

Some Causative Alternations in K'iche'

and a unified syntactic derivation

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BLS 41, UC Berkeley
February 8th, 2015

1 Introduction

- This talk will describe the distribution of the so-called Causative morpheme *-isa* in K'iche' (Mayan).¹
- I'll focus on three contexts where *-isa* shows up.
 1. CAUSATIVE
-isa productively attaches to some intransitive verbs to form the transitive counterpart.
 2. DATIVE ALTERNATION
With some verbs, *-isa* participates in an alternation resembling the Double Object/Complement distinction in English.
 3. PSYCH-VERBS
A small set of psych-verbs can appear with or without *-isa*.
- The main goal of the talk will be to correctly characterize the classes of verbs associated with each use of *-isa* and the properties associated with each appearance.
- After outlining these properties, I'll suggest a way we might unite the disparate appearances of *-isa*. Specifically, I'll suggest the generalization in (1).

(1) *-isa* only attaches to telic predicates which are Internally Caused.

¹I thank Fidel Sontay for sharing his language and time with me. He is a wonderful consultant and person. I also thank Oralia Champet and Pedro Garcia for additional elicitation sessions. Helpful discussion and insight has been provided by Philippe Côté-Boucher, Pam Munro, the attendees of UCLA's American Indian Seminar, where this work has been presented in various stages, and Dave Embick, who has given me feedback on the patterns here and the theoretical implications. This data and analysis here have also benefited from comments at WSCLA 20.

- The claim in (1) follows on recent work in the syntax of (anti-)causatives, which have argued that the appearance of valency-marking morphology is sensitive to (lexical) aspect as well as “Internal Causation” – to be defined below (Folli, 2002; Folli and Harley, 2007; Alexiadou et al., 2006; Alexiadou and Anagnostopoulou, 2004; Alexiadou and Schäfer, 2006; Schäfer, 2008; Alexiadou et al., 2015) among others.
- Of course, the syntactic/semantic conditions in (1) can be met in a few different ways. I’ll suggest that in *all* the contexts in which the conditions in (1) are met, *-isa* appears to introduce an external argument.
 - The implication is that *-isa* doesn’t appear to mark causativity *per se*, rather its appearance is the consequence of a specific syntactic configuration (Embick, 2004).
- Roadmap:
 1. Basics: K’iche’
 2. Causatives
 3. The Dative Alternation
 4. Psych-verbs
 5. Towards an analysis
 6. Wrap-up

2 Background

- K’iche’ (also Kiche, K’ichee’, Quiché) is a Mayan language spoken in Guatemala by approximately 2,300,000 people (300,000 monolinguals)². The dialect discussed here is from the town of Momostenango.
- Predominantly VOS with ergative/absolute alignment in verbal agreement, and no case marking.³
- Verbal template

ASPECT – SetB – (SetA –) Root – ISA – STATUS MARKER

²www.ethnologue.com/language/quc

³We’ve seen fairly wide variability with respect to word order: VOS, VSO, and SVO. There are interacting factors (such as animacy and definiteness), but also, we think, Spanish/English influence.

Set A = Ergative

Set B = Absolutive

- All the examples here were collected from a middle-aged, male, native speaker. Elicitation was done in both English and Spanish.
- The patterns were confirmed by a second middle-aged female speaker from Momostenango, as well as a speaker of the Cantel dialect.

3 Causative formation

- In previous studies, *-isa* is treated as a causative morpheme which can only suffix onto intransitive verbs (Larsen, 1988; López Ixcoy, 1997; Campbell, 2000).⁴ Table 1 is a (non-exhaustive) list of intransitives and their causativized counterparts.⁵

⁴“[S]ufijo que se agrega a raíces y bases intransitivas para indicar que alguien provoca o causa la acción que indica la raíz o base” (López Ixcoy, 1997, p. 250).

There are reported to be two causatives, *-isa(a)* and *-Vb'a?*. The latter attaches to positional predicates, and I won't address it in this talk.

⁵

1/2/3 = 1/2/3 person

A/B = Sets A/B

CMP = completive

DEF = definite

DET = determiner

FEM = feminine

INCMP = incomplete

MASC = masculine

PART = participle

PASS = passive

RN = relational noun

sg/pl = singular/plural

SM = status marker

intransitive		transitive	
<i>kam</i>	‘die’	<i>kamisa</i>	‘kill’
<i>num</i>	‘be/get hungry’	<i>numisa</i>	‘make hungry’
<i>k’iy</i>	‘grow (intrans)’	<i>kiyisa</i>	‘grow/raise’
<i>k’at</i>	‘burn’	<i>k’atisa</i>	‘burn’
<i>q’ay</i>	‘rot’	<i>q’ayisa</i>	‘rot’
<i>b’ison</i>	‘be/get sad	<i>b’isonisa</i>	‘sadden’
<i>sa’</i>	‘be lost’	<i>satisa</i>	‘confuse’
<i>kix</i>	‘feel ashamed’	<i>kixisa</i>	‘make feel ashamed’
<i>kub’</i>	‘sit’	<i>kub’isa</i>	‘make sit’
<i>k’aman</i>	‘be/get used to’	<i>k’amanisa</i>	‘make used to’
<i>war</i>	‘be/fall asleep’	<i>wartisa</i>	‘put to sleep’
...		...	

Table 1: Verbs forming intransitive-transitive pairs with *-isa*

- (2) a. *x-∅-kam ri tz’i’*
 CMP-3sgB-die DEF dog
 ‘The dog died’
- b. *x-∅-u-kam-isa-j ri tz’i’ la a Xwaan*
 CMP-3sgB-3sgA-die-ISA-SM DEF dog DET MASC John
 ‘John killed the dog’

- However, not all intransitives form a transitive counterpart with *-isa*. A sizable portion of verbs forms intransitive/transitive pairs with no overt morphological distinction. Table 2 shows a (non-exhaustive) list of these verbs.⁶

⁶Many of these verbs are confirmed from Pye (1996).

intransitive		transitive	
<i>tas</i>	‘separate’	<i>tas</i>	‘separate’
<i>b’us</i>	‘fold’	<i>b’us</i>	‘fold’
<i>jek’</i>	‘slide’	<i>jek’</i>	‘slide’
<i>sut</i>	‘spin’	<i>sut</i>	‘spin’
<i>ch’opin</i>	‘bounce’	<i>ch’opin</i>	‘bounce’
<i>miq’</i>	‘boil/melt’	<i>miq’</i>	‘boil/melt’
<i>pax</i>	‘break’	<i>pax</i>	‘break’
<i>b’irb’it</i>	‘shake’	<i>b’irb’it</i>	‘shake’
<i>paq’</i>	‘crush’	<i>paq’</i>	‘crush’
...		...	

Table 2: Verbs forming intransitive-transitive pairs without *-isa*

- (3) a. *x-∅-pax* *la laq*
 CMP-3sgB-break DET bowl
 ‘The bowl broke’
- b. *x-∅-u-pax-ij* *la laq la a Xwaan*
 CMP-3sgB-3sgA-break-SM DET bowl DET MASC John
 ‘John broke the bowl’

- The division between the types of verbs in Table 1 and 2 is cross-linguistically fairly well attested.⁷ Various treatments have been proposed, but I’ll assume that what characterizes the difference has to do with how likely the event is conceptualized as occurring “spontaneously”, that is without some external force to bring it about (Smith, 1970; Haspelmath, 1993; Schäfer, 2008; Alexiadou et al., 2015).
 - An event like “fold” (Table 2) is more likely to require some sort of external effort to make the event come about
 - An event like “grow” (Table 1) is more likely to happen without an external effort.
- Formally, we can translate this into how likely a root will need to introduce an external argument, which acts as the Agent/Causer of the event.

⁷Unergatives and transitives form causatives periphrastically, and will not be discussed below, but please feel free to ask about them later.

- Terminologically, I'll call the verbs in Table 1 "Internally Caused" (Levin and Rappaport-Hovav, 1995), while those in Table 2 are not.
 - Note though that the concept of Internal Causation I'm using here is gradient.

(4) Internal Causation Restriction

Only verbs which are Internally Caused form transitive counterparts with *-isa*.

- Transitive forms do not place any restrictions on the type of external argument. That is, Agents/Causers/Instruments are all fine.⁸
- (5) *ri Xwan/kab'raqan/ch'ich' x-∅-u-kam-isa-j ri ali Maria*
 DET John/earthquake/knife CMP-3sgB-3sgA-die-ISA-SM DEF FEM Maria
 'John/the earthquake/the knife killed Maria'

- So it is incorrect to infer that *-isa* always introduces an Agent θ -role.
- Lastly, I'll point out that the verbs in Table 1 can be ambiguous between an inchoative (i.e., 'change-of-state') and a pure-state (i.e., stative) reading.
 - For instance, *num* can mean either 'be tired' or 'get tired'
- The significance here is that the eventive version does not appear with extra morphology marking the eventive nature, and so on the surface it's ambiguous whether *-isa* is attaching to the inchoative or pure-state version.

Summing up the properties of the Causative alternation

- Only verbs which are conceived of as being less likely to require outside force to bring about the event form intrans/trans pairs using *-isa*.
- Agents, Causers, and Instruments are all fine as subjects with *-isa*.
- Inchoative (i.e., 'change-of-state') morphology is not overtly marked.

⁸There are restrictions on word order with these different types though.

4 The Dative Alternation

- Outside of the causative use, *-isa* occurs in what can be described as a DATIVE ALTERNATION.

- Certain predicates which license Relational Nouns (essentially inflected prepositions) as Goals can also appear with *-isa*, promoting the Goal argument into a “true” object.

- (6) a. *x-∅-wun la tz'i' chwij*
 CMP-3sgA-howl DET dog RN.1sg
 ‘The dog howled at me’
- b. *x-in-u-wun-isa-j la tz'i' (*chwij)*
 CMP-1sgB-3sgA-howl-ISA-SM DET dog (RN.1sg)
 ‘The dog howled at me’
- (7) a. *x-∅-xoj chirij ri mesa*
 CMP-3sgB-vomit RN.3sg DET table
 ‘He threw up on the table’
- b. *x-∅-u-xoj-isa-j (*chirij) ri mesa*
 CMP-3sgB-3sgA-vomit-ISA-SM (RN.3sg) DET table
 ‘He threw up on the table’

- In (6a), the verb *wun*, ‘howl’ is an intransitive – it only bears absolutive agreement. The Relational Noun *chwij* expresses a goal ‘at me’.
- In (6b), *wun* appears with *-isa*, and the verb inflects with both ergative (*-u*, 3sg) and absolutive (*in-*, 1sg) agreement.

- Adding the Relational Noun into (6b) or (7b) results in ungrammaticality.

- (6b) cannot mean, ‘the dog caused/made me (to) howl’ nor can (7b) mean ‘the table caused/made him (to) vomit’.
- Importantly, not just any Goal can be promoted. For instance,

ripip ch-X-j, ‘fly at X’ → **ripipisa X*, ‘fly at X’

- A list of verbs that can appear in this alternation are given in Table 3.

with RN Goal		with object Goal	
<i>xoj</i>	‘vomit’	<i>xojisa</i>	‘vomit on X’
<i>tix(nam)</i>	‘sneeze’	<i>tixisa</i>	‘sneeze on X’
<i>wun</i>	‘howl’	<i>wunisa</i>	‘howl at X’
<i>kik’</i>	‘bleed’	<i>kik’isa</i>	‘bleed on X’
<i>xub’xut</i>	‘(bird) whistle’	<i>xub’xutisa</i>	‘(bird) whistle to X’
<i>koq’</i>	‘(baby) cry’	<i>koq’isa</i>	‘(baby) cry for/at’

Table 3: Verbs appearing in the Dative Alternation with *-isa*

- Interestingly, the verbs in Table 3 are all Verbs of Emission, defined as “[n]on-voluntary emission of stimuli that impinge on the sense” (Levin and Rappaport-Hovav, 1995, p. 91, citing Perlmutter).⁹
- Like the verbs in Table 1, Verbs of Emission are classified as Internally Caused, since they are conceived of as being less likely to require an outside force.
- Unlike the causative alternations above, there is no causative reading of the event here. Nor is the subject more or less “agentive” between the two forms.

- That is, the action in (7b) is still an involuntary action of vomiting on the table.
- This is based on speaker intuition, but also modification with Agent-oriented abverbials like *chub’anik*, ‘on purpose’, which are infelicitous in either context.

- (8) a. *#chub’anik x-∅-kik’ chwij*
 on.purpose CMP-3sgB-bleed- RN.1sg
 ‘#He bled on me on purpose’
- b. *#chub’anik x-in-u-kik’-isa-j*
 on.purpose CMP-1sgB-3sgA-bleed-ISA-SM
 ‘#He bled on me on purpose’¹⁰

- The promoted object in the ISA-form is a “true” object.

⁹Given this distribution, I hypothesize that there is a further distinction between Verbs of Manner of Emission (sound, smell) and Verbs of Substance of Emission (bodily function, sound) (Fábregas and Varela, 2006). Apparently, only the latter can participate in this alternation.

¹⁰Note that these phrases are not ungrammatical. They have the pragmatically odd reading in which ‘he purposely bled on me’. Importantly, this reading is equally available independently of the ISA-form, and there is no additional reading invoked in the ISA-form that is compatible with the causative morpheme.

- It triggers Set B, absolutive agreement.
- For all extraction and movement tests, e.g., passivization, it functions as a true object

(9) *x-∅-xoj-isa-x* *la mesa (rumaal la a Xwaan)*
 CMP-3sgB-vomit-ISA-PASS DET table (RN.3sg DET MASC John)
 ‘The table was thrown up on (by John)’

- Lastly, there’s a restriction on objects in the Dative Alternation. Only definite objects are permitted with the ISA-form.

(10) a. *x-∅-wun* *la tz’i’ chikij (ri) ixoq’ib’*
 CMP-3sgB-howl DET dog RN.3pl (DEF) women
 ‘The dog howled at (the) women’

b. *x-ee-u-wun-isa-j* **(ri) ixoq’ib’ la tz’i’*
 CMP-3plB-3sgA-howl-ISA-SM (DEF) women DET dog
 ‘The dog howled at the women’

Summing up the properties of the Dative Alternation

- Verbs of Emission, which are Internally Caused, can promote an oblique argument into a core argument with the addition of *-isa*
- There is no added Agentive/Causer semantics involved in bringing about the event; all the arguments retain their θ -roles.
- Only definite objects are permitted with the ISA-form.

5 Psych-verbs

- A small set of verbs alternate between a plain and ISA-form. I’ve only found three verbs that can participate in this alternation.¹¹

¹¹*Loq’* is homophonous with the verb for ‘buy’.

- b. **chub'anik k- \emptyset -u-loq'-isa-aj* *la ali Maria la*
 on.purpose INCMP-3sgB-3sgA-love-ISA-SM DET FEM Maria DET
a Xwaan
 MASC John
 [Intended: 'John loves Maria on purpose']¹²

- *Na'*, 'remember/sense' is slightly different, alternating between an intransitive and transitive form. A literal translation of (13a) is something like "Your name was being remembered to me".¹³

- (13) a. *x- \emptyset -na't-al* *ri ab'i chwee*
 CMP-3sgB-remember-PART DET your.name RN.1sg
 'I remembered your name'
- b. *x- \emptyset -in-na't-isa-j* *ri a-b'i*
 CMP-3sgB-1sgA-remember-ISA-SM DET 2sgA-name
 'I remembered your name'

- (13a) is unambiguously stative, while (13b) is compatible with both a stative and eventive reading.
- Basic c-command and extraction tests show that for all the psych-verbs, the surface subject c-commands the object at all points in the derivation. (This is even true of the oblique subject in (13a).¹⁴)
 - That is, there is no evidence from c-command, extraction, or word order that the surface object is merged above the surface subject as the "causer of X's mental state" (cf, Belletti and Rizzi (1988); Pesetsky (1995))
- And lastly, like the Dative Alternations, there are definiteness restrictions on the object of the ISA-form.

- (14) a. *x-ee-inw-achik'-aj* (*ri*) *ixoq'ib'*
 CMP-3plB-1sgA-dream-SM women
 'I dreamed about (the) women'

¹²In contrast to this test with the Dative Alternations, speakers uniformly reject these sentences. That is, there is nothing that can pragmatically save these here.

¹³I treat the /t/ in *na'tisa* as epenthetic.

¹⁴See Munro (2008) for discussion of the subject properties of the oblique phrase in K'iche'.

- b. *x-ee-inw-achik'-isa-j* **(ri) ixoq'ib'*
 CMP-3plB-1sgA-dream-ISA-SM DET woman
 'I dreamed about the woman'

Summarizing the properties of the Psych-verb alternation

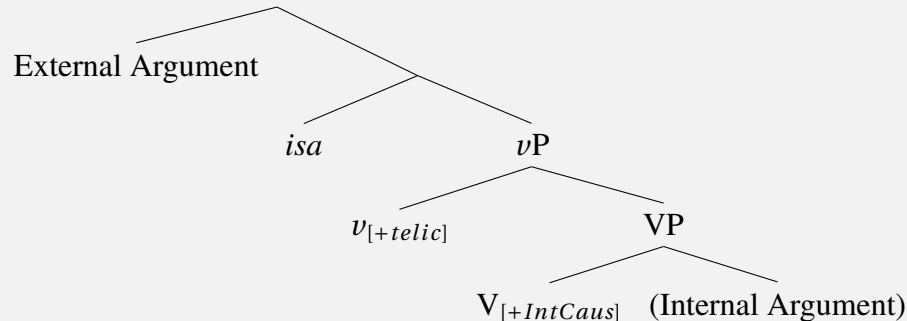
- *-isa* can attach to three psych-verbs – two of which are transitive verbs in both forms
- The resulting meaning is non-causative, although it may involve a more emphatic reading; there is no Agent/Causer introduced into the phrase.
- There is no change in grammatical function for the arguments *modulo* complications of oblique subjects
- *-isa* imposes a definiteness restriction on the object

6 A syntactic analysis

- The core issues that a unified analysis must account for are,
 1. *-isa* is restricted to verbs of Internal Causation
 2. *-isa* does not restrict the θ -role of the argument it introduces
 3. *-isa* imposes definiteness restrictions on certain objects
- I'd like to suggest that the appearances of *-isa* above can all fall under the proposal in (1), repeated in (15), and schematized in (16). (Note that there are number of ways to map (15) into a structure.)

(15) *-isa* only attaches to telic predicates which are Internally Caused.

(16)



- There are two parts to this claim.

1. Internal Causation

- This part of the claim is empirically justified in the three classes of verbs discussed above as the verbs involved in the Causatives, Dative Alternation, and Psych-verbs are all conceived of not requiring an external force to bring about the event.
- In fact, we can even test this by adjusting the context. For instance, the verb *xub'xut*, '(bird) whistle', which participates in the Dative Alternation, can be used in a context where Maria whistles at someone to get their attention. In this context, the *ISA*-form is no longer available.

(17) [Context: Maria sees me walking down the street and wants to get my attention.]

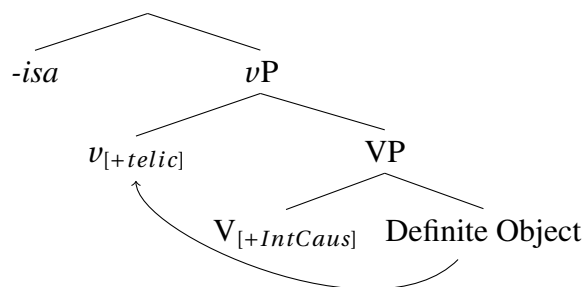
- k(a)-∅-xub'xut la ali Maria chwij*
INCMP-3sgB-sing DET DET Maria RN.1sg
'Maria is whistling at/to me'
- **k-in-u-xub'xut-isa-j la ali Maria*
INCMP-1sgA-3sgB-sing-ISA-SM DET FEM Maria

- Since 'whistling to get someone's attention' is an event that requires some sort of agent to bring it about, then *-isa* is banned, as predicted by the Internal Causation restriction.

2. Telicity

- By assumption, *-isa* attaches to the inchoative form of verbs in Table 1 (Schäfer, 2008).
 - * Recall that inchoative ‘change-of-state’ verbs in Table 1 are formed with no overt morphology.
- I’d like to suggest that the definiteness restriction on the object with both the Dative Alternation and the Psych-verbs can account for the telicity restriction with these two appearances.
- Definite objects are well-known to effect the aspectual class of the predicate, in particular they are associated with giving rise to telic readings (Tenny, 1987).
- So for these Internally Caused verbs (Verbs of Emission and Psych-verbs), when a definite argument is merged as an object of the verb and then relates to a position where it can affect the telicity, the subject will be introduced by *-isa*.

(18) Definite objects set the telicity

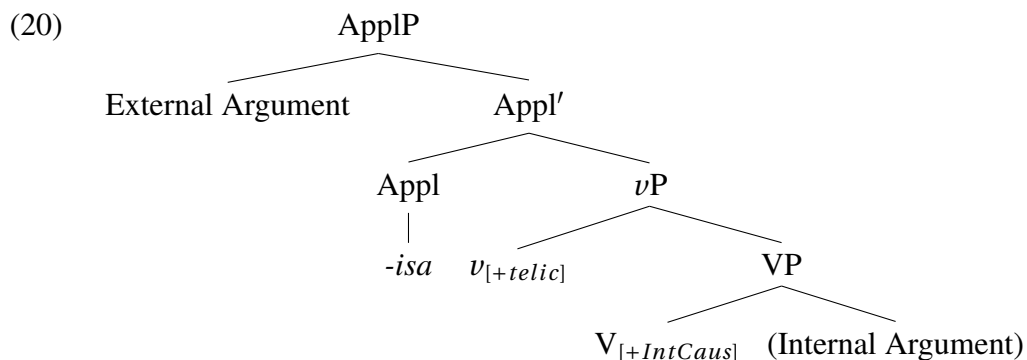


- There is evidence from event structure that this analysis is correct. The beginning and end of the howling event can be separately targeted with the Relational Noun, but not with the ISA-form.

- (19) a. *laj x-∅-wun la tz'i' chwij*
 almost CMP-3sgB-howl DET dog RN.1sg
 a. ‘The dog almost howled at me.’ (The dog didn’t howl.)
 b. ‘The dog almost howled at me.’ (It howled at someone else.)
- b. *laj x-in-u-wun-isa-j la tz'i'*
 almost CMP-1sgB-3sgA-howl-ISA-SM DET dog

- a. ‘The dog almost howled at me.’ (The dog didn’t howl)
 b. ‘~~The dog almost howled at me.~~’ (It howled at someone else.)

- Presumably this is because in (19a) the Relational Noun bears the end of the event, i.e., the howl reaching me, while in (19b) the close of the event results from the interaction between a functional element and the definite object (MacDonald, 2006).
 - We predict some word order restrictions on the object between the two forms. See Appendix II for this evidence.
 - There is a prediction in this analysis that objects of the ISA-form are going to participate in the object-to-event mapping, or measure out the event, more than with the plain-form.
- Note that under this analysis, *-isa* serves merely to add an argument, but it does not itself affect the event structure.
 - Since it further does not restrict the θ -role of its specifier, it is more appropriate to treat *-isa* as an underspecified Voice projection (essentially an Applicative), merely introducing the external argument (Schäfer, 2008; Kim, 2011; Gluckman, 2014; Alexiadou et al., 2015).



- In other words, the head that introduces the External Argument is spelled out as *-isa* just in the case that the structural conditions of telicity and Internal Causation are met. Otherwise, the head introducing the External Argument is spelled out as null.

7 Wrap-up

- I’ve described three different instances where the so-called causative morpheme *-isa* can appear in K’iche’ (see Appendix I for a fourth use).

- If the above analysis is on the right track, then it suggests that the appearance of valency changing morphology can be sensitive to syntactic configurations, and can arise whenever those syntactic conditions are met (Embick, 2004).
- The patterns here add to on-going research on valency alternations and causative morphology. Causative morphology in particular has been shown to have a variety of uses, often outside of the lines of “pure” causativity and this adds more data to those patterns.

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Appendix I: A counterexample? Iteratives

- An apparent counterexample to the claim in (1) is that attaching *-isa* to some verbs gives rise to an Iterative reading.
- The class of verbs that give rise to this reading are for the most part Semelfactives, or verbs which have an instantaneous event.
 - So the telicity restriction holds with this class of verbs as well.

- (21) a. *x-∅-u-q'at* *la kexu*
 CMP-3sgB-3sgA-cut DET cheese
 'He cut the cheese'
- b. *x-∅-u-q'at-isa-j* *la kexu*
 CMP-3sgB-3sgA-cut-ISA-SM DET cheese
 'He cut the cheese many times'

- A sample of the verbs that can appear with this reading is given in Table 5.

non-iterative		iterative	
<i>kach'</i>	'bite'	<i>kach'isa</i>	'bite repeatedly'
<i>ch'ey</i>	'hit'	<i>ch'ey</i>	'hit repeatedly'
<i>pax</i>	'break'	<i>paxisa</i>	'break repeatedly'
<i>q'at</i>	'cut'	<i>q'atisa</i>	'cut repeatedly'
<i>pach'</i>	'squash'	<i>pach'isa</i>	'squash repeatedly'
...		...	

Table 5: Verbs that get an iterative reading with *-isa*

- It's tempting to treat this use as a pragmatic effect of an Emphatic reading, but speaker judgements strongly require an intreated event interpretation.
- The difficulty with this use is that it seems to contradict the Internal Causation restriction, although a closer look at the semantics of iterativity would be helpful.

Appendix II: VSO word order

- Definite objects in K'iche' are more "mobile" than indefinites, which typically must remain adjacent to the verb (in VO) order.
- Specifically, VSO order is permitted only with a definite object.¹⁵

(22) *x-ee-u-kam-isa-j* *la a Xwaan *(ri) mees*
 CMP-3plB-3sgA-die-ISA-SM DET MASC John (DEF) cat
 'John killed (the) cats'

- Under the present account, this follows if the definite object moves out of the VP prior to VP-fronting, which I assume to be necessary to derive the V-initial word order.
- Crucially, only the ISA-forms permits the VSO order.

(23) a. *x-∅-u-achik'* *la a Xwaan ri tz'i'*
 CPM-3sgB-3sgA-dream DET MASC John DEF dog
 a. 'The dog dreamed about John'
 b. ~~'John dreamed about the dog'~~

b. *x-∅-u-achik'-isa-j* *la a Xwaan ri tz'i'*
 CPM-3sgB-3sgA-dream-ISA-SM DET MASC John DEF dog
 a. 'The dog dreamed about John'
 b. 'John dreamed about the dog'

¹⁵Other animacy constraints also factor into whether the object can follow the subject.