

THE REPETITIVE PREFIX AND OBJECTLESS PRESUPPOSITIONS IN KANIEŃKÉHA

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1 Introduction

- The adverb *again* has often been used to argue for syntactic complexity.
 - Bale 2007; Smith and Yu 2021 on argument structure
 - von Stechow 1996; Beck and Johnson 2004 on lexical decomposition
- Using the semantics of *again* as a modifier of a property of events, past accounts have argued that the range of presuppositions it triggers indicates the levels of derivation at which it can adjoin.
- In English (and many other languages), repetitive presuppositions can be subjectless but not objectless.

(1) Subjectless presupposition

- a. Co-text: Seymour's dryer broke. He called a repairwoman who simply hit the dryer until it started working. The dryer broke down two days later. So . . .
- b. Seymour hit the dryer again. (Bale 2007, 464)

(2) Objectless presupposition

- a. Co-text: Two days after that, the dishwasher broke. So . . .
- b. #Seymour hit the dishwasher again.

- Repetitive presupposition data has been used to support claims of asymmetry in argument structure, with external arguments severed from the verb and internal arguments as verbal complements (à la Kratzer 1996).

Today

I examine repetitive presuppositions in Kanien'kéha (aka Mohawk; Iroquoian), arguing that the range of these presuppositions provides support for claims that both external *and* internal arguments are severed from the verb.

- Why? Unlike *again*, the repetitive *can* induce objectless presuppositions.
 - (3) Context: Yesterday, Paul went to his favorite restaurant. He didn't eat anything all day beforehand. When he got to the restaurant. . .
 - a. Kowá:nen ka'warakarí:ta wà:rake'.
kowanen ka'warakarita wa-ra-ek'
big steak FACT-MsgA-eat-PUNC
'He ate a big steak.'
 - b. Sok nòn:wa kítkit saha'wà:rake'.
sok nonhwa kitkit s-wa'-ra-'wahr-a-k'
then now chicken REP-FACT-MsgA-meat-JR-eat-PUNC
'Then next he ate chicken.'
Lit: 'Then next he ate chicken again.'

⇒ If the scope of the repetitive is syntax-sensitive and takes event predicates as arguments, the availability of objectless presuppositions suggests that verbs/roots are themselves event predicates, before the introduction of internal arguments.

Proposal

- ⇒ The repetitive is a modifier of properties of events. Its presuppositions are syntax-sensitive.
- ⇒ Verbs/roots are bare predicates of events with all arguments introduced independently.
- ⇒ Therefore, the array of presuppositions triggered by the repetitive naturally falls out of the morpheme's ability to adjoin at any maximal projection which denotes a set of events, including $\sqrt{\text{ROOT}}/\text{VP}$.
- ⇒ Other related phenomena, such as restitutive readings and scope effects with adverbials, can be accounted for by extending this approach.

Roadmap

- §2 Repetitive presuppositions in Kanien'kéha
- §3 Proposal: sever all arguments!
- §4 Additional evidence: scoping low and high
- §5 Implications and open questions

2 Repetitive presuppositions in Kanien'kéha

- Kanien'kéha is a Northern Iroquoian language spoken by ~600 people in Quebec, Ontario, and New York state (DeCaire 2023).
- The examples in this presentation come from elicitation sessions with 4 L1 and L2 speakers in the context of ongoing collaboration between McGill Linguistics and Kanien'kehá:ka Onkwawén:na Raotitióhkwa Language and Cultural Center.
- Kanien'kéha is polysynthetic and has a host of prefixes which are used to modify the meaning of a verb. One such prefix is the 'repetitive' *s-*.
- Grammars of the language typically ascribe the same meaning to the repetitive as English *again* (Bonvillain 1973; Michelson et al. 2011; Martin 2023).
- Like *again*, the repetitive modifies an event, introducing a presupposition that a similar event occurs temporally prior to the asserted event.

- | | |
|---|--|
| (4) a. Katá:wens.
k-atawen-s
1sgA-swim-HAB
'I'm swimming.' | b. Skatá:wens.
s-k-atawen-s
REP-1sgA-swim-HAB
'I'm swimming again.' |
|---|--|

- Also like *again*, the content of the presupposition introduced by the repetitive can vary.
 - ⇒ **Unsurprising:** the repetitive can introduce full sentence and subjectless presuppositions.
 - ⇒ **Surprising:** it can also introduce *objectless* presuppositions.

2.1 Full sentence presupposition

- The full sentence (SVO) can be included in the presupposition.

- | | |
|--|---|
| (5) a. Wa'khní:non'.
wa'-k-hninon-'
FACT-1sgA-buy-PUNC
'I bought it.' | b. Sakhní:non'.
s-wa'-k-hninon-'
REP-FACT-1sgA-buy-PUNC
'I bought it again.' |
|--|---|

2.2 Subjectless presupposition

- The subject can also be left out of the presupposition.
- | | |
|--|---|
| (6) Context: John and Paul are doing kickboxing with a punching bag. | a. Netontíetenhte' Shawátis ká:iare' wahakòn:reke'.
netontietenhte' Shawatis kaiare' wa-ra-konhrek-'
at.first John bag FACT-MsgA-punch-PUNC
'First, John punched the bag.' |
| | b. Sok Kó:r ká:iare' sahakòn:reke'.
sok Kor kaiare' s-wa'-ra-konhrek-'
then Paul bag REP-FACT-MsgA-punch-PUNC
'Then Paul punched the bag again.' |
- In English, there are restrictions on which verbs allow subjectless presuppositions (Bale 2007; Smith and Yu 2021).
- | | |
|---|----------------------------------|
| (7) a. Mary kicked the ball.
John kicked the ball again. | (most non-stative transitives ✓) |
| b. Mary read the article.
#John read the article again. | (some non-stative transitives ✗) |
| c. Mary loved ice cream.
#John loved ice cream again. | (stative transitives ✗) |
| d. Mary swam.
#John swam again. | (intransitives ✗) |

⇒ There are no such restrictions with the repetitive.

- | | |
|--|---|
| (8) Context: Terrance and Katya both want to read the same copy of National Geographic magazine so they take turns borrowing it. | a. Terrance wahawennahnó:ton' NatGeo.
Terrance wa-ra-wennahnot-on' NatGeo
Terrance FACT-MsgA-read-PUNC NatGeo |
|--|---|

- 'Terrance read the NatGeo.'
- b. Sok Katya nòn:wa saiewennahnó:ton' NatGeo.
 sok Katya nonhwa s-wa'-ie-wennahnot-on' NatGeo
 then Katya now REP-FACT-FLA-read-PUNC NatGeo
 'Then Katya read the NatGeo next.'
 Lit: 'Then next Katya read the NatGeo again.' (Transitive)
- (9) Context: Paul and Mary are at the doctor's office at 8AM when it opens.
 No one else has gone in. First. . .
- a. Kó:r ienhatáweia'te'.
 Kó:r i-en-ra-táweia't-'.
 Paul TRANS-FUT-MsgA-go-PUNC
 'Paul will go in.'
- b. Sok Wá:ri nòn:wa ientsientáweia'te'.
 sok Wá:ri nonwa i-en-s-ien-táweia't-'.
 then Mary now TRANS-FUT-REP-FsgA-go-PUNC
 'Then Mary will go in next.'
 Lit: 'Then next Mary will go in again.' (Intransitive)

2.3 Objectless presupposition

- The *object* can also be left out of the presupposition.
- (10) Context: You went to an all-you-can-eat buffet so you fasted all day beforehand. At the buffet. . .
- a. É:ri wà:keke'.
 eri wa'-k-ek-'.
 cherry FACT-1sgA-eat-PUNC
 'I ate cherries.'
- b. Sok o'wà:ron sá:keke'.
 sok o'wahron s-wa'-k-ek-'.
 then meat REP-FACT-1sgA-eat-PUNC
 'Then I ate meat.'
 Lit: 'Then I ate meat again.'
- By extension, an argumentless presupposition (no subject, no object) is also available.
- (11) a. Rón:kwe wahiiaterennaién:hahse'.
 ronkwe wa-ri-ate-renn-a-ien-hahs-'
 man FACT-1sg>3sg-SRFL-song-JR-place-BEN-PUNC
 'I prayed for the man'

- b. Sok è:rhar sahsaterennaién:hahse'.
 sok ehrhar s-wa'-hs-ate-renn-a-ien-hahs-'
 then dog REP-FACT-2sg-SRFL-song-JR-place-BEN-PUNC
 'Then, you prayed for the dog.'
 Lit: 'Then, you prayed for the dog again.'

⇒ Presuppositions without any arguments are possible!

- Notably, even when the object is incorporated, an objectless presuppositions is possible.

- (12) Context: we all went on a shopping spree: me, you, and Jen.
- a. Wahshanishonhshawi'tsherahní:non'.
 wa-hsh-anishonhshawi-'tshera-hninon-'
 FACT-2sgA-ring-NMLZ-buy-PUNC
 'You bought a ring.'
- b. Sok saiehna'ta'tsherahní:non'.
 sok s-wa'-ie-hna'ta-hshera-hninon-'
 then REP-FACT-Fl.A-purse-NMLZ-buy-PUNC
 'Then she bought a purse.'
- c. Sok sakhiatonhsherahní:non'.
 sok s-wa'-k-hiaton-hshera-hninon-'
 then REP-FACT-1sgA-book-NMLZ-buy-PUNC
 'Then I bought a book'.

⇒ Noun incorporation does not alter the semantics of the verb in Kanien'kéha (contra Baker 1988; Cross et al. to appear).

2.4 Empirical summary

- (13) Comparing the content of repetitive presuppositions

Presuppositional content	<i>again</i>	<i>s-</i>
Full sentence	✓	✓
Subjectless Transitive	✓/✗	✓
Subjectless Intransitive	✗	✓
Objectless	✗	✓

3 Analysis

⇒ Assuming that the repetitive is sensitive to syntactic structure and that it takes event predicates as arguments (in line with Bale 2007; Smith and Yu 2021), the presence of objectless presuppositions can be explained by the severing of the internal argument.

3.1 Semantics of the repetitive

- The repetitive introduces a true presupposition → projection under negation

(14) Context: you have never bought a car before.

#Iah teske'serehtahnions.

iah te-s-k-'sere-ht-a-hnion-s.

no CONTR-REP-1sgA-car-NMLZ-JR-buy-HAB

Intended: 'I am not buying a car again.'

- The content of the repetitive's presupposition is uniquely determined by its syntactic complement. In other words, the elements in the presupposition must be the same as those in the co-text; no "pragmatic presupposition" (Shudo 2002).

(15) Context: John is doing kickboxing with a punching bag.

a. Netontiétenhte' ká:iare' wahakòn:reke'.

netontietenhte' kaiare' wa-ra-konrek-'

at.first bag FACT-MsgA-punch-PUNC

'First, he punched the bag.'

b. #Sok ká:iare' saharahséntho'.

sok kaiare' s-wa'-ra-rahsentho-'

then bag REP-FACT-MsgA-kick-PUNC

Cannot mean: 'Then he kicked the bag.'

Must mean: 'Then he kicked the bag again.'

⇒ **Proposal:** the repetitive shares the semantics of (repetitive) *again* (von Stechow 1996; Jäger and Blutner 2003; Beck and Johnson 2004).

(16) **Semantics of the repetitive**

$\llbracket s \rrbracket P(e)$ is defined iff $\exists e^1 \exists e^2 [e^1 \prec e^2 \prec e \ \& \ P(e^1) \ \& \ \neg P(e^2)]$.

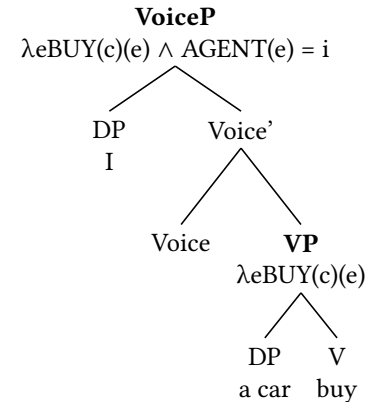
When defined, $\llbracket s \rrbracket P(e) = P(e)$.

- modifier of properties of events ($\langle \langle v, t \rangle, \langle v, t \rangle \rangle$)
- precondition on its application corresponding to a presupposition
- can only join with a predicate P if some eventuality which also satisfies P occurs before the point e of the asserted event

- This modifier can adjoin to any projection denoting a set of events.

- Assuming that external arguments are introduced by a functional head (Kratzer 1996), this gets us both full sentence and subjectless presuppositions.

(17) Deriving full sentence and subjectless presuppositions



- But what about objectless presuppositions?

3.2 Severing the internal argument

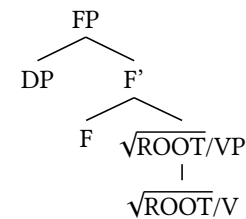
- If the repetitive can only take in event predicates, the availability of objectless presuppositions in Kanien'kéha suggests that the repetitive is taking in a set of events in which no arguments are included.
- This provides evidence for theories in which the internal argument is syntactically severed from the verb (Schein 1993; Champollion 2010; Lohndal 2012).

⇒ **Proposal:** the verb/root is a bare predicate of events to which the repetitive morpheme can adjoin.

(18) $\llbracket EAT \rrbracket = \lambda e \text{EAT}(e)$

⇒ All arguments are related to the verb via thematic roles introduced by functional projections.

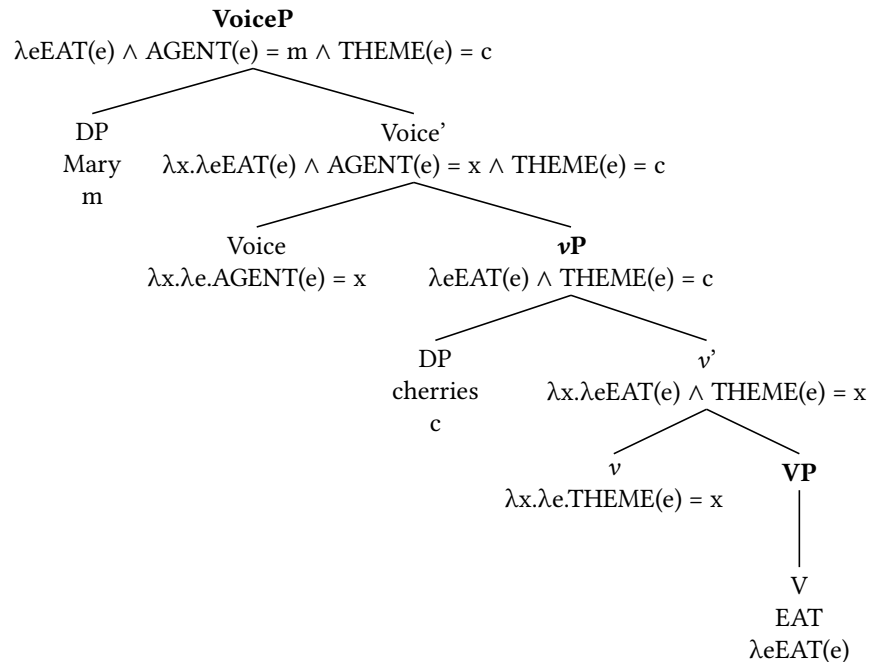
(19) Severing the internal argument



⇒ Voice relates an event to an agent; *v* relates an event to a theme. Both can also pass up their complement without introducing an argument in the case of passives or unergatives.

- The resulting structure predicts the availability of objectless presuppositions.

(20) All arguments introduced by functional heads



⇒ Benefits of this account:

- Analyses which sever the internal argument predict objectless presuppositions so accounts of languages like English which do not allow such presuppositions require stipulations.
- Analyses which posit that verbs take internal arguments as complements don't need such stipulations but make incorrect predictions about Kanien'kéha.
- This proposal makes the correct predictions about Kanien'kéha without requiring stipulations.
- Additionally, this approach reinforces past accounts of polysynthetic languages which argue that all arguments are introduced high (Baker 1996 a.o.).

4 Additional evidence

4.1 Scoping below the verb: restitutive readings

⇒ The availability of restitutive readings with the repetitive falls out naturally from a structural analysis.

- The repetitive can be used with resultative predicates to express the repetition of a result state in addition to its more common use with event repetition.

(21) Context: Paul found a toy on the ground but I took it from him.

Sok tontahí:ion'

Sok tont-wa'-hi-on-'

then REP.CIS-FACT-1sg>Msg-give.to.use-PUNC

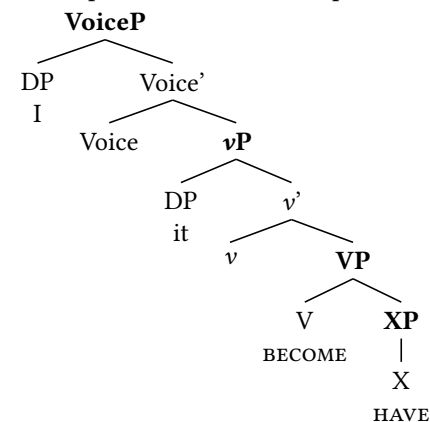
'Then I gave it back to him.'

(i.e. 'Then I gave it to him and as a result, he has it again')

- Following decompositional approaches to restitutive readings (von Stechow 1996; Beck and Johnson 2004), I take resultative predicates like 'give' to consist of two elements: BECOME (in V) and the predicate of the result state (in this case, HAVE, in X).

- A restitutive reading is available because the repetitive can compose with XP, which denotes a set of resultative events (e.g. the event of having).

(22) Decomposition of resultative predicate



⇒ **Benefit:** Non-decompositional approaches argue that decompositional approaches should wrongly predict the availability of objectless presuppositions but this is exactly the what we want in Kanien'kéha.

4.2 Scoping above the verb: *á:re'* and adverbials

⇒ Scopal effects can also be seen above the verbal complex, supporting a structural approach.

4.2.1 The particle *á:re'*

- When the repetitive scopes above the subject, the particle *á:re'* can also be used.

(23) (**Á:re'**) skatá:wens.
are' s-k-atawen-s
again REP-1sgA-swim-HAB
 'I'm swimming again.'

- Crucially, its use *requires* a full sentence presupposition.

(24) a. Kó:r ienhatáweia'te'.
 Kó:r i-en-ra-táweia't-'.
 Paul TRANS-FUT-MSG-A-go-PUNC
 Paul will go in.
 b. Sok Wá:ri ientsientáweia'te'.
 sok Wá:ri i-en-s-ien-táweia't-'.
 then Mary TRANS-FUT-**REP**-FsgA-go-PUNC
 'Then Mary will go in.'
 c. Sok **á:re'** Wá:ri ientsientáweia'te'.
 sok are' Wá:ri i-en-s-ien-táweia't-'.
 then again Mary TRANS-FUT-**REP**-FsgA-go-PUNC
 Cannot mean: 'Then Mary [will go in].'
 Can only mean: 'Then [Mary will go in] again.'

- The full sentence presupposition is required regardless of whether *á:re'* occurs before or after any preposed arguments.

(25) Sok Wá:ri **á:re'** ientsientáweia'te'.
 sok Wá:ri are' i-en-s-ien-táweia't-'.
 then Mary again TRANS-FUT-**REP**-FsgA-go-PUNC
 Cannot mean: 'Then Mary [will go in].'
 Can only mean: 'Then [Mary will go in] again.'

⇒ The position of *á:re'* is high, above the introduction of arguments. Syntactic structure dictates scope.

- Why do we need both *á:re'* and the repetitive prefix? Semantic concord!

⇒ **Proposal:** an operator-particle analysis of semantic concord (Lee 2005; Quek and Hirsch 2017; Sun 2021)

- *á:re'* is the overt realization of a repetitive operator.
- *s-* is a semantically vacuous concord marker that establishes a syntactic dependency with the repetitive operator.
- When the repetitive operator scopes inside the verbal complex (VoiceP or below), it is not realized (no *á:re'*).
- when the operator scopes above this, it is obligatorily realized.

(26) [**Operator-REP** [_{VoiceP} Subj [_{VP} Obj [**Prefix-REP** [_{VP} Presupposed V]]]]]

- Why can't you get a low scope presupposition with *á:re'*?

⇒ **Proposal:** *á:re'* is only spelled out when the operator and the prefix are adjacent, or, put another way, if the scope of the operator is the scope of the presupposition.

(27) a. Null operator
 [**Operator-REP** [_{YP} ... [**Prefix-REP** [Presupposed content]]]]
 b. Overt operator
 [**Operator-REP** [**Prefix-REP** [Presupposed content]]]]
 [*á:re'* s-]

4.2.2 Temporal adverbials

- Adverbials which indicate time, such as 'in the morning', appear as separate words and precede the verb in normal information structural contexts. When the repetitive is used, it scopes below these adverbials.

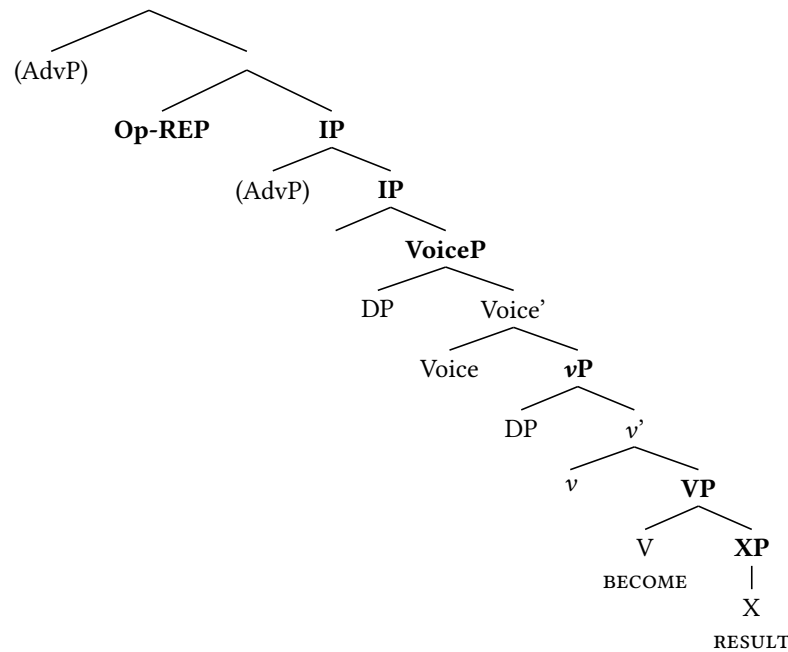
(28) Context: Up until recently, Katya had never swam before. Then, she started swimming every day.
 a. Katya ohrhon'kè:ne wa'ontawen'.
 Katya ohrhon'kehne wa-i-atawen-'
 Katya in.the.morning FACT-FLA-swim-PUNC
 '(The first day) Katya swam in the morning.'
 b. Sok iotohétston néntie saiontawen'.
 sok iotohetston nentie s-wa'-i-atawen-'
 then in.the.afternoon **REP**-FACT-FLA-swim-PUNC
 'Then, (the second day) [she swam] in the afternoon.'

- If *á:re'* is also used, the repetitive can scope above or below the adverb depending on where *á:re'* appears.

- (29) a. Sok **á:re'** [iotohétston néntie saiontawen'].
 sok are' iotohetston nentie s-wa'-i-atawen-'
 then again in.the.afternoon REP-FACT-FL.A-swim-PUNC
 'Then, [she swam in the afternoon] again.'
- b. Sok iotohétston néntie **á:re'** [saiontawen'].
 sok iotohetston nentie are' s-wa'-i-atawen-'
 then in.the.afternoon again REP-FACT-FL.A-swim-PUNC
 'Then, [she swam] again in the afternoon.'

⇒ Unlike arguments, these adverbials are true adjuncts which can adjoin above or below the repetitive operator.

- (30) Summary of repetitive adjunction sites



- The above data further supports an analysis in which the repetitive is sensitive to the syntax, indicating that claims to sever the internal argument are on the right track.

5 Conclusion

5.1 Quick recap

- The Kanien'kéha repetitive functions in many ways like English *again* in that it modifies events and introduces a repetitive presupposition.
- Unlike *again*, however, the repetitive can introduce objectless presuppositions, providing strong evidence for theories of verbal semantics in which all arguments are severed from the verb/root.
- The full range of repetitive presuppositions in Kanien'kéha is predicted in a scope-based analysis where verbs are bare event predicates. No stipulations are needed.
- This approach also helps account for scopal effects involving elements outside of the verb, such as *á:re'* and adverbials.
- These findings are significant for both linguistic theories of verb meaning and argument structure as well as descriptive accounts of the repetitive used in support of ongoing language revitalization efforts in Kanien'kehá:ka communities.

5.2 Open questions

- Major implication: if all this is right, why doesn't English have objectless presuppositions?
 - It's not the case that the root cannot be modified in English: [Pylkkänen 2008](#) on *partway* and [Ahn 2022](#) on *out-*
 - Why are some modifiers allowed to join at VP and others are not?
- Why would the repetitive operator only need to be spelled out if adjacent to the repetitive prefix?
- How do other adverbials interact with the repetitive? Mood? Aspect?
- Why is the repetitive needed when counting one entity?

- (31) a. kanà:tson
 ka-nats-on
 N.A-pail-NSF
 'bucket'
- b. skanà:tsa
 s-ka-nats-a
REP-N.A-pail-be.one
 'one bucket'

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