

Number, Animacy, and Optional Plurality

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Based on: *Sanchez, Vengoa & Dayal (to appear)*
Sanchez and Vengoa (to appear)
Dayal, Sanchez and Vengoa (in prep)

NUMBER



Number: a Fundamental Human Concept



1 or more?

ANIMACY



Animacy: a Fundamental Human Concept

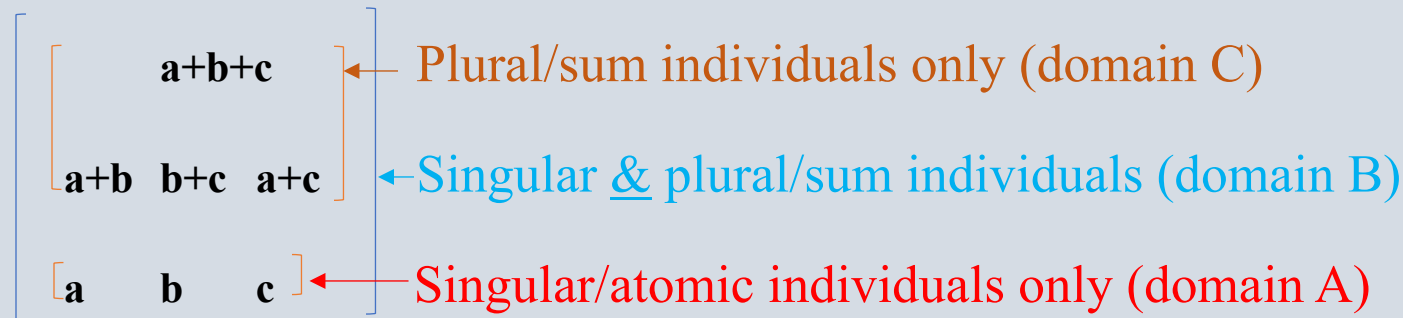


Animate or Non-animate?

Human or Non-human?

1. Preliminaries: *Number Marking*

The semantic space for the denotation of count nouns:



Singular nouns range over **domain A**.

Plural/Number-neutral/General Number nouns range over **domain B**.

Strict Plural nouns range over **domain C**.

Focus of this talk is on

General Number-Strict Plural Systems
Indonesian, Korean, Mandarin, Quechua

Against the background of

Singular-Plural Systems
English, Hindi, Russian

1. Preliminaries: *Number Marking*

Number systems: morphology-semantics map

Indonesian		perawat- \emptyset	perawat- perawat
Korean		ai- \emptyset	ai- tul
Mandarin		xuesheng- \emptyset	xuesheng- men
Quechua		yachaq- \emptyset	yachaq- kuna
English	student- \emptyset	student- s	
Hindi	laRkii- \emptyset	laRki- yaaN	
Russian	sobak- a	sobak- i	

Domain A

Atoms only

Domain B

atoms & sums

Domain C

sums only

An observation:

Every language seems to have exponents for **Domain B**
(allowing reference to singular and plural individuals)

General number systems have exponents for **Domain C**.

Singular-plural systems do not seem to have exponents for **Domain C**.

1. Preliminaries: *Number Marking*

Number systems: morphology-semantics map

Indonesian		perawat-∅	perawat- perawat
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Quechua		yachaq-∅	yachaq- kuna
English	student-∅	student- s	
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Domain A **Domain B** **Domain C**

----->

The strict plural reading of plural morphology in English-Hindi-Russian is derived via competition with the singular. The strict plural reading does not reside in **Domain C**.

	$ \text{student-in-class} = 0$	$ \text{student-in-class} = 1$	$ \text{student-in-class} > 1$
I saw students in the class.	False	True (competition)	True
I saw a student in the class.	False	True (competition)	True?
I didn't see students in the class.	True	False	False
I didn't see a student in the class.	True	False	False

1. Preliminaries: *Number Marking*

Our focus:

The status of markers like **-men**, N-**redup**, **-tul**, **-kuna** -- inhabitants of **Domain C**

Indonesian		perawat-∅	perawat- perawat
Korean		ai-∅	ai- tul
Mandarin		xuesheng-∅	xuesheng- men
Quechua		yachaq-∅	yachaq- kuna
English	student-∅	student- s	
Hindi	vidyarthii-∅	vidyarthii-∅	
Russian	sobak- a	sobak- i	
	Domain A	Domain B	Domain C

Our Questions: What does it mean for **-men**, **-tul**, **-kuna**, N-**redup** to be “optional” ?
 Do they all make the same semantic contribution ie **B**→**C** ?
 Or do they compete with the unmarked versions in **Domain B**,
 the way the expressions in **Domain A** compete with them?

One case study: Cuzco Quechua **-kuna**

Some partial comparisons: Indonesian N-**redup**, Korean N-**tul**, Mandarin **-men**

2. Cuzco Quechua *kuna*

Cuzco Quechua, a language spoken primarily in South America, uses two forms of the noun – an unmarked and a **kuna** marked form:

Allqu	‘dog/dogs’
Allqu-kuna	‘dogs’

We first look at the core data that justifies placing **kuna** in **Domain C**,
ie as shifting N from **Domain B** → **Domain C**.

Then we look at cases that go against classifying it in this way.

We then explore an alternative approach that captures both sets of data.

2. Cuzco Quechua *kuna*

The case for Optional Pluralization

The translations indicate the conditions under which the sentence would be considered felicitous and true – we gloss *kuna* as SPL (special plural marker):

1a. **Manka**-taq urma-ya-mu-n

Pot-CONT fall-INT-TRANSLOC-3S

“A pot fell/More than one pot fell.”

|falling-pot| \geq 1

b. **Manka-kuna**-taq urma-ya-mu-n

Pot-SPL-CONT fall-INT-TRANSLOC-3S

“More than one pot fell.”

|falling-pot| $>$ 1

2. Cuzco Quechua *kuna*

kuna also goes with with (non)-human animates.

- 2a. **Yachaq**-ta-n riku-ni
Student-ACC-FOC/EVID see-1.S
“I see more than one student/a student.” |student-seen| \geq 1
- b. **Yachaq-kuna**-ta-n riku-ni
Student-SPL-ACC-FOC/EVID see-1.S
“I see more than one student.” |student-seen| $>$ 1

2. Cuzco Quechua *kuna*

Further confirmation of optional plurality is provided by predicates that need plural antecedents – N and N-*kuna* are both acceptable:

3.a. **Allqu** llaqwa-naku-n
dog lick-RECIPROC-3.S

b. **Allqu-kuna** llaqwa-naku-nku
dog-SPL lick-RECIPROC-3.PL

“The dogs lick each other.”

|dogs| > 1

Both versions allow reference to a contextually given set of dogs, whose habits are being reported on in (3).

2. Cuzco Quechua *kuna*

Faller (2007: 272) “...nouns have a cumulative denotation to begin with...no zero derivation or the application of a freely available plural operator is necessary to account for the plural interpretation, as would be on an account in which nouns denote sets of atoms. There is an optional nominal suffix, *-kuna*, which enforces a plural interpretation of nouns...”

- **Kuna** takes its N-complement from **Domain B** → **Domain C**

4a. $[-kuna] = PL(N) = *N-AT$

based on Rullmann & You 2003; see also Chierchia 1998

b. $[allqu] = \{a, b, a+b\}$

$[allqu-kuna] = \{a+b\}$

-kuna is an operator that eliminates atoms from its complement set:
a #-neutral noun → strict plural noun

2. Cuzco Quechua *kuna*

The (non)-optionality of plural marking: There are contexts like the following, completely compatible with plural reference, where *kuna* is **unacceptable**:

5. a. **Puma-qa** salqa uywa-n
Puma-TOP ferocious animal-FOC/EVID

b. #**Puma-kuna-qa** salqa uywa-kuna-n
Puma-SPL-TOP ferocious animal-SPL-FOC/EVID

Intended “Pumas are ferocious animals.”

Generalization:

N
N-**kuna**

Definite

✓
✓

Generic

✓
X

kuna is not an option in a generic statement like (5b) – only a definite reading is available for (5b).

Note: generic statements based on stage-level predicates may allow **kuna**

2. Cuzco Quechua *kuna*

The (non)-optionality of plural marking contd.

In subject position, **kuna** is **obligatory** if the noun is human denoting and $|N| > 1$

- 6a. **Yachaq**-mi urma-ya-mu-n $|student| = 1$
Student-FOC fall-INT-TRANSLOC-3.S
“The student fell.” NOT “The students fell.”
- b. **Yachaq-kuna**-mi uyma-ya-mu-n $|student| \geq 2$
Student-SPL-FOC fall-INT-TRANSLOC-3.S
“The students fell.” NOT “The student fell.”

2. Cuzco Quechua *kuna*

The (non)-optionality of plural marking contd.

There is a subject-object asymmetry, along the animacy dimension, wrt singular vs. plural reference

	<i>Subject</i>		<i>Object</i>	
<i>Inanimate</i>	pot fell	<i>1 or more</i>	I saw pot	<i>1 or more</i>
	Pot-kuna fell	<i>more than 1</i>	I saw pot-kuna	<i>more than 1</i>
<i>Animate</i>	student fell	<i>only 1</i>	I saw student	<i>1 or more</i>
	student-kuna fell	<i>more than 1</i>	I saw student-kuna	<i>more than 1</i>

Generalization:

	Singular Reference	Plural reference
N(non-human)-Subj or Obj	✓(unmarked)	✓(unmarked or with kuna)
N(human)- Obj	✓(unmarked)	✓(unmarked or with kuna)
N(human)- <u>Subj</u>	✓	✓-only with kuna

2. Cuzco Quechua *kuna*

Reliance on sub-types: Kind-level predicates can take both the unmarked and the marked version of the noun, but with a shift in meaning:

7a. **Puma**-qa chinka-pu-chka-n-ña-n
puma-TOP lose-BEN-PROG-3.S ADV-FOC/EVID.ATT
“Pumas are becoming extinct.”

b. **Puma-kuna**-qa chinka-pu-chka-n-ña-n
puma-SPL-TOP lose-BEN-PROG-3.S ADV-FOC/EVID.ATT
“Different types of puma are becoming extinct.”

8a. **Allqu**-n **lubu**-manta paqari-n
Dog-FOC/EVID.ATT wolf-ABL evolve-3.S
“Dogs have evolved from wolves.”

b. **Allqu-kuna**-n **lubu-kuna**-manta paqari-nku
Dog-SPL-FOC/EVID.ATT wolf-SPL-ABL evolve-3.PL
“Different types of dog have evolved from different types of wolf.”

Note: And only if the kind has sub-types: ***dodo-kuna**

2. Cuzco Quechua *kuna*

The reliance on sub-types is also manifested in object-level statements:

9a. **Manka**-taq urma-ya-mu-n

Pot-CONT fall-INT-TRANSLOC-3S

“A pot fell/More than one pot fell.”



b. **Manka-kuna**-taq urma-ya-mu-n

Pot-SPL-CONT fall-INT-TRANSLOC-3S

“More than one pot (differing in some way) fell.”



2. Cuzco Quechua *kuna*

Other examples in the same vein:

10a. **Pukllana**-n sinchi-ta wali-sqa

Toy-FOC/EVID a lot-ACC cost-PST.REP/MIR

“The toy/The toys cost a lot.”

b. **Pukllana-kuna**-m sinchi-ta wali-sqa

Toy-SPL-FOC/EVID a lot-ACC cost-PST.REP/MIR

“The toys (different types) cost a lot.”

11a. **Quwi**-n chiri-pacha-pi wañu-pu-chka-rqa-n

Guinea-pig-EVID/FOC cold-time-LOC die-REG-PROG-PST-ATT-3.SG

“Guinea pigs kept dying all winter.”

b. **Quwi-kuna**-n chiri-pacha-pi wañu-pu-chka-rqa-nku

guinea_pig(-SPL)-EVID/FOC cold-time-LOC die-REG-PROG-PST-3.PL

“Guinea pigs (of different kinds) kept dying all winter.”

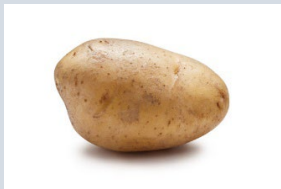
2. Cuzco Quechua *kuna*

Questions and their Expected Answers: Finally, the following questions can be asked with or without *kuna*:

12a. **papa**-yki ka-n-chu?

Potatoes-2.S be-3.S-INT/FOC

“Do you have a potato/potatoes?”



YES



YES

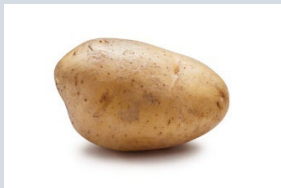


NO

b. **papa**-yki-**kuna** ka-n-chu?

Potatoes-2.S-SPL be-3.S-INT/FOC

“Do you have potatoes?”



NO



NO



YES

2. Cuzco Quechua *kuna*

The semantic contribution of **kuna** is not restricted to variation in type, variation can also be along the dimension of size, color etc. The following target the dimension of size:

13a. **wawa**-yki ka-n-chu
child-2.S be-3.S-INT/FOC
“Do you have children?”

Neutral: No particular expectation

b. **wawa**-yki-**kuna** ka-n-chu
child-2.S-SPL be-3.S-INT/FOC
“Do you have (a lot) of children?”

Felicitous only if more than some contextually set threshold, say 5, is a possible answer.

The **kuna** question in (13b) is infelicitous if addressed to a couple that have only been married a few years.

2. Cuzco Quechua *kuna*

The take-away

Kuna does denote in **Domain C**, but that does not mean that its core meaning is to facilitate a shift from **B**→**C**, as has been assumed in the literature on “optional” plural markers.

Our claim is that **kuna** introduces variation along the dimension of type, size, color etc. The specific dimension is dependent on the nature of the noun and the context of use.

The strict plurality associated with **kuna** is a side-effect of its core semantic contribution, which is the variation component.

We will now try to give formal shape to this claim.

3. *kuna* and the Sortability Presupposition

Two ingredients to the explanation: a presupposition & a principle of competition

The Sortability Presupposition: the noun complement must allow for the individuals in its denotation to be sorted/classified according to type, size, color etc.

14a. $[[kuna]] = \lambda P : \exists S \text{ III}_{\text{type/size/color}}(S)(P). \quad P$

b. A set S satisfies $\text{III}_{\text{type/size/color}}$ for a set P, iff the members of P can be separated into *at least two cells* in virtue of some sortable criteria such as type, color, size etc.

That is, if the set P allows for a proper partition III.

Maximize Presupposition (Heim 1991): If ϕ , ψ are contextually equivalent alternatives, and the presuppositions of ψ are stronger than those of ϕ , and are met in the context of utterance c, then one must use ψ . (from Singh 2011: 152)

3. *kuna* and the Sortability Presupposition

MP-Context



Manqa

✓

✓

✓ but blocked by MP

Manqa-kuna

X

X

✓

- Strict plurality is **not** part of the meaning of **kuna**
- Strict plurality is entailed by its sortability presupposition.

3. *kuna* and the Sortability Presupposition

Polar Questions

Polar questions present the addressee with two options, the one denoted by the nucleus proposition and its negation.

15a. **wawa**-yki ka-n-chu “Do you have children?”
child-2.S be-3.S-INT/FOC Yes (Any number 1 or above)

b. {Addressee has 1 or more children, \neg Addressee has 1 or more children}
 $|\text{child}| \geq 1$ $|\text{child}| = 0$

16a. **wawa**-yki-**kuna** ka-n-chu “Do you have (a lot) of children?”
child-2.S-SPL be-3.S-INT/FOC Yes (Only if a number higher than threshold)

b. {Addressee has a lot of children, \neg Addressee has a lot of children}

Sortability calculation: The number of the addressee’s children must allow for the possibility of sorting them by size -- small, medium, large

3. *kuna* and the Sortability Presupposition

Human denoting Nouns: unmarked human denoting nouns, unlike inanimate nouns, have a strictly singular reading in subject position (compare *pot fell* vs. *student fell*)

MP-Context



Manqa

✓

✓

✓ but blocked by MP

Manqa-kuna

X

X

✓



A gap



Yachaq

✓

✓ but blocked by MP

Yachaq-kuna

X

✓

3. *kuna* and the Sortability Presupposition

Why is the singular-only reading not manifested in object position?



Yachaq in **subj** position

✓

✓ (* due to MP)

Yachaq in **obj** position

✓

✓

Pseudo-incorporation/complex event formation could explain the #-neutrality of human denoting nouns as direct objects, functioning as the theme argument of the verb.

Human denoting nouns as **indirect objects**, functioning as beneficiaries, have strictly singular readings, just like they do in subject position:

17. Maria-n **irqita** mikhuchin

✓

X

Maria child feed

“Maria fed (something to) **a child.**” NOT “Maria fed (something to) **children.**”

3. *kuna* and the Sortability Presupposition

Some Corroborating Evidence: Our perception of human beings as *inherently sortable* is reflected in grammatical differences between minimal pairs like *who* and *what*.

18a. She met *a phonologist* but I don't know *who*.

b. She ate *a donut* but I don't know *what* **(type)*.

Based on: Dayal and Schwarzschild 2010

Context: a set of individuals with very similar physical characteristics in a line-up

19a. *Who* do you like for this job/crime?

b. *Which person* do you like for this job/crime?

Context: a set of pies, all of the same type, on a table at a pie-baking contest

20a. #*What* did you bake?

b. *Which pie* did you bake?

Dayal 2017 & in prep

3. Cuzco Quechua *kuna*

Summing up:

Kuna is not optional: it is needed for plural reference in the case of human denoting nouns in argument positions other than direct object, for example

Kuna is not an operator that takes a number neutral noun and makes it strictly plural

Kuna's primary contribution is a sortability check on its noun complement, which entails plurality

Looking forward:

- | | |
|--------------------------------------|---|
| N-reduplication in Indonesian | -- <i>sortability</i> seems to be in play |
| N-tul in Korean | -- <i>sortability</i> seems to be in play |
| N-men in Mandarin | -- no evidence that <i>sortability</i> is in play |

But to a lesser or greater extent we find *animacy* effects

4. ‘Optional’ Pluralization beyond Cuzco Quechua

The work on ‘optional’ pluralization in Cuzco Quechua emerged in the course of a project on (in)definiteness in languages without articles:

**THE OPEN HANDBOOK OF (IN)DEFINITENESS:
A HITCHHIKER’S GUIDE TO INTERPRETING BARE ARGUMENTS**
V. Dayal (ed), to appear, Open Handbooks in Linguistics, MIT Press.

Languages investigated:

<i>Cabo Verdean Creole:</i>	Marlyse Baptista & Veneeta Dayal
<i>Cuzco Quechua:</i>	Liliana Sanchez, Janett Vengoa & Veneeta Dayal
<i>Hiaki:</i>	Heidi Harley, & Veneeta Dayal
<i>Indonesian:</i>	Daniel Kaufman, Gita Martohardjono & Veneeta Dayal
<i>Korean:</i>	Sea-hee Choi, James Yoon & Veneeta Dayal
<i>Russian:</i>	Anita Soloveva, Maria Polinsky & Veneeta Dayal
<i>Xhosa:</i>	Vicki Carstens, Loyiso Mletshe & Veneeta Dayal

CBC, CQ, Indonesian, Korean have general number systems and have been claimed to have “optional” pluralization strategies.

- The claim of optionality did not hold up in any of them.
- Effects related to sortability did not apply to CVC.

4.1 ‘Optional’ Pluralization: Indonesian N-reduplication

Indonesian reduplication has been described as an **optional plural marker** (Chung 2000, Dalrymple and Mofu 2012).

There is no reference in the literature to variation in sub-types, except in a quote from Dyen (1964):

“The Indonesian speaker makes the choice [to reduplicate or not – SC] according to whether the collection of plural objects is to be regarded as (1) constituting a more or less uniform mass or as (2) made up of a number of discrete objects. In the first case, the undoubled word is used and in the second, the double[d] word is used. Thus *kursi* means ‘**a chair, a collection of undifferentiated chairs**’ and *kursikursi* means ‘**a collection of different chairs**’.”

But Kaufman, Martohardjono and Dayal (to appear) note several instances where *sortability* is in evidence.

4.1 ‘Optional’ Pluralization: Indonesian N-reduplication

21a. Aku mau ambil bunga mawar itu
1SG want take flower rose that
“I’ll take that rose/those roses.”

b. Aku mau ambil bunga~bunga mawar itu
1SG want take flower flower rose that
“I’ll take those roses.”

- For (21b) to be felicitous, the roses must include more than one variety or more than one color.

4.1 ‘Optional’ Pluralization: Indonesian N-reduplication

22a. Bambang meng-goreng ikan(~ikan) selama dua hari
Bambang AV-fry fish fish for two day
“Bambang fried fish for two days.”

- *With reduplication*: different types of fish have to be fried

b. Bambang ber-ulang~ulang mem-bunuh kelinci#(~kelinci)
Bambang AV-ITER~repeat AV-kill rabbit rabbit
“Bambang kills/was killing the rabbits repeatedly.”

- *Reduplication* is infelicitous, presumably because it is hard to conjure up different types of rabbit in the context of a butcher-shop?

4.1 ‘Optional’ Pluralization: Indonesian N-reduplication

Human Denoting Nouns: An unmarked noun can introduce new entities into a discourse

23a. Di kampung itu, ada **anjing** di jalan
PREP village that EXT dog PREP street
“In that village, there is a dog/are dogs in the street.”

- The non-human animate noun in (23a) is compatible with singular or plural reference.

b. Beberapa tahun yang lalu...
few year RELT ago
ada **nenek tua yang** tinggal di rumah ini.
EXT grandmother old RELT live LOC house this
“Once upon a time, an old woman used to live in this house.”

- The human denoting noun in (23b) only has singular reference.
- **Reduplication** is needed to introduce a plurality!

4.1 ‘Optional’ Pluralization: Indonesian N-reduplication

Take Away: There is clearly significant overlap between Cuzco Quechua **kuna** and Indonesian **reduplication**, suggesting that *sortability* is part of the semantic profile of both cases of optional plural markers.

But: the analysis of Cuzco Quechua **kuna** cannot be transferred in toto to Indonesian **reduplication**

Possible locus of variation: Cuzco Quechua **kuna** Indonesian **reduplication**

Kind Terms	√	X
Proper Names	√	X

A safe conclusion: *Sortability* is part of the profile of Indonesian **reduplication**, even if it is not identical to the way it is encoded in Cuzco Quechua for **kuna**.

4.2 ‘Optional’ Pluralization: Korean **-tul**

24. Na-nun i **cangmi(-tul)-ul** kaci-e ka-lkke-y
I-TOP this rose-PL-ACC take go-FUT-DECL
“I will take these roses.”

- The -tul marked version requires the flowers to be bundled separately

25a. **Konglyong-(tul)-un/i** myelcong-toy-ess-ta.
dinosaur-PL-TOP/NOM extinct-become-PST-DECL
“Dinosaurs are extinct.”

b. **maymesu(#-tul)-un / totosay(#-tul)-un** myelconghay-ss-ta.
mammoth-PL-TOP dodo-PL-TOP extinct-PST-DECL
“Mammoths/dodos are extinct.”

Choi, Yoon & Dayal (to appear)

- Dinosaurs had sub-types; mammoths and dodos did not.

4.2 ‘Optional’ Pluralization: Korean **-tul**

Optionality

“Korean nouns...are not specific with respect to number...But if it is really necessary, or if he feels like it, a Korean speaker can make his nouns specifically plural...He does this by placing *tul* a word meaning something like ‘group’ after them. S. Martin (1969)

Animacy

Plural Marker Occurring With	Animate Noun	Inanimate Noun	Others	Total
Number of Occurrence	94 (83%)	15 (13%)	5 (4%)	113 (2/page)

Seok Choong Song (1975)

4.3 ‘Optional’ Pluralization: Mandarin **-men**

Animacy Restrictions

- | | | | |
|------|--|-----|--------------------------------------|
| 26a. | xuesheng
“the student(s)/students” | a.’ | xueshen-men
“the students” |
| b. | xiao-niao
“a/the/some bird/birds” | b’. | xiao-niao-men
“the birds” |
| c. | pingguo
“the apple(s)/apples” | c’. | * pinguo-men |

Jiang 2020:148

- Non-human animates (26b) only possible under an anthropomorphic use – fairy tales, bed-time stories etc.
- There is, in effect, a strict restriction to human denoting nouns.

Note: The facts are well-established, though the data here are from Jiang 2020.

4.3 ‘Optional’ Pluralization: Mandarin **-men**

Animacy Restrictions

27a.	wo 1-sg “I/me”	a.’	wo-men 1-sg-SPL “We/us”
b.	ni 2-sg “you (sg)”	b’.	ni-men 2-sg-SPL “You (pl)”
c.	ta 3-sg “he/she/him/her”	c’.	ta-men 3sg-SPL “They/them”

Jiang 2020:147

- For pronouns, - **men** is obligatory for plural reference.
- In the pronominal system, there is no animacy restriction – (27c’) can refer to inanimate objects.

4.3 ‘Optional’ Pluralization: Mandarin **-men**

Definiteness

- 28a. **you ren**
have person
“There is someone/some people.”
- a’. ***you ren-men**
have person-SPL
“There are some people.” Iljic 1994
- b. tamen shi **laoshi**(***-men**)
they be teacher-SPL
“they are teachers”
Iljic 1994
- c. **xuesheng-men dou** li-kai le
student-SPL DOU leave ASP
“Each of the students has left.”
A. Li 1999
- **-men** is not possible under \exists -**you** (28a), or in predicate position (28b). In argument position (28c), it allows for semantic modification by **dou**.
 - Kurafuji (2004) gives **-men** the meaning of a plural definite determiner and this can account for its behavior in (28).

4.3 ‘Optional’ Pluralization: Mandarin **-men**

Maximize Presupposition (Heim 1991): Use the sentence with a stronger presupposition in contexts that satisfy the presupposition.

$$\llbracket \mathbf{men} \rrbracket = \lambda k: \forall x[\cup k(x) \rightarrow \text{human}(x)] \wedge \exists S \text{ III}_{\text{type/size/color}} (S)(\cup k)]. k$$

Maximize Presupposition:

- Gives clear results only for pronouns: *ta* (strict singular, **Domain A**, due to MP), *ta-men* (strict plural, **Domain C**).
- Problematic for human denoting common nouns: *xuesheng* (#-neutral, **Domain B**), *xuesheng-men* (strict plural, **Domain C**). Why is there no singularity implicature for the unmarked?
- We also need to ask if the noun class presupposition should be subject to Maximize Presupposition. There does not seem to be competition on this score.

4.3 ‘Optional’ Pluralization: Mandarin **-men**

Oft noted properties: animacy restrictions, definiteness, strict plurality

but: no mention of variation in sub-type, size, color etc.

A safe conclusion: *Sortability* is not part of the profile of Mandarin **-men** but *animacy* clearly is.

And what does *animacy* have to do with number?

And why does *animacy* not manifest itself with regular pluralization?

5. Concluding Thoughts

Number systems: morphology-semantics map

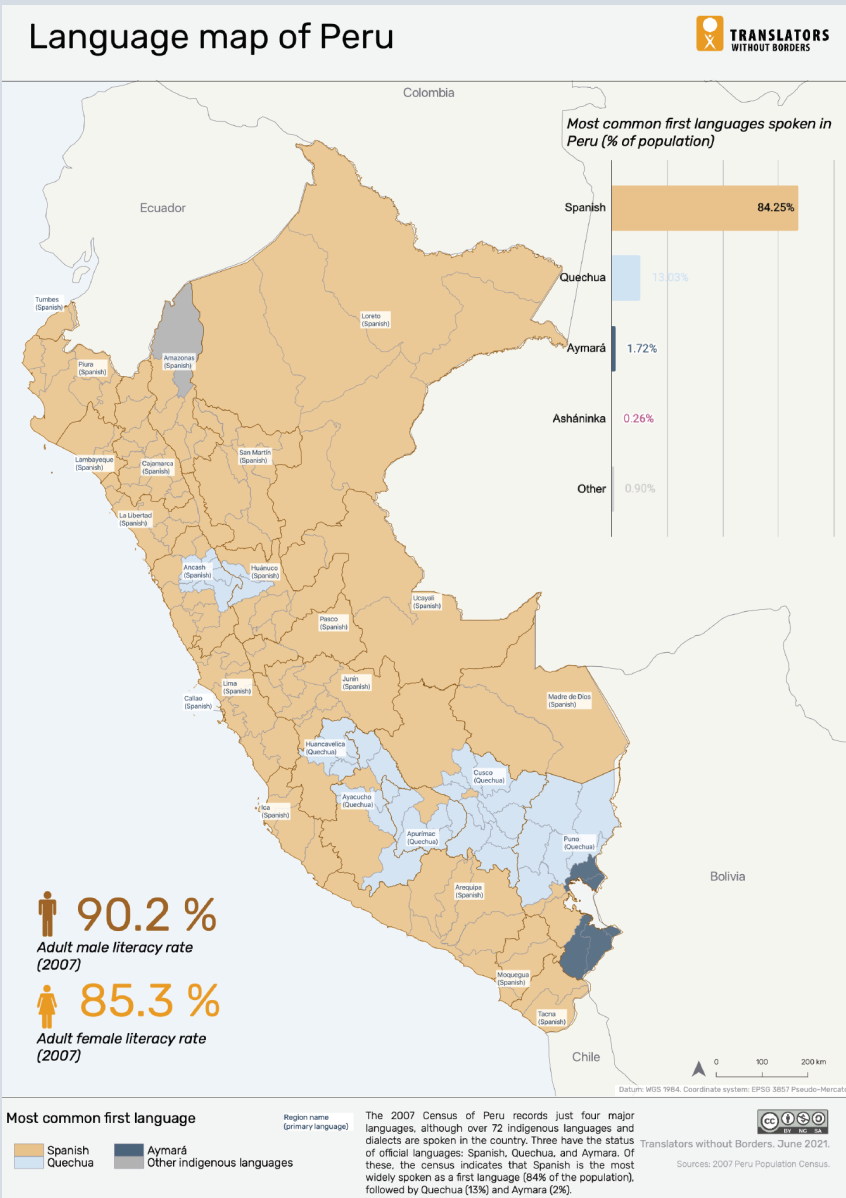
Indonesian		perawat- \emptyset	perawat-perawat
Korean		ai- \emptyset	ai-tul
Mandarin		xuesheng- \emptyset	xuesheng-men
Quechua		yachaq- \emptyset	yachaq-kuna
English	student- \emptyset	student-s	
Hindi	laRkii- \emptyset	laRki-yaaN	?
Russian	sobak-a	sobak-i	

Domain A Domain B
 Atoms only atoms & sums

“Optional Pluralization” does not belong in the number system

- It is not optional – sometimes it is needed for plural reference; sometimes its presence blocks readings that plurals should have.
- The significance of animacy effects in these strategies does not mesh with the distinction between singular and plural in any obvious way.

A Final Consideration



(Cuzco) Quechua:

On the UNESCO list of endangered languages.

Approx 8-10 million Quechua speakers;
approximately 1.5 million Cuzco Quechua speakers

Spoken by South American indigenous people of the central Andes (Peru, Ecuador, Bolivia)

First Language of speakers in Peru

Spanish: 84.25%, Quechua: 13.03%, Other: 2.62%

Source:

<https://translatorswithoutborders.org/language-data-for-peru>

A Final Consideration

Language Revitalization efforts are being conducted in a Spanish-Quechua bilingual context; but in the domain of number marking the two languages do not fit seamlessly.

Quechua		yachaq-∅	
English	student-∅	student-s	
Spanish	estudiante-∅	estudiante-s	
	Domain A	Domain B	yachaq-kuna

The shift from seeing *-kuna* as an “optional” plural marker to a morpheme encoding a presupposition of “sortability” means abandoning the Spanish lens for a more organic perspective.

- The right semantic account of *-kuna* can have real world consequences for Quechua revitalization efforts.

THANK YOU!

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