Arguments for pluractionality in Seri

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Introduction

- Seri is spoken in North West Mexico, in two villages on the coast: *Haxöl Iihom*/El Desemboque and *Socaaix*/Punta Chueca

Figure: The Seri region in Mexico (Encyclopædia Britannica, Inc.)

Introduction

- Seri is spoken in North West Mexico, in two villages on the coast: *Haxöl Iihom*/El Desemboque and *Socaaix*/Punta Chueca

Figure: The Seri region in Mexico (Encyclopædia Britannica, Inc.)

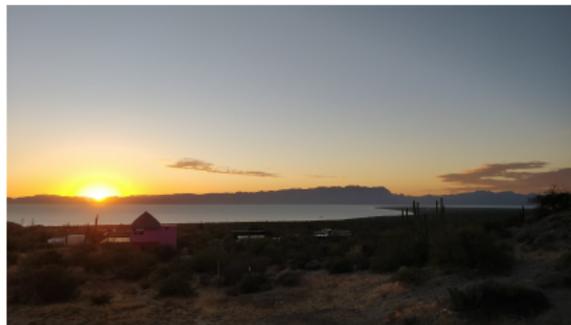- Isolate, approx. 900 speakers (Ethnologue 2007 estimate)

Methodology

- I mainly worked in the village of El Desemboque with 4-6 speakers (2 fieldtrips: Nov/Dec 2017, April 2018) + data collected by Carolyn O'Meara in Jan/Feb 2017
- Elicitation (Matthewson, 2004) with Spanish as the contact language
- I worked in close collaboration with Deborah Perales, who checked all the data I wrote down
- Collective and individual elicitation sessions
- Attested examples from existing texts

El Desemboque: settings

Debora, Karelia, Mayra

Ana María, me

Outline

Outline

Verb forms

- The majority of verb stems in Seri have at least 4 non predictable forms (some have fewer, some have more)

(1)

Form A	Form B	Form C	Form D	
-panzx	*-panozxim*	*-pancojc*	*-pancoxlca*	'run'

- The forms have been analyzed as encoding two meaningful categories in Marlett (2016)

  - ▶ category 1: subject number
  - ▶ category 2: event plurality / aspect / object number (Moser, 1961; Moser and Marlett, 2010; Marlett, 2016)

- The pre-stem slots host a number of prefixes encoding other distinctions (e.g. person, realis/irrealis, . . .) that do not interact with the choice of one form or the other

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Category 1 = Subject number

(2)

| | singular subject | | plural subject | |
	Form A	Form B	Form C	Form D	
	-panzx	*-panozxim*	*-pancojc*	*-pancoxlca*	'run'

(3) I ran

   a. Moxima ihp-yo-panzx.

   b. Moxima ihp-yo-panozxim.
      yesterday 1SG-RLYO-run

   c. *Moxima ihp-yo-pancoj.

   d. *Moxima ihp-yo-pancoxlca.

(4) We ran

   a. Moxima ha-yo-pancojc.

   b. Moxima ha-yo-pancoxlca.
      yesterday 1PL-RLYO-run

   c. *Moxima ha-yo-panzx.

   d. *Moxima ha-yo-panozxim.

Category 2 = ?

(5) 'run'

| | | Category 2 | |
		perfective	imperfective
Category 1: subject number	singular	*-panzx*	*-panozxim*
	plural	*-pancojc*	*-pancoxlca*

- Marlett 2016 analyses category 2 as **aspect** with the values *perfective* and *imperfective*

Category 2 = ?

(5) 'run'

		Category 2	
		sg object	pl object
Category 1: subject number	singular	*-panzx*	*-panozxim*
	plural	*-pancojc*	*-pancoxlca*

- Marlett 2016 analyses category 2 as **aspect** with the values *perfective* and *imperfective*
- In earlier work Marlett analyses category 2 as **object number** and as **event number** with values *singular* and *plural* (Moser, 1961; Marlett, 1981, 2016)

Category 2 = ?

(5)   'run'

		Category 2	
		sg event	pl event
Category 1: subject number	singular	*-panzx*	*-panozxim*
	plural	*-pancojc*	*-pancoxlca*

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What is the semantics of category 2 marked on the verb?

Category 2 = ?

(5) 'run'

		Category 2	
		unmarked	marked
Category 1: subject number	singular	*-panzx*	*-panozxim*
	plural	*-pancojc*	*-pancoxlca*

- Marlett 2016 analyses category 2 as **aspect** with the values *perfective* and *imperfective*
- In earlier work Marlett analyses category 2 as **object number** and as **event number** with values *singular* and *plural* (Moser, 1961; Marlett, 1981, 2016)

What is the semantics of category 2 marked on the verb?

- We will use the provisional labels *unmarked* and *marked* (glossed MRK)

Outline

On the morphology of these categories

- In many languages, meaning X ⟿ exponent Y
- In Seri, no one-to-one relation holds
- Expression of these categories is extremely varied: suffix, infixes, and/or phonological alternations

(6)

	FORM A	FORM B	FORM C	FORM D	GLOSS
	-pim	-pim-**tim**	-pim-**xam**	-pim-**lkam**	'make leather sandals'
	-apot	-apot-**im**	-apt	-apot-**am**	'pay'
	-aaspoj	-aasipl	-atoosipl-**oj**	-atoosipl-**oj**	'write'
	-azazin-**ot**	-azazjc	-azazj-**oj**	-azazjc	'weave'

- The 952 verbs in Moser & Marlett's dictionary (2010) fall into at least 255 classes just according to the suffix behavior of these four paradigmatic cells (Baerman 2016)
- As far as we know, inflectional classes are not predictable

Allomorphy

- Suffix inventory, with number of occurrences in the four-cell paradigm of the 952 verb corpus employed in Baerman 2016

suffix	count	suffix	count	suffix	count
∅	989	ɬ	46	om	3
tim	816	to	39	ix	2
tox	337	kam	31	in	2
tam	263	ka	31	koɬka	2
toɬka	263	am	28	ɬkox	2
k	123	koɬ	21	taɬkox	2
kox	122	ot	19	tix	2
ta	112	taɬka	19	im	1
tax	106	xox	15	kaɬ	1
ɬka	95	i	13	ɬa	1
x	79	tx	13	ɬiɬka	1
χam	76	at	8	ɬoɬka	1
t	61	an	5	taɬk	1
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High degree of paradigmatic variety

- Patterns generated by the five most frequent suffixes (Baerman 2016)

SG unmarked	SG marked	PL unmarked	PL marked	# V	SG unmarked	SG marked	PL unmarked	PL marked	# V
∅	tim	tox	tołka	81	∅	tim	tam	tox	3
∅	tim	tox	tox	37	∅	tim	tox	tam	3
∅	tim	∅	tam	36	∅	∅	∅	tam	2
∅	tim	tox	tam	26	∅	∅	tox	tołka	2
∅	tim	∅	tołka	25	∅	tim	tam	tołka	2
∅	tim	tam	tam	23	tim	tim	tox	tox	2
tim	tim	tam	tam	16	tim	tim	tox	tołka	2
∅	tim	∅	∅	7	∅	∅	tam	tam	1
∅	∅	tox	tox	6	∅	tox	tox	tox	1
∅	tim	∅	tox	4	∅	tox	tox	tołka	1
∅	tim	tołka	tołka	5	tim	tim	∅	tam	1
∅	∅	∅	∅	4	tim	tim	∅	tołka	1
∅	tim	tim	tam	4	tim	tim	tam	tox	1
∅	∅	tox	tam	3					

- specific combination of [category 1-category 2] $\nrightarrow$ specific suffix

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∅	tim	∅	∅	7	∅	∅	tam	tam	1
∅	∅	tox	tox	6	∅	tox	tox	tox	1
∅	tim	∅	tox	4	∅	tox	tox	tołka	1
∅	tim	tołka	tołka	5	tim	tim	∅	tam	1
∅	∅	∅	∅	4	tim	tim	∅	tołka	1
∅	tim	tim	tam	4	tim	tim	tam	tox	1
∅	∅	tox	tam	3					

- specific combination of [category 1-category 2] $\not\to$ specific suffix
- specific suffix $\not\to$ specific combination of [category 1-category 2]

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∅	tim	tox	tam	26	∅	∅	tox	tołka	2
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∅	tim	tołka	tołka	5	tim	tim	∅	tam	1
∅	∅	∅	∅	4	tim	tim	∅	tołka	1
∅	tim	tim	tam	4	tim	tim	tam	tox	1
∅	∅	tox	tam	3					

- specific combination of [category 1-category 2] $\nrightarrow$ specific suffix
- specific suffix $\nrightarrow$ specific combination of [category 1-category 2]

Paradigmatic reality of category 2 forms

- Following Marlett 2016; Baerman 2016, we hypothesize that Seri verb stems lexicalize 2 categories:
  - ▶ Category 1: subject number [singular / plural]
  - ▶ Category 2: aspect/object/event number (Marlett, 2016) [unmarked / **marked**]

(7) Working hypothesis: **Marked** forms have a semantically constant meaning component in common

- The realization of this meaning component is to some extent governed by morphological regularities and, as far as we can tell, arbitrary to some extent (Baerman, 2016)

Claims of this talk

- Claim 1: The marked form of category 2 is best analysed as marking a form of event multiplicity.
- Claim 2: The marked form of category 2 has a similar profile to pluractional markers described for West Greenlandic, Chechen and Spanish.
- Claim 3: The pluractional semantics of the marked form can be frequentative or incremental, depending on the telicity of the underlying predicate.

Outline

1. The problem: verbal form alternations in Seri

2. Background on Seri verb morphology

3. Verb forms of category 2 mark event plurality
   - Category 2 does not encode object number or aspect
   - Category 2 requires event plurality
   - Category 2 as a pluractional marker

4. Semantic profile of the pluractional marker

5. Conclusion

Alternative hypotheses

- In the literature, marked forms have been described as encoding three kinds of information
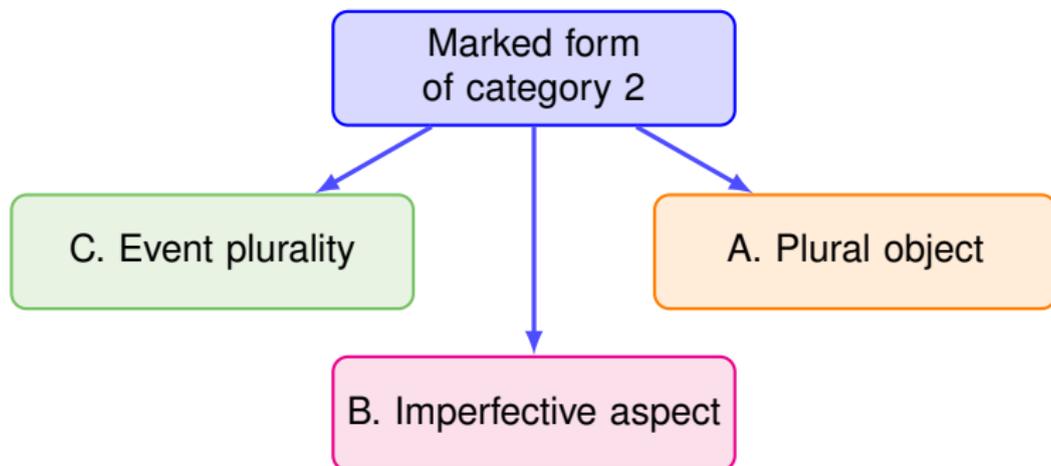
Marked form does not mark object number

- Plural object can occur with the unmarked category 2 value.

(8) Juan quih   sahmees hizcoi **iyoohit**   / iyoohitim.
    Juan DEF.FLX orange   DEM.PL 3;3.RLYO.eat 3;3.RLYO.eat.MRK
    John ate those oranges. [EDSEIFEB2017DRPM, elicitation]

  - Singular object can occur with the marked category 2 value.
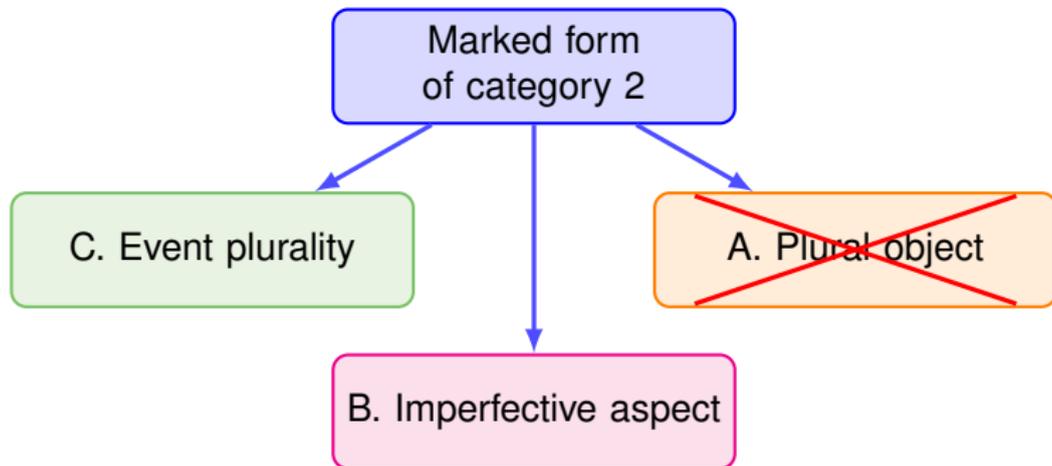
(9) Maria quih   hapaspoj   iiqui   icaaca   z
    María DEF.FLX NMLZ.SUJ.PAS.write 3POS.towards NMLZ.OBL.ABS.POS.send INDEF
    iyaaspoj   / **iyaasipl**.
    3;3.RLYO.write 3;3.RLYO.write.MRK
    Maria wrote a letter. [EDSEI27NOV2017DRPM, elicitation]

Marked form $\neq$ imperfective

- Marlett 2016: unmarked forms $\sim$ perfective and marked forms $\sim$ imperfective
- Cross-linguistically imperfective forms have 2 main sub-meanings (Comrie, 1976; Cover and Tonhauser, 2015):
  - ▶ habitual
  - ▶ continuous/iterative

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- Cross-linguistically imperfective forms have 2 main sub-meanings (Comrie, 1976; Cover and Tonhauser, 2015):
  - ▸ habitual
  - ▸ continuous/iterative
- Claim: The distribution of the forms with marked category 2 is not the distribution observed for imperfective morphology cross-linguistically.

Marked form $\neq$ imperfective

Not habitual

- the **marked form** does not express habituality ...

(10)   Context: María died last year. All her life, she went to church
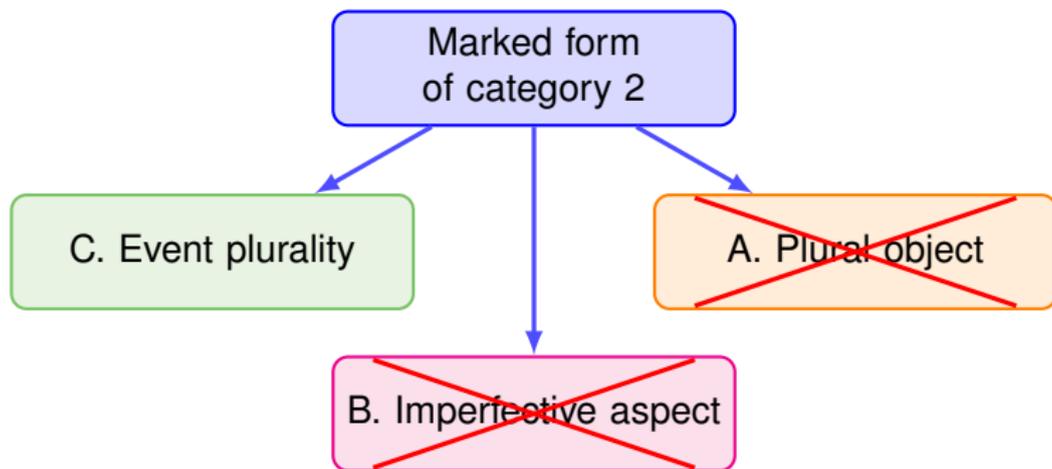   once every day.

Maria	quih	hant ifii	coox	cah	x,
María	DEF.FLX	NMLZ.OBL.be.morning	every	DEF.FOC	UNSPEC.TIME

iglesia	cap	*contiya* / #***contiyatim***.
church	DEF.standing	RLYO.go RLYO.go.MRK

   Every morning, Maria went to church. [EDSEI27NOV2017DRPM, elicitation]

Marked form $\neq$ imperfective

Not continuous

- the **marked form** does not express a continuous event

(11) Context: Yesterday my brother ran in a race from point A to B.
    While he was running, the light went out.

Hoyacj	quih	cöipanzx	/ #***cöipanozxim***
1POS.brother	DEF.FLX	3IO.3POS.NMLZ.OBL.run	3IO.3POS.NMLZ.OBL.run.MRK

iti,	hamac	cánoj	quih	iicot	cöyooctim.
while	fire	NMLZ.SUJ.roar	DEF.FLX	3POS.among	3IO.RLYO.cut

While my brother was running, the light went out. [EDSEI27NOV2017DRPM,
EDSEI29NOV2017GH, elicitation]

Marked forms require event plurality

- The marked form expresses multiple events (running events in 12)

(12) Context: Yesterday my brother did a scavenger hunt with other children. While he was playing the light went out.

Hoyacj	quih	cöipanzx	/	***cöipanozxim***	iti,
1POS.brother	DEF.FLX	3IO.3POS.NMLZ.OBL.run		3IO.3POS.NMLZ.OBL.run.MRK	while

hamac	cánoj	quih	iicot	cöyooctim.
fire	NMLZ.SUJ.roar	DEF.FLX	3POS.among	3IO.RLYO.cut

While my brother was running (here and there), the light went out.
[EDSEI27NOV2017DRPM, EDSEI29NOV2017GH, elicitation]

Marked forms require event plurality

- Marked forms require a plurality of events

(13) a. Juan quih icoozim ccooo tintica iti hehean
Juan DEF.FLX NMLZ.OBL.warm NMLZ.SUJ.all DEF.AW 3POS.in desert

     com ano coyom / **coyoomam**.
DEF.lying 3POS.in 3IO.RLYO.lying 3IO.RLYO.lying.MRK

     Juan slept in the desert all summer. [SC on marked form: he does not sleep there every night]

   b. Yaacö hamasol quih ihaapl ccooo tintica iti
bear DEF.FLX NMLZ.OBL.cold NMLZ.SUJ.all DEF.AW 3POS.in

     zaaj z ano coyom / #**coyoomam**.
cave INDEF 3POS.in 3IO.RLYO.lying 3IO.RLYO.lying.MRK

     The bear slept in a cave all winter. [EDSEIFEB2017DRPM, elicitation]

Parallels with nominal plurality in Seri

- There are parallels between the morphology marking category 2 and nominal plurality in Seri
- In Seri the morphology marking category 2 on verbs is also found in nominal plurals (Marlett 2016, Baerman 2016)

(14)	*verbs*			*nouns*		
sg. unmarked	sg. marked	gloss		singular	plural	gloss
-askíta	-askíta-**j**	'refuse to share'		koopa	koopa-**j**	'drinking glass'
-okósi	-okósi-**jam**	'bite and suck'		hax	haxa-**jam**	'fresh water'
-ahiihom	-ahiihom-**xox**	'ambush'		isliik	isliik-**xox**	'left hand/arm'
-apoaax	-apoaaj-**k**	'lean'		iix	iij-**k**	'water'
-ihinej	-ihinel-**ka**	'be exposed'		zaaj	zaal-**ka**	'cave'

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-apoaax	-apoaaj-**k**	'lean'	iix	iij-**k**	'water'
-ihinej	-ihinel-**ka**	'be exposed'	zaaj	zaal-**ka**	'cave'

Caveat: 3 plurality markers only occur with verbs: -tim, -ot, and -too- (Baerman, p.c.)

Parallels with nominal plurality in Seri

- **Parallels between nominal and verbal morphology suggest that, at least originally, the morphology marked something similar on both nouns and verbs**
- 2 hypotheses to explore in future work:
    - ▶ H1: there is a semantically uniform morpheme marking INCREASE/DISCRETE QUANTITY on nouns and verbs
    - ▶ H2: category 2 forms diachronically come from two sources: iterative markers and object plurality markers

Typical properties of pluractional markers cross-linguistically

- Category 2 marking displays properties observed for pluractional markers in other languages
    1. Exact cardinality expressions do not count event iterations (e.g. adverbs, cardinal arguments) (Yu, 2003; van Geenhoven, 2005; Laca, 2006)
    2. No multiplication effect for singular indefinites (van Geenhoven, 2005; Laca, 2006)

Exact cardinality expressions do not count event iterations

- The exact cardinality expression in (15) is considered odd with the marked form *ihexelim* 'buy' (cf van Geenhoven 2005; Yu 2003; Laca 2006)

(15) Icatoomec hino coofin tintica Juan quih sahmees
     week   1POS.to NMLZ.SUJ.happen DEF.AW Juan DEF.FLX orange

     pac   ihexl / #**ihexelim**   isnaap yoozoj.
     INDEF.PL INF.TRNS.buy INF.TRNS.buy.MRK RLYO.6.times

     Last week, Juan bought oranges 6 times. [SC on marked form: It's
     weird. It sounds like he bought oranges six times various times.]
     [EDSEl21ABR2018DRPM, elicitation]

No multiplication effect for singular indefinites

- Event plurality expressed by pluractional markers does not multiply indefinite singulars (van Geenhoven, 2005; Laca, 2006)
  - ▶ In (16) the marked form of *-iho* 'see, find' does not multiply the indefinite singular object *haxz íí zo* 'a flea'
  - ▶ The sentence with the marked form is thus judged anomalous

(16) Maria   quih   haxz   iixz   quih   icatoomec   isnaap cazoj   toc
      Maria   DEF.FLX dog   pet   DEF.FLX week   SBJ.NMLZ.6   there

      contita   ma, haxz íí z   íti   tiij   ma, **iyooho**   /
      3IO.AW.RLT.move DS   flea   INDEF   3POSS:on RLT.sit DS   3.SUBJ.RLYO.see

      #**iyoohotim**.

      3.SUBJ.RLYO.see.MKD

      In six weeks, Maria found a flea on her dog [SC on marked form: It's
      well written but it is odd because it seems that Maria saw the flea but
      didn't remove it, and then she kept seeing it without ever removing it.]

      [EDSEI-{25ABR2018DRPM, 27ABR2018DRPM.MOEA.LKPH, -28ABR2018ATHF.AIMR, -30ABR2018GH.AMMO}]

No multiplication effect for singular indefinites

- But if the quantifying phrase *hant ifii coox cah x* 'every morning' is added, the sentence becomes acceptable

(17) Icatoomec isnaap cazoj toc   contita   ma, Maria quih haxz
      week   SBJ.NMLZ.6   there 3IO.AW.RLT.move DS   Maria DEF.FLX dog

      iixz quih **hant ifii**   **coox cah**   **x**   <u>haxz íí</u>
      pet   DEF.FLX NMLZ.OBL.be.morning all   DEF.FL:FOC UNSPEC.TIME flea

      <u>z</u>   íti   tiij   ma, **iyooho**.
      INDEF 3POSS:on   RLT.sit   DS   3.SUBJ.RLYO.see

      For six weeks, Maria found a flea on her dog every morning.

No multiplication effect for singular indefinites

- But if the marked form is used, the sentence becomes anomalous again for the same reason as before (since the plural events conveyed by the marked form do not distribute over occasions)

(18) #Icatoomec isnaap cazoj toc contita   ma, Maria quih haxz
      week   SBJ.NMLZ.6   there 3IO.AW.RLT.move DS Maria DEF.FLX dog

      iixz quih **hant ifii**   **coox cah**   **x**   <u>haxz íí</u>
      pet DEF.FLX NMLZ.OBL.be.morning all DEF.FL:FOC UNSPEC.TIME flea

      <u>z</u> íti   tiij   ma, **yoohotim**.
      INDEF 3POSS:on RLT.sit DS 3.SUBJ.RLYO.see.MKD

      Int. For six weeks, Maria found a flea on her dog every morning.

Summary

- Claim 1: Category 2 marks a form of event plurality
    - not imperfective aspect (no continuous readings, no habitual readings)
    - licensed in contexts with several events
    - morphological parallels with nominal plurality
- Claim 2: Category 2 has properties of other pluractional markers
    - exact cardinality expressions do not count iterations
    - no multiplication effect for singular indefinite

Outline

What kind of pluractional?

- Lasersohn 1995 provides one of the first attempts at a formal analysis of pluractional markers, PA

$[\![PA]\!] = \lambda P \lambda e.\ |e| > n.\ \forall e' \leq e\ \&\ \text{atom}(e') \rightarrow P(e')$
$\&\ \forall e', e''.\ e', e'' \leq e\ \&\ \text{atom}(e')\ \&\ \text{atom}(e'') \rightarrow \neg K(e')\ o\ K(e'')$
$\&\ \exists t.\ \text{between}(t, \tau(e'), \tau(e''))\ \&\ \neg\exists e'''.\ P(e''')\ \&\ t = \tau(e''')$

with K= temporal trace, spatial trace or participants of the event
(adapted from lecture notes by Seth Cable)

- How adequate is this for Seri?
- Let's unpack it first

What kind of pluractional?

$[\![PA]\!] = \lambda P \lambda e. \ |e| > n. \ \forall e' \leq e \ \& \ atom(e') \rightarrow P(e')$
$\& \ \forall e', e''. \ e', e'' \leq e \ \& \ atom(e') \ \& \ atom(e'') \rightarrow \neg K(e') \ o \ K(e'')$
$\& \ \exists t. \ between(t, \tau(e'), \tau(e'')) \ \& \ \neg \exists e'''. \ P(e''') \ \& \ t = \tau(e''')$

with K= temporal trace, spatial trace or participants of the event

- PA takes as argument
    - a predicate of events P
    - a plural event e (of cardinality greater than some contextual standard n)
- returns true iff every atomic member e' of e satisfies P
- the presence of the PA marker requires the resulting meaning to denote events composed of multiple subevents of a particular type

What kind of pluractional?

$[\![PA]\!]$ = $\lambda P \lambda e.$ |e|>n. $\forall e' \le e$ & atom(e') $\to$ P(e')
& $\forall e', e''.$ e', e" $\le$ e & atom(e') & atom(e") $\to \neg K(e')$ o K(e")
& $\exists t.$ between(t, $\tau(e'), \tau(e'')$) & $\neg \exists e'''.$ P(e''') & t= $\tau(e''')$

with K= temporal trace, spatial trace or participants of the event

- the subevents do not have overlapping running
  times/spaces/participants

What kind of pluractional?

$[\![PA]\!] = \lambda P \lambda e. \; |e| > n. \; \forall e' \leq e \; \& \; atom(e') \rightarrow P(e')$
$\& \; \forall e', e''. \; e', e'' \leq e \; \& \; atom(e') \; \& \; atom(e'') \rightarrow \neg K(e') \text{ o } K(e'')$
$\& \; \exists t. \; between(t, \tau(e'), \tau(e'')) \; \& \; \neg \exists e'''. \; P(e''') \; \& \; t = \tau(e''')$

with K= temporal trace, spatial trace or participants of the event

- the subevents are separated by temporal gaps at which P does not hold

What kind of pluractional?

- Seri category 2 marked forms
  - disallow continuative readings (unlike e.g. Chechen pluractional (Yu, 2003), see example (13b))
  - allow distributive dependencies between the plurality of events and plural arguments (unlike ǂHoan markers described in Collins 2001)
  - allow distribution of event plurality over locations
  - allow distributive dependencies between the plurality of events and occasions (under certain conditions)
- Seri category 2 marked forms convey frequentative and incremental event plurality (comparable to *ir/andar* + gerund periphrases in Spanish (Laca, 2006)) (claim 3)
- Category 2 marked form can change aspectual category of predicate
- Preliminary exploration of the meaning of the marked form of stative predicates that have one

Allows distributive dependencies: event plurality $\leftrightarrow$ plural arguments

- The marked form allows an interpretation with event plurality distributed to individuals making up a plural argument

(19) Context: I hugged two children. I hugged the first one only once, and I hugged the second one once too. [EDSEI23NOV2017DRPM, elicitation]

   a. Xicaquiziil coi   isoj   **cohyapxazl**.
      children   DEF.PL 3POS.body 3IO.1.RLYO.cover
      I hugged the children (lit. I covered the children's body).

   b. Xicaquiziil coi   isoj   **cohyapxazalim**.
      children   DEF.PL 3POS.body 3IO.1.RLYO.cover.MRK
      I hugged the children.

- Like *keep +Ving* (the guests kept arriving) unlike other event plurality markers (e.g. Collins 2001)

Allows distributive dependencies: event plurality $\leftrightarrow$ plural arguments

- If there is just one collective hugging event, the marked form *isoj cö-apxazalim* is not felicitous.

(20)   Context: I hugged two children at the same time, just once.

   [EDSEI23NOV2017DRPM, elicitation]

   a. Xicaquiziil   coi   isoj   **cohyapxazl**.
       children   DEF.PL   3POS.body   3IO.1.RLYO.cover
       I hugged the children (lit. I covered the children's body).

   b.#Xicaquiziil   coi   isoj   **cohyapxazalim**.
       children   DEF.PL   3POS.body   3IO.1.RLYO.cover.MRK

Allows distributive dependencies: event plurality ↔ locations

- The marked form is not felicitous because the event just happened in one location/time

(21) Context: Yesterday, my brother ran a race from point A to point B. While he was running, the light went out in our house only.

Hoyacj	quih	coipanzx	iti,	hamac	cánoloj
1POS.brother	ART.DEF.FLX	3IO.3POS.NMLZ.OBL.run	while	fire	NMLZ.SUJ.roar

quih	iicot	cöyooctim	/	#**cöyoocloj**.
DEF.FLX	3POS.between	3IO.RLYO.cut		3IO.RLYO.cut.MRK

While my brother was running, the light went out. [EDSEI21ABR2018AMMO, EDSEI21ABR2018DRPM, EDSEI22ABR2018GH, elicitation]

Allows distributive dependencies: event plurality $\leftrightarrow$ locations

- The marked form is possible, the light went out in all the houses in the village

(22) Context: Yesterday, my brother ran a race from point A to point B. While he was running, the light went out in every house in the village at the same time because the generator broke down.

Hoyacj	quih	coipanzx	iti,	hamac	cánoloj
1POS.brother	DEF.FLX	3IO.3POS.NMLZ.OBL.run	while	fire	NMLZ.SUJ.roar

quih	iicot	cöyooctim / **cöyoocloj**.
DEF.FLX	3POS.between	3IO.RLYO.cut / 3IO.RLYO.cut.MRK

While my brother was running, the light went out. [EDSEI21ABR2018AMMO, EDSEI21ABR2018DRPM, EDSEI22ABR2018GH, elicitation]

Allows distributive dependencies: event plurality $\leftrightarrow$ occasions

- In the following sentence, the marked form is licensed by the overall plurality of events of Juan's sleeping in the desert

(23) Juan quih icoozim ccooo tintica iti hehean com
      Juan DEF.FLX NMLZ.OBL.warm NMLZ.SUJ.all DEF.AW 3POS.in desert DEF.lying

      ano coyom / **coyoomam**.
      3POS.in 3IO.RLYO.lying 3IO.RLYO.lying.MRK

      Juan slept in the desert all summer. [SC on marked form: he does not sleep there every night]

- The marked form allows an interpretation with event plurality distributed over occasions (nights in the desert) ....

Allows distributive dependencies: event plurality $\leftrightarrow$ occasions

- ... but only if such occasions are not expressed explicitly
- In (24), which explicitly expresses occasions with *hant ifii coox cah x* 'every morning', the marked form is not licensed by the overall plurality of events of Maria's going to church

(24)   Context: María died last year. All her life, she went to church
       once every day.

Maria	quih	hant ifii		coox	cah	x,
María	DEF.FLX	NMLZ.OBL	be.morning	every	DEF.FOC	UNSPEC.TIME

iglesia	cap	*contiya* /	#***contiyatim***.
church	DEF.stand	RLYO.go	RLYO.go.**MRK**

   Every morning, Maria went to church. [EDSEI27NOV2017DRPM, elicitation]

Allows distributive dependencies: event plurality ↔ occasions

- For the marked form to be licensed in (24), there must be a plurality of events on each occasion/morning

(25) Context: María died last year. All her life, she went to church several times every day.

Maria	quih	hant ifii	coox	cah	x,
María	DEF.FLX	NMLZ.OBL.be.morning	every	DEF.FOC	UNSPEC.TIME

iglesia	cap	*contiya* / ***contiyatim***.
church	DEF.stand	RLYO.go	RLYO.go.**MRK**

Every morning, Maria went to church. [EDSEI27NOV2017DRPM, elicitation]

Allows distributive dependencies: event plurality $\leftrightarrow$ occasions

- The form of the temporal adverbial does not seem to matter
- Even occasion-specifying temporal adverbials that do not contain the quantifier *coox* 'every', the marked form is not licensed by the overall plurality of events of Maria's going to church

(26) Context: María died last year. All her life, she went to church once every week, on Sundays.

Icatoomec	thaa	ma	x		Maria	quih	haaco	ano
Sunday	RLT:EQ	DS	UNSPEC.TIME		María	DEF.FLX	ABS.house	[3POS]in

Yooz	ihatolec		cap	*contiya* / #*contiyatim*.
God	3POS.NMLZ.OBL.ask.for.help	DEF.stand	RLYO.go	RLYO.go.**MRK**

On Sundays, Maria went to church. [SC: The sentence says that she went several times per Sunday but the context says she went just once per Sunday.] [EDSEI30ABR2018DRPM, elicitation]

Summary on distributive dependencies

- Event pluralities distribute over
    - plural arguments,
    - locations, and
    - occasions
- provided the latter two are not explicitly expressed with distributive adverbials (e.g. *every day*, *on Sundays*)
- however location frame-setting adverbials (e.g. *last year*, *during the summer*) do not prevent distribution of the event plurality (unlike distributive adverbials)
- for next time, need to test the influence of location frame-setting adverbials *versus* distributive adverbials in the spatial and individual domain (e.g. *in the village vs. in every house*)

Frequentative and incremental readings

- Category 2 marks frequentative and incremental event plurality (comparable to *ir*/*andar* + gerund periphrases in Spanish, described in Laca 2006)
  - allows frequentative and incremental readings
  - frequentative and incremental readings correlate with atelic and telic construal of the underlying predicates (parallels with the semantics described for movement periphrases in Romance in Laca 2006)

Effect of telicity

- In Spanish, telicity of the auxiliary (atelic *andar* vs. telic *ir*) correlates with frequentative (on-off) vs. incremental interpretation. (Laca, 2006)
- In Seri the telicity of the embedded predicate has a similar effect
    - the marked form of an **atelic** predicate, e.g. *-iihtim* 'be (in location)' conveys that the event is intermittent and undirected

(27) Pancho quih   hehean com   ah   ano   **yiihtim**.
     Pancho DEF.FLX desert DEF.lying DEF.FOC 3POS.in RLYO.be.MRK
     Pancho walks around in the desert. [EDSEI23NOV2017DRPM, elicitation]

Effect of telicity

- The marked form of a **telic** predicate, e.g. *hapaspoj iiqui icaaca z -aasipl* 'write a letter' conveys that the event is incremental and directed

(28) Maria   quih   hapaspoj   iiqui   icaaca   z
      María   DEF.FLX   NMLZ.SUJ.PAS.write 3POS.to   NMLZ.OBL.ABS.POS.send   INDEF

      iyaasipl.   [EDSEI27NOV2017DRPM, elicitation]

      3;3.RLYO.write.MRK

      Maria wrote a letter. [SC: She didn't finish it, came back to write it.]

Modification of lexical aspect

- The marked form can change the lexical aspect of the predicate it marks
- The verb *-ooxi* 'finish' is only good with activities/accomplishments
- In (29) only the marked form of *-iih* 'be (in a location)' is felicitous

(29) Fernando quih [hehean com   ano   ***cöyiih**/   **cöyiihtim**
      Fernando DEF.FLX desert DEF.FLX 3POSS.in OBL.RLYO.be OBL.RLYO.be.MKD
      hac]   iyooxi.
      DEF.LOC 3;3.RLYO.finish
      Fernando finished walking (lit. being here and there) in the desert.
      [EDSEI4DEC2017DRPM, elicitation]

Category 2 of states

- many states only have two forms: one for singular subjects, one for plural subjects (Marlett, 2016)

(30)

	singular subject	plural subject
be tall	-acösxaj	-acöla
be small	-isil	-izil
be sticky	-oozlil	-oozalil

- other states have the full set of forms, Marlett points out that when the marked form is used, the state takes on an inchoative meaning
- we confirmed this and found other ways states can satisfy the plurality of event(ualitie)s requirement (this is very much a first (preliminary) exploration)

Small variations in the state

- The verb *-moqueepe* 'be sick (lit. not be well)'
- Its marked form cannot be used to describe a constant uninterrumpted state of being sick

(31) Context: Gabriel was sick the whole winter without ever getting better.

Ihaapl	hipintica,	Gabriel	quih	**yomoqueepe** /
3.POSS.PON.cold	DEM	Gabriel	DEF.FLX	RLYO.be.sick

#**yomoqueepetim**.

RLYO.be.sick.MKD

This winter, Gabriel was sick. [SC: False because here the sentence says that he became sick many times but given the context, at no point was he rid of the disease.] [EDSEI26ABR2018DRPM]

Small variations in the state

- However the marked form can be used if the state persists but varies in intensity

(32) Context: Gabriel has had cancer for the past 12 months. Sometimes he feels better than others.

Gabriel quih **yomoqueepetim**.

Gabriel DEF.FLX RLYO.be_sick.MKD

Gabriel is sick. [SC: You can say this if sometimes he feels worse than other times, if he has crises.] [EDSEI29ABR2018DRPM]

Distribution in space

- The marked form of the color term *-apol* 'be black' can be used if the color is non-continuously distributed over a surface

(33) a. Ziix   an   icoosi   quih   **yapol**.
         thing [3.POSS]in 3.POSS.PON.drink DEF.FLX RLYO.be.black
         The glass is black. [EDSEI-{28ABR2018DRPM, 30ABR2018DRPM}]

      b. Ziix   an   icoosi   quih   **yaploj**.
         thing [3.POSS]in 3.POSS.PON.drink DEF.FLX RLYO.be.black;MKD
         The glass has black dots/stains.

Distribution in space but on the same object

- Note that if there are several cups, it is not enough that the color is distributed over the sum of these cups, the color must be distributed on each one of these cups

(34) a. Xiica   an   icoosi   coi   **yapl**.
          thing.PL [3.POSS]in 3.POSS.PON.drink DEF.FLX.PL RLYO.be.black
          The glasses are black.

      b. Xiica   an   icoosi   coi   **yaploj**.
          thing [3.POSS]in 3.POSS.PON.drink DEF.FLX RLYO.be.black.MKD
          The glasses have black dots/stains.

- This seems consistent with the fact that a plurality of events cannot distribute over occasions, which could be seen as 'temporal locations'

Inchoative interpretation

- The verb *-paaisx* 'be clean' seems to take on a inchoative meaning in the marked form

(35) a. Hehe   iti   icohitim   quih
          wood   3.POSS.on 3.POSS.[PON]UNSP.SBJ:UNSP.OBJ.eat.MKD   DEF.FLX

   yopaaisx.

   RLYO.be.clean

   The tables are clean.

   b. Hehe   iti   icohitim   quih
          wood   3.POSS.on 3.POSS.[PON]UNSP.SBJ:UNSP.OBJ.eat.MKD   DEF.FLX

   yopaaisxim.

   RLYO.be.clean.MKD

   The tables are clean. [SC: good but they are still in the process of getting cleaned] [EDSEI29NOV2017DRPM]

Intensity?

- The verb *-acozim* 'be warm' can be used to say that someone is feeling warm
- Its marked form – *-acozimam* – is translated as conveying more warmth

(36) a. Ihpyacozim.
          1sg.be.warm
          I am warm.

      b. Ihpyacozimam.
          1sg.be.warm.MKD
          I am very warm. [EDSEI30ABR2018DRPM]

Outline

Summary of what we have shown

- Marked forms mark event plurality
    - not imperfective
    - not object plurality
- Marked forms are pluractional forms
    - exact cardinality expressions do not count event iterations
    - no multiplication of singular indefinites
- Pluractional forms in Seri have the following profile
    - they do not allow continuative readings
    - they distribute over plural arguments, locations, and occasions provided the latter two are not explicitly expressed with distributive adverbials
    - they have an incremental or frequentative semantics depending on the telicity of the unmarked predicate
- Category 2 can modify the lexical aspect of the predicate it marks

Outstanding issues and further research

- states with marked forms: what semantics?
- some verbs have more than four forms
- check verbs with comparable contexts (iteration, distribution over locations/arguments/ times)
- similarities between nominal and verbal plurality?
- is the distribution of category 2 suffixes really completely arbitrary?

¡Haxahtiipe!

References I

Baerman, M. (2016). Seri verb classes: morphosyntactic motivation and morphological autonomy. *Language 92*(4), 792–823.

Collins, C. (2001). Aspects of plurality in ǂHoan. *Language*, 456–476.

Comrie, B. (1976). *Aspect*. Cambridge University Press.

Cover, R. T. and J. Tonhauser (2015). Theories of meaning in the field: temporal and aspectual reference. In R. Bochnak and L. Matthewson (Eds.), *Methodologies in semantic fieldwork*. Oxford University Press.

Laca, B. (2006). Indefinites, quantifiers and pluractionals: what scope effects tell us about event pluralities. In S. Vogeleer and L. Tasmowski (Eds.), *Non-definiteness and plurality*, pp. 191–217. Amsterdam: John Benjamins.

Lasersohn, P. (1995). Pluractional markers. In *Plurality, Conjunction and Events*, pp. 238–266. Springer.

Marlett, S. A. (1981). *The structure of Seri*. Ph. D. thesis, University of San Diego.

Marlett, S. A. (2016). Cmiique Iitom: the Seri language. Unpublished grammar (2016 draft).

Matthewson, L. (2004). On the methodology of semantic fieldwork. *International journal of American linguistics 70*(4), 369–415.

Moser, E. (1961). Number in Seri verbs. Master's thesis, University of Pennsylvania.

References II

Moser, M. B. and S. A. Marlett (2010). *Comcaac quih yaza quih hant ihiip hac = Diccionario seri-español-inglés*. Colección Bicentenario. Mexico City and Sonora: Plaza y Valdés editores and Universidad de Sonora.

van Geenhoven (2005). *Perspectives on aspect*, Chapter Atelicity, pluractionality, and adverbial quantifiation. Springer.

Yu, A. (2003). Pluractionality in Chechen. *Natural Language Semantics* (11), 289–321.

List of abbreviations

ABS	absolute	MRK	marked form
ART	article	NMLZ	nominalizer
AW	away	OBL	oblique
DEF	definite	PAS	passive
DEM	demonstrative	PL	plural
DS	different subject	POS	possessive
EQ	equative copula	RLYO	realis *yo*-forms
FLX	flexible	RLT	realis *t*-forms
FOC	focus	SUJ	subject
INDEF	indefinite	TRNS	transitive
INF	infinitive	UNSPEC	unspecified
IO	indirect object		