

Frequentativity, pluractionality and event-internal plurality: *meme* in Mbya Guarani

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1. Introduction

- Frequentativity and pluractionality both convey that a multiplicity of events is being discussed. It is still an open question whether these two strategies are independent:
 - In her seminal work, van Geenhoven (2004) argues that frequentativity is a special case of pluractionality.
 - More recently, Henderson & Pasquereau (in prep.) have argued that the two categories are distinct.
- This talk brings new data to bear on this debate from the analysis of the particle *meme* in Mbya Guarani:
 - unstressed *meme* gives rise to focus sensitive frequentative readings similar to those observed with adverbs of frequency like *always*;
 - at the same time, stressed *meme* expresses continuous or tightly iterative action.
- Continuation and iteration could be analyzed as aspects. However, the morphosyntax of *meme* does not match that of aspect markers in the language.
- The combination of event-internal and event-external readings is a well documented property of some pluractional markers across languages. By contrast, frequentativity is not typically described as licensing event-internal readings. This makes a pluractional analysis of *meme* attractive.
- Nevertheless, we show that *meme* exhibits properties that are characteristic of distributive operators rather than pluractional markers (Kuhn & Aristodemo 2017, Kuhn 2019): it induces variation in indefinites, and its distributivity compounds with that of other distributive operators.
- We argue that *meme* is not a pluractional marker but an adverbial distributive operator, and that the category of frequentatives should therefore be extended to include event-internal readings, alongside their more common event-external readings.

2. Aspects of the grammar of Mbya and how *meme* fits in it

- Some properties of Mbya:
 - no definite or indefinite articles; the numeral *peteĩ* ('one') acts as a pseudo-indefinite; specific indefinite readings are expressed with the quantifier *amogue* ('some');
 - bare nouns license definite and weak indefinite readings;
 - bare nouns are largely number neutral, but two plural markers are attested with animates:
 - *kuery* is optionally used to denote socially cohesive pluralities (e.g. *tekoapygua kuery*, 'villagers');
 - *-kue* is obligatory with a small set of nouns derived from age and gender related property concept words (e.g. *uru ava*, 'male chicken'; *avakue*, 'men');
 - there is pluractional reduplication (e.g. *oveve-veve*, 'it flew and flew');
 - there is no tense or aspect inflection on verbs, but there is temporal marking on nouns.
- Several strategies are available to express universal quantification:
 - The verbal suffix *-pa* (nasal allomorph *-mba*) expresses completive aspect and internal argument universal quantification:

- | | |
|---|--|
| (1) A-karu-pa.
I1SG-eat-PA
'I finished eating.' | (2) Ava-kue o-vaẽ-mba.
man-PL I3-arrive-PA
'All the men have arrived.' |
|---|--|

- *pavẽ* is a D- and A-quantifier derived from *-pa*:

- | | |
|--|--|
| (3) Pavẽ tekoapygua o-i-kuaa.
PAVE villager I3-OBJ-know
'All the villagers know it.' | (4) Tekoapygua o-i-kuaa pavẽ.
villager I3-OBJ-know PAVE
'The villagers know it all.' |
|--|--|

- *Javi* is an A-quantifier:

- | |
|--|
| (5) Ava-kue javi o-o tetã my.
man-PL all I3-go city in
'All the men went to the city.' |
|--|

- The reduplicated unit numeral *peteĩ-teĩ* acts as a distributive universal pronoun or determiner:

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|--|
| (6) Peteĩ-teĩ kunumi ho-'u mokoĩ pakova.
one-REDUP boy I3-eat two banana
'Each boy ate two bananas.' |
|--|

3. *Meme* and its uses: overview

- *Meme* is part of a paradigm of frequency adverbials:

- (7) A-nheno voi-'i meme.
 I1SG-lie.down early-DIM MEME
 'I always go to bed early.'
- (8) N-a-nheno voi-i-'i meme.
 NEG-I1SG-lie.down early-NEG-DIM MEME
 'I never go to bed early.'
- (9) A-nheno voi-'i jepi.
 I1SG-lie.down early-DIM often
 'I often go to bed early.'
- (10) Amo-gue py a-nheno voi-'i.
 some-PL LOC I1SG-lie.down early-DIM
 'Sometimes, I go to bed early.'

- As a frequency quantifier, *meme* exhibits the sensitivity to focus we expect from the study of quantificational adverbials like *always* in English (upper case indicates stress):

- (11) Ava-kue h-aXY meme.
 man-PL I13-ill MEME
 'The men always fall ill.'
- (12) Ava-KUE meme h-axy.
 man-PL MEME I13.ill
 'It's always the men who fall ill.'

- *Meme* also conveys that an action unfolds without interruption over a period of time; in that use, *meme* must be stressed:

- (13) A-guata meME.
 I-walk MEME
 'I walked without stopping.'

4. Frequentative *meme*

4.1 Frequentative *meme* and focus

- As a frequentative operator, *meme* is unstressed and follows a focused element:

- (14) Juan o-i-nuPÃ meme Alfonso pe.
 Juan I3-OBJ-beat MEME Alfonso to
 'Juan always beats up Alfonso.'
- (15) JUAN meme o-i-nupã Alfonso pe.
 Juan MEME I3-OBJ-beat Alfonso to
 'It's always Juan who beats up Alfonso.'

- (16) Juan o-i-nupã AlfONso pe meme.
 Juan I3-OBJ-beat Alfonso to MEME
 ‘It’s always Alfonso that Juan beats up.’

- Focusing another element tends to be infelicitous:

- (17) *JUAN o-i-nupã meme Alfonso pe.
 Juan I3-OBJ-beat MEME Alfonso to
 Intended: ‘Juan always beats up Alfonso.’

- As one might expect, an adverbial clause may be used to restrict frequentative *meme*:

- (18) Juan opy o-u vy, o-piTA meme.
 Juan prayer.house I3-come ss I3-smoke MEME
 ‘When Juan comes to the prayer house, he always smokes.’

- Although *meme*’s restriction tends to be identified with unfocused material, this is not always the case. A salient restriction may override an awkward restriction induced by focus:

- (19) Ava-KUE meme i-puku.
 man-PL MEME II3-tall
 ‘It’s always the men who are tall.’

- (20) Ava-kue i-puKU meme.
 man-PL II3-tall MEME
 ‘It’s always the men who are tall.’
 NOT: ‘?When men have some property, it’s always being tall.’

- In that respect, *meme*’s association with focus appears to be pragmatic rather than semantic, similarly to what is observed with *always* in English (von Fintel 1994, 2004):

- (21) A: So, you say that Tai is really fond of chopsticks, eh?
 B: Not really. I only think that he always [EATS] with them.
 ☞ ‘I only think that always, when Tai eats with something, he eats with chopsticks.’
 (von Fintel 2004)

4.2 Frequentative *meme* is a distributive operator, not a pluractional marker

- Kuhn & Aristodemo (2017) and Kuhn (2019) argue that pluractional markers are plurality *filters*, while distributive operators are pluralizing *operators*.
- pluralizing operators:
 - may induce variation in indefinites and numerals;
 - compound their distributivity with that of other distributive operators.
- These diagnostics suggest that frequentative *meme* is not a pluractional marker.

- Frequentative *meme* may induce variation in indefinites or numerals in its scope:

(22) Kuee, Juan o-echa peteĩ ka'i.
 yesterday Juan I3-see one monkey
 'Yesterday, Juan saw a monkey.'
 ☞ baseline, only one monkey

(23) Juan o-o vy zoologico py, o-eCHA meme peteĩ ka'i.
 Juan I3-go ss zoo to I3-see MEME one monkey
 'When Juan goes to the zoo, he always sees a monkey.'
 ☞ may be different monkeys

- Frequentative *meme* may co-occur with other distributive operators, in which case distributivity is compounded:

(24) Peteĩ-teĩ che-irũ kuery ho-'u peteĩ tapiTI meme.
 one-REDUP II1SG-friend PL I3-eat one rabbit MEME
 'It's always a rabbit that each one of my friends eats.'

5. Continuative *meme*

5.1 Distribution and Interpretation

- Stressed *meme* is attested post-verbally and conveys uninterrupted action:

(25) Nde-r-axy nhendu ramo, a-ju meME.
 II2SG-R-ill hear DS I1SG-come MEME
 'When I heard that you were ill, I came without stopping.'
 TRUE: I walked from the city several hours away and I didn't take a break
 FALSE: ... and I stopped midway to take a 10-minute break

- Frequentative and continuative readings alternate systematically with stress placement:

(26) A-guaTA meme. I1SG-walk MEME 'I always walk.'	(27) A-guata meME. I1SG-walk MEME 'I walked without interruption.'
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- Continuative *meme* is reminiscent of event-internal pluractionals, like Kaqchikel *-C1a'*:

(28) X-Ø-u-k'oj-ok'a' ru-chi' ri jay.
 CP-B3.SG-A3.SG-knock-C1A' A3.SG-mouth the house
 'He kept knocking at the door.' (Henderson 2017)

- Characteristic properties of event-internal pluractionals (Henderson 2017, cf. Wood 2007):
 - *Aspectual Selection*: "Event-internal pluractionals are preferentially formed from verb stems that would otherwise be semelfactives or achievements. Event-external pluractionals are aspectually promiscuous and can be formed from verbs stems that belong to a variety of aktionsart-classes."

- *Contiguity*: “The repetitions that form an event-internal pluractional event are preferentially contiguous in time and space. In contrast, event-external pluractionals do not place strict requirements on the temporal or spatial distance between the events that compose the plural events they denote.”
- *Genericity*: “This feature is closely related to the previous one, though they do not completely overlap. The generalization is that event-internal pluractionals never allow habitual readings, while event-external pluractionals often do.”
- *Cardinality*: “Pluractional verbs denote plural events. This general requirement takes no stand on the number of events that compose the plurality. The event-internal / event-external distinction makes the plurality requirement precise. In particular, event-internal pluractionals generally require plural events with large cardinalities, while event-external pluractionals can often be satisfied by events of simple plurality, i.e., two or more events.”
- *Shared Telos*: “Event-internal pluractional verbs usually require that all of the events in the plurality share the same theme argument or progress toward a shared goal or result. In contrast, event-external pluractionals do not have this requirement.”
- *Base Predicate Entailment*: “A sentence with an event-internal pluractional often fails to entail a minimally different sentence without the pluractional morphology. In contrast, event-external pluractional sentences often entail a corresponding sentence without the pluractional morphology.”
- Many of these properties are shared by continuative *meme*.
- **Contiguity**: This is a definitional property of stressed *meme*, which describes events that unfold either continuously or in close succession of phases:

(29) Kuee, Juan o-u tekoa py, ha’e o-mbota meME ne-rokẽ
 yesterday Juan I3-come village in and I3-knock MEME II2-door
 re.
 on
 ‘Yesterday, Juan came to the village and he kept knocking on your door.’
 FALSE: Every hour, Juan came to knock on your door for a few minutes.

- **Genericity**: Stressed *meme* does not itself contribute generic or habitual readings:

(30) A-guata meME.
 I1SG-walk MEME
 ‘I walked without stopping’
 NOT: ‘I take long, uninterrupted walks’

- **Cardinality**: With semelfactives, stressed *meme* entails that a large enough number of repetitions were performed. With verbs of movement, it entails that a long enough path was covered, often with a single goal:

(31) Kuee, Juan o-u tekoa py, ha’e o-mbota meME ne-rokẽ
 yesterday Juan I3-come village in and I3-knock MEME II2SG-door
 re.
 on
 ‘Yesterday, Juan came to the village and he kept knocking on your door.’
 FALSE: Juan knocked twice on your door.

- (32) Nde-raxy nhendu ramo, a-ju meME.
 I2SG-ill hear DS I1SG-come MEME
 ‘When I heard that you were ill, I came without stopping.’
 FALSE: I live next door from you.

- **Shared Telos:** All participants must be continuously involved. The continuity cannot arise from a succession of short events involving separate participants:

- (33) Ava-kue o-nã meME.
 man-PL I3-ran MEME
 ‘The men ran without stopping.’
 FALSE: several men took part in a long relay race, but each of them only ran a little while

- **Aspectual Selection:** In this respect, stressed *meme* differs from typical event-internal pluractionals. While it is attested with semelfactives, it is infelicitous with achievements:

- (34) A-vaẽ (*meME) Posadas gui.
 I1SG-arrive (*MEME) Posadas from
 ‘I arrived from Posadas.’

- (35) Juan o-mopẽ (*meME) okẽ.
 Juan I3-break (*MEME) door
 ‘Juan broke the door.’

- Stressed *meme* is compatible with accomplishments, and does not prevent their culmination, although some accomplishments require support from the continuative converb *-iny*:

- (36) Juan o-o meME Posadas py.
 Juan I3-go MEME Posadas to
 ‘Juan went to Posadas without stopping on the way.’

- (37) Ka’aru-’i guive, Juan o-moatyrõ meME *(o-i-ny) o-bicicleta.
 late.afternoon-DIM since Juan I3-repair MEME I3-be-CONV 3-bicycle
 ‘Juan has been repairing his bicycle without taking a break since late afternoon.’

- Furthermore, stressed *meme* does not coerce activities to a repetition of minimal events, but conveys instead that activities are protracted and uninterrupted:

- (38) O-guata meME.
 I3-walk MEME
 ‘He walked without stopping.’

5.2 Is continuative *meme* an aspect?

- In their comparison of frequentativity and pluractionality, Henderson & Pasquereau (in prep.) make the following observation about aspect:

“The essential analytical insight is that we take the difference between pluractionality and frequentativity to concern the grammatical systems into which they

are integrated (which will follow, in part, from the domains over which they operate). As discussed in the previous section, pluractionality, like plurality in the nominal domain, primarily concerns the structure of the domain in which pluractional verbs denote—it must be non-atomic. This will make them more akin to *aktionsarten*, which concerns root-level properties of the verb, and fits with our definition of pluractionals as derivational morphology like nominal plurality. In contrast, we will see frequentatives are better thought of in terms of grammatical aspect, which is fundamentally temporal, and related to phrasal level properties of the verb.”

- Applying the same diagnostics to stressed *meme* suggest that it should not be analyzed as an aspect marker.
- There is no viewpoint aspect marking in Mbya: bare verbs are ambiguous between perfective and imperfective reading. Other aspectual values are expressed through a system of converbs and particles.
- The converb system, in particular, covers continuous aspect. Crucially, *meme* is not formally part of this system:

Root	Converb	Root Meaning	Aspectual Value
'ã	'ãmy	stand	—
ĩ	iny	sit, be located	continuous
iko/eko	ikovy/ekovy	exist, walk around	habitual
kua	kuapy	be (plural)	—
a/o	avy/ovy	go	—
(j)u	(j)uvy	come	—
(j)u	(j)upy	lie (be in a prone position)	—

Table 1: Converb forms and their aspectual values

- (39) O-o o-i-ny t-ape rupi.
 I3-go I3-be-CONV NPOSS-path along
 ‘He kept going along the path.’ (Dooley 1991)

- Note that unlike continuative *meme*, continuative *-iny* can combine with stative predicates:

- (40) a. Juan i-kane'Õ meme.
 Juan II3-tired MEME
 ‘Juan is always tired’
 b. *Juan i-kane'õ meME.
 Juan II3-tired MEME
 c. Juan i-kane'Õ o-i-ny.
 Juan II3-tired II3-be-CONV
 ‘Juan is tired.’

- There is an interesting interaction between continuous converbial aspect, which we already observed in (37): some accomplishments must be modified by *-iny* when they are combined with *meme*.

- This suggests that *-iny* is a true aspectual marker, which may coerce accomplishments to activities and therefore facilitate their combination with *meme*.
- We conclude that an aspectual analysis of *meme* is unwarranted. For now, we leave it open whether continuative *meme* should be analyzed as a pluractional marker or some other category.
- We'll come back to this question after we sketch a formal analysis of frequentative and continuative uses of *meme*.

6. A unified analysis of *meme*

- We analyze *meme* as distributive adverbial operator in Champollion's (2017) theory of stratified reference:

$$(41) \quad \llbracket \text{meme}_{\theta, C} \rrbracket^{\text{g}, \text{c}} = \lambda V. \lambda e. [e \in * \lambda e'. (V(e') \wedge C(\theta(e')))] \wedge (C \neq \text{Atom} \rightarrow \oplus C = \theta(e)) \wedge \delta(C) \gg \varepsilon]$$

- Frequentative and continuative *meme* differ by their granularity parameter and their syntax:
 - *meme*'s dimension parameter (θ) is always the identity function $\lambda e.e$
 - frequentative *meme*'s granularity parameter (C) ranges over properties of events, while continuative *meme* is parametrized to stages of events.
 - frequentative *meme* takes sentence scope, while continuative *meme* takes verb stem scope
- *Meme* also entails that a measurement $\delta(C)$ of the granularity parameter C is significantly larger than a threshold ε :
 - frequentative *meme*'s δ is the cardinality function
 - continuative *meme*'s δ is the runtime function
- Following Champollion (2015), we assume complete thematic separation of event predicates from their arguments, thematic role operators forming constituents with noun phrases.

6.1 Frequentative *meme*

- Following von Stechow's (1994) analysis of adverbs of quantification, frequentative *meme* is restricted by a covert variable Γ that is anaphoric to salient properties of events and associates pragmatically with focus:

$$(42) \quad \begin{aligned} \text{a. } & [\text{meme}_{\Gamma} [\llbracket \text{S} [\text{PATIENT avakue}] \text{ haXY} \rrbracket] \sim \Gamma] \\ \text{b. } & \llbracket \text{S} \rrbracket^{\text{g}, \text{c}} = \lambda e. * \text{fall-ill}(e) \wedge * \text{man}(* \text{patient}(e)) \\ \text{c. } & \llbracket \Gamma \rrbracket^{\text{g}, \text{c}} \subseteq \lambda e. * \text{happening}(e) \wedge * \text{man}(* \text{patient}(e)) \end{aligned}$$

$$(43) \quad \begin{aligned} \llbracket (42a) \rrbracket^{\text{g}, \text{c}} = 1 \text{ iff } \exists E [& E \in * \lambda e'. (\llbracket \text{S} \rrbracket^{\text{g}, \text{c}}(e') \wedge \llbracket \Gamma \rrbracket^{\text{g}, \text{c}}([\lambda e.e](e')))] \wedge \oplus \llbracket \Gamma \rrbracket^{\text{g}, \text{c}} = [\lambda e.e](E) \\ & \wedge |\llbracket \Gamma \rrbracket^{\text{g}, \text{c}}| \gg \varepsilon] \\ = 1 \text{ iff } \exists E [& E \in * \lambda e'. (\llbracket \text{S} \rrbracket^{\text{g}, \text{c}}(e') \wedge \llbracket \Gamma \rrbracket^{\text{g}, \text{c}}(e')) \wedge \oplus \llbracket \Gamma \rrbracket^{\text{g}, \text{c}} = E \wedge |\llbracket \Gamma \rrbracket^{\text{g}, \text{c}}| \gg \varepsilon] \end{aligned}$$

- (42a) is true iff there is a plural event E (on a relevant temporal interval, not represented here) that is a sufficiently large sum of events of men falling ill, and such that all contextually relevant events of something happening to men sum up to E .

- In other words, (42a) is true iff whenever something happens to a man, that thing is an event of falling ill (cf. ‘the men always fall ill’.)

- Moving focus to *avakue* generates a different reading:

- (44) a. $[\text{meme}_\Gamma [[_S [\text{PATIENT avakUE}] \text{haxy}] \sim \Gamma]]$
 b. $[[S]]^{g,c} = \lambda e. *fall\text{-}ill(e) \wedge *man(*patient(e))$
 c. $[[\Gamma]]^{g,c} \subseteq \lambda e. *fall\text{-}ill(e) \wedge *people(*patient(e))$

- (45) $[[(44a)]]^{g,c} = 1$ iff $\exists E [E \in * \lambda e'. ([S]^{g,c}(e') \wedge [\Gamma]^{g,c}(e')) \wedge \oplus [\Gamma]^{g,c} = E \wedge |[\Gamma]^{g,c}| \gg \epsilon]$
 $= 1$ iff whenever someone falls ill, it's a man.

- Because *meme*'s association with focus is not built in its denotation, contextual salience or common sense may override it:

- (46) Ava-kue i-puKU meme.
 man-PL II3-tall MEME
 ‘It's always the men who are tall.’

- (47) a. $[\text{meme}_\Gamma [_S [\text{HOLDER avakue}] \text{ipuKU}]]$
 b. $[[S]]^{g,c} = \lambda s. *tall(s) \wedge *man(*holder(s))$
 c. $[[\Gamma]]^{g,c} \subseteq \lambda s. *tall(s) \wedge *people(*holder(s))$ *freely resolved to salient antecedent*

- (48) $[[(47a)]]^{g,c} = 1$ iff $\exists E [E \in * \lambda e'. ([S]^{g,c}(e') \wedge [\Gamma]^{g,c}(e')) \wedge \oplus [\Gamma]^{g,c} = E \wedge |[\Gamma]^{g,c}| \gg \epsilon]$
 $= 1$ iff whenever someone is tall, it's a man.

6.2 Continuative uses of *meme*

- Continuative *meme*'s dimension parameter is a runtime function and its granularity parameter is a set of events Σ that are ordered by the stage-of relation:

- (49) *Event Stages* (Landman 1992):

Let e be an event that goes on at i in w . Let f be an event that goes on at j in w , where i is a subinterval of j .

f is a continuation of e iff e is a stage of f .

Let j be a non-final interval.

f stops at j in w iff no event of which f is a stage goes on beyond i in w (i.e., at a later ending interval).

- We let $\text{STAGE}(e, e')$ be true iff e is a stage of e' , and we say that Σ is a set of event stages iff Σ is connected by the STAGE relation. Since STAGE is irreflexive, asymmetric and transitive, this means that Σ is a set of event states iff STAGE is a strict linear order on Σ :

- (50) *Sets of event stages*:

Σ is a set of event stages iff $\forall e, e' \text{ in } \Sigma, \text{ if } e \neq e' \text{ then either } \text{STAGE}(e, e') \text{ or } \text{STAGE}(e', e)$

- We then define continuative *meme* as follows:

(51) a. $[[\text{THEME spk}_c] [\text{V aguata}] \text{meME}_\Sigma]$

b. $[[V]]^{g,c} = \lambda e. *walk(e)$

c. $[[\Sigma]]^{g,c}$ is a set of event stages.

d. $\tau = \lambda V. \tau(\oplus V)$

(52) $[[(51a)]]^{g,c} = 1$ iff $\exists E [E \in * \lambda e'. ([V]^{g,c}(e') \wedge [\Sigma]^{g,c}([\lambda e.e](e'))) \wedge \oplus [\Sigma]^{g,c} = [\lambda e.e](E) \wedge *theme(E) = speaker(c) \wedge \tau([\Sigma]^{g,c}) \gg \varepsilon]$
 $= 1$ iff $\exists E [E \in * \lambda e'. (*walk(e') \wedge [\Sigma]^{g,c}(e')) \wedge \oplus [\Sigma]^{g,c} = E \wedge *theme(E) = speaker(c) \wedge \tau([\Sigma]^{g,c}) \gg \varepsilon]$

- (51a) is true iff there is a plural event E whose theme is the speaker, such that E is a sum of stages of events of walking with a sufficiently long runtime.
- In other words, (51a) is true iff the speaker walked continuously for a sufficiently long time.
- **Why is continuative *meme* stressed?**

- Stress attraction is a lexical feature of Mbya particles, postpositions and connectives:

– *ramo*: different-subject marker, unstressed

– *ramo*: simulative postposition, stressed

- We propose that frequentative and continuative *meme* are different lexical items, with conventionalized constraints on parametrization, the difference being marked by stress attraction:

(53) $[[meme_I]]^{g,c} = \lambda V. \lambda e. [e \in * \lambda e'. (V(e') \wedge [\Gamma]^{g,c}(e')) \wedge \oplus [\Gamma]^{g,c} = e \wedge |[\Gamma]^{g,c}| \gg \varepsilon]$

(54) $[[meme_\Sigma]]^{g,c} = \lambda V. \lambda e. [e \in * \lambda e'. (V(e') \wedge [\Sigma]^{g,c}(e')) \wedge \oplus [\Sigma]^{g,c} = e \wedge \tau([\Sigma]^{g,c}) \gg \varepsilon]$

6.3 Predictions

- **Scope:** the analysis predicts that continuative *meme* should take narrower scope than frequentative *meme*. This is borne out by negation, which must take scope under frequentative *meme* and below continuative *meme*:

(55) a. Juan o-u vy opy, nd-o-piTA-i meme
 Juan I3-come ss prayer.house NEG-I3-smoke-NEG MEME
 ‘When Juan comes to the prayer house, he never smokes.’

b. *Juan o-u vy opy, nd-o-piTA meme-i
 Juan I3-come ss prayer.house NEG-I3-smoke MEME-NEG

(56) a. Juan o-u vy opy, nd-o-pita meME-i
 Juan I3-come ss prayer.house NEG-I3-smoke MEME-NEG
 ‘When Juan comes to the prayer house, he doesn’t smoke continuously.’

b. *Juan o-u vy opy, nd-o-pita-i meME
 Juan I3-come ss prayer.house NEG-I3-smoke-NEG MEME

- **Variation of indefinites:** since *meme* is a distributive operator, it may induce variation in indefinites and numerals in its scope. Because continuative *meme* only has the verb stem in its c-command domain, only frequentative *meme* is predicted to induce variation:

- (57) a. Juan o-eKA meme peteĩ libro
 Juan I3-search MEME one book
 ‘Juan is always looking for one book.’
 ☞ may be different books
- b. Juan o-eka meME o-i-ny peteĩ libro
 Juan I3-search MEME I3-be-CONV one book
 ‘Juan has been looking for one book without stopping.’
 ☞ must be the same book

- **Aspectual selection:**

- Since states and achievements lack stages (Landman 1992, Rothstein 2004), continuative *meme* is correctly predicted to be incompatible with states and achievements.
- By contrast, we predict that continuative *meme* may combine with accomplishments without coercing non-culmination.
- Indeed, note that thematic arguments are introduced outside of the scope of continuative *meme*. Consequently, the stages in Σ are not bounded by thematic arguments introduced outside *meme*’s scope (Krifka 1998).
- The stages can therefore increase in duration without reaching an endpoint until the last stage, which is E itself:

- (58) A-a meME Posadas py.
 I1SG MEME Posadas to
 ‘I went to Posadas without stopping.’

- (59) $\llbracket (58) \rrbracket^{g,c} = 1$ iff $\exists E [E \in * \lambda e'. (*go(e') \wedge \llbracket \Sigma \rrbracket^{g,c}(e')) \wedge \oplus \llbracket \Sigma \rrbracket^{g,c} = E \wedge \tau(\llbracket \Sigma \rrbracket^{g,c}) \gg \varepsilon$
 $\wedge *theme(E) = speaker(c) \wedge *goal(E) = Posadas]$

7. Discussion

- **Consequences for the Operator-Filter Split & Event-Internal Plurality:**

- Event-internal plurality has been discussed within the typology of pluractional markers (Cusic 1981, Wood 2007, Henderson 2017).
- Stressed continuative *meme* in Mbya Guaraní expresses a highly contiguous, uninterrupted temporal profile that is characteristic of event-internal pluractionals.
- However, because frequentative *meme* behaves as a distributive operator (inducing variation in indefinites and compounding distributivity), it cannot be classified as a pluractional filter.
- By unifying both readings under a phrasal distributive operator via stratified reference, we argue that event-internality is not morphosemantically bound to the category of pluractional filters.

- **Complete Thematic Separation and Culmination:**

- Event-internal pluractionals tend to be incompatible with accomplishments or coerce them into non-culminating activities.
- Stressed continuative *meme* departs from this pattern; it is fully compatible with accomplishments and does not prevent their culmination.
- This empirical difference is explained by adopting complete thematic separation and letting continuative *meme* take narrow scope at the verb-stem level.
- This introduces a dimension of variation in the semantics of event-internal plurality.

- **Relevance to the frequentative / pluractional debate:**

- The dual functions of *meme* address the ongoing debate on whether frequentative aspect and pluractionality represent distinct grammatical categories.
- van Geenhoven (2004) argues for a unified approach, modeling frequentative aspect as a special case of verb-level pluractionality.
- Conversely, Henderson & Pasquereau (in prep.) argue they are distinct: pluractionals are root-level lexical derivations operating over multiple dimensions, while frequentatives are tense/aspect-integrated phrasal operators distributing events purely in time.
- Our unified semantics of *meme* supports Henderson & Pasquereau's category split but contemplates a different semantics for frequentatives, stemming from a more general semantics for distributive operators.

Glosses

I active

II inactive

A3.SG 3rd person ergative

B3.SG 3rd person absolutive

C1A' event-internal pluractional

CONV continuative converb

CP completive

DIM diminutive

DS different subject

LOC locative

MEME *meme* (the particle under study)

NEG negation, negative

NPOSS non-possessioned

OBJ object

PA *-pa* (completive / internal argument universal)

PAVE *pavẽ* (universal quantifier)

PL plural

R linker

REDUP reduplication

SG singular

SS same subject

References: Champollion 2015, *The interaction of compositional semantics and event semantics*; Champollion 2017, *Parts of a Whole*; Cusic 1981, *Verbal Plurality and Aspect*; Dooley 1991, *A double-verb construction in Mbyá Guaraní*; Dooley 2006, *Léxico Guaraní, Dialecto Mbyá*; von Stechow 1994, *Restrictions on Quantifier Domains*; von Stechow 2004, *A Minimal Theory of Adverbial Quantification*; van Geenhoven 2004, *For-adverbials, frequentative aspect, and pluractionality*; Henderson 2017, *Pluractionality in Mayan*; Henderson & Pasquereau (in prep.), *Pluractionality and frequentativity*; Krifka 1998, *The origins of telicity*; Kuhn 2019, *Pluractionality and distributive numerals*; Kuhn & Aristodemo 2017, *Pluractionality, iconicity, and scope in French Sign Language*; Landman 1992, *The Progressive*; Rothstein 2004, *Structuring Events*; Wood 2007, *The semantic typology of pluractionality*.