

Punctuation or Intonation Morphemes in Otomangean Languages

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July, 00

1. THE SETTING

Victor Borge hilariously illustrated the importance of punctuation markers for spoken language by giving them audible pronunciation. In normal spoken English, the hearer depends on the intonation patterns of the speaker to determine both the punctuation markings and the mood of the sentence.

The Otomangean languages, spoken in southern Mexico, are tonal languages with no separate intonation patterns to distinguish punctuation or mood. Instead, a set of initial or final morphemes are used. Data from three of these languages are presented in the next section, followed by a discussion of possible analyses and the theoretical problems raised in section 3.

2. THE DATA

Illustrative data from languages representing three branches of the Otomangean language family are given here: Lachixío Zapotec, Alacatlalazala Mixtec, and Copala Trique. All three have basic VSO word order. In each case, the punctuation marking follows the Spanish system and the particle being illustrated is in bold type.¹

2.1 Lachixío Zapotec

Taken from Persons, Black & Persons 2000.

- **ra**³ at the end of a clause signifies an exclamation.

(1) –*¿Xi bichia cua'ane?– nilla. ¡Chenu aca eliñi xadañi ra!*
what day place-3I s-say-3R when is fiesta Rincon !
‘–What day will it happen?– he said. –When the fiesta of Rincon begins!–’

¹ Abbreviations used include: Pronouns: 1INC ‘first person inclusive’; 1SG ‘first person singular’; 2SG ‘second person singular’; 3 ‘third person’; 3F ‘third person feminine’; 3I ‘third person inanimate’; 3M ‘third person masculine’; 3PL ‘third person plural’; 3R ‘third person respectful’; Aspect markers: C ‘completive’; CON ‘continuative’; H ‘habitual’; P ‘potential’; S ‘stative’; Other: CF ‘contrafactual’; HORT ‘hortative’.

- For a very strong exclamation, *ri²i³* is used in clause-final position.
- (2) *¡Nei'ca' le ri!*
 that's.right 2SG !!
 'O! You're right!'
- *la* is used at the end of a question expecting a 'yes' or 'no' answer.
- (3) *¿Ni arqui lálu la?*
 s-say heart more-2SG ?
 'Would you like more?'
- A yes/no question simply requiring verification uses *a* at the beginning.
- (4) *¿A ri'ilu beya' xi uri'i xeyua?*
 ? H-do-2SG know what C-do uncle-1SG
 'Do you know what my uncle made?'
- If the speaker is unsure, *xie'* is placed at the beginning of the sentence.
- (5) *–¿Xie' la aca nu lu' uya lálu nu cha' lálu stucu?–*
 DOUBT no P-be and there C-go already-2SG and P-go already-2SG another-one
ninchu lu niyu.
 S-say-3F face man
 '–You didn't just go there and now you're going to go again?–
 she said to the man.'
- When the speaker expects a negative answer, *ri'* is placed at the end. For example, an adult might say (6) to their child, expecting a negative response, such as 'No, don't go!'.
 (6) *Nzi'a che ri'.*
 H-go-1SG now EXPECTS.NEG
 'I'm going now, is that all right with you?'

2.2 Alacatlazala Mixtec

Data provided by Lynn Anderson, p.c.

- *án* is used to begin all yes/no questions.
- (7) *Án kisa va'a ra síni yó'o?*
 ? C-do good 3M hat this/here
 'Did he make this hat?'
- *ni'* is used infrequently at the end of sentences to indicate doubt.
- (8) *Ná koto yó tá kixaá ra, ni'.*
 HORT P-look 1INC if P-arrive 3M DOUBT
 'Let's see if he comes or not (but I doubt it).'

- *ra* means the speaker is insistent or urgently wants a response.
- (9) *Nana! Nana, ra!*
 mother mother URGENT
 ‘Mother, mother, come NOW!’
- *che* indicates hearsay.
- (10) *Kondoo na inka kivi, che.*
 P-stay 3PL other day HEARSAY
 ‘They’ll stay another day, they say (or someone says).’
- *nikúu* is contrafactual, used with both positive and negative main clauses.
- (11) *Kóni ra no'o ra koni, nikúu.*
 CON-want 3M P-go-home 3M yesterday CF
 ‘He wanted to go home yesterday, but he didn’t.’
- *kánva'a*, which may be more like an interjection, indicates amazement.
- (12) *Yuku kúu takaa, kánva'a!?*
 who CON-be man-that AMAZE
 ‘Who in the world is that man?’

2.3 Copala Trique

Copala Trique has many such punctuation or mood markers, all of which occur in final position. Some are exemplified here, taken from Hollenbach (1995).

- *a*³² is used at the end of a declarative sentence, functioning like a period.
- (13) *Ca'anj*³² *Migueé*⁴ *a*³².
 C-go Michael .
 ‘Michael went.’
- *á*⁴ indicates persuasion and is used in answer to a question expressing doubt and also in imperatives.
- (14) *Ca'anj*³² *Migueé*⁴ *á*⁴.
 C-go Michael !!
 ‘Yes, Michael did go.’
- *ei*³² is one of the markers for expressing emphasis.
- (15) *Ca'anj*³² *Migueé*⁴ *ei*³².
 C-go Michael !
 ‘Yes, Michael **did** go.’

- *rā*'² indicates hearsay.
- (16) *Ca'anj*³² *Migueé*⁴ *rā*'².
 C-go Michael “”
 ‘Michael went, they say.’
- *ma*'³ is used in negative sentences in conjunction with the normal negative adverbials *ne*³ or *sē*².
- (17) *Ne*³ *ca'mī*² *Migueé*⁴ *ma*'³.
 no C-speak Michael –
 ‘Michael did not speak.’
- For yes/no questions, *na*'³ occurs in final position.
- (18) *Ca'anj*³² *Migueé*⁴ *na*'³.
 C-go Michael ?
 ‘Did Michael go?’
- Content questions have a fronted *wh*-word and *gā*² final.
- (19) *Dāj*¹ *vaa*³² *yatzíj*⁵ *gā*².
 how exist clothes ?
 ‘How are the clothes?’
- Finally, *ro*'³ acts like a comma, occurring after themes and between comparatives.
- (20) *Tanuu*³ *ro*'³, *ca'anj*³² *so*'³ *Ya*³ *cuēe*² *a*³².
 soldier , C-go 3 Oaxaca .
 ‘As for the soldier, he went to Oaxaca.’

3. THE ANALYTICAL ISSUES

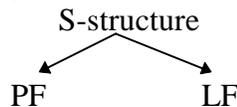
The analysis of these punctuation morphemes is unclear. The initial assumption would be that they are heads, such as C⁰. This works well for the case of the initial markers, but not for the final ones, since these languages are strictly VSO with all heads initial. The hypothesis that they are simply adjoined to the clause is problematic because at least some of the markers may occur in embedded clauses which are selected by a higher predicate.

So are these morphemes (other than perhaps the initial yes/no question marker) part of the syntax at all? There is quite a body of literature on the relationship between prosodic structure and syntactic structure: for examples see Selkirk (1978, 1984, 1986), Nespor & Vogel (1986), Hayes (1989), and the articles in Inkelas & Zec (1990). Selkirk (1986) proposes an edge-based theory for mapping S-structure into prosodic structure which allows reference to an edge of an X¹-constituent. This is extended by Hale & Selkirk (1987) for Papago to include reference to the government relation, and by Aissen (1992), following their lead, for the Mayan languages. Aissen (1992:57) claims that the algorithm for determining Intonational Phrase boundaries in Tzotzil maps the right edge of an ungoverned X^{max} to the right edge of an

Intonational Phrase. This algorithm correctly predicts the distribution of the Tzotzil clitics *un* and *e*.

A similar algorithm for determining Intonational Phrase boundaries may be correct for the Otomangean languages. But the big difference is that (with the exception of the *ro*³ in Copala Trique which acts like a comma) the punctuation morphemes do not simply attach to the end of any Intonational Phrase, but only to certain types of phrases. For the most part, it is these morphemes themselves which signal the type of phrase involved, much like intonation does in English. Cases like *ma*³ and *gã*² in Copala Trique, which only occur on negative-marked phrases and content questions, respectively, make it clear that it is crucial to know what type of phrase an Intonational Phrase is. Neither the edge-based theory (Selkirk 1986) nor the relation-based theory for mapping syntactic structure to prosodic structure (Selkirk 1984, Nespor & Vogel 1986, Hayes 1989) has any mechanism for obtaining this information. Hyman (1990) suggests that features such as [+wh], [+imp] and [+neg] must be marked on the intonational phrase if the syntactic phrase is so marked. This could be achieved by passing head features from the syntactic phrase to the Intonational Phrase.

A remaining issue raised by the majority of the makers here (and which also pertains to ‘normal’ intonation/punctuation in other languages) is what the interface is between the phonology (PF) and the semantics (LF). The basic model of the grammar in the Principles and Parameters framework maps S-structure to PF and LF:



If these ‘morphemes’ only really exist at PF, then how are they interpreted?

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