

Non-causative causatives in K'iche'*

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Abstract: I discuss three different uses of the causative morpheme *-isa* in K'iche' (Mayan) and provide a unified theoretical account for their distribution. I propose that *-isa* does not encode causative semantics, rather, it is the result of a specific syntactic structure. When the verb base is Internally Caused, and the verb is telic, *-isa* appears to introduce the external argument.

Keywords: Mayan, K'iche', Kiche, K'ichee, Quiche, causatives, lexical semantics

1 Introduction

This paper is an investigation of the so-called Causative morpheme *-isa* in K'iche', a Mayan language spoken in Guatemala.¹ I focus on three contexts in which *-isa* can appear. In the first, *-isa* productively attaches to some intransitive verbs to form a transitive counterpart. In the second, *-isa* participates in an alternation resembling the Double Object/Complement distinction in English. And in the third, a small set of psychological predicates can appear with or without *-isa*, with no (apparent) semantic difference.

After laying out the distribution of *-isa*, I will propose that the generalization in (1) can capture the disparate uses of *-isa* in K'iche'.

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

The proposal in (1) follows on much recent work on the syntax of (anti-)causatives. In particular, it has been shown that the appearance of valency-marking morphology is sensitive to (lexical) aspect as well as the lexical semantic properties of the root (Alexiadou et al. 2006; Folli 2002; Schäfer 2008) among others.

Importantly, the syntactic/semantic conditions in (1) can be met in a few different ways. Specifically, the notion of telicity is known to be sensitive not just to verb class, but also to properties of the object (Tenny 1987). I will suggest that in *all* contexts in which the conditions in (1) are met, *-isa* appears to introduce the external argument. The implication is that *-isa* does not mark causativity *per se*, rather its appearance reflects a specific syntactic configuration. The analysis here is in the spirit of Embick (2004), who argues that valency morphology is sensitive to syntactic configuration.

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¹Abbreviations used in this paper include: A/B = Set A/B, 1/2/3 = first/second/third person, CMP = completive, DEF = definite determiner, DET = determiner, FEM = feminine, INCMP = incompletive, MASC = masculine, RN = relational noun, sg/pl = singular/plural.

2 Background on K'iche'

K'iche' (also, Quiche, Kiche, K'ichee) is a Mayan language spoken in Guatemala by a relatively stable speech community.² It displays ergative-absolutive alignment in its verbal agreement system, and does not have case-marking. Canonical word order is VOS.³

The verbal template is given in (2). *-isa* always appears following the root, usually root-attached.⁴

- (2) ASPECT – Set B – (Set A) – $\sqrt{\text{ROOT}}$ – isa – STATUS MARKER
 Set A = ergative
 Set B = absolutive

The K'iche' dialect reported here is from the town of Momostenango. All examples in this paper are from a single, middle-aged male speaker, elicited in Los Angeles using Spanish and English. The patterns were confirmed by a second middle-aged female speaker, as well as a male speaker of the Cantel dialect in his late thirties.

3 Causatives

The literature on K'iche' treats *-isa* as a causative morpheme which attaches to one-place predicates, deriving two-place predicates (Campbell 2000; Larson 1988; López Ixcoy 1997). Table 1 displays a non-exhaustive list of verbs which form transitives using *-isa*.

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

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'
...		...	

As seen in examples (3a) and (3b), the appearance of *-isa* naturally requires the appearance of ergative agreement morphology on the verb; *-isa* always creates a two-place predicate.

- (3) a. x- \emptyset -kam ri tz'i'
 CMP-3sgB-die DEF dog
 'The dog died'

²2,330,000 speakers, with 300,000 monolinguals (<http://www.ethnologue.com/language/quc>)

³In the data collected, we have found considerable variation in word order. We suspect some is due to Spanish/English influence, particularly since English and Spanish were the languages used for elicitation. I will return briefly to subject of word order later.

⁴The Status Marker is a characteristic of Mayan languages, reflecting the valency of the verb, and position in a syntactic domain (Henderson 2012).

- b. x- \emptyset -u-kam-isa-j ri tz'i' la a Xwan
 CMP-3sgB-3sgA-die-ISA-SM DEF dog DET MASC John
 ‘John killed the dog’

While this use of *-isa* appears to be entirely productive, there is a large class of verbs which does not use *-isa* to mark the transitive pair. A non-exhaustive list is given in Table 2.

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

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’
...		...	

As the examples in (4a) and (4b) show, the transitive form of the verb, while still triggering ergative agreement, does not appear with *-isa*.

- (4) a. x- \emptyset -pax la laq
 CMP-3sgB-break DET bowl
 ‘The bowl broke’
- b. x- \emptyset -u-pax-ij la laq la a Xwan
 CMP-3sgB-3sgA-break-SM DET bowl DET MASC John
 ‘John broke the bowl’

The distinction between the classes of verbs in Table 1 and Table 2 is cross-linguistically quite well attested, and I will assume that what distinguishes the two classes of verbs has to do with how likely an event is conceptualized as occurring “spontaneously”, that is, without some external force to bring it about (Haspelmath 1993; Smith 1970). An event like ‘fold’ (Table 2) is more likely to require an external effort to make the event come about, and thus, it is less likely to occur spontaneously. In contrast, an event like ‘grow’ (Table 1) is more likely to happen without an external effort, and so is more likely to occur spontaneously.

Terminologically, I will call the verbs in Table 1 “Internally Caused”.⁵ Given this terminological distinction, I make the following generalization.

(5) **Internal Causation Restriction (ICR)**

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

The validity of the ICR will be shown to be correct in the later sections of the paper, where we will see that the ICR holds for all appearances of *-isa*. Before we proceed, I will note some further properties associated with the causative use of *-isa*.

⁵The reader should keep in mind that I am using a slightly different notion of internal causation than Levin and Rappaport-Hovav (1995), who treat the distinction as categorical. I will assume that internal causation is a gradient notion.

First, *-isa* does not restrict the θ -role of the subject to an Agent/Causer, as might be expected by a “true” causative. In (6), Agents, Causers, and Instruments are all acceptable as subjects of a causative verb.⁶

- (6) ri Xwan/kab'raqan/ch'ich' x- \emptyset -u-kam-isa-j ri ali Maria
 DEF John/earthquake/knife CMP-3sgB-3sgA-die-ISA-SM DEF FEM Maria
 'John/the earthquake/the knife killed Maria'

Second, the verbs in Table 1 (and Table 2, where applicable) are ambiguous in their intransitive form between a stative and inchoative reading.

- (7) x- \emptyset -num ri tz'i'
 CMP-3sgB-be/get.hungry DEF dog
 a. 'The dog is hungry'
 b. 'The dog got hungry'

The importance here is that it is actually ambiguous whether *-isa* is attaching to the inchoative or the stative version. We can answer this question by looking at deadjectival verbs. K'iche' contains a limited number of “pure” adjectives. These adjectives can be verbalized to form inchoatives. The adjective *chom* ‘fat’ forms a verb *chomar* ‘to become fat’, and the adjective *chaq'* ‘ripe’ forms an inchoative verb *chaq'ij* ‘to get ripe’.⁷ Crucially, the transitive forms of these verbs include this verbalizing element.⁸

- (8) a. x- \emptyset -u-chom-ar-isa-j la ak'
 CPM-3sgB-3sgA-fat-INCH-ISA-SM DET pig
 'He fattened the pig'
 b. x-ee-u-chaq'-ij-isa-j la ooj la q'ij
 CMP-3plB-3sgA-ripe-INCH-ISA-SM DET avocado DET sun
 'The sun ripened the avocado.'

Thus it is reasonable to conclude that *-isa* always attaches to the inchoative form of the verb. This will become relevant later when we consider the interaction between telicity and *-isa*, where it will be shown that *-isa* only attaches to predicates with a culminated event.

To review the properties discussed in this section: *-isa* is used to form transitive forms of Internally Caused verbs; *-isa* does not specify the θ -role of its argument; *-isa* attaches to an inchoative (change-of-state) base.

⁶There are however, restrictions on word order here, which I ignore for expositional purposes.

⁷According to Larson (1988) the morphemes used to form the inchoatives are idiosyncratic and lexically determined. (Thanks to Jessica Coon for suggesting that I investigate this.)

⁸Note further that *tz'il* ‘dirty’, with inchoative *tz'iloj* ‘get dirty’ does not form a causative with *-isa*. The transitive form is homophonous with the inchoative: *tz'iloj* ‘make dirty’. This is predicted by the fact that *-isa* only attaches to Internally Caused predicates, and ‘get dirty’ is not Internally Caused.

- (10) a. #chub'anik x- \emptyset -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'

Thus, it appears that the subject of the ISA-form retains its Experiencer θ -role, and moreover, the promoted object is not construed as being an Agent/Causer either; it too retains its Goal θ -role.

The promoted object is a true syntactic object in all senses. For instance, it triggers Set B absolutive agreement and it can be passivized, (11), a process which is restricted in K'iche' to true verbal objects.

- (11) x- \emptyset -xoj-isa-x la mesa (rumaal la a Xwan)
 CMP-3sgB-vomit-ISA-PASS DET table (RN.3sg DET MASC John)
 'The table was thrown up on (by John)'

Lastly, there is a restriction on the type of object for the ISA-form: only definite objects are allowed. With the relational noun, both definite and indefinite objects are permitted.¹²

- (12) a. x- \emptyset -xoj chirij (ri) me's
 CMP-3sgB-vomit RN.3sg (DET) cat
 'I threw up on (the)/a cat'
- b. x- \emptyset -in-xoj-isa-j *(ri) me's
 CMP-3sg.B-1sg.A-vomit-ISA-SM *(DET) cat
 'I threw up on the cat'
- (13) a. x- \emptyset -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'

With the relational noun in (12a) and (13a), the definite determiner *ri* can be present or omitted, and give rise to the reading 'I threw up on the cat' or 'I threw up on a (unspecified) cat', respectively. With the ISA-form, however, only the definite form is permitted, and the ISA-form can only be used to express 'I threw up on the cat'.

To summarize the Dative Alternation: An oblique Goal can be promoted to the status of core object. Only Verbs of Emission, which are internally caused, are able to undergo this alternation.

¹²I understand the lack of a determiner to signal indefiniteness. The reader should be aware that definiteness in K'iche' is not well understood. The relevant distinction may in fact be specificity. I will use definiteness as a cover term for whatever this distinction is.

There is no causative meaning diagnosable with the ISA-form; all arguments retain their θ -roles. Lastly, promoted objects must be definite.

5 Psych-verbs

Finally, a small set of psychological predicates alternate between a causative and non-causative form. The complete list of verbs is given in Table 4, and examples are given in (14) and (15).¹³

Table 4: Three psych-verbs which can occur with *-isa*

plain-form		ISA-form	
<i>na'</i>	'remember, sense'	<i>na'tisa</i>	'remember'
<i>achik'</i>	'dream'	<i>achik'isa</i>	'dream'
<i>loq'</i>	'love'	<i>loq'isa</i>	'love'

- (14) a. k- \emptyset -u-loq'-aj la ali Maria la a Xwan
 INCMP-3sgB-3sgA-love-SM DET FEM Maria DET MASC John
 'John loves Maria'
- b. k- \emptyset -u-loq'-isa-aj la ali Maria la a Xwan
 INCMP-3sgB-3sgA-love-ISA-SM DET FEM Maria DET MASC John
 'John loves Maria'
- (15) a. x-at-inw-achik'-aj
 CMP-2sgB-1sgA-dream-SM
 'I dreamed about you'
- b. x-at-inw-achik'-isa-j
 CMP-2sgB-1sgA-dream-ISA-SM
 'I dreamed about you'

Note first that psych-verbs are also classified as Internally Caused, as they are not brought about not by means of an external force. As such, they too fall under the ICR in (5).

Observe also that two of the three verbs above, *loq'* 'love'¹⁴ and *achik'* 'dream', are actually transitive, triggering ergative agreement in both the plain and ISA-form. On its surface this straightforwardly contradicts the generalization that *-isa* can only attach to intransitive verbs.

Speakers report no clear distinction between the (a) and (b) forms above, although *loq'isa*, 'love.ISA' can sometimes have a more emphatic meaning. Speakers will sometimes report that (16b) means 'John *really* loves Maria'. This emphatic reading is not always present/salient with *loq'*, and

¹³*Na'* 'sense, remember' is slightly different than the other two in that it alternates between an intransitive, stative form, and the transitive eventive ISA-form. Furthermore, it also differs in have an oblique subject with the plain-form. Reasons of space keep me from discussing *na'* further.

¹⁴*Loq'* is homophonous with the verb for 'buy'.

it is apparently never present with ‘dream’ and ‘remember’.¹⁵

Like with the Dative Alternation, the subject retains its Experiencer θ -role in both the plain and ISA-form. Here, the addition of the adverbial *chub’anik* ‘on purpose’, results in ungrammaticality.¹⁶

- (16) a. **chub’anik* *k- \emptyset -u-loq’-aj* *la* *ali* *Maria* *la* *a* *Xwan*
 on.purpose INCMP-3sgB-3sgA-love-SM DET FEM Maria DET MASC John
 Intended: ‘John loves Maria on purpose’
- b. **chub’anik* *k- \emptyset -u-loq’-isa-aj* *la* *ali* *Maria* *la* *a* *Xwan*
 on.purpose INCMP-3sgB-3sgA-love-ISA-SM DET FEM Maria DET MASC John
 Intended: ‘John loves Maria on purpose’

Moreover, the arguments retain their grammatical roles between plain and ISA-form. This is important as it has been proposed that for some verbs, the surface object is actually the logical subject, e.g., “please”-class verbs (Belletti and Rizzi 1988). However, all object diagnostics show that *Maria* is the deep object in both (16a) and (16b), for instance, passivization.¹⁷

- (17) a. *x- \emptyset -looq’* *la* *ali* *Maria* (*rumaal* *la* *a* *Xwan*)
 CMP-3sgB-love.PASS DET FEM Maria (RN.3sgB DET MASC John)
 ‘Maria was loved (by John)’
- b. *x- \emptyset -loq’-isa-x* *la* *ali* *Maria* (*rumaal* *la* *a* *Xwan*)
 CMP-3sgB-love-ISA-PASS DET FEM Maria (RN.3sgB DET MASC John)
 ‘Maria was loved (by John)’

If *Maria* were actually a deep subject in (17b), it should not be possible to passivize this form and retain *Maria* as the surface subject.

As a final descriptive comment, like the Dative Alternation, the ISA-form requires the object to be definite. The phrase in (18b) cannot have an indefinite object, while (18a) can.

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

To review the properties of psych-verbs: *-isa* attaches to three psych-verbs, two of which are transitive in both forms. There is no obvious causative semantics, and no Agent/Causer introduced. *-isa* imposes definiteness restrictions on the object.

¹⁵It’s unclear to me yet what triggers this emphatic reading. While emphatic readings for causatives are cross-linguistically well-attested (cf. Aikhenvald 2011), an emphatic reading for *-isa* is actually generally not available in any context except those just discussed. See also mention of iterativity at the end of this paper.

¹⁶In contrast to this test with the Dative Alternations, speakers uniformly reject these sentences. That is, there is nothing that can pragmatically save these here.

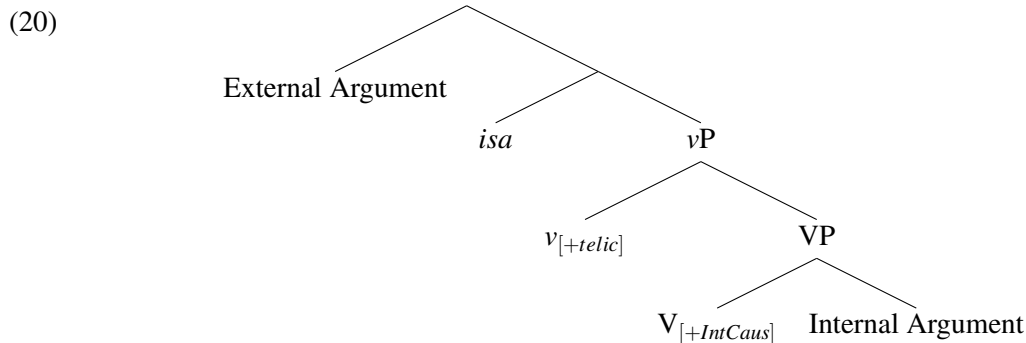
¹⁷Passives in K’iche’ are formed in one of two ways: if the verb stem consists of two or more syllables, then a suffix *-x* is affixed. Otherwise, the vowel of the verb root is lengthened.

6 Analysis: the sensitivity to syntax

I propose that the disparate properties discussed above can be unified in the generalization in (1), repeated here in (19).

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

I further propose that the descriptive properties of (19) are translatable into the syntactic configuration sketched in (20).



The idea is that *-isa* spells out the head that introduces the external argument only when the relevant properties of its *vP* complement have been met. The two relevant properties are, 1) the root must have the semantics of Internal Causation, defined earlier; and 2) the predicate must be telic. I address each of these properties in turn.

First, the need for the Internal Causation clause in (19) is empirically justified in the three classes of predicate examples above: the Causatives, the Dative Alternation, and the Psych-verbs are all Internally Caused. Moreover, we saw that verbs which are not internally caused, like *pax* ‘break’, or *ripip ch-X-e* ‘fly at X’, cannot take *-isa* to introduce their external argument, as these predicates do not qualify as being able to arise “spontaneously”, i.e., without external effort.

Furthermore, we can test this restriction by adjusting the context to make an otherwise Internally Caused verb into an Externally Caused verb. For instance, the verb *xub’xut* ‘(bird) to whistle’ participates in the Dative Alternation. However, *xub’xut* can also be used to mean ‘(human) whistle’, as if to get someone’s attention. In this context, the Dative Alternation is not permitted; only the version with the Relational Noun is allowed.

(21) *Context: Maria sees me walking down the street and wants to get my attention.*

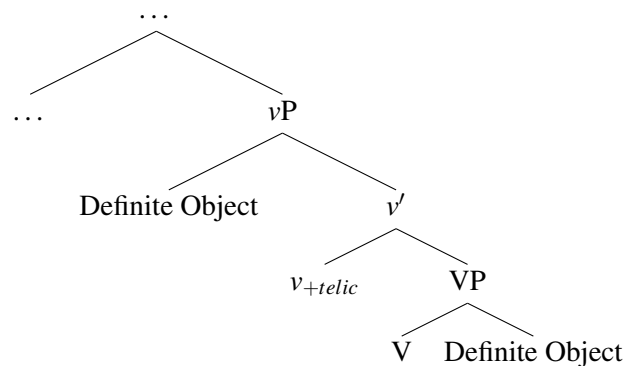
- a. k(a)- \emptyset -xub’xut la ali Maria chwij
 INCMP-3sgB-sing DET FEM Maria RN.1sg
 ‘Maria is whistling at/to me’
- b. *k-in-u-xub’xut-isa-j la ali Maria
 INCMP-1sgA-3sgB-sing-ISA-SM DET FEM Maria
 Intended: ‘Maria is whistling at/to me.’

Because whistling to get someone’s attention is an agentive act that cannot arise without external effort, *-isa* cannot be used to introduce the external argument.

The telicity requirement is more subtle and requires a more formal explanation. First, recall from earlier that the *-isa* attaches to inchoative stems to form a transitive counterpart in the causative alternation. As inchoativity involves a culmination (i.e., the change of state) the telicity restriction is satisfied.

The question now arises of how the telicity restriction manifests in the other predicates, that is, the Dative Alternation and the Psych-verbs. I suggest that the definiteness of the object ensures the telicity here. It is well-known that there is an interaction between definiteness (lexical) aspect (Tenny 1987). A great deal of recent work has shown that there is a low projection, around *vP*, that mitigates this event structure (Borer 2005; Travis 2010). I will assume that *v* is the projection that controls the aspectual information. I propose that definite objects are required to move to spec-*vP*, and this movement sets the telicity of the *vP*.¹⁸

(22)



There are two pieces of evidence supporting this movement. The first piece of evidence comes from word order. While K'iche' is canonically VOS, it does permit VSO word order under certain circumstances. One prerequisite for VSO order is that the object must be definite.¹⁹

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

Assuming that verb-initial order results from VP-fronting in Mayan, then the VSO order results from the object moving out of VP prior to remnant movement of the verb phrase. Crucially, definite objects are required to undergo this movement (although further movements may obscure this at the surface). (See Coon (2010) for precisely such a proposal in Chol.)

Second, modification with adverbials that target events shows that with the Dative Alternation, the event structure is more localized. The addition of *laj* 'almost' results in two readings when the Relational Noun is used, but only one when the ISA-form is used.

¹⁸See Coon (2010) for arguments from Chol, a related Mayan language, that definite objects necessarily move out of the verb phrase. She shows that VOS order is contingent on the object not being definite, while VSO order requires the object to be definite. The facts in K'iche' appear to be more complicated than Chol's, as VOS order is permitted with definite objects, but the basic analysis should be similar, I expect.

¹⁹There are other restrictions as well, including something like an animacy hierarchy restriction. Furthermore, while I claim that this is a definiteness effect, in actuality, it may be specificity rather than definiteness. I leave these issues for further research.

- (24) a. *laj* x- \emptyset -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.)

In (24a), we can get both a counterfactual reading ('the dog didn't howl') and a negated end-state ('the dog missed it's howling target'). Presumably this is because the end of the event is located on the Relational Noun in (24a) (MacDonald 2006), and so *laj* can target the event on *v* (the start) or the event on the relational noun (the end). In contrast, in (24b), only the counterfactual reading is available. Under the account proposed here, this is because the end of the event is a function of the interaction between the object and *v*, and so is not an adequate target for modification. The start of the event, though, merges as normal, and so can be targeted by *laj*.

Thus, we can account for the telicity restriction with the Dative Alternation and the Psych-verbs: it is a consequence of an interaction between the object and the event structure. Moreover, we have a reason for the definiteness restrictions associated with the appearance of *-isa*. However, we are now left with the puzzle of what *-isa* is actually doing in the structure. If it's not a causative, and does not introduce a specified θ -role, then what is its purpose?

Following Kratzer (1996) and much subsequent work, we might call *-isa* the realization of Voice, which introduces an external argument. This is acceptable so long as we bleach the semantics of Voice to allow any type of θ -role, not just Agents, Causers, but even Instruments and Experiencers. Given this general acceptance of any θ -role, I think it's more appropriate to call this an Applicative merged above the verbal domain (Alexiadou et al. 2015; Schäfer 2008). Appl gets spelled-out as null in most cases, but given the precise syntactic conditions, i.e., telicity and Internal Causation, the spell-out of Appl is *-isa*.

To summarize the analysis, *-isa* is not a "causative" morpheme. Rather, it appears to introduce an external argument when a specific syntactic/semantic configuration is achieved. Namely, when the semantics of the verb are those of Internal Causation, and also when *v* bears something like a [+telic] feature. The latter requirement can be the result of the inherent boundedness of the event, or from an interaction with event structure and a definite object. In either case, *-isa* is the result of deterministic properties of the syntax/semantics.²⁰

7 Discussion

Can we reduce (19) to a more specific syntactic configuration? In particular, could we say that *-isa* appears to introduce the external argument whenever *v* contains a specifier? This is a tempting alternative, as we could adopt the arguments in Levin and Rappaport-Hovav (1995), who claim that

²⁰Due to space limitations, I am unable to address whether *-isa* itself comes with an event. That is, while I have proposed that *-isa* attaches to an eventive stem, there is still the possibility that *-isa* comes with its own causative event (cf. Levin and Rappaport-Hovav 1995). Certain tests suggest that it does not. However, the discussion of iterativity in the next section suggests that it might.

Internally Caused verbs are actually unergative. Under such an assumption, we might plausibly merge the subject of the intransitive verbs in Table 1 in spec-*v*P (as opposed to comp-VP). Thus, we could reduce the descriptive generalization to “*-isa* spells out the head that introduces the external argument whenever spec-*v*P is filled”. This proposal would actually make the morphological operation here fall more in line with Embick (2004)’s proposal for Greek. He argues that non-active verbal morphology appears whenever there is “unaccusative syntax”, which for him is whenever spec-*v*P is empty. Thus, K’iche’ could be argued to be the converse of Greek, in that a special morphological form is required only when spec-*v*P is occupied.

The difficulty here would be to keep the system from over-generating. We would have to explain why definite objects of the verbs in Table 2 do not trigger *-isa*. That is, we would have to stipulate that these objects do not pass through spec-*v*P on their way out of the verb phrase. We would be trading one stipulation concerning a feature like [+Internal Causation] with a stipulation concerning object movement. This is partly an empirical concern, but it may also just be one of theoretical preference. Still, there are reasons to believe that (19) is an oversimplification, particularly with respect to Internal Causation. There is one last use of *-isa* that appears to undermine the need for an Internally Caused root. Attaching *-isa* to some verbs yields an Iterative reading, that is, a sequence of repeated events, as in (25).

- (25) a. x- \emptyset -u-q’at la kexu
 CMP-3sgB-3sgA-cut DET cheese
 ‘He cut the cheese’
- b. x- \emptyset -u-q’at-isa-j la kexu
 CMP-3sgB-3sgA-cut-ISA-SM DET cheese
 ‘He cut the cheese many times’

While *q’at* ‘cut’, satisfies the telicity restriction, it is less clear how the Internal Causation requirement is satisfied. If we could find a structural connection between iterativity and Internal Causation, then an overall structural analysis might be preferable over a [+Internal Causation] feature, suggested above. It is not obvious to me that such a connection exists, though, and so further work on the syntax and semantics of iterativity will be needed to decide if this is the right solution. Furthermore, it is not clear to me how productive the iterative use of *-isa* is. Iterative uses always appear to compete with a reduplicated form of the verb, which is generally judged as “better” (i.e., prescriptively more correct K’iche’) than the *-isa* form.

Nonetheless, I have provided here a unified analysis of three disparate uses of the morpheme *-isa* in K’iche’. Empirically, it seems clear that *-isa* cannot be purely a causative morpheme: it does not always have causative semantics. Such “non-causative causatives” have been noted (Aikhenvald 2011), and indeed there seem to be languages that display the precise characteristics described here (see Hemmings 2013 on Javanese) but an analysis that can capture such uses is not trivially implemented. I have suggested here that the appearance of *-isa* is determined as a function of the syntax. Specifically, *-isa* appears whenever the verb is Internally Caused and the event is telic. If such an analysis is on the right track, then other appearances of non-causative causatives might be given a similar syntactico-semantic analysis.

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