)
- A question: is this semantics-grounded approach justified for Indonesian?
- ... Or perhaps one can do (almost) without semantics?

- Or: can one build a theory of syntax of classifiers without assuming an isomorphism between syntax and semantics at all?
- (Inspired by: Preminger 2021)

Sortal classifiers do not encode indefiniteness

- Little, Winarto 2018: Indonesian classifiers are "**inherently indefinite**"
- for this reason, they cannot cooccur with the possessive marker *-nya* '-POSS', which may convey not only possessive semantics, but also definiteness

(1) dua orang anak-nya
two CLF child-3.POSS
OK 'his/her two children'
* 'the two children'
(Little, Winarto 2018)

- BUT: if classifiers are indefinite, they are predicted not to occur with any definite markers
- A PROBLEM: classifiers **do occur in NPs modified by demonstratives**

(2) jangan sentuh dua **ekor** ular **itu**
don't touch two CLF snake that
'Don't touch those two snakes!'

(3) Dua **ekor** kucing **itu** merasa malu dan
two CLF cat that feel embarrassed and
tidak tahu harus berkata apa-apa.
NEG know must say anything
'These two [previously mentioned] cats felt embarrassed and didn't know what to say.'

- Elbourne 2008: demonstratives have much in common with definite articles
- Informally: demonstratives are definite articles with additional deictic meaning
- hence: NPs with demonstratives are **definite**

Hence: **classifiers do not encode indefiniteness**.

Sortal classifiers do not prevent reference to subkinds

Nomoto 2013: in Malay, classifiers prevent reference to subkinds

(4) Malay

Masih tinggal tiga **buah** majalah dan
still left three CLF magazine and
semua majalah itu majalah Mastika.
all magazine that magazine M.

'We still have three (**copies** of) magazines and all of them are Mastika.'

(5) Malay

ok Masih tinggal tiga majalah, iaitu
still left three magazine namely
majalah Mastika, majalah PC dan Nona
magazine M. magazine PC and N.

'We still have three (**titles** of) magazines, namely Mastika, Majalah PC and Nona.'

(6) Malay

?? Masih tinggal tiga **buah** majalah, iaitu
still left three CLF magazine namely
majalah Mastika, majalah PC dan Nona
magazine M. magazine PC and N.

int. meaning: 'We still have three (**titles** of) magazines, namely Mastika, Majalah PC and Nona.'

- BUT: In Indonesian, bare nouns do not have kind-interpretation at all
- consequently, classifiers cannot "block" it

(7) Di perpustakaan ada tiga buku
in library there.is three book

OK ‘In the library, there are (only) three books.’

* ‘In the library, there are three kinds of books (e.g. fiction books, comic books and textbooks).’

(8) Di perpustakaan ada tiga **macam** buku
in library there.is three kind book

‘In the library, there are three kinds of books (e.g. fiction books, comic books and textbooks).’

Sortal classifiers do not encode any number semantics

- Little, Winarto 2018: classifiers incorporate a "measure function" $\mu_{\#}$, which is required for counting
- i.e. **they have number-related semantics**
- ... and are semantically required in quantification

(9) $[\![buah]\!] = \lambda n \lambda P.f(\lambda x.[\mu_{\#}(x) = n \& P(x)]))$ f is bound by existential closure

(10) $[\![lima]\!] = 5$

(11) $[\![\text{lima buah}]\!] = \lambda P.f(\lambda x.[\mu_{\#}(x) = 5 \& P(x)])$ f is bound by existential closure

- A PROBLEM (1): Indonesian classifiers are not obligatory in any context (to be shown below)
- ... Little, Winarto 2018 have to postulate a **zero classifier** in a very large number of contexts
- the distribution of zero vs. non-zero classifiers appears totally unconstrained

- A PROBLEM (2): classifiers **do not interact with number semantics in any visible way**
- there are no way to detect the presence of the "measure function" $\mu_{\#}$
- i.e. to trace the "number" semantics of classifiers

I suggest that **classifiers do not have any number semantics at all**.

Classifiers introduce presuppositions

Nomoto 2013: in Malay, classifiers introduce **conventional implicatures** about the class the noun belongs to

1. The use of a wrong classifier may render the sentence inappropriate, but not ungrammatical.

(12) Malay

tiga ekor lelaki menerpa ke
three CLF man rush to
arah-nya, menghentam kepala
direction-3.POSS beat head
pemuda tersebut dengan helmet
youngster mentioned with helmet

'<...> three [bad] men rushed towards her and beat the youngster's head with their helmets.'

(Nomoto 2013: 75-76)

2. The meaning of classifiers projects from negation.

(13) Malay

Adalah tidak benar bahawa tiga ekor lelaki
be not true that three NEG man
itu meragut beg tangan-nya.
that rob bag hand.3.POSS

'It is not true that the three bad men robbed her of her handbag.'

(Nomoto 2013: 76)

3. The meaning of classifiers passes unchanged through presupposition plugs (e.g. belief contexts).

(14) Malay

Emak saya percaya tiga ekor lelaki itu
mother I believe three CLF male that
orang baik.
human good

'My mom believes that the three men [that are bad from the speaker's point of view] are good people..'

(Nomoto 2013: 77)

- BUT: in Indonesian, it appears, misusing a classifier renders the sentence illicit

(15) Indonesian

* Ibu saya percaya tiga ekor lelaki itu
mother I believe three CLF male that
orang baik.
human good

int. meaning: 'My mom believes that the three men [that are bad from the speaker's point of view] are good people..'

I suggest that, in Indonesian, in contrast to Malay, **classifiers introduce presuppositions** (and not conventional implicatures).

Classifiers combine with Num, not N

- The main question on the syntax of classifiers:
  - Do they form a constituent with the **noun** or with the **numeral**?
- Two possible structures:
  - Num [N Cl]
  - [Num Cl] N
- Cross-linguistically: both options attested

- Nomoto 2013: Num [N Cl] (Malay)
- Carson 2000: Num [N Cl] (Indonesian)

I argue that, in Indonesian, **classifiers combine with numerals and not nouns** (contra Carson 2000).

1. Classifiers can only occur in the NP only when the numeral is present

(16) dua (ekor) kucing
two CLF cat
'two cats'

(17) ekor kucing
CLF/tail cat
* '(a) cat'
OK 'a cat's tail'

2. The nominal head and the classifier may be linearly nonadjacent

(18) Postnominal numerals

kucing dua (ekor)
cat two CLF

'two cats'

(19) "Floated" numerals

udang purba itu tinggal dua (ekor)
shrimp ancient this remain two CLF

'Only 2 (of those) ancient shrimps remain.' (sains.kompas.com)

2. The nominal head and the classifier may be linearly nonadjacent

(20) "headless" nominals with numerals

dua (ekor) mati dan dua (ekor) lagi tidak
two CLF die and two CLF also NEG
bisa berdiri
can stand.up

'Two animals died, and two others cannot stand up.' (Google books)

3. Evidence from ellipsis: the combination of a numeral and a classifier can stand as a fragmented answer to a question

(21) — How many cats do you have?

(22) dua (ekor)
two CLF
'— Two.'

3. Evidence from ellipsis: ... but [NUM + CLF] cannot stand as an answer.

(23) — Have you adopted a cat, or perhaps a dog?

(24) * ekor kucing
CLF cat
int. meaning: a cat '— A cat.'

Importantly, **in none of the examples above is the classifier obligatory (according to my consultants).**

An analysis: classifiers are adjuncts

- Following Bruening et al. (2018), I assume that the head of the nominal is N, not D
- Classifiers are **adjuncts**
- Zeijlstra (2020): adjuncts carry unvalued selectional features, which require them to combine with constituents of a certain kind

- Classifiers have an unvalued selectional feature [uNum]
- once they enter the syntactic workspace, they are required to combine with the numeral
- Numerals have an unvalued selectional feature [uN], which means that they need to conjoin with the noun
- **There are no syntactic elements requiring a classifiers**; that is why they are not obligatory in any context.

(25) Structure of NPs with numerals

[NP [NP [NumP Num Cl] N]]

In my framework, the syntax of Indonesian classifiers is accounted for by two assumptions:

1. Classifiers introduce presuppositions that a given noun belongs to a certain nominal class (semantic assumption)
2. Classifiers are adjuncts with an unvalued selectional feature uNum, required to attach to a numeral (syntactic assumption)

- (1) accounts for the fact that one cannot use a “wrong” classifier
- (2) accounts for word order patterns and for the non-obligatoriness of classifiers

No need for:

1. Compositional formal semantics
2. Invisible and undetectable zero elements ("zero classifiers" as in Little, Winarto 2018)
3. NP-internal movements (as in classifiers-for-nouns analyses; cf. Simpson 2005)

A theoretical point: **syntactic facts have to be accounted for by a syntactic analysis, not by the semantic one.**

Terima kasih! All comments welcome. Write me: netkachev.hum@gmail.com.

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