

Number (un)markedness: accomodating number neutrals

Roumyana Pancheva & Luismi Toquero-Pérez
pancheva@ucsc.edu, ltoquero@fullerton.edu

NASSLI 2025
06/24/2025

1 Morpho-syntactic markedness and semantic interpretation

Languages often make a morpho-syntactic distinction between number-marking on (count) nouns.

(1) *A. Mongolian*

- | | |
|--|--|
| a. Batar nom xarsan
Batar book saw.PST
'Batar saw one or more books' | b. Batar nom- o:d xarsan
Batar book- PL saw.PST
'Batar saw ≥ 2 books' |
|--|--|

(2) *English*

- | | |
|--|--|
| a. I saw some book
'I saw one book' | b. I saw (some) book-s
'I saw ≥ 2 books' |
|--|--|

Unmarked forms are not synonymous with 'strictly singular':

- strictly singular: (2a); but
- number neutral: (1a).

Number-marked forms (e.g. plural-marked) always make reference to sums or groups.

Plural-marked forms may differ as to whether they also contain singular individuals, in addition to the sums. (handout 4)

- (3) a. Batar nom-**o:d** xarsan-**ghue**
Batar book-PL saw.PST-NEG
'Batar didn't see any books'
- b. I didn't see books
'I didn't see any books'

The goals today: The distribution of unmarked nouns, both strictly singular and number neutral, and their similarities or differences with plural-marked nouns.

1. Despite their surface forms, is there an underlying difference between unmarked nouns that are number neutral and those that are strictly singular?
2. What is the role of Number?
3. How does Number interact with other grammatical markers?
4. What is the relation between the morpho-syntax and semantics of number?

2 Unmarked NPs: number neutrals vs. strict singulars

2.1 Coordination

Unmarked strict singular nouns cannot serve as predicate of coordinated subject.

- (4) a. LGB bolin 4321 bol nom
LGB and 4321 cop book
'LGB and 4321 are books' inanimates
- b. *Batar bolin Brian bol xü
Batar and Brian cop boy
'Batar and Brian are a boy' animates
- (5) *John and Brad are { a/ some } boy.

2.2 Plural anaphoric reference

Unmarked strictly singular nouns cannot serve as antecedent of plural anaphoric expressions.

- (6) a. bi [**nom(-ig)**]_i dilgur-t xarsan. { **in**_i/ **tidgir**_i } bol monghol
I book-ACC store-DAT see.PST 3SG 3PL COP Mongolian
'I saw some book(s) at the store. {It was/ They were} Mongolian'
- b. bi [**xü(d-ig)**]_i dilgur-t xarsan. { **in**_i/ ***tidgir**_i } bol monghol
I boy-ACC store-DAT see.PST 3SG 3PL COP Mongolian
'I saw some boy at the store. {He was/ *They were} Mongolian'
- (7) I saw { a/some } boy_i at the store. {He_i was/ *They_i were} Mongolian

2.3 Distributive adjuncts

Unmarked strict singular nouns are not compatible with distributive modifiers: *one by one, each other, from different NPs*

- (8) a. Batar nom(-ig) nig-nig-ir onshwa.
Batar book-ACC one-one-INST read.PST
'Batar read books one by one'

- b. * Batar mör(-ig) nig-nig-ir appa.
 Batar horse-ACC one-one-INST buy.PST
 ‘Batar bought some horse one by one’

(9) * I saw some {book/ horse} one by one.

2.4 Complement of a pseudo-partitive

Unmarked strictly singular nouns cannot occur in pseudo-partitive constructions.

- (10) a. bi ghorovo-n buligh-tei nom xarsan
 i three-ATTR group-COMIT book see.PST
 ‘I saw 3 groups of books’
 b. * bi ghorovo-n buligh-tei xü xarsan
 i three-ATTR group-COMIT boy see.PST
 ‘I saw 3 groups of boy’

(11) * I saw three groups of { boy/ book }.

An important note

Number neutrality is a heterogenous phenomenon which may be subject to variation across languages.

For example, in some languages, the number neutral interpretation of unmarked nouns may be precluded if the NP has case, definiteness or specificity marking.

(12) *Turkish* (Sağ 2022)

- a. Ali kitap okudu
 Ali book read.PST
 ‘Ali read one or more books’
 b. Ali kitab-**i** okudu
 Ali book-ACC read.PST
 ‘Ali read the book’

(13) *Amharic* (Kramer 2017)

- a. lidʒ-u mäs’haf wässäd-ä
 child-DEF book take.PERF-3M.SG
 ‘The child took one or more books’
 b. lidʒ-u mäs’haf-**u-n** wässäd-ä
 child-DEF book-DEF-ACC take.PERF-3M.SG
 ‘The child took the book’

3 Similarities between number neutral and plural-marked nouns

Plural-marked nouns can occur in all the contexts where unmarked number neutrals can.

3.1 Coordination

- (14) a. LGB bolin 4321 bol nom-**o:d**
LGB and 4321 cop book-**PL**
'LGB and 4321 are books'
- b. Batar bolin Brian bol xüch-**ü:d**
Batar and Brian cop boy-**PL**
'Batar and Brian are boys'
- (15) John and Brad are boys.

3.2 Plural anaphoric reference

- (16) a. bi [**nom-o:d(-ig)**]_i dilgur-t xarsan. { * in_i/ **tidgir**_i } bol monghol
I book-PL-ACC store-DAT see.PST 3SG 3PL COP Mongolian
'I saw 2 or more books at the store. { *It was/ They were } Mongolian'
- b. bi [**xüch-ü:d(-ig)**]_i dilgur-t xarsan. { * in_i/ **tidgir**_i } bol monghol
I boy-ACC store-DAT see.PST 3SG 3PL COP Mongolian
'I saw some boy at the store. { *It was/ They were } Mongolian'
- (17) I saw (some) **boys**_i at the store. **They**_i were Mongolian

3.3 Distributive adjuncts

- (18) a. Batar nom-**o:d(-ig)** nig-nig-ir onshwa.
Batar book-PL-ACC one-one-INST read.PST
'Batar read books one by one'
- b. Batar mör-**ö:d(-ig)** nig-nig-ir appa.
Batar horse-PL-ACC one-one-INST buy.PST
'Batar bought horses one by one'
- (19) I saw (some) horses one by one.

3.4 Complement of a pseudo-partitive

- (20) a. bi ghorovo-n buligh-tei nom-**o:d** xarsan
i three-ATTR group-COMIT book-PL see.PST
'I saw 3 groups of books'
- b. bi ghorovo-n buligh-tei xüch-**ü:d** xarsan
i three-ATTR group-COMIT boy-PL see.PST
'I saw 3 groups of boys'
- (21) I saw three groups of boys.

4 Are number neutrals PL-marked?

A reasonable hypothesis:

- (22) **Hypothesis 1:** unmarked number neutral nouns have an underlying PL-feature.

Table 1: Summary of diagnostics

		Coord.	Distr. XPs	Pl. Ref.	P. Partitives
unmarked	SNG	*	*	*	*
	num. neutral	✓	✓	✓	✓
PL-marked	PLR	✓	✓	✓	✓

A challenge to the hypothesis: unmarked number neutrals never trigger plural agreement with demonstratives DP-internally.¹

- (23) a. { tir/ *tidgir } nom
 DEM.3SG 3PL book
 ‘This book’ (Lit. { This/ *Those } (one or many) book)
- b. { *tir/ tidgir } nom-o:d
 DEM.3SG 3PL book-PL
 { *This/ Those } (two or more) books)
- (24) a. { tir/ *tidgir } xü
 DEM.3SG 3PL boy
 ‘{ This/ *Those } boy.’
- b. { *tir/ tidgir } xüch-üd
 DEM.3SG 3PL boy-PL
 ‘{ *This/ Those } (two or more) boys.’

5 Neither underlyingly singular nor plural: size adjectives

We can distinguish between size adjectives (e.g. *big*, *heavy*, *small*) and classificatory adjectives (e.g. *European*, *Mongolian*, *religious*).

Size adjectives are compatible with unmarked nouns that are always strictly singular.

- (25) a. bi { **tam/ xunde-n** } xü xarsan
 I big heavy-ATTR boy see.PST
 ‘I saw a { big/ heavy } boy’
- b. bi { **monghol/ shashin-tei/ iuvrop** } xü xarsan
 I mongolian religion-ADJ european boy see.PST
 ‘I saw a { Mongolian/ religious/ European } boy’

They are also compatible with plural-marked nouns.

- (26) tam { nom/ xüch } -V:d
 big book boy PL
 ‘big { books/ boys }’

¹The availability of overt agreement, DP-internally and/or externally, may vary by language.

When the two types of adjectives co-occur, size adjectives are more peripheral to the noun than classificatory adjectives.

- (27) tam shashin-tei xü * shashin-tei tam xü
big religion-ADJ boy religion-ADJ big boy
‘a big religious boy’

But, the number neutral interpretation of unmarked nouns is unavailable when the noun is modified by size adjectives (and also color terms).²

Modification by this class of adjectives triggers a strictly singular interpretation.

- (28) a. bi { **tam/ xunde-n** } **nom** onshen
I big heavy-ATTR book read.PST
SNG: ‘I read a {big/ heavy } book’
#PLR: ‘I read {big/ heavy } books’
b. bi { **monghol/ shashin-tei/ iuvrop** } **nom** onsh-Vn
I mongolian religion-ADJ european book read-PST
SNG: ‘I read a {Mongolian/ religious/ European} book’
PLR: ‘I read {Mongolian/ religious/ European} books’

We know that size adjectives require adjunction higher than the lowest NP shell. In the case of singular and plural count nouns, this was NumP.

What if the reason why number neutrals are (i) unmarked, (ii) underspecified for number, and (iii) disallow size adjectives is because they are syntactically smaller than both unmarked singular nouns and also plural-marked nouns?

- (29) **Hypothesis 2:** unmarked number neutral nouns lack Number features.

6 Countability and the *many*-test

Measure words such as *many*, *more*, *much* etc. require the NP they occur with to be cumulative.

Singular count nouns are not cumulative, but plural count nouns and mass nouns are. (handout 1)

Unmarked singular nouns are not compatible with cumulative measure expressions, e.g. *ix/olin* ‘much/many’.

- (30) * { ix/ olin } xü
much many boy

Unmarked number neutral nouns are compatible with these cumulative measure expressions. In fact, the interpretation is a countable one, just like with plural-marked nouns.

- (31) a. olin nom
many book
‘many books’

CARDINALITY, #VOLUME

²Similar facts have been reported for Turkish Sağ (2022) and Western Armenian (Kalomoiros 2021). However, in Amharic, color adjectives do not preclude the number neutral interpretation of the unmarked noun (Kramer 2017).

- | | |
|--|-----------------------------|
| <p>b. olin nom-o:d
many book-PL
'many books'</p> | <p>CARDINALITY, #VOLUME</p> |
| <p>c. olin xüch-ü:d
many boy-PL
'many boys'</p> | <p>CARDINALITY, #VOLUME</p> |

Crucially, adding a classificatory adjective to (31a), yields the same result as (30): (32a).

- | | |
|--|--|
| <p>(32) a. * olin tam nom
many big book
'many big book'</p> | <p>c. * olin tam xü
many big boy
'many big boy'</p> |
| <p>b. olin tam nom-o:d
many big book-PL
'many big books'</p> | <p>d. olin tam xüch-üd
many big boy-PL
'many big boys'</p> |

Conclusions:

- Number marking on the noun (e.g. [SG/PL]) must be interpretable.
- Unmarked number neutrals are countable.

7 What drives the distributional differences, but also the similarities?

Our proposal for the count/mass and countable/non-countable distinction can account for these differences.

Despite their identical surface forms, unmarked nouns are underlyingly different:

- those that are number neutral are bare countable nouns, i.e. [IND]-marked only.
- those that are strictly singular are count nouns, i.e. [IND]-marked and [SG]-marked.

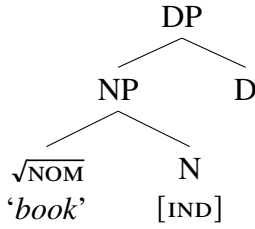
Unmarked nouns which are number neutral are syntactically impoverished: they do not project NumP.³

Without NumP, (i) no number features will restrict the interpretation of the NP to atoms or their sums, and (ii) the height requirement for size adjectives won't be met.

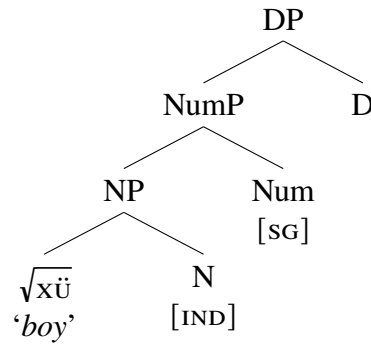
³This is also the case in Amharic (Kramer 2017), Bayso and Fouta Jalon Fula (Corbett 2000; Harbour 2014; Martí 2020), and Haitian Creole (Déprez 2005) to name a few.

(33) The syntax of (unmodified) unmarked nouns

a. unmarked number neutral

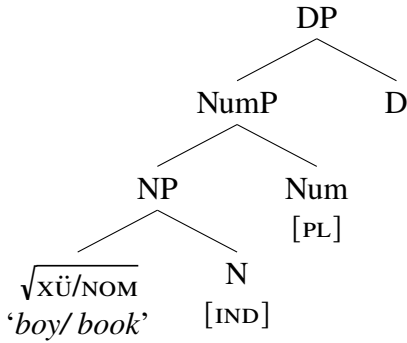


b. unmarked singular



When they are overtly pluralized, NumP is projected (e.g. N-v:d).

(34) The syntax of Plural-marked nouns



7.1 Consequences for PF and LF interfaces

At PF. The terminals are assigned a vocabulary item via the Vocabulary Insertion (VI) rules in (35).

- (35) a. $\text{N}[\text{IND}] \Leftrightarrow \emptyset$
 b. $\text{Num}[\text{SG}] \Leftrightarrow \emptyset$
 c. $\text{Num}[\text{PL}] \Leftrightarrow -V:d$

At LF. The syntactic structures also give rise to the desired interpretations.

Unmarked number neutral nouns denote atoms and their sums: (37a).

Unmarked singulars denote a set of atoms: (37b).

(36) $\llbracket \text{NP} \rrbracket = \{x: x \text{ is an atomic root-thing or sum of atomic root-things} \}$

- (37) a. $\llbracket (33a) \rrbracket = \llbracket \text{nom} \rrbracket = \{x: x \text{ is an atomic book or sum of atomic books} \}$, e.g. $\{a, b, c, ab, ac, bc, abc\}$
 b. $\llbracket (33b) \rrbracket = \llbracket \text{xü} \rrbracket = \llbracket [\text{SG}] \rrbracket (\llbracket (36) \rrbracket) = \{x: x \text{ is an atomic boy} \}$, e.g. $\{a, b, c\}$

Plural-marked nouns denote a sum of atomic individuals: (38).

(38) $\llbracket \text{xüchiüd/ nomo:d} \rrbracket = \{x: x \text{ is a sum of atomic boys/books} \}$, e.g. $\{ab, ac, bc, abc\}$

7.2 Updating our typology from handout 1

Our proposal predicts the similarities and differences between count, mass, and countable nouns based on (i) a few set of features and (ii) their distribution in the NP.

Table 2: NP classes based on their underlying features

			N ₁	N ₂	Number	Ex.
<u>Non-Countable</u>	<i>Mass</i>	<i>unmarked</i>	Ø	*	*	‘water’
		<i>plural</i>	[PL]	*	*	‘dregs’
<u>Countable</u>	<i>object</i>	<i>unmarked</i>	[IND]	[COLL]	*	‘jewelry’
		<i>Num. neutral</i>	[IND]	*	*	A. Mongolian
	<i>Count</i>	<i>singular</i>	[IND]	*	[SG]	‘jewel’
		<i>plural</i>	[IND]	*	[PL]	‘jewels’

Like most mass nouns, number neutrals lack NumP.

But unlike most mass nouns, they are also [IND]-marked.

8 Implications

Q1: Do unmarked nouns differ in their syntactic representation?

Unmarked nouns are syntactically ambiguous.

Unmarked number neutral nouns are syntactically impoverished.

NumP hosting number features is absent and so the noun is underdetermined for number.

Unmarked, but singular, nouns project NumP.

Q2: Where is Number encoded?

The account is consistent with the traditional view: NumP is located between N and D

(Ritter 1991; Cowper 2005; Cowper and Hall 2009, 2012)

It is difficult to reconcile with approaches that locate number always higher than D. (Sauerland 2003)

Q3: What is the relation between size APs and Number?

Size adjectives such as *expensive*, *heavy*, *large*, *big* can only modify NPs that have atoms (or their sums) but also whose syntax is not impoverished.

Projecting NumP, above N[IND], entails satisfying both requirements, thus enabling such modification.

This has also been observed in classifier languages like Hungarian or Teochew, Southern Min: dimensional APs must precede or the non-generic classifier or must co-occur with it, respectively

(Csirmaz and Dékány 2014; Dékány 2021; Biggs and Zhuosi 2022)

The pattern that emerges is (39)

(39) AP_{non-classificatory/dimensional} > {Num/ CL} > N_{countable}.

This also consistent with the observation that most mass nouns disallow modification by these APs: they are syntactically impoverished and may be unmarked for [IND].

(Borer 2005; Harbour 2009; Cowper and Hall 2009; Toquero-Pérez 2024)

Q4: What is the relation between morpho-syntactic number and its semantic interpretation?

The data here are best explained if the morpho-syntactic expression of number on the noun is always semantically interpretable.

A novel generalization: We can divide languages' systems that distinguish between unmarked and number-marked (count) nouns into four types depending on the interpretation of the unmarked and marked forms: Table 3.^{4,5} (Toquero-Pérez 2025)

Table 3: The interpretation of number in languages with unmarked and marked forms

		Unmarked NP		Marked NP	
		SNG	PLR	SNG	PLR
Type A	<i>Arabic</i> _{singulatives}	✓	*	*	✓
	<i>Welsh</i> _{singulatives}	✓	*	*	✓
Type B	<i>English</i>	✓	*	✓	✓
	<i>Spanish</i>	✓	*	✓	✓
	<i>Buriat</i> _[+anim.]	✓	*	✓	✓
	<i>A. Mongolian</i> _[+anim.]	✓	*	✓	✓
	<i>W. Armenian</i>	✓	✓	*	✓
Type C	<i>B. Portuguese</i>	✓	✓	*	✓
	<i>Buriat</i> _[-anim.]	✓	✓	✓	✓
Type D	<i>A. Mongolian</i> _[-anim.]	✓	✓	✓	✓
	<i>unattested (yet)</i>	*	✓	✓	*

(40) The morpho-semantic number markedness generalization

If a language makes a morphological distinction between unmarked and marked forms in the domain of count nouns,

- the unmarked form must at least contain individual non-overlapping atoms; and
- the marked one must at least contain sums of atoms.

There is no language in which unmarked forms denote a plurality, but the marked counterpart denotes a singularity.

⁴Arabic (Ouwadaya 2014; Borer and Ouwadaya 2021; Mathieu and Dali 2021); Welsh (Grimm 2012); English (Krifka 1989; Sauerland 2003; Sauerland et al. 2005; Zweig 2009); Spanish (Martí 2008, 2020); Buriat (Bylinina and Podobryaev 2020); Western Armenian (Bale et al. 2011; Bale and Khanjian 2014); Brazilian Portuguese (Müller 2002; Martí 2020).

⁵The labels SNG/PLR refer to the semantic interpretation and not the phonological form of the noun; thus, SNG refers to a 'singularity' (e.g. 1) and PLR refers to a 'plurality' (e.g. 2 or more). If a noun can refer to both, then we will say the noun is number neutral if unmarked, or inclusively plural if plural-marked.

References

- Acquaviva, P. (2008). *Lexical Plurals: A Morphosemantic Approach*. Oxford studies in theoretical linguistics. Oxford University Press, Oxford, UK.
- Arregi, K. and Nevins, A. (2007). Obliteration vs. impoverishment in the Basque g-/z- constraint. *University of Pennsylvania Working Papers in Linguistics*, 13:1–14.
- Bale, A. and Barner, D. (2009). The interpretation of functional heads: Using comparatives to explore the mass/count distinction. *Journal of Semantics*, 26:217–252.
- Bale, A., Gagnon, M., and Khanjian, H. (2011). Cross-linguistic representations of numerals and number marking. In Li, N. and Lutz, D., editors, *Proceedings of Semantics and Linguistic Theory (SALT) 20*, pages 582–598, Cornell University. CLC Publications.
- Bale, A. and Khanjian, H. (2014). Syntactic complexity and competition: the singular-plural distinction in Western Armenian. *Linguistic Inquiry*, 45:1–26.
- Biggs, A. and Zhuosi, L. (2022). Adjective classifiers in Shantou Teochew. In Kim, S., Kurtz, N., Hewett, M., and Kasper, C., editors, *Chicago Linguistic Society (CLS) 56*, pages 25–36, Chicago. Chicago Linguistic Society.
- Borer, H. (2005). *Structuring Sense*, volume 1: *In Name Only*. Oxford University Press, Oxford.
- Borer, H. and Ouwayda, S. (2021). Divide and counter. In Kiss, T., Pelletier, J., and Husić, H., editors, *Things and Stuff: The Semantics of the Mass-Count Distinction*, pages 115–150. Cambridge University Press.
- Bylinina, L. and Podobryaev, A. (2020). Plurality in Buriat and structurally constrained alternatives. *Journal of Semantics*, 37:117–128.
- Corbett, G. (2000). *Number*. Cambridge University Press.
- Cowper, E. (2005). A note on Number. *Linguistic Inquiry*, 36:441–445.
- Cowper, E. and Hall, D. C. (2009). Argumenthood, pronouns, and nominal feature geometry. In Ghome-shi, J., Paul, I., and Wiltschko, M., editors, *Determiners: Universals and Variation*, pages 97–120. John Benjamins, Amsterdam.
- Cowper, E. and Hall, D. C. (2012). Aspects of individuation. In Massam, D., editor, *Count and Mass across Languages*, pages 27–53. Oxford University Press, Oxford, UK.
- Csirmaz, A. and Dékány, É. (2014). Hungarian is a classifier language. In Simone, R. and Masini, F., editors, *Word Classes: Nature, Typology and Representation*, pages 141–160. John Benjamins.
- Dékány, É. (2021). *The Hungarian Nominal Functional Sequence*. Studies in Natural Language and Linguistic Theory. Springer.
- Déprez, V. (2005). Morphological number, semantic number and bare nouns. *Lingua*, 115:857–833.
- Grimm, S. (2010). Number and markedness: A view from Dagaare. In Prinzhorn, M., Schmitt, V., and Zobel, S., editors, *Sinn und Bedeutung 14*, pages 168–184.

- Grimm, S. (2012). *Number and Individuation*. PhD thesis, Stanford University.
- Grimm, S. (2018). Grammatical number and the scale of individuation. *Language*, 94:527–574.
- Harbour, D. (2009). Mass, non-singularity, and augmentation. In Halpert, C., Hartman, J., and Hill, D., editors, *Workshop in Greek Syntax and Semantics at MIT (2007)*, volume 57, pages 349–360. MIT Working Papers in Linguistics.
- Harbour, D. (2014). Paucity, abundance and the theory of number. *Language*, 90:185–229.
- Kalomoiros, A. (2021). Bare singulars and pseudo-incorporation in Western Armenian. In Dreier, N., Kwon, C., Darnell, T., and Starr, J., editors, *Semantics and Linguistic Theory (SALT) 31*, pages 365–384. CLC Publications.
- Kouneli, M. (2017). The morphological expression of nominal number in Kalenjin. In Lamont, A. and Tetzloff, editors, *North East Linguistic Society (NELS) 47*, volume 2, pages 167–176. GLSA.
- Kouneli, M. (2020). Number-based noun classification: The view from Kipsigis. *Natural Language and Linguistic Theory*, 39:1195–1251.
- Kramer, R. (2015). *The Morphosyntax of Gender*. Oxford University Press.
- Kramer, R. (2017). General number nouns in Amharic lack NumP. In Ostrove, J., Kramer, R., and Sabbagh, J., editors, *Asking the Right Questions: Essays in Honor of Sandra Chung*, pages 39–54. Linguistics Research Center, UC Santa Cruz.
- Krifka, M. (1989). Nominal reference, temporal constitution and quantification in event semantics. In Bartsch, R., van Benthem, J., and van EmbdeBoas, P., editors, *Semantics and Contextual Expression*, pages 75–115. CSLI Publications, Standord, CA.
- Martí, L. (2008). The semantics of plural indefinites in Spanish and Portuguese. *Natural Language Semantics*, 16:1–37.
- Martí, L. (2020). Inclusive plurals and the theory of number. *Linguistic Inquiry*, 51:37–74.
- Mathieu, E. (2012). Flavors of division. *Linguistic Inquiry*, 43:650–679.
- Mathieu, E. and Dali, M. (2021). *A Theory of Distributed Number*. John Benjamins, Amsterdam.
- Müller, A. (2002). Genericity and the denotation of common nouns in Brazilian Portuguese. *Probus*, 2:279–298.
- Nurmio, S. (2016). Collective nouns in Welsh: A noun category of a plural allomorph? *Transactions of the Philological Society*, 115:58–78.
- Ouwadaya, S. (2014). *Where number lies: Plural marking, numerals, and the collective–distributive distinction*. PhD thesis, University of Southern California.
- Ritter, E. (1991). Two functional categories in noun phrases: Evidence from Modern Hebrew. In Rothstein, S., editor, *Syntax and Semantics 25: Perspectives on Phrase Structure: Heads and Licensing*. Academic Press.

- Sauerland, U. (2003). A new semantics for number. In Young, R. and Zhou, Y., editors, *Proceedings of Semantics and Linguistic Theory (SALT) 13*, pages 258–275. CSLI Publications.
- Sauerland, U., Anderssen, J., and Yatsuhiko, K. (2005). The plural is semantically unmarked. In Kepser, S. and Reis, M., editors, *Linguistic Evidence: Empirical, Theoretical and Computational perspectives*, Studies in Generative Grammar, pages 413–434. De Gruyter.
- Sağ, Y. (2022). Bare singulars and singularity in Turkish. *Linguistics and Philosophy*, 45:741–793.
- Smith, P. (2021). *Morphology–Semantics Mismatches and the Nature of Grammatical Features*. John Benjamins.
- Toquero-Pérez, L. M. (2024). *The Grammar of Individuation, Number and Measurement*. PhD thesis, University of Southern California.
- Toquero-Pérez, L. M. (2025). Accommodating number neutrality in Alasha Mongolian: Markedness and semantic interpretation. To appear in *Journal of Semantics*.
- Zweig, E. (2009). Number-neutral bare plurals and the multiplicity implicature. *Linguistics and Philosophy*, 32:353–407.

A The typology of number-markedness and semantic interpretation

A.1 Singulatives

Singulative-marked nouns in these languages are strictly singular and their plural forms are exclusively plural (see Mathieu and Dali 2021, p.21 for Tunisian Arabic, Borer and Ouwayda 2021, p.147 for Lebanese and Grimm 2012, p.152 for Welsh).

The term ‘singulative’ is used to refer to a dedicated morpheme that is added to an unmarked set of roots which usually denote some type of mass or underspecified quantity. The ‘singulative’ changes the nominal class properties of the root such as gender and/or countability, and indicates that the derived nominal is singular count (Borer 2005; Mathieu 2012; Ouwayda 2014; Borer and Ouwayda 2021; Mathieu and Dali 2021).

That is the role of *-e* in Lebanese Arabic and *-a* in Tunisian Arabic, but also *-yn* in Welsh.

As the examples in (41)–(43) show, singulative-marked nouns can be overtly pluralized in which case the order of morphemes is always ROOT-(GEN.)SINGL-PL.

- | | | | |
|------|------------------------|----------------|--------------------------|
| (41) | <i>Lebanese Arabic</i> | | (Borer and Ouwayda 2021) |
| a. | laymoun | b. laymoun-e | c. laymoun-e-et |
| | orange | orange-F.SINGL | orange-F.SINGL-PL |
| | ‘orange (mass)’ | ‘an orange’ | ‘(2 or more) oranges’ |
| (42) | <i>Tunisian Arabic</i> | | (Mathieu and Dali 2021) |
| a. | toffeh | b. toffeh-a | c. toffeh-a-at |
| | apple.COLL | apple-F.SINGL | apple-F.SINGL-PL |
| | ‘apples’ | ‘an apple’ | ‘(2 or more) apples’ |

- (43) *Welsh* (Grimm 2012)
- | | | |
|----------------|---------------|----------------------|
| a. grawn | b. gron-yn | c. gron-yn-au |
| grain | grain-M.SINGL | grain-M.SINGL-PL |
| ‘grain’ (mass) | ‘a grain’ | ‘(2 or more) grains’ |

Analysis: the singulative morpheme, exponed as *-e/-a/-yn* in the above examples, is a nominalizer, rather than an actual number morpheme.

As a nominalizer, it combines with the root, individuates it (i.e. makes it countable as opposed to non-countable) and marks feminine gender in Arabic or masculine gender in Welsh.⁶ In the case of Welsh, it triggers suppletion on the root too.

All these are common properties of N-heads.⁷

Under this analysis, the singulative in these languages is not the exponent of a number morpheme but a nominalizing head. The actual number morpheme realizing [SG] in (41b), (42b) and (43b) is null.

The plural of the singulative in (41c), (42c) and (43c) is, however, marked with an overt exponent for [PL]. As a result, these cases fall under the umbrella of Type A.

This entails that the underlying structure for the NPs in (41) is as schematized in (44).

- (44)
- | | |
|---|-------------------------------|
| a. [$\sqrt{\text{ORANGE}}$ N] _{NP} | <i>laymoun</i> ‘orange’ |
| laymoun \emptyset | |
| b. [[$\sqrt{\text{ORANGE}}$ N] _[IND, FEM]] _{NP} Num _[SG]] _{NumP} | <i>laymoun-e</i> ‘an orange’ |
| laymoun -e \emptyset | |
| c. [[$\sqrt{\text{ORANGE}}$ N] _[IND, FEM]] _{NP} Num _[PL]] _{NumP} | <i>laymoun-e-et</i> ‘oranges’ |
| laymoun -e -et | |

A.2 Inverse number systems

A potential Type E system is given in (45) with pseudo-English.

- (45) What a Type E system would look like
- | | |
|---|------------------------------------|
| a. (This) dog- \emptyset = ‘2 or more dogs’ | (unmarked, but exclusively plural) |
| b. (These) dog-s = ‘1 dog’ | (PL-marked, but strictly singular) |

The closest system that resembles Type E is inverse number marking in languages like Dagaare (Grimm 2010, 2012, 2018) (and potentially Kipsigis and Didinga as well Kouneli 2017, 2020).

In Dagaare, as the (46)-(47) pairs show, the same morpheme *-ri* only marks the plural interpretation for one of the two nouns.⁸

⁶In Welsh, there is a feminine singulative allomorph *-en* which is the same as in Breton (Nurmio 2016).

⁷For the nominalizing status of the *-a* and similar singulative morphemes across languages, see Acquaviva (2008); Kramer (2015); Kouneli (2020). For Borer (2005); Ouwayda (2014); Borer and Ouwayda (2021) the individuating function is performed by Div(ision), which for them is realized by plural-morphemes in languages like English or classifiers in languages like Mandarin. Starting with Bale and Barner (2009), the Div head has been equated not to Number (or plural) but to N, making a distinction between countable and non-countable roots, e.g. Smith (2021); Toquero-Pérez (2024).

⁸Despite the tonal differences, Grimm (2012, ch.2) notes that the different surface forms of the PL-morpheme are

- (46) a. bíé ɲâ
child DEM.PROX.SG
'this child'
b. bíí-rí bà-má
child-PL HUM.PL-DEM.PROX.PL
'These (2 or more) children'
- (47) a. bí-rì ɲâ
seed-**PL** DEM.PROX.**SG**
'this seed'
b. bíè à-má
seed NHUM.**PL**-DEM.PROX.**PL**
'These (2 or more) seeds'

In (46a), the unmarked form *child* triggers singular agreement on the demonstrative and it denotes a singleton set of atoms.

In (46b) the *ri*-marked form triggers plural agreement and denotes an exclusive plurality.

The inverse number pattern is illustrated in (47) where the *ri*-marked form triggers singular agreement on the determiner and is strictly singular, but the unmarked form triggers plural agreement and denotes an exclusive plurality.

The inverse pattern observed for (47) is restricted to what the authors refer to as “inherently plural” nouns.

While this class of nouns seems to be a genuine counterexample to the generalization in (40), this is only apparent building on insights from Kouneli (2020).

According to Kouneli (2020), number in these languages is split between a low position in N, and a high position in Number. Kouneli argues that the structure of inherently plural nouns such as *seed* in Dagaare is as in (48); I propose the VI rules for terminals in (49):

- (48) $[[\sqrt{\text{SEED}} \text{ N}_{[\text{PL}]}]_{\text{NP}} \text{ Num}_{[\text{SG/PL}]}]_{\text{NumP}}$ (*inherently plural nouns in Dagaare*)
- (49) a. $\alpha[\text{PL}] \Leftrightarrow \text{-ri/Num}[\text{SG}]$
b. $\alpha[\text{PL}] \Leftrightarrow \emptyset/\text{Num}[\text{PL}]$
c. $\alpha[\text{PL}] \Leftrightarrow \text{-ri}$
d. $\alpha[\text{SG}] \Leftrightarrow \emptyset$

In cases where *-ri* is exponed on the noun, e.g. (47a), Num must be [SG]; as a result, the D head agrees with it triggering singular, rather than plural agreement.

At PF, the VI rules account for why the inherently plural noun has an exponent: [PL] on N is spelled out as *ri*- when Num is [SG], e.g. (49a).

Again, *-ri* is not a Num-exponent (like the singulatives discussed above). This also explains, why *ri*-marked forms are strictly singular.

In the cases where *-ri* is not exponed, e.g. (47b), Num must be [PL] as the agreement shows.

But a morphological operation called *Obliteration* (Arregi and Nevins 2007), taking place at the point of VI at Num, deletes the higher number feature in Num if it is identical to the low number feature in N.

Since both N and Num are [PL], Obliteration applies precluding the application of the elsewhere VI rule in (49c).

allophones conditioned by the phonological properties of the root.

In terms of semantics, this explains why these unmarked forms are exclusively plural. Under these considerations, Dagaare actually resembles Type A.

Therefore, inverse number systems can be accommodated within the general insights of the generalization.