

Co-occurring plural marking and classifiers in Bishnupriya Manipuri*

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1. Introduction

It has often been claimed that numeral classifiers and plural markers are in complementary distribution crosslinguistically (T'sou 1976, Chierchia 1998, Borer 2005, i.a.). Many familiar languages express plural number with a dedicated plural morpheme, but lack classifiers (e.g. English). Others employ classifiers in counting contexts, but are argued to lack genuine plural morphology (e.g. Thai (Jenks 2011)). In other languages yet, both plural marking and classifiers are available, but the two never co-occur: they are in complementary distribution within the same noun phrase (e.g. Western Armenian (Borer 2005)). To account for these crosslinguistic patterns, Borer (2005) proposes that classifiers and plural markers are in morphosyntactic competition: both types of morphemes instantiate Div, a functional head responsible for individuation. Although languages have been identified where classifiers and plural markers co-occur (e.g. Halkomelem Salish (Wiltschko 2008), Yucatec Maya (Butler 2011), Korean (Kim and Melchin 2018)), the classifiers or plural markers in these languages are typically analyzed as instantiating non-canonical positions, such that Borer's (2005) proposal is not predicted to apply to them.

This paper evaluates the hypothesized complementarity between plural markers and classifiers in light of data from Bishnupriya Manipuri (Indo-Aryan; abbreviated to BPM). BPM has a general-use plural marker that co-occurs with classifiers.

- | | | | | | | | |
|-----|----|------------|----|--------------------|----|-------------------|--------------|
| (1) | a. | lerik han | b. | lerik han-i | c. | lerik tin-o | han-i |
| | | book CL | | book CL-PL | | book three-DEF | CL-PL |
| | | 'the book' | | 'the books' | | 'the three books' | |

I argue that the BPM plural marker is a Num head (in the sense of Ritter 1991), and classifiers occupy an adjacent Cl head in the nominal spine: both types of morphemes co-occur

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without either occupying a non-canonical position. I propose, therefore, that the typology of plural markers in classifier languages is wider than often assumed. It may be that classifiers and plural markers realize the same syntactic head in languages where complementarity is observed (in line with Borer 2005); however, in languages where the two co-occur, various structural configurations are possible, including one where classifiers and plural markers simply head separate projections.

The paper is organized as follows. The next section provides background on BPM and discusses the distribution of classifiers and plural marking. Section 3 argues that the BPM classifiers and plural marker head separate functional projections. In motivating this configuration, I present an analysis of the overall DP structure in the language. Section 4 addresses the functions of the classifiers and plural marker given their status as separate heads. I motivate an account where CI restricts the ontological sort of entity included in the nominal denotation, and Num generates singularities or pluralities. Section 5 concludes and briefly discusses implications.

2. Language background

Bishnupriya Manipuri (BPM) is an Eastern Indo-Aryan language which has had extensive contact with Tibeto-Burman languages, particularly Meithei (Singha 1981). BPM is presently spoken in parts of Assam and Tripura, India, and Sylhet, Bangladesh, but was historically spoken in Manipur, India. All data come from my own documentation work from 2019-2022 with six speakers in the greater New York City area, one of whom has been the primary consultant (Uttam Singha).

2.1 Overview of the classifiers

BPM has three classifiers that enable nouns to be modified by numerals: *go*, *han*, and *ta*.

(2) *BPM classifier inventory*

Classifier	Type	Semantic features	Examples
<i>go</i>	object	animate, round, contained	<i>manu</i> ‘human’, <i>pakhia</i> ‘bird’, <i>gutham</i> ‘button’, <i>gor</i> ‘house’
<i>han</i>	object	inanimate, flat, uncontained	<i>pata</i> ‘leaf’, <i>at</i> ‘hand’, <i>gaŋ</i> ‘village’, <i>kumei</i> ‘festival’
<i>ta</i>	subkind	any	any

Classifiers *go* and *han* (henceforth, *object classifiers*) enable object readings (3) and combine with nouns based on their semantic features. Meanwhile, *ta* (henceforth, the *subkind classifier*) enables subkind or group readings (4) and is compatible with any noun. The semantic contrast between object and subkind classifiers is discussed further in Section 4.

(3) *Object classifiers*

- | | | | |
|----|---|----|---|
| a. | horop t̩n *(go)
snake three CL _{go}
'three snakes' | b. | lerik t̩n *(han)
book three CL _{han}
'three books' |
|----|---|----|---|

(4) *Subkind classifier*

- | | | | |
|----|---|----|---|
| a. | horop t̩n *(ta)
snake three CL _{ta}
'three kinds/groups of snakes' | b. | lerik t̩n *(ta)
book three CL _{ta}
'three kinds/groups of books' |
|----|---|----|---|

Classifiers have a wide-ranging distribution in BPM. They occur not only with numerals, but also with other cardinal quantifiers (5), demonstratives (6), and nouns alone, in so-called bare classifier phrases (7a). The bare classifier phrase is interpreted as definite and singular (in the absence of plural marking) while bare noun arguments (7b) are interpreted as indefinite (or generic) and number-neutral.¹

- | | | | |
|--------|---|----|--|
| (5) a. | lerik koto han
book few CL _{han}
'a few books' | b. | lerik bokca han
book several CL _{han}
'several books' |
| (6) a. | lerik e han
book DEM.PROX CL _{han}
'this book' | b. | lerik ou han
book DEM.DIST CL _{han}
'that book' |
| (7) a. | lerik han
book CL _{han}
'the book' | b. | lerik
book
'book(s)' |

Classifiers are also an obligatory component of nominal *wh*-phrases (8).

- | | | | |
|--------|---|----|---|
| (8) a. | kuŋ *(go) ah-er go?
who CL _{go} come-3SG.PRS AGR
'Who is coming?' | b. | ki *(han) por-il han?
what CL _{han} fall-3SG.PST AGR
'What fell?' |
|--------|---|----|---|

2.2 Overview of plural marking

BPM has a plural marker, *-i*, that occurs as a suffix to the object classifiers. Observe the contrast in interpretation between expressions with and without *-i* in (9) and (10).

- | | | | |
|--------|---|----|---|
| (9) a. | sou go
child CL _{go}
'the child' | b. | sou g-i
child CL _{go} -PL
'the children' |
|--------|---|----|---|

¹A similar pattern is observed in Cantonese (Cheng and Sybesma 1999) and Bangla (Dayal 2012).

- (10) a. lerik e han
book DEM.PROX CL_{han}
'this book'
- b. lerik e han-i
book DEM.PROX CL_{han}-PL
'these books'

A nominal expression with an object classifier is typically interpreted as plural if *-i* is present, and singular otherwise. This pattern is consistent across bare classifier phrases (9) and demonstrative phrases (10). However, in the context of cardinal expressions, there is a definiteness-based split: plural marking is disallowed in indefinite cardinal expressions but required in definite cardinal expressions (11).

- (11) a. lerik tin han(*-i)
book three CL_{han}-*PL
'three books'
- b. lerik tin-o han*(-i)
book three-DEF CL_{han}-PL
'the three books'

It cannot be generalized that plural marking occurs only definite contexts, however. *Wh*-expressions, commonly analyzed as indefinites (e.g. Karttunen 1977), also inflect for number.²

- (12) a. kuj go ah-il go?
who CL_{go} come-3SG.PST AGR
'Who came?'
- b. kuj g-i ah-ila go?
who CL_{go}-PL come-3PL.PST AGR
'Who all came?'

The plural marker does not appear in expressions without an object classifier; it cannot combine directly with a bare noun (13) or the subkind classifier (14).

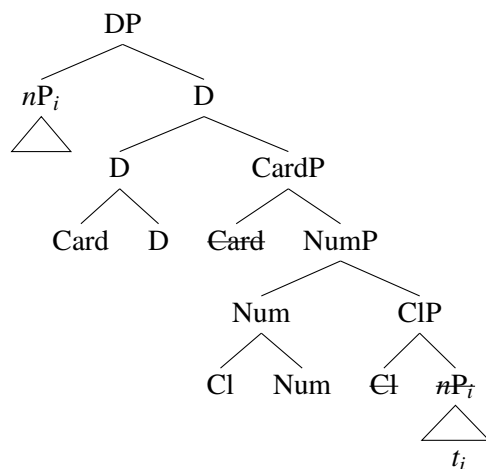
- (13) *lerik-i
book-PL
- (14) *lerik ou ta-i
book DEM.DIST CL_{ta}-PL

3. Syntactic configuration of the BPM classifiers and plural marker

In this section, I motivate the syntactic structure shown in (15) for BPM nominals that contain a classifier. Crucially, CIP and NumP are separate projections in this structure: Cl is the position of the classifiers, while Num is the locus of the singular/plural distinction (Ritter 1991). CardP is the projection headed by cardinal quantifiers, including numerals. The DP may be headed by the definite marker (*-o*), one of the demonstratives (*e*, *ou*), or a null morpheme, as discussed in the next subsection.

²Plural marking is consistent across D-linked and non-D-linked *wh*-expressions, which employ different *wh*-words. Therefore, it is also not the case that plural marking is restricted to "specific" contexts, i.e. those where the nominal is linked in some way to discourse-familiar values.

(15) *Basic DP structure in BPM*



BPM allows two different word orders in the nominal domain. The first order, which is always available, is **Adj + N + Card/D + Cl/Pl** (16). The second order, which is only available in cardinal expressions, is **Card/D + Cl/Pl + Adj + N** (17). When both options are available, the choice in word order is information-structurally motivated.³

- (16) a. $\begin{matrix} \text{dola} & \text{bag} & \text{tin-o} & \text{g-i} \\ \text{white tiger} & & \text{three-DEF} & \text{CL}_{go}\text{-PL} \\ \text{'the three white tigers'} \end{matrix}$ b. $\begin{matrix} \text{dola} & \text{bag} & \text{e} & \text{g-i} \\ \text{white tiger} & & \text{DEM.PROX} & \text{CL}_{go}\text{-PL} \\ \text{'these white tigers'} \end{matrix}$
- (17) a. $\begin{matrix} \text{tin-o} & \text{g-i} & \text{dola} & \text{bag} \\ \text{three-DEF} & \text{CL}_{go}\text{-PL} & \text{white tiger} & \\ \text{'the three white tigers'} \end{matrix}$ b. $\begin{matrix} *e & \text{g-i} & \text{dola} & \text{bag} \\ \text{DEM.PROX} & \text{CL}_{go}\text{-PL} & \text{white tiger} & \\ \text{Int: 'these white tigers'} \end{matrix}$

Following Simpson (2008) and Dayal (2012), I derive the order in (16) by movement of the nP to the specifier of DP, as shown in (15). This movement is generally obligatory (see ungrammatical (17b)), but optional in the presence of a cardinal, yielding both (16a) and (17a).

3.1 Definite markers and their distribution with respect to cardinals

It is debated whether nominal expressions in classifier languages include a DP projection, given that many classifier languages lack definite articles (e.g. Mandarin (Cheng and Sybesma 1999), Thai (Piriyawiboon 2010)). BPM has an overt marker of definiteness, *-o*, albeit with a limited distribution: it occurs only as a suffix to numerals. A cardinal expression cannot be interpreted as definite without *-o* (18).

³Whereas in Bangla, the same movement is argued to correlate with definiteness (Dayal 2012).

- (18) mi _̃tin go raṇa baro pac go ondira heinu lui-lu. mi **tin-o**
 1SG three CL_{go} red and five CL_{go} yellow mango buy-1SG.PST. 1SG three-DEF
g-i (# _̃tin go) **raṇa heinu** khe-ilu.
 CL_{go}-PL three CL_{go} red mango eat-1SG.PST
 ‘I bought three red and five yellow mangoes. I ate **the three red mangoes.**’

In the absence of a numeral, the bare classifier phrase is interpreted as definite (19).

- (19) mi kola (# a) go baro heinu (# a) go lui-lu. mi
 1SG banana SG.INDEF CL_{go} and mango SG.INDEF CL_{go} buy-1SG.PST 1SG
kola go khe-ilu.
 banana CL_{go} eat-1SG.PST
 ‘I bought a banana and a mango. I ate **the banana.**’⁴

I unify these facts by proposing that BPM has a definite determiner with two allomorphs: *-o* surfaces in the context of a cardinal, and the null form occurs elsewhere. Card to D head movement accounts for the morphological combination of numerals and the definite marker.⁵ The BPM demonstratives *e* and *ou* are in complementary distribution with cardinals and the definite suffix *-o* (20) (i.e. the complex Card+D head).⁶ Based on this co-occurrence restriction, I take the demonstratives to also instantiate D.

- (20) a. *bag e _̃tin(-o) go b. *bag _̃tin(-o) e go
 tiger DEM.PROX three CL_{go} tiger three DEM.PROX CL_{go}
 Int: ‘these three tigers’ Int: ‘these three tigers’

To summarize, in the absence of a cardinal, D may be realized as a demonstrative (*e* or *ou*) or the null definite marker. When a cardinal is present, D is realized as *-o* when definite and null when indefinite.

3.2 Position of the classifiers

The structure in (15) represents classifiers as functional heads that select *nP* complements. This configuration is standard under “classifier-for-noun” theories, but at odds with “classifier-for-numeral” theories. Under the first family of theories, classifiers modify noun denotations; syntactically, they form a constituent with the noun to the exclusion of the numeral (Chierchia 1998, i.a.). Under the competing classifier-for-numeral theories, classifiers supply a measure function argument to numerals, and therefore must compose with the numeral before the noun (Krifka 1995, Bale and Coon 2014, i.a.). The structures assumed by the two families of theories are represented in (21).

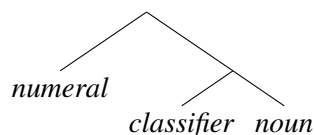
⁴Both instances of singular indefinite marker *a* are required when a banana and a mango are new discourse referents. I leave aside for now the question of whether *a* occupies D or a different position.

⁵I analyze numerals as heads rather than specifiers given this movement to D.

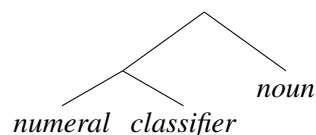
⁶There is a second set of demonstratives, *ere* ‘DEM.PROX’ and *oure* ‘DEM.DIST’, which can co-occur with numerals and the first set of demonstratives. I analyze them as adjuncts and exclude them from the discussion.

Co-occurring plural marking and classifiers in BPM

(21) a. *Classifiers-for-nouns*



b. *Classifiers-for-numerals*



I adopt the view advanced in Little et al. (2022) that classifier-for-noun and classifier-for-numeral analyses are both correct, but for different languages. Little et al. predict that in classifier-for-numeral languages, classifiers may co-occur with plural markers, since they are not in structural competition with Num. This proposal cannot explain the co-occurrence of classifiers and plural marking in BPM: as evidenced by diagnostics from Little et al. (2022), BPM is a classifier-for-noun language.

First, classifiers in BPM occur with nouns in the absence of numerals (e.g. in bare classifier phrases and demonstrative phrases), but never with numerals in the absence of nouns (unless a noun is implied). For instance, in counting contexts or when referring directly to a number, a classifier is not used.

(22) *Context: Students are practicing counting.*

ak (#go), du (#go), tin (#go)...
 one (CL_{go}) two (CL_{go}), three (CL_{go})
 ‘1, 2, 3...’

(23) *Context: The speaker is asked to pick a number from 1-10.*

mi cari (#go) bas-uri.
 1SG four CL_{go} select-1SG.PRS
 ‘I pick 4.’

Second, there is a small class of nouns for which classifiers are optional in BPM; there are no similar idiosyncrasies in terms of whether a numeral requires a classifier. The nouns that do not require classifiers plausibly contain the function of the classifier in their denotation.

(24) a. e mari
 DEM.PROX year
 ‘this year’

b. mari e han
 year DEM.PROX CL_{han}
 ‘this year’

(25) a. tin φam
 three place
 ‘three places’

b. φam tin han
 place three CL_{han}
 ‘three places’

Both diagnostics indicate that the presence of the classifier is contingent on the semantics of the noun it occurs with rather than the numeral.

3.3 Position of the plural marker

Plural markers are canonically analyzed as instantiating Num (Ritter 1991, i.a.); I argue that the same position hosts the BPM plural marker. Aside from Num, adjoined positions (Wiltschko 2008) and *n* (Kramer 2016) have also been identified as potential hosts of number features. The adjunct analysis in particular has been advanced for plural markers that co-occur with classifiers (e.g. in Halkomelem Salish (Wiltschko 2008), Korean (Kim and Melchin 2018), and Yucatec Maya (Butler 2011)). In BPM, neither the adjunct nor the *n* analyses are compatible with the distribution of *-i*.

Wiltschko (2008) claims that adjoined plural markers, unlike head plural markers, are optional and do not trigger agreement. BPM *-i* patterns like a head plural marker. It is obligatory in all contexts where it is licensed; in its absence, a noun phrase is either no longer interpreted as plural (as in bare classifier and demonstrative phrases) or ungrammatical (as in definite cardinal expressions). In addition, plural agreement between plural-marked subject DPs and verbs is obligatory (26).

- (26) manu e g-i coktha is-i/(*-e).
 person DEM.PROX CL_{go}-PL tired be-3PL.PRS/3SG.PRS
 ‘These people are tired.’

Meanwhile, plural markers instantiating *n* are predicted to be positioned closer to the noun than other functional material, to have idiosyncratic realizations and interpretations with different nouns, and to be able to function as category-determiners (Kramer 2016). None of these predictions are borne out for BPM *-i*. In BPM, the plural marker does not directly attach to the noun, but rather requires an intervening classifier. Its form and semantics are consistent across nouns, and it cannot define the category of a root. In fact, it co-occurs with nominalizing heads (27).

- (27) a. kaḍ-**ura** g-i b. haṭura-**ura** g-i
 cry-NMLZ CL_{go}-PL swim-NMLZ CL_{go}-PL
 ‘the ones who cry (easily)’ ‘the swimmers’

I conclude from these diagnostics that the plural marker merges as a head rather than an adjunct, and that it merges within NumP rather than *n*P.⁷

⁷One analysis I have not considered is that classifiers and plural markers realize separate features on a single head. For example, Nomoto (2013) proposes that when Num bears both [+SG] and [+PL], a language may allow the two features to be exponed separately by a classifier and a plural marker. However, Nomoto predicts the [+SG] [+PL] Num to trigger a number-neutral interpretation, whereas the BPM plural marker expresses strict plurality. In addition, as discussed in section 4, analyzing the classifiers as (pure) number markers fails to capture a core component of their function.

3.4 Accounting for gaps in the distribution of *-i*

Although *-i* has a wide-ranging distribution in BPM, it cannot occur with bare nouns, indefinite cardinal expressions, or the subkind classifier, as illustrated in section 2. These gaps in its distribution can be explained given the Num analysis of the plural.

I propose that bare nouns cannot be suffixed by *-i* because they are *n*Ps rather than DPs: they lack the NumP projection. Bare nouns cannot combine with any morphology associated with a projection higher than *nP* without mediation by a classifier (i.e. without triggering more structure). In addition to plural marking, this includes demonstratives and cardinals (28).

- (28) a. (*e) lerik (*e) b. (*ko_ŋto) lerik (*ko_ŋto)
DEM.PROX book DEM.PROX some book some

Bare nouns receive number-neutral interpretations. I argue that they are not ambiguous between singular and plural readings, but rather underspecified for the [\pm PL] features on Num, following Rullmann and You's (2006) analysis of Mandarin bare nouns. In (29), the bare noun object in the second conjunct (*lerik*) is deleted under identity; still, the two instances of the object may have different quantity interpretations. Singular and plural readings can both emerge from the same, underspecified bare noun.

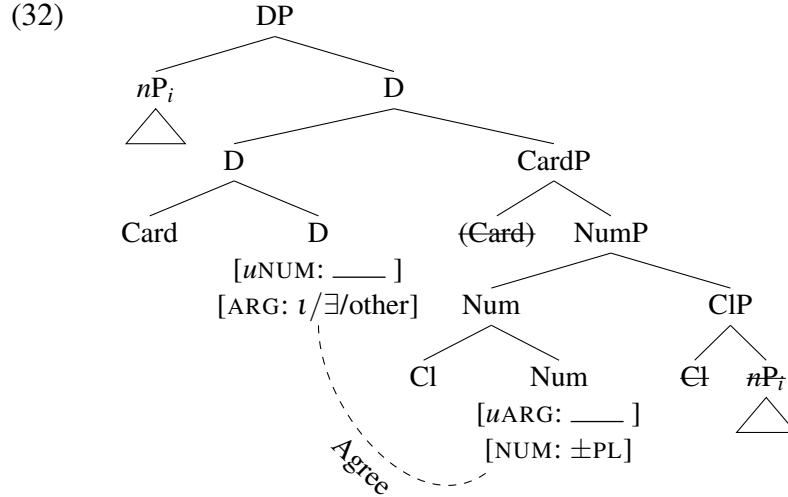
- (29) Context: *Sunil bought 3 books and Uttam bought 1.*
junil-e **lerik** loi-lo baro utt_ŋom-e-u (loi-lo).
Sunil-ERG book buy-3SG.PST and Uttam-ERG-also buy-3SG.PST
'Sunil bought books and Uttam did too.'

Additionally, bare nouns receive obligatory low-scope indefinite readings, indicating that they do not project a null existential quantifier (30) (following Jenks (2011)). By contrast, cardinal expressions do show scope ambiguity (31). This difference suggests that it is not simply the null indefinite D from cardinal expressions that occurs with bare nouns. Instead, bare nouns may lack the DP projection altogether.

- (30) tei **haspa_ŋtal** na bisar-lo.
3SG.F hospital NEG find-3SG.PST
'She did not find a hospital.' ($\neg > \exists; * \exists > \neg$)
- (31) tei tin go **haspa_ŋtal** na bisar-lo.
3SG.F three CL_{go} hospital NEG find-3SG.PST
'She did not find three hospitals.' ($\neg > \exists; \exists > \neg$)

Plural marking is also absent from indefinite cardinal expressions in BPM. Following previous work on languages where number marking varies with definiteness (Ghomeshi 2003, Nomoto 2013), I explain this gap as a consequence of bidirectional Agree between D and Num: the indefinite D that occurs in cardinal expressions licenses the null realization of

the plural. More concretely, adapting specifications from Nomoto (2013:151-157), I take Agree between D and Num to be triggered by a [*u*NUM] feature on D and a [*u*ARG] feature on Num. D bears a valued [ARG] feature, concerned with the argumenthood of DPs, whose possible values include ι (definite) and \exists (indefinite), while Num bears a valued [NUM] feature, with possible values \pm PL (32). Agree leads to valuation of both uninterpretable, unvalued features.



The null realization of the plural occurs when plural Num copies the feature \exists from D; otherwise, its realization is overt (33). This analysis captures the fact that overt plural marking is obligatory in definite DPs as well as *wh*-nominals, assuming *wh*-expressions denote sets with multiple members (Hamblin 1973) or act as set restrictors (Caponigro 2004), but do not act as existential quantifiers.⁸

(33) *Inventory of Num in BPM*

Type	Features	Realizations
Plural	[NUM: +PL]	<i>-i</i>
Plural	[NUM: +PL], [<i>#</i> ARG: \exists]	\emptyset
Singular	[NUM: -PL]	\emptyset

The final aspect of the distribution of *-i* that has needs to be addressed is its absence with the subkind classifier *ta*. I propose that this gap may be morphological, or encoded in the semantics of the plural marker. It may be that [+PL] is realized as null after *ta*, or that *-i* is semantically defined only for the type of entities picked out by classifiers *go* and *han*.

4. Function of the BPM classifiers and plural marker

I argued in the previous section that Num and Cl are separate functional heads in BPM. In this section, I show that they also have distinct functions: classifiers restrict the ontologi-

⁸A different account of the semantics of *wh*-expressions may require different assumptions regarding the features on D.

cal sort of entity included in the noun denotation, while number markers generate sets of individuals or pluralities.

4.1 Two types of classifiers

In section 2, I identified two types of classifiers in BPM: the object classifiers (*go* and *han*) and the subkind classifier (*ta*). The two types of classifiers differ in terms of which nouns they can combine with and their interpretation. The object classifiers combine with conceptually count nouns (i.e. those with clearly perceivable atomic units) or with conceptually mass nouns (i.e. substance nouns) where a salient count interpretation is also available. Expressions with the object classifiers obligatorily receive object interpretations: they refer to specimen or instances of a kind (Krifka 1995) (34).⁹

- (34) tei ϕol tin go taŋkor-lo.
 3SG.F fruit three CL_{go} taste-3SG.PST
 ‘She tried three individual fruits.’ NOT: ‘She tried three varieties of fruit.’

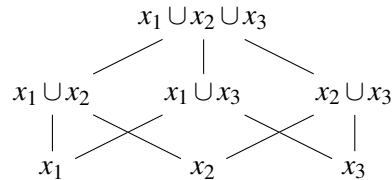
Meanwhile, the subkind classifier can combine with any noun. When *ta* occurs with a conceptually count noun, the expression must receive a subkind (or group) reading (35). When it occurs with a conceptually mass noun, the expression is ambiguous between an object and subkind/group reading (36).

- (35) tei ϕol tin ta taŋkor-lo.
 3SG.F fruit three CL_{ta} taste-3SG.PST
 ‘She tried three varieties of fruit.’ NOT: ‘She tried three individual fruits.’
- (36) tei ca tin ta pi-lo.
 3SG.F tea three CL_{ta} drink-3SG.PST
 ‘She drank three servings/types of tea.’

4.2 Semantics of the BPM classifiers

I assume that nouns in BPM denote complete join-semilattices, containing both individuals and their sums (37), given that bare nouns receive number-neutral interpretations (29).

- (37) *BPM nouns denote join-semilattices*



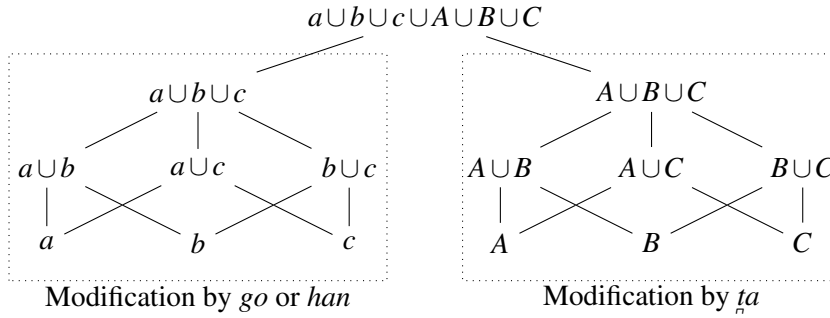
⁹Krifka (1995) and Nomoto (2013) observe similar effects with classifier expressions in other languages.

Following Link (1984) and Landman (1989), I propose that the individuals (x_1, x_2, x_3) that form the basis of the join-semilattice fall into two basic ontological types: **atoms** and **groups**.¹⁰ Atoms are individuals that lack subparts that still instantiate the property denoted by the noun. Groups, on the other hand, are sums of (atomic or group) individuals whose constituency is opaque. Groups are derived by some function \uparrow that maps every sum onto a group (e.g. a group P whose members are a, b , and c would be defined as $P = \uparrow(a \cup b \cup c)$). The noun denotation therefore has two complete join-semilattices as substructures, one consisting of only atoms and their sums, and the other consisting of only groups and their sums. The remainder of the denotation consists of mixed sums.

Groups are relevant to the semantics of the BPM classifiers for two reasons. First, I take subkinds (and kinds) to be individuals of the group sort, following Nomoto (2013). The subkind *mango* can be derived by applying \uparrow to the sum of all individual mangoes.¹¹ Second, I propose that the denotations of conceptually mass or substance nouns in BPM consist solely of groups and their sums. Mass nouns are known to lack atomic minimal parts. Given that their denotations cannot include atoms or their sums, I posit that all individuals in a mass noun denotation are of the group sort.¹²

With this background in place, I propose that the core function of the BPM classifiers is to restrict the noun denotation either to its atom-based join-semilattice substructure (in the case of the object classifiers), or its group-based join-semilattice substructure (in the case of the subkind classifier). The proposal is schematized in (38), where a, b , and c represent atoms and A, B , and C represent groups. Mixed sums are omitted for simplicity.

(38) *Classifiers restrict noun denotations to atomic or group-based join-semilattices*



This proposal accounts for the core differences between the two types of classifiers. The object classifiers can only combine with nouns that have an atomic substructure; therefore, they are compatible with count nouns but (usually) not mass nouns. Because a specimen of a kind in the count domain is an atom, object classifiers are associated with object readings. On the other hand, the subkind classifier can combine with any noun, since all nouns have group-based substructures. Subkind readings are always possible with ta because subkinds

¹⁰ Atoms and groups correspond to “pure atoms” and “impure atoms” in Link’s (1984) terms.

¹¹ Another option is to apply \uparrow to the sum of all subkinds of mangoes.

¹² Each group is derived from a sum of other groups. As Landman (1989:566) predicts for substance nouns, the structure of their parts “may contain infinitely descending chains”.

¹³I do not rule out an alternative analysis where classifiers restrict the ontological type of entity included in the noun denotation *and* yield sets of atoms. Num would then be defined to operate on singularities. These analyses are difficult to tease apart, given that NumP always projects when CIP projects (i.e. plural marking, whether overt or null, is possible in all contexts where object classifiers occur). What I intend to highlight is that the BPM classifiers have an apparent function that is unrelated to number.

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