

## Unaccusativity and the VP node in Cayuga<sup>\*</sup>

### 1 Introduction

In this squib I discuss the iterative marker in Cayuga (Northern Iroquoian) and how it helps us to understand VP structure and unaccusativity in that language. This discussion bears directly on the issue of configurationality and clausal structure (Baker 1996; Hale 1983; Jelinek 1984; Legate 2002). A fundamental question about discourse-configurational languages is whether they have a distinct VP node or a flat structure. I show that the iterative marker takes scope over objects but not over subjects, supporting the notion that a distinct VP node is present in this language. Furthermore, I show that the iterative marker also takes scope over the subjects of unaccusatives, thus distinguishing unaccusatives from unergatives.

Discourse-configurational languages are known to lack traditional subject-object asymmetries, leading Hale (1983) to posit the flat sentence structure in (1)a, as opposed to the articulated structure in (1)b, containing a distinct VP node.



Since Hale's proposal mounting evidence has been adduced to suggest that discourse-configurational languages have the same kind of articulated structure as more familiar languages. In particular, Baker (1991) has demonstrated that certain subject-object asymmetries do appear in Mohawk (closely related to Cayuga), but manifest in ways different from those observed in

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languages such as English. Notably, noun incorporation targets the object position, not the subject position. This squib introduces data from the iterative marker in Cayuga.

The core property of the iterative marker that informs the current analysis is the fact that it can take scope over the object but not the subject. Consider the following examples.

- (2) a. John s-a-ha-hya-k-Ø swahó:wa?  
 John ITER-FACT-3.SG.M.AG-fruit-eat-PUNC apple  
 ‘John ate an apple again.’ [a different apple] ITER > apple
- b. s-ha-hsdá:h-a? owí:ya?  
 ITER-3.SG.M.AG-cry-HAB baby  
 ‘A baby is crying again.’ [same baby] baby > ITER

The most natural interpretation of (2)a involves a narrow scope reading on the indefinite object. That is, what John did again is eat an apple. In (2)b, however, the subject cannot be understood as taking scope under the iterative marker. That is, this sentence cannot have the meaning in which what happened again is that a baby cried. It can only mean what the baby did again was cry. I show below that the single argument of unaccusative predicates can take scope under the iterative marker, too. These facts clearly suggest that the articulated structure in (1)b is called for.

The remainder of this squib is structured as follows. Section 2 presents the background on this study. Section 3 contains brief comments on the methodology. Section 4 presents the properties of the iterative marker in Cayuga. Section 5 presents the discussion on unaccusativity and VP structure. Section 6 is a brief conclusion.

## 2 Background

Cayuga is a Northern Iroquoian language spoken in southern Ontario by fewer than one hundred people. As with all Northern Iroquoian languages, it is highly endangered. Revitalization efforts

are currently underway, however. Like other discourse-configurational languages, Cayuga, and Northern Iroquoian in general fail to show many of the traditional subject-object asymmetries (see Baker 1991 for Mohawk). This putative lack of such asymmetries suggests a flat structure for the sentence in Northern Iroquoian languages (in the sense of Hale 1983). This flat structure was challenged by Baker (1988; 1996) on the basis of noun incorporation, where he showed that only objects, but not subjects can incorporate (see also Rice 1991).

Unaccusativity (Perlmutter 1978) can be defined as the tendency for the single argument of an intransitive verb to behave as an internal argument rather than as an external argument. This property was famously illustrated for Italian with *ne*-cliticization. Unaccusative verbs typically indicate change of state (*break, melt*, etc.) or movement (*come, go*, etc.), although there is cross-linguistic variation in the exact set of unaccusative verbs. Unergative verbs typically indicate manner of motion (*walk, run*, etc.) or bodily functions (*cough, cry*, etc.), as well as fully agentive verbs (*work, think*, etc.). Rice (1991) showed that noun incorporation serves as an unaccusativity diagnostic in Slave by showing that only the subjects of typical unaccusative verbs can undergo noun incorporation whereas the subject of unergatives cannot. Noun Incorporation consistently fails to target an external argument, and can only target those elements inside a VP, including objects and VP-internal obliques such as instruments and paths (Baker 1988; Mithun 1984; Mithun 2004).

### **3 Methodology**

The data for this study were collected over a number of field visits to speakers in the Six Nations community in southern Ontario. In the initial visit, various examples of the iterative were elicited using standard elicitation techniques (Matthewson 2004). This was done to obtain a large enough set of verbs with which the iterative is used. Although the iterative is quite

productive and compositional, it cannot be used with every verb. Requests for direct translations were kept to a minimum. Given the relatively simplistic nature of the data I was trying to acquire, the consultants could easily help me come up with additional verb plus iterative combinations.

In the second and subsequent visits, consultants were presented with various contexts and were asked for felicity judgements on test sentences. Two sample contexts are given below.

(3) a. Context 1: You are in a nursery and a baby starts crying. Soon, another baby starts crying, then another.

b. Context 2: You are walking through the aftermath of a severe disaster such as an earthquake. As you move about you hear a woman crying over the death of her child. You keep hearing woman after woman crying in this manner.

Carefully setting up the required context is vital for eliciting subtle judgements comparing specific and non-specific readings on arguments.

#### **4 The Iterative**

All Northern Iroquoian languages have a iterative marker /s-/ that appears inside the verbal complex (Lounsbury 1949). In Cayuga, as in other Northern Iroquoian languages, the iterative typically refers to a repeated action or a restored state. (However, there are other idiosyncratic uses of this morpheme) (Abbott 2000; Abrams 2006; Froman et al. 2002; Lounsbury 1949; Lounsbury 1953; Woodbury 1975; Woodbury 2003). Consider the following examples.<sup>1</sup>

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<sup>1</sup> The following abbreviations are used: ACC = accusative, AG = agent, BEN = benefactive, CIS = cislocative, DIS = dislocative, DU= dual, DUC = dualic, EPEN = epenthetic vowel, F = feminine, FACT = factual, HAB = habitual, HAB.PST = habitual past, ITER = iterative JOIN = joiner vowel, epenthetic vowel that occurs between incorporated noun and verb stem, M = masculine, MOD =

- (4) a. ho-yɛ:tw-ɛh  
3.SG.M.PAT-plant-STAT  
'He planted it.'
- b. s-ho-yɛ:tw-ɛh  
ITER-3.SG.M.PAT-plant-STAT  
'He planted it again.'
- (5) a. go-kɔni-Ø  
3.SG.F.PAT-cook-STAT  
'She is cooking.'
- b. j-ako-kɔ:ni-Ø  
ITER-3.SG.F.PAT-cook-STAT  
'She is cooking again.'

We turn now to some specific properties of the iterative/restitutive use of this prefix. In English, the *re-* prefix takes scope over only the verb (or the end state). In (6)a., John could have either read the same book again or a different book. In (6)b., it must be the same book that is read again.

- (6) a. John read a book again.
- b. John re-read a book.

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modalizer, NE = specificity marker, NOM = nominative, NT = neuter, OPT = optative, PAT = patient, PRES = present tense, PUNC = punctual, PURP = purposive, REFL = reflexive, SG = singular, SRFL = semi-reflexive, STAT = stative, STAT.PST = stative past, TLOC = translocative, √ = root.

Thus, forms such as *re-eat an apple* are interpreted as absurd since such a form must refer to consuming the same apple again. The Cayuga iterative marker, by contrast, takes scope over the entire VP. Consider the following paradigm (A. K., B.G., speakers).

- (7) John s-a-ha-hya-k-Ø  
 John ITER-FACT-3.SG.M.AG-fruit-eat-PUNC  
 ‘John ate a piece of fruit again.’
- (8) John s-a-ha-hya-k-Ø swahó:wa?  
 John ITER-FACT-3.SG.M.AG-fruit-eat-PUNC apple  
 ‘John ate an apple again.’ [a different apple]
- (9) #John s-a-ha-hya-k-Ø ne? swahó:wa?  
 John ITER-FACT-3.SG.M.AG-fruit-eat-PUNC NE apple  
 (‘John ate an apple again.’) [must be the same apple → absurd meaning]

The iterative marker allows for the repetition of the whole event denoted by the VP rather than just the verb. First, example (7) refers to the event of eating another piece of fruit. This is unsurprising from the perspective of morphological autonomy since the entire verb-word encapsulates the repeated event. In example (8), however, what is repeated is the event of eating an apple. Finally, in example (9) the object is interpreted outside the scope of the iterative marker. Generally, nouns marked with *ne?* tend to be definite or specific, hence the absurd meaning in (9).<sup>2</sup>

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<sup>2</sup> The analysis of these data offered also argue against a Baker/Jelinek type analysis in which the overt DPs are adjoined clause-peripherally and co-indexed with a null *pro* argument (or with AGR in Jelinek’s analysis). Assumedly, *pro*/AGR has only phi features, specificity being introduced by

Next I present data on the behaviour of the iterative marker with unaccusative and unergative intransitive verbs. Consider the following examples.

- (10) s-ha-hsdá:-ha<sup>?</sup> (ne<sup>?</sup>) owí:ya<sup>?</sup>  
 ITER-3.SG.M.AG-cry-HAB (NE) baby  
 ‘The/a baby is crying again.’ (must be the same baby)
- (11) (agɔgwe<sup>?</sup>) s-a-q-hsdaɛ-<sup>?</sup> (agɔgwe<sup>?</sup>)  
 (woman) ITER-FACT-3.SG.F.AG-cry-PUNC (woman)  
 ‘A woman cried again.’ (must be the same woman)

In both cases, it must be the same baby or the same woman that is crying again. The context given for (10) is given in (3)a. Crucially, the sentences in (10) cannot be used to describe this scenario. That is, they cannot have the meaning that what happens again is that a baby cries. It can only have the meaning that a particular baby cried again. The context given for (11) is given in (3)b. The sentence in (11) cannot describe this scenario. Rather, it must be the same woman that is crying again.

These facts contrast with (8) above which can have the reading where what John did again was eat an apple. Thus, the iterative can scope over the object but not the subject. Again, the object must not be marked for specificity (with the NE marker) in order for it to take scope under the iterative. The subject can never take scope under the iterative marker, regardless of whether it is pre-verbal or post-verbal (see (11)) or whether it is marked for specificity or not (see (10)).

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*ne*<sup>?</sup>. If the verbal marker enters into scopal relations with the specificity value of the object, the object must be inside the VP rather than adjoined outside the clause.

(12) s-a-ha-takra<sup>2</sup>-Ø owí:ya<sup>2</sup>  
ITER-FACT- 3.SG.M.AG-fall-PUNC baby  
'A baby fell again.'

(13) s-a-wak-ya<sup>2</sup>k-Ø gahyadohkwa<sup>2</sup>  
ITER-FACT-3.SG.NT.AG-break-PUNC pen  
'A pen broke again.'

To summarize, the iterative marker in Cayuga can take scope over the object in a transitive construction. Further, we saw that the iterative marker can take scope over the subject of an unaccusative, but not the subject of an unergative. These results straightforwardly argue for a distinct VP node in Cayuga, which I describe in the next section.

In the previous section it was shown that the iterative marker takes scope over the entire VP. We can use this fact to elucidate additional details of the structure of the VP in Cayuga. Given that



the subject of an unaccusative is hypothesized to originate inside the VP, the facts presented in the previous section offer additional evidence for a distinct VP node. Consider again the properties of the iterative with a transitive predicate.

(14) John s-a-ha-hya-k-Ø swahó:wa?

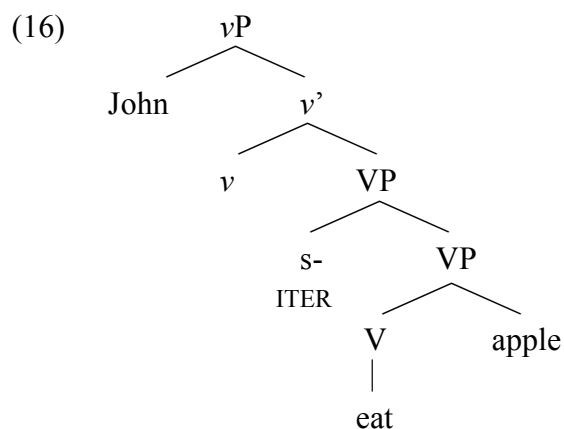
John ITER-FACT-3.SG.M.AG-fruit-eat-PUNC apple

‘John ate an apple again.’ [a different apple]

Here, the iterative marker scopes over the whole VP event (in contrast to English *re-*), suggesting the following rough structure.

(15) ITER-[eat apple]

Thus, informally, we have the following structure for (14).<sup>3</sup>

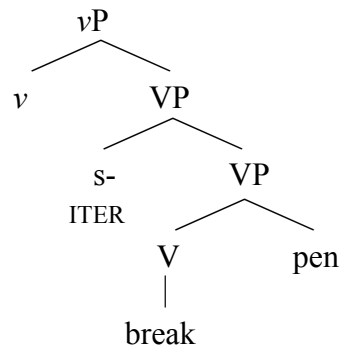


The explanation is clear. The single argument of the verbs in each example above is introduced as an internal argument, and hence falls under the scope of the iterative marker.

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<sup>3</sup> I leave the precise details on the formation of the verbal complex to future research. Regardless of what theory of morpho-syntax one ascribes to, the syntactic properties described here all point to the conclusion that Cayuga has a distinct VP node and unaccusative predicates.

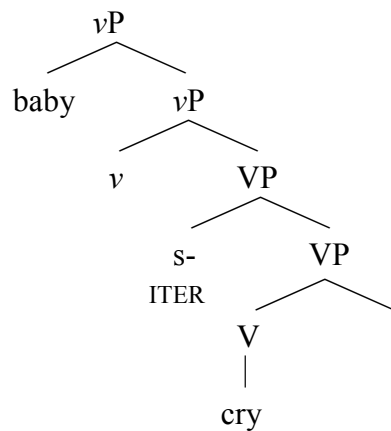
(17)



The subject of an unergative, however, is merged in Spec vP, outside the scope of the iterative.

Thus, the reading where the iterative marker takes scope over the subject is unavailable.

(18)



## 6 Conclusion

This squib has discussed the properties of the iterative marker in Cayuga and has proposed that it can serve as an unaccusativity diagnostic, in addition to the noun incorporation facts discussed previously in the literature. This turns out to be important in elucidating the clausal structure of Cayuga by demonstrating that this language has clear evidence for a distinct VP node.

In terms of the interaction of the iterative marker with respect to the arguments of the clause, it was shown that this marker can take scope over the object, but not the subject of a transitive verb. Specifically with respect to unaccusativity, the single argument of those verbs which are standardly assumed to be unaccusative also fall under the scope of the iterative marker, while the single argument of an unergative does not.

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