Nominal and verbal plurality (in Seri): an overview

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Seri verbs

- Number distinctions in verbs; see Marlett (1988, 2016) and Moser & Marlett (2010)
  - Subject number
    - Singular
    - Plural
  - Verbal number
    - Neutral
    - Multiple; see Cabredo Hofherr, Pasquereau, O'Meara (2018)
    - Distributional; NEW OBSERVATION (Pasquereau 2019)

Cmiique iitom / Seri (isolate)

- Seri is spoken in Sonora, Mexico in two villages: *Haxöl Iihom / El Desemboque* and *Socaaix / Punta Chueca*

- It is spoken by approximately 900 speakers (Ethnologue 2007)
- It has a rich system of number distinctions in verbs, with morphological and functional parallels in nouns

Seri verbs: subject number

- Singular subject

Moxima	*sahmees*	*hizcoi*	***h-yoohit.***
yesterday	orange	DEM.PL	1SG-RLS.YO.eat

  'Yesterday I ate these oranges.'

Moxima	*sahmees*	*hizcoi*	***h-yoohitim.***
yesterday	orange	DEM.PL	1SG-RLS.YO.eat.MULT

  'Yesterday I ate these oranges (over time).'

- * | *Moxima* | *sahmees* | *hizcoi* | ***h-yoiitoj.*** |
  |---|---|---|---|
  | yesterday | orange | DEM.PL | 1SG-RLS.YO.eat.PL |

  Int. 'Yesterday I ate these oranges.'

- * | *Moxima* | *sahmees* | *hizcoi* | ***h-yoiitolca.*** |
  |---|---|---|---|
  | yesterday | orange | DEM.PL | 1SG-RLS.YO.eat.PL.MULT |

  Int. 'Yesterday I ate these oranges (over time).'

Seri verbs: subject number

- Plural subject

* *Moxima   sahmees   hizcoi   **ha-yoohit.***
  yesterday orange   DEM.PL   1PL-RLS.YO.eat
  Int. 'Yesterday we ate these oranges.'

* *Moxima   sahmees   hizcoi   **ha-yoohitim.***
  yesterday orange   DEM.PL   1PL-RLS.YO.eat.MULT
  Int. 'Yesterday we ate these oranges (over time).'

  *Moxima   sahmees   hizcoi   **ha-yoiitoj.***
  yesterday orange   DEM.PL   1PL-RLS.YO.eat.PL
  'Yesterday we ate these oranges.'

  *Moxima   sahmees   hizcoi   **ha-yoiitolca.***
  yesterday orange   DEM.PL   1PL-RLS.YO.eat.PL.MULT
  'Yesterday we ate these oranges (over time).'

Seri verbs: event number

- Neutral form is underspecified

*Juan quih   xiica an iqueaacalca   coi   hant   **iyootox***
Juan   DEF   suitcases   DEF.PL   down   3>3.RLYO.extend
'Juan dragged the suitcases.'

Context 1: true
Distribution over times: ✓
Distribution over spaces: ?

Context 2: true
Distribution over times: ✗
Distribution over spaces: ✓

Context 3: true
Distribution over times: ✗
Distribution over spaces: ✗

Seri verbs: event number

- Neutral form is underspecified

Juan quih   xiica an iqueaacalca
Juan   DEF   suitcases
*coi   **hant   iyootox***
DEF.PL down   3>3.RLYO.extend
'Juan dragged the suitcases.'

Context 1: true

Distribution over times: ✓
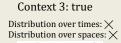Distribution over spaces: ?

Seri verbs: event number

- Neutral form is underspecified

Juan quih   xiica an iqueaacalca
Juan   DEF   suitcases
*coi   **hant   iyootox***
DEF.PL down   3>3.RLYO.extend
'Juan dragged the suitcases.'

Context 2: true

Distribution over times: ✗
Distribution over spaces: ✓
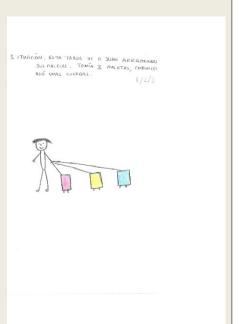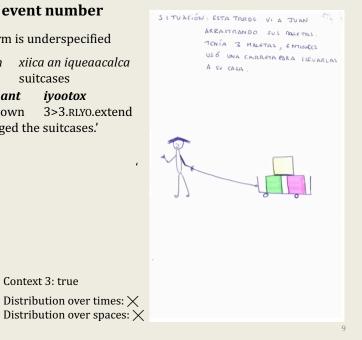
Seri verbs: event number

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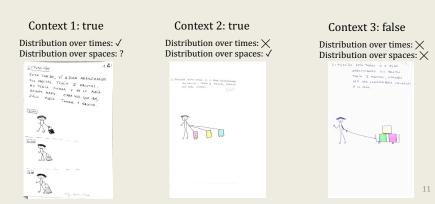'Juan dragged the suitcases.'

Context 3: true

Distribution over times: ✗
Distribution over spaces: ✗

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Seri verbs: multiple

- Multiple form requires multiple events which are, at least, distributed over times

*Juan   quih   xiica an iqueaacalca   coi   **hant   iyootoxim***
Juan   DEF   suitcases   DEF.PL   down   3>3.RLYO.extend.MULT
'Juan dragged the suitcases.'

Context 1: true
Distribution over times: ✓
Distribution over spaces: ?

Context 2: false
Distribution over times: ✗
Distribution over spaces: ✓

Context 3: false
Distribution over times: ✗
Distribution over spaces: ✗

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Seri verbs: distributional

- Distribution form requires multiple events which are, at least, distributed over spaces

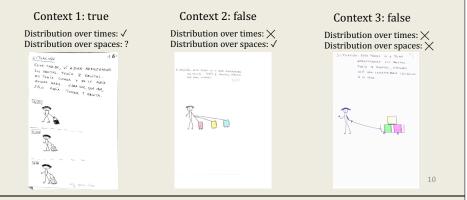*Juan   quih   xiica an iqueaacalca   coi   **hant   iyootyax***
Juan   DEF   suitcases   DEF.PL   down   3>3.RLYO.extend.DIST
'Juan dragged the suitcases.'

Context 1: true
Distribution over times: ✓
Distribution over spaces: ?

Context 2: true
Distribution over times: ✗
Distribution over spaces: ✓

Context 3: false
Distribution over times: ✗
Distribution over spaces: ✗

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Seri verbs

- Two cross-classifying features
  - Subject number [singular, plural]
  - Verbal number [neutral, multiple, distributional]
    (previously only 2 values had been recognized)

		event number		
	'wrap'	neutral	multiple	distributional
subject number	singular	**iyacapnij**	**iyacapanl**	**iyacapnalca**
	plural	**iyacapnalcoj**	**iyacapzil**	**iyacapzilca**

- In principle, 6 cells but in the overwhelming majority of cases, if there is a separate distributional form, it is in the singular subject paradigm

		event number		
	'drag'	neutral	multiple	distributional
subject number	singular	**hant iyootox**	**hant iyootoxim**	**hant iyootyax**
	plural	**hant iyootyajc**	**hant iyootyaxlca**	

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One inventory of exponents for all feature values

- For every exponent$_x$, it is not possible to associate it$_x$ with one bundle of feature values
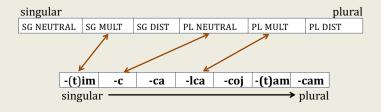
SG NEUTRAL	SG MULT	SG DIST	PL NEUTRAL	PL MULT	PL DIST	
-taxnij	-taxanl		-taxnal-ca	-taxnal-coj		'scold'
-atox	-atoxim	-atyax	-atyaj-c	-atyax-lca		'stretch'
-tahoiij		-tahoiil-c	-tahoiil-coj			'make tubular'
-tzam	-tzam-tim	-tzamlqu-im	-tzamlc-am			'corner, attack'
-tanamj	-tanaml-c		-anaml-coj	-anaml-cam		'hurry'
-tazaain-im	-tazaiin-im		-azaail-cam	-azaiil-cam		'anchor'
-tpoc	-tpoct-im		-tpocl-im	-tpocal-am		'fall'
-tpazj-c	-tpaxlax		-tpazlax	-tpazlax-lca		'be scattered'
-tineezil-ca	-tineezil-im		-tineezil-coj	-tineezil-am		'be raspy'
-tapox	-tapox-im	-taptax	-taptaj-c	-tapo-tam	-taptax-lca	'pull out'

-tim ▢ **-c** ▢ **-ca** ▢ **-lca** ▢ **-coj** ▢ **-tam** ▢ **-cam** ▢

Incrementality of the exponents

- The system is not completely random however, because both the paradigm cells and the exponents *mostly* follow an implicational scale (Baerman 2016):

singular ⟶ plural

SG NEUTRAL	SG MULT	SG DIST	PL NEUTRAL	PL MULT	PL DIST

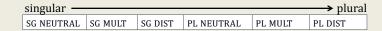| -(t)im	-c	-ca	-lca	-coj	-(t)am	-cam

singular ⟶ plural

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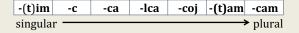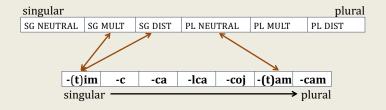
singular ⟶ plural

SG NEUTRAL	SG MULT	SG DIST	PL NEUTRAL	PL MULT	PL DIST

-(t)im	-c	-ca	-lca	-coj	-(t)am	-cam

singular ⟶ plural

SG NEUTRAL	SG MULT	SG DIST	PL NEUTRAL	PL MULT	PL DIST	
-atox	-atox-im	-atyax	-atyaj-c	-atyax-lca		'stretch'

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singular ⟶ plural

SG NEUTRAL	SG MULT	SG DIST	PL NEUTRAL	PL MULT	PL DIST

-(t)im	-c	-ca	-lca	-coj	-(t)am	-cam

singular ⟶ plural

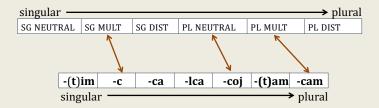| SG NEUTRAL	SG MULT	SG DIST	PL NEUTRAL	PL MULT	PL DIST	
-tzam	-tzam-tim	-tzamlqu-im	-tzamlc-am			'corner, attack'

- The system is not completely random however, because both the paradigm cells and the exponents *mostly* follow an implicational scale :

SG NEUTRAL	SG MULT	SG DIST	PL NEUTRAL	PL MULT	PL DIST	
-tanamj	-tanaml-c		-tanaml-coj	-tanaml-cam		'hurry'

- The system is not completely random however, because both the paradigm cells and the exponents *mostly* follow an implicational scale :

SG NEUTRAL	SG MULT	SG DIST	PL NEUTRAL	PL MULT	PL DIST	
-tpoc	-tpoct-im		-tpocl-im	-tpocal-am		'fall'

- The system is not completely random however, because both the paradigm cells and the exponents *mostly* follow an implicational scale :

SG NEUTRAL	SG MULT	SG DIST	PL NEUTRAL	PL MULT	PL DIST	
-tineezil-ca	-tineezil-im		-tineezil-coj	-tineezil-am		'be raspy'

-(t)im is an outlier

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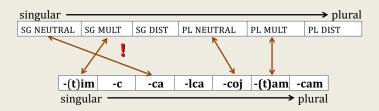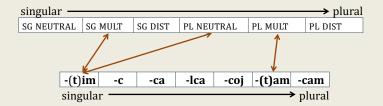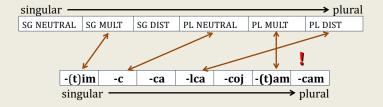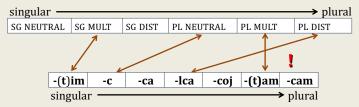

SG NEUTRAL	SG MULT	SG DIST	PL NEUTRAL	PL MULT	PL DIST	
-tapox	-tapox-im	-taptax	-taptaj-c	-tapot-am	-taptax-lca	'remove'

-(t)am is an outlier

Incrementality and *-tim/-tam*

- Two notable exceptions to this not completely random system are the endings *–tim* and *–tam*

singular ⟶ plural

SG NEUTRAL	SG MULT	SG DIST	PL NEUTRAL	PL MULT	PL DIST

-(t)im	-c	-ca	-lca	-coj	-(t)am	-cam

singular ⟶ plural

- These are outliers in several respects
  - They are only found with verbs (so far as we know)
  - **-tim/-tam** are among the 5 most frequent exponents
  - **-tim** is most often found marking singular subject MULT forms
  - **-tam** is perceived by speakers as being 'the plural of **-tim**' in morphological elicitation tasks
- Hypothesis: productive verbal suffixes **-tim/-tam** have been overlaid on an older system of number marking shared between verbs and nouns

Verbal exponents

- The formal trappings of the paradigm are complex, but so long as we have the features or 'content paradigm' (Stump 2015) sorted out, it can be accounted for.
- The three (+?) types of plural largely share the same morphology, whose function emerges only within the context of an individual paradigm
- The morphology follows a strict hierarchy w.r.t. the number values, suggesting that some feature bundles are 'more plural', and some 'less plural'
- Overwhelmingly, the distinction between event plurality and distributional plurality is only morphologically overt with singular subjects
- All the plural markers in the noun system are also found in the verb system.

Seri nouns

- But with most nouns they just mean 'plural', without any of the further nuances found with verbs

SINGULAR	PLURAL	
hehe	**hehet**	'plant'
noosi	**noosilc**	'mourning dove'
hapxa	**hapxalc**	'cottontail rabbit'
haaho	**haaholcam**	'road'

Seri nouns

- So-called 'possessed nouns' have a plural form that indicates plurality of
  - the possessor, and/or
  - the possessum

SINGULAR	PLURAL	
yaaco	**yaacöt**	3POSS.house
itrooqui	**itrooquij**	3POSS.car
inol	**inloj**	3POSS.hand
isla	**isloj**	3.POSS.ear

- Singular means possessor and possessum are singular
- Plural means at least possessor or possessum is plural

Seri nouns

- Some 'possessed nouns' have another plural form that indicates plurality of the possessed item with a singular possessor

SG POSSESSOR		PL POSSESSOR	
SG POSSESSUM	PL POSSESSUM		
isc	isjc	isjoj	3POSS.body_louse
ito	itoj	itolcoj	3POSS.eye
iztim	iztaj	iztalca	3POSS.hipbone
inaail	inaailc	inaaaj	3POSS.skin

Seri nouns

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SG POSSESSOR		PL POSSESSOR	
SG POSSESSUM	PL POSSESSUM		
isc	isjc	isjoj	3POSS.body_louse
ito	itoj	itolcoj	3POSS.eye
iztim	iztaj	iztalca	3POSS.hipbone
inaail	inaailc	inaaaj	3POSS.skin

Seri nouns

- Morphologically and functionally this parallels the singular subject, distributional plural form of verbs (and more broadly, that possessor number is the equivalent of subject number)

POSSESSOR/SUBJECT	POSSESSUM	NOUN	VERB	EVENT #
singular	singular	inaail 'his skin'	iyinaail 'has X empty'	NEUT
	plural	inaailc 'his skins'	iyinaailc 'has Xs empty'	DIST
plural	singular	inaaaj 'their skin(s)'	iyinaaaj 'have X empty'	NEUT
	plural			

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	plural	inaailc 'his skins'	iyinaailc 'has Xs empty'	DIST
plural	singular	inaaaj 'their skin(s)'	iyinaaaj 'have X empty'	NEUT
	plural			

Seri nouns

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possessor/subject	possessum	noun	verb	event #
singular	singular	**inaail** 'his skin'	**iyinaail** 'has X empty'	NEUT
	plural	**inaailc** 'his skins'	**iyinaailc** 'has Xs empty'	DIST
plural	singular	**inaaaj** 'their skin(s)'	**iyinaaaj** 'have X empty'	NEUT
	plural			

Seri nouns

- The verb opens up the MULT category

possessor/subject	possessum	noun	verb	event #
singular	singular	**inaail** 'his skin'	**iyinaail** 'has X empty'	NEUT
	plural	**inaailc** 'his skins'	**iyinaailim** 'has X empty over time'	MULT
			iyinaailc 'has Xs empty'	DIST
plural	singular	**inaaaj** 'their skin(s)'	**iyinaaaj** 'have X empty'	NEUTR
	plural		**iyinaaajam** 'have X empty over time'	MULT

Summary and questions

- Nouns and verbs: morphological & functional parallels

  - Some markers are restricted to the verbal system
    - Suffixes *-tim*/*-tam* mark MULT in conjunction with subject number
    - Infixes <too>, <coo> mark subject PL

Summary and questions

- Nouns and verbs: morphological & functional parallels

  - Some markers are restricted to the verbal system
    - Suffixes *-tim*/*-tam* mark MULT in conjunction with subject number
    - Infixes <too>, <coo> mark subject PL

- The other exponents are shared between verbs and nouns, and can mark ANY of the values in either the verbal or nominal system.
  - ➤ How common is it?
  - ➤ What are the limits on the categories sharing exponents?

	-CA	-LCA	-COJ
NOUNS			
VERBS			
… ?			

Summary and questions

- Nouns and verbs: morphological & functional parallels

  - Some markers are restricted to the verbal system
    - Suffixes *-tim*/*-tam* mark MULT in conjunction with subject number
    - Infixes <too>, <coo> mark subject PL

  - The other exponents are shared between verbs and nouns, and can mark ANY of the values in either the verbal or nominal system.
    - ➢ How common is it?
    - ➢ What are the limits on the categories sharing exponents?

  - The meanings NEUT/DIST are found in both verbs and nouns
    - ➢ How common is it?
    - ➢ What other features/meanings (cross-linguistically) can span several lexical categories?

	NEUT	DIST	… ?
NOUNS			
VERBS			

Summary and questions

- Asymmetry between singular subject/possessor and plural subject/possessor
  - DIST mostly not lexically distinguished with plural subject
  - SG/PL possessum not lexically distinguished with plural possessor
- ➢ Are such asymmetries language-specific? Are they the result of motivated constraints?

	NEUT	MULT	DIST
SG SUBJECT			
PL SUBJECT			

Verbal paradigm of feature values

	SG POSSESSUM	PL POSSESSUM
SG POSSESSOR		
PL POSSESSOR		

(Possessed) nominal paradigm of feature values

Summary and questions

- Plural marking on verbs:
  - Subject plurality: PL
  - Verbal plurality: MULT and DIST
  - ➢ Do they fully cross classify (with a syncretic form in the plural subject)?
  - ➢ Or are paradigms of feature values asymmetrical?

	NEUT	MULT	DIST
SG SUBJECT			
PL PLURAL			

Symmetrical paradigm of values (with formal syncretism)

	NEUT	MULT	DIST
SG SUBJECT			
PL PLURAL			

Asymmetrical paradigm of values

Summary and questions

- Nouns and verbs: morphological & functional parallels
  - The interpretation of the suffixes within any paradigm reflects a principle of incrementality across the whole feature system (less plural < more plural).

singular ⟶ plural

SG NEUTRAL	SG MULT	SG DIST	PL NEUTRAL	PL MULT	PL DIST

-(t)im	-c	-ca	-lca	-coj	-tam	-(c)am

singular ⟶ plural

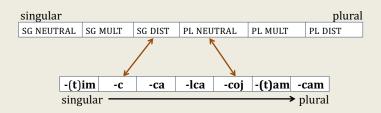| SG NEUTRAL	SG MULT	SG DIST	PL NEUTRAL	PL MULT	PL DIST	
-atox	-atox-im	-atyax	-atyaj-c	-atyax-lca		'stretch'

- ➢ Are there other morpho-semantic systems similar to this?
- ➢ How can we model such a system?

¡Haa xah tiipe!

Incrementality of the exponents

- The system is not completely random however, because both the paradigm cells and the exponents *mostly* follow an implicational scale :

singular   plural

SG NEUTRAL	SG MULT	SG DIST	PL NEUTRAL	PL MULT	PL DIST

-(t)im	-c	-ca	-lca	-coj	-(t)am	-cam

singular   ⟶   plural

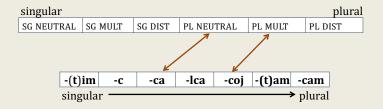| SG NEUTRAL	SG MULT	SG DIST	PL NEUTRAL	PL MULT	PL DIST	
-taxnij	-taxanl		-taxnal-ca	-taxnal-coj		'scold'

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singular   plural

SG NEUTRAL	SG MULT	SG DIST	PL NEUTRAL	PL MULT	PL DIST

-(t)im	-c	-ca	-lca	-coj	-(t)am	-cam

singular   ⟶   plural

SG NEUTRAL	SG MULT	SG DIST	PL NEUTRAL	PL MULT	PL DIST	
-tahoiij		-tahoiil-c	-tahoiil-coj			'make tubular'

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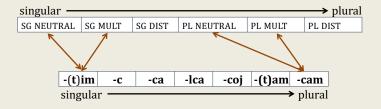
singular   ⟶   plural

SG NEUTRAL	SG MULT	SG DIST	PL NEUTRAL	PL MULT	PL DIST

-(t)im	-c	-ca	-lca	-coj	-(t)am	-cam

singular   ⟶   plural

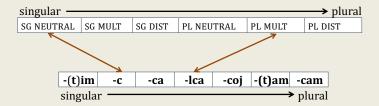| SG NEUTRAL	SG MULT	SG DIST	PL NEUTRAL	PL MULT	PL DIST	
-tazaain-im	-tazaiin-im		-tazaail-cam	-tazaiil-cam		'anchor'

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singular ⟶ plural

SG NEUTRAL	SG MULT	SG DIST	PL NEUTRAL	PL MULT	PL DIST

-(t)im	-c	-ca	-lca	-coj	-(t)am	-cam

singular ⟶ plural

SG NEUTRAL	SG MULT	SG DIST	PL NEUTRAL	PL MULT	PL DIST	
-tpazj-c	-tpaxlax		-tpazlax	-tpazlax-lca		'be scattered'

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