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Evidentiality and polarity in Yorùbá[*]

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1.   Introduction

There has been considerable work done on the left edge of clauses in Yorùbá (see especially Déchaine 2001a,b). The focus of the present paper is on right-edge phenomena in Yorùbá. There are 4 pragmatic particles that appear on the right edge:

(1)   *iná* ***o***
      fire Σ
      'fire!' (fire outbreak)

(2)   *iná* ***ò***
      fire Σ
      'fire!' (surprise)

(3)   *mo   jẹ   ẹ́-ẹ̀*
      1sg. eat 3sg-Σ
      'The truth is I didn't eat it'

(4)   *o   fẹ́   ẹ-ẹ*
      2sg. want 3s-Σ
      'You want it?!'

Phonologically, (1) can be characterized as an invariant mid toned /o/, (2) is a low toned /ò/, (3) is a copy of the preceding vowel with a fixed low tone, and (4) is a segment which copies both the vocalic and tonal features of a preceding vowel.

The proposal of this paper is that (1) and (2) are evidentials, while (3) and (4) are polarity operators.[1] Furthermore, I propose that their restricted distribution (only on the right edge) is the result of phonological rather than syntactic constraints. Under this view, these particles are enclitics which are base-generated in a higher position, but which trigger movement by the clausal element in order to establish a suitable host.

In section 2 the evidentiality of particles (1) and (2) are explored, while in section 3 the status of the particles in (3) and (4) as polarity operators is established. Section 4 provides a brief outline of the phonology of the particles. Syntactic and phonological motivations for a movement analysis are outlined in Section 5, and a prosodic inversion analysis is adopted for the distribution of the particles. Section 6 provides a conclusion and a brief discussion of some issues surrounding the diachrony of the particles.

2.   Evidentiality

The particles *o* and *ò* display many properties which indicate they are evidential markers. I will claim here that o is an affirmative marker, and that *ò* is a surprisal marker (or more generally an evaluative morpheme; see Rooryck 2001a,b). In a much more general sense, they express some form of speaker commitment to utterance truth, a hallmark of evidentiality (cf. Chafe & Nichols 1986).

2.1   Affirmative

The first of the right-edge particles, the affirmative or emphatic, is represented by a mid-toned /o/. That *o* is a marker of affirmation can be illustrated in examples (5-6) below.

(5)   *mo   jè*
       1sg.   eat
       'I ate it.'

(6)   *mo   jè   o*
       1sg.   eat   Σ
       'I ate it' (even though you thought I couldn't)

In (6), the particle *o* is additive to the simple declarative clause (5). The addition of the particle is used in contexts where the hearer doubted the ability of the speaker to accomplish the goal, or where a speaker was expected to fail at completing a task. The fact that the particle is not the main predicate falls under Anderson's criteria that "evidentials are not themselves the main predication of the clause, but are rather a specification added to a factual claim ABOUT SOMETHING ELSE [emphasis in original]." (1986:274). This particle also adheres to the generalization that "Evidentials have the indication of evidence … as their primary meaning, not only as a pragmatic inference" (274).

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[1]What is entailed by this proposal is the related claim that contrary to popular opinion, these particles are linguistically relevant and have configurational properties (see Awoyale 1997).

Affirmatives also play a different function with imperatives. The addition of the affirmative particle makes the imperative a mandate, or necessity. This can be seen in the contrast below between simple imperatives (7a-10a) and those augmented with the affirmative (7b-10b).

(7)   a. *je*
        eat
        'eat!'

        b. *je   o*
           eat Σ
           'It is necessary that you eat!'

(8)   a. *lo*
        go
        'go!'

        b. *lo   o*
           go Σ
           'It is necessary that you go!'

(9)   a. *wá*
        come
        'come!'

        b. *wá   o*
           come Σ
           'I implore you to come!'

(10)   a. *sùn*
         sleep
         'sleep!'

         b. *sùn   o*
            sleep Σ
            'It is necessary that you sleep!'

Contexts for using the particle would include situations where the addressee needs to be reminded, or where the action is necessary.

The affirmative particle can also be used with bare nominals. In (11b) the function of the particle is emphatic, and this specific example could be used in a context where there is a fire outbreak and it must be announced. As for (12b), the particle would be used as an expression of pain.

(11)   a. *iná*
         fire

   b. *iná   o*
     fire   Σ
     'fire!' (there's a fire outbreak)

(12)   a. *oró*
     poison

   b. *oró   o*
     poison Σ
     'expression of pain'

In all three cases, the factuality of the utterance plays a central role in the interpretation of the (b) sentences.[2]

2.2   Surprisals

The above particles can be contrasted with the 'surprise' particle, which is phonologically different in that it has a low tone /ò/, which signals extreme surprise (see Rooryck 2001a and Anderson 1986 on surprisals). For instance, the bare noun in (14a) can be augmented with the affirmative particle to derive (14b), which can be contrasted with (14c), the construction with the surprisal.

(14)   a. ọmọ
     'child'

   b. ọmọ o
     'where are you child?'

   c. ọmọ ò
     'child!' (surprise)

Like the affirmative, the surprisal indicates emphasis. Unlike the affirmative particle, the surprisal renders an interpretation where the state of affairs is not previously known to the speaker. For instance, in (15), the (a) example shows a regular declarative sentence where no danger is implied, the (b) example illustrates the 'announcement' function of the affirmative, where again no danger is implied, and the (c) example shows the surprisal, where the sentence now implies not only the surprise of the speaker, but also the implication that the context is dangerous.

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[2]There are also cases where the function of the particle or the meaning of the construction is unclear. For example, adding the affirmative particle to the noun *owó* results in a sentence that is too difficult to gloss.

(13)   a. owó
     'money'

   b. owó o

In this case, the particle would be used to express extreme shock at an unlikely event happening, such as a building collapsing (which the speaker has invested a lot of money in).

(15) a. ejò ń bọ̀
        'The snake is coming' (no danger)

    b. ejò ń bọ̀ o
        Announcement (to audience): 'The snake is coming'

    c. ej'o ń bọ̀ ọ̀
        Danger & surprise: 'The snake is coming!'

These contrasts demonstrate that there are shared qualities between the affirmative and surprisal (such as speaker commitment to the content of a proposition), as well as differences.

There is also a subtle temporal difference between the two particles. For instance, in (16) the affirmative results in a reading where the fire is about to start, whereas in (17) the use of the surprisal indicates that the damage from the fire is already happening.[3]

(16) inà à
      'fire!' (fire is about to start)

(17) inà ò
      'fire!' (the damage is already happening)

The particles can also occur in conjoined clauses. For instance, in (18) and (20) the presence of a particle at the right edge of each clause signals a reading which stresses the importance of each individual event, whereas in (19) and (21), where there is an overt conjunction morpheme and only a single particle at the right edge of the sentence, signals a reading where the destruction from the events is viewed as more collective.

(18) *àrá   o ìjì   o*
      thunderstrike Σ storm Σ
      There was a thunderstrike and there was a storm!
      (more emphatic – stress importance of each)

(19) *àrá   àti ìjì   o*
      thunderstrike CONJ storm Σ
      There was a thunderstrike and a storm!
      (destruction is more collective)

(20) *àrá   ò ìjì   ò*
      thunderstrike Σ storm Σ
      There was a thunderstrike and a storm!
      (separate destructions – more emphatic for each)

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[3]The difference in vowel quality and tone in this example is exceptional.

(21) *àrá*   *àti*   *ìjì*   *ò*
     thunderstrike CONJ   storm   Σ
     There was a thunderstrike and a storm!
     (destruction might not be much, but it is visible; destruction is done collectively)

     Both particles can also be embedded in quotative constructions, as in (22) and (23):

(22) *ó*   *sọ*   *pé*   *iná*   *ò*
     3sg   say   COMP   fire   Σ
     'S/he said "fire!"'

(23) *ó*   *sọ*   *pé*   *iná*   *o*
     3sg   say   COMP   fire   Σ
     'S/he said "fire!"'

     The fact that the particles are restricted to the right edge of clauses in embedded contexts suggests that the right-edge effects are inviolable in Yorùbá.
     As has been illustrated in the above sections, the affirmative and the surprisal particles express some form of speaker commitment to the content of a proposition. This differs slightly from the canonical definition of 'evidential' provided by Chafe & Nichols (1986) in that here the speaker commitment is to the content of a proposition, and not to the truth of a proposition. I propose (roughly following Anderson 1986) that the definition for evidentiality be extended to include these cases, so that what is being analyzed is not a different clause type *per se*, but rather two sets of particles that class together under a weaker definition of evideniality.

3.   Polarity Operators

The final two particles can be considered polarity operators for various reasons to be discussed below. Ultimately, although they accomplish the function in different ways, they both serve to reverse the polarity of a proposition. The vowel copy + fixed low tone morpheme, which has been termed a 'denial of a false accusation' will for now be referred to as the simple 'polarity' item, whereas the vowel copy + tone copy morpheme will be referred to as the 'echo question' particle.

3.1   Polarity

The morphemes which have been termed 'denial of a false accusation' (see Déchaine 2001a) will be shown here to be polarity operators. The main function of these particles is to reverse the polarity of a proposition. The (a) examples show a simple declarative, while the (b) examples have the addition of the particle:

(24)   a. *mo*   *fẹ́*
           1sg.   want
           'I want it'

     b. *mo   fẹ́   ẹ-ẹ̀*
       1sg   want 3sg-Σ
       'The truth is I didn't want it'

(25)   a. *mo   gbà   á*
          1sg. take/receive 3sg.
          'I took it'

          b. *mo   gbà   á-à*
          1sg. take/receive 3sg-Σ
          'I didn't take it'

(26)   a. *mo   bú   Adé*
          1sg abuse Ade
          'I abused Ade'

          b. *mo   bú   Adé-è*
          1sg abuse Adé-Σ
          'I didn't abuse Ade'

(27)   a. *mo   na   Adé*
          1sg beat Ade
          'I beat Ade'

          b. *mo   na   Adé-è*
          1sg beat Adé-Σ
          'I didn't beat Ade'

(28)   a. *mo   jí   iṣu*
          1sg steal jam
          'I stole jam'

          b. *mo   jí   iṣu-ù*
          1sg steal jam-Σ
          'I didn't steal jam'

Although their function is relatively straightforward, their relationship to the echo question particle, to be discussed in the next section, is less clear.

3.2   Echo Questions

The vowel copy + tone copy particle also plays a polarity-changing function. As is illustrated by the data below, the addition of the echo question particle to a simple declarative results in something like a yes/no question:

(29)   a. *o   fẹ́   e*
          2sg want 3s
          'You want it'

       b. *o   fẹ́   ẹ-ẹ*
          2sg want 3s-Σ
          'You want it?!'

(30)   a. *o   rà   á*
          2sg buy 3s
          'You bought it'

       b. *o   rà   á-á*
          2sg buy 3s-Σ
          'You bought it?!'

(31)   a. *o   jẹ   ẹ́*
          2sg eat 3sg
          'You ate it'

       b. *o   jeẹ   ẹ́-ẹ́*
          2sg eat 3s-Σ
          'You ate it?!'

      In each case, the particle turns a declarative clause into an echo question. Assuming with Inada and Imanishi (2003) that yes/no echo questions are not licit in out-of-the-blue contexts because they are not presuppositional, the negative contexts can be treated naturally by analyzing the particles as polarity operators.

(32) *ko   wá*
     NEG come
     's/he didn't come'

(33) *ko   wá   á*
     NEG come Σ
     'Is it the case that he didn't come?'

      Not only is there an echo question that is formed, but the polarity of the proposition seems to be reversed by the implication that is added by the particle.

(34)   a. *kò   fẹ́*
          NEG want
          'S/he didn't want it'

       b. *kò   fẹ́   ẹ*
          NEG want 3sg
          'S/he didn't want it'

c. *kò   fẹ́   ẹ́*
  NEG want Σ
'Is it the case that s/he didn't want it?'

(35)   a. *ko   lọ*
       NEG go
       'S/he didn't go'

      b. *ko   lọ   ọ*
       NEG go Σ
      'Is it the case that s/he didn't go?' (Did s/he refuse to go?)

Not only does the particle serve as a polarity operator, it also serves an interrogative role.

3.3 Summary

Thus far we have seen the four different particles, and how they class together into sets of evidentials and polarity items. In recent work on polar questions, Hedberg (2004) has outlined an analysis of interrogative constructions with a focus on what role positive or negative polarity plays. Extrapolating some from Hedberg's analysis, there is reason to construct a typology of interrogatives that includes 'evidential'-type categories (what Hedberg calls 'contextual constraints' or 'contextual evidence', such as what evidence is available to participants). Future research in this direction (typology of clause types) may reveal that the two classes of particles in Yorùbá pattern alike in certain respects.

A brief note on the phonology of all four particles will be outlined in the next section.

4. A Note on the Phonology of Right-Edge Particles

These particles can be depicted along a dimension of segmental variance, whereby the top of the scale (in 36 below) is less variant/most specified, and the bottom is most variant/least specified in terms of featural/segmental content. The phonological behavior of each particle indicates that they are located in different phonological domains.

(36)   a. o
       invariant

      b. ò
       subject to assimilation

      c. μ
       vowel copy

      d. μ
       vowel + tone copy

4.1   Segmental Specification

Each particle differs from the others in the amount of material that is specified lexically. For instance, the affirmative particle is invariably a mid-toned vowel /o/.[4] In contrast, the surprisal particle has an additional marked feature, a low tone, and it is subject to slight variation. These particles maintain their vowel quality and tone, except when the preceding word ends in a [-ATR] vowel. (37) illustrates the contrast between the (a) regular declarative statement, (b) the affirmative statement with no variance in vowel quality, and (c) the surprise particle as the target of vowel harmony. Importantly, the harmony in this case is obligatory, as illustrated by (d).

(37)   a. ejò ń bọ̀
           'The snake is coming' (no danger)

        b. ejò ń bọ̀ o
           'Announcement (to audience): The snake is coming'

        c. ejò ń bọ̀ ọ̀
           Danger & surprise: 'The snake is coming!'

        d. # ejò ń bọ̀ ò

    In addition, it is only /ọ/ which triggers the harmony, and not /ẹ/:

(38)   a. mo jẹ o
           'I ate it' (even though you thought I couldn't)

        b. mo jẹ ò
           'I ate it' (surprise)

        c. *mo jẹ ò

        There are two facts about this 'harmony' which motivate further analysis: the direction of spreading and the existence of forms which follow a [-ATR] vowel and in which the harmony doesn't apply. According to Archangeli & Pulleyblank (1989) the direction of spreading in Yorùbá vowel harmony is from right to left. In the cases above, the spreading is from left to right. In addition, there are exceptional forms which don't trigger the harmony:

(39)   ọmọ ò
        'child!' (surprise)

(40)   ọwọ́ ò/*ọ̀
        'hand/arm'

(41)   ọkọ ò/*ọ̀
        'husband'

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[4]The mid being unspecified for tone; see (Akinlabi 1985), Pulleyblank (1986).

(42) Ayọ̀ ò/*ọ̀
      'Personal name' / 'joy'

    The variable nature of this phonological effect, and the unexpected direction of spreading indicates that it is not undergoing the regular process of vowel harmony in the language, but rather, a very local process of assimilation. This would be a reason why the quality of the vowel must be identical to the particle in order to trigger to the process, and also for the effect being limited to only certain lexical items. If this is an assimilatory process that is becoming lexicalized, it is probably likely to proceed lexical item-by-lexical item.

    The next particle on the scale of specification is the polarity particle. Phonologically, this particle is a single segment which is a copy of the preceding vowel. The vowel quality is unspecified, however, there is an invariant low tone feature which is specified for the particle.

(43) *mo fẹ́   ẹ-ẹ̀*
      1sg want 3sg-Σ
      'The truth is I didn't want it'

(44) *mo gbà   á-à*
      1sg. take/receive 3sg-Σ
      'I didn't take it'

    Perhaps the best way to characterize this morpheme phonologically is as a feature-less mora which bears a low tone.

(45) Polarity particle
      L
      |
      μ

    In contrast with this is the 'echo question' particle, which mirrors the polarity particle in its vowel-copying quality; but in addition, this particle copies the tone of the preceding segment as well.

(46) *o   fẹ́   ẹ-ẹ*
      2sg want 3s-Σ
      'You want it?!'

(47) *o   rà   á-á*
      2sg buy 3s-Σ
      'You bought it?!'

    Following the analysis above of the polarity particle, the echo particle can be characterized as a mora completely unspecified for distinctive features, including tone.

(48) Echo question particle
      μ

To summarize, the degree of segmental or featural variance across particles is schematized below:

(49)   a. o
           invariant

        b. ò
           subject to assimilation

        c. μ̣
           vowel copy

        d. μ
           vowel + tone copy

The concept of segmental variance is crucial to understanding what phonological domain is licensing each particle, which will be discussed in the following section.

4.2   Phonological Domains

According to Akinlabi & Liberman (2000b), the distribution of tones is governed by the behavior of higher-order tonal complexes, something akin to tonal feet.[5] The tonal properties of the particles are outlined below:

(50)   a. o
           fixed tone

        b. ò
           fixed tone

        c. μ̣
           fixed tone

        d. μ
           no fixed tone

Following Déchaine (2001a), the lack of a fixed tone on the echo question particle can be construed as meaning that the particle must be incorporated into the preceding foot. Furthermore, the tonal properties of the other particles indicates that since they are invariant, they must head their own feet (Déchaine 2001a).

As Déchaine (2001a) notes, the affirmative is downstepped after a mid tone in Standard Yorùbá. The downstepped mid tone (51a) (Awayole 1997, cited by Déchaine 2001a) can be contrasted with a true low tone (51b) and a regular mid tone (51c):[6]

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[5]Also see Ọla 1995 for a metrical analysis of Yòrubá. Ọla provides an analysis based on the foot, as well.

[6]For a general discussion of the downstepped mid tone in Yorùbá, see Bamgboṣe (1966), Pulleyblank (1986:115-116).

(51)   a. *mo fẹ́ẹ!o*
          1sg want it Σ
          'I want it'

         b. *mo ffẹ́ẹò*
          1sg want it Σ
          'I want it'

         c. *mo fẹ́o*
          1sg want 3sg
          'I want him/her'

This indicates that, as Déchaine suggests, the affirmative constitutes its own foot.

Finally, some mention must be made of the tonal OCP. As Akinlabi & Liberman (2001a) point out, in Yorùbá there is a general ban on similar tones being adjacent to each other across host-enclitic boundaries. There are a number of strategies employed by the language to circumvent this condition, however, the tonal OCP fails to apply in the cases of the pragmatic particles. Each particle appears grammatically outside of another clitic, however, the particles themselves are never affected by the OCP.

(52)   *mo lọ oko o*
       1sg go farm Σ
       'I went to the farm (who told you I didn't go?)

(53)   ejò ń bọ̀ ọ̀
       Danger & surprise: 'The snake is coming!'

The very fact that the echo question particle is derived by copying the preceding tone indicates that it is immune to the OCP. Although the particles are located outside the domain of clitics, their behavior does not conform to that of regular enclitics.[7] These particles are probably best considered just that: independent particles. In the next section, the distribution of the combined set of particles will be outlined and two competing analyses will be explored.

5.   Right-Edge Effects

The most immediate question concerning both the proposed evidentials and polarity items is their distribution: Why are these particles restricted to the right edge of clauses? There are two proposals that might be considered in light of this: that a right-edge distribution is either syntactically conditioned, or it is phonologically conditioned. I propose an analysis based on the latter.

The two competing analyses to be discussed here are remnant movement and prosodic inversion. In both analyses the CP is raised above the particles; the remnant movement

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[7]Although it remains to be tested how these particles will differ with the strong pronoun/clitic distinction (Pulleyblank 1986b).

analysis motivates the movement by scope, while the prosodic inversion analysis motivates the movement by phonological constraints. In both cases, it is assumed that the particles head an Evidential Phrase external to CP (Cinque 1999; see also Blaine & Déchaine n.d.).

5.1   Remnant Movement

A syntactic analysis for the right-edge effects in Yorùbá would be based largely on movement. In general, this type of analysis states that VP (or CP, etc.) raises to the spec of some higher projection, such as CP or higher (EvidP: see Cinque 1999, and also Rizzi 1997 for left periphery phenomena). In essence, the analysis has its roots in older models of movement such as Quotative Inversion (Collins & Branigan 1997), and Slifting (Ross 1973, Davison 1975).

The specific analysis that will be considered here is remnant movement (Kayne 1994, 2003, Lee 2002). Whereas head movement, which is restricted to head positions, fails to capture the facts in Yorùbá, remnant movement centers around phrasal movement into specifier positions. The movement of entire phrases seems more suitable to account for the Yorùbá data, as entire CPs are subject to the inversion phenomena.
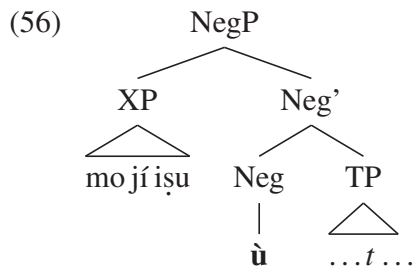
The basic phrase structure assumed for the remnant movement analysis is given in (54), with the details fleshed out in (55). Both of these examples illustrate the inversion of a CP with the evidential head.

(54)

EvidP

CP

FACT t_{CP}

(55)

EvidP

CP

△
mo jeɪ

FACT t_{CP}

|
o
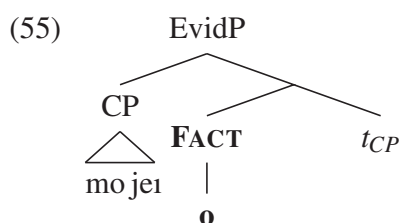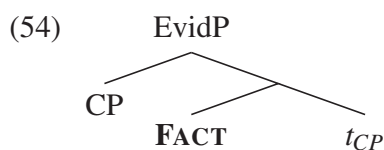
Under this view, obligatory movement is motivated by scope. If the evidential takes scope over the entire clause, CP must raise above the evidential (Lee 2002). This scopal relationship is then licensed by movement.

The same analysis can be applied to the polarity operators. If they are assumed to head a negation phrase which dominates TP, remnant movement will invert the TP and polarity item. The motivation for this type of movement would again be for scope or checking reasons (following Lee 2002):[8]

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[8]Assuming that there is an operator in the spec of CP would also be a valid.

(56)

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              NegP
          ┌────┴────┐
         XP        Neg'
        ╱──╲      ┌──┴──┐
     mo jí iṣu   Neg   TP
                  │    ╱─╲
                  ù   …t…
```

A prediction of the remnant movement analysis is that adverbial elements high up in the tree can block movement of the CP into the spec of EvidP. This prediction proves correct in languages like Zapotec where there are adverbial elements available to block movement (see Lee 2002); however, the prediction is wrong for the Yorùbá data. Examples (57-60) illustrate this:

(57) *mo   jé'   kíákíá   o*
     1sg   eat   quickly   Σ
     'Truly I ate it quickly'

(58) *kíákíá   ni   mo   jé'   o*
     quickly   FOC   1sg   eat   Σ
   'Quickly, I ate it'

(59) *kíákíá o mo jé'

(60) *kíákíá ni o / o ni mo jé'

In (57) the evidentially-marked declarative is shown, and in (58) the adverbial is moved into a focused position and the focus marker is introduced. In this case, the evidential morpheme remains on the right edge, and supposed movement of the CP is not blocked by the presence of an adverbial which fills the spec of the evidential phrase. It is ungrammatical to leave the CP in situ (59), and it is likewise ungrammatical with the focus marker in pre- or post-evidential position (60).

5.2 Prosodic Inversion

The incorrect predictions that the Remnant Movement analysis makes forces us to consider other motivations for the right-edge effects. There must be some motivation for the particles to obligatorily be on the right edge, and one possibility is that there is a phonological reason for the restricted distribution of the particles. Following Halpern (1995), I propose that the right-edge effects in Yorùbá are the result of prosodic inversion, whereby the particles are clitics which require a phonological host to their left. More specifically, the right-edge particles are base-generated or sub-categorized as enclitics; a PF operation inverts the particle with the string on its right so that it has a proper phonological host. Under this analysis, the clitic must always be on the right because the phonological constraint will not allow it to function as a proclitic.

The prosodic inversion analysis is schematized below:

(61)
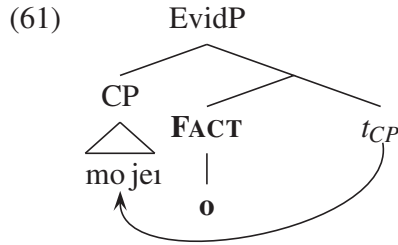
The claim that the right-edge particles are clitics is supported by distributional evidence. Right-edge particles are found in the domain of clitics (outside of the pronominal clitics).

(62) *mo   je   ∅   o*
      1sg.   eat   3sg.   Σ
      'I ate it' (even though you thought I couldn't)

(63) *o   rà   á-á*
      2sg.   buy   3s-Σ
      'You bought it?!'

(64) *mo   jẹ   ẹ́-ẹ̀*
      1sg.   eat   3sg-Σ
      'The truth is I didn't eat it'

As (62-64) illustrate, the particles appear outside of the domain of pronominal clitics. The drawback of the remnant movement analysis was that it made predictions that were not true for the Yorùbá data. The prosodic inversion analysis, on the other hand, makes predictions about the obligatory right-edge distributions of both the evidentials and polarity items that hold true across-the-board in the language. The requirement that clitics be subcategorized for being on the right of a phonological host forces all instances of these particles to appear on the right edge without exception.

5.3   Linearization

The only thing left to explain is why the particle must encliticize to the entire string rather than to just the first element (syntactic constituent or prosodic word; i.e. second position phenomena). This is explained quite naturally if the operation is viewed as nothing more than one of linearization.[9]

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[9]An alternative to the linearization account proposed here would be to rely completely on phonological constraints to derive the surface ordering of strings. One such approach would be Optimality Theory (Prince & Smolensky 1993), whereby the relative rankings of faithfulness constraints and alignment constraints would result in a full typology of first position, second position, final position and (perhaps less

Here I will adopt Williams' (2003) notion of mapping between various levels within a language. For instance, Williams has shown that much of syntax is due to shape preservation, or certain economy principles regarding shape. Williams posits a fixed number of levels in grammar, each which can possibly map onto another. When an optimal mapping is not available, the most economical form is selected. This results in some things being "not a real movement, but a displacement that arises from the mismatch of two levels" (Williams 2003:119). The levels suggested by Williams are Case Structure, Theta Structure, Quantification Structure, Surface Structure, Focus Structure, and Accent Structure (and possibly others such as Predicate Structure, etc.). I will assume that for the prosodic reasons outlined above, an additional structure PrS (Prosodic Structure) must exist, and there must be a mismatch resulting from the mapping of PrS onto another structure (where --→ indicates a mapping relation from one structure onto another).

(67)   PrS --→ SS

In this case PrS maps onto Surface Structure in order to derive the surface effects of prosodic inversion. Although each of the particles would be at the left edge at Surface Structure, the mapping of PrS would force them onto the right edge, resulting in a 'mismatching'.

Although adopting a representational view doesn't solve the inherent problem of why nothing can appear to the right of the particle, it does provide a framework that will correctly map the input structure to the output structure. In order to address that problem, we must further stipulate that in addition to being subcategorized for a host on the left, these clitics must also be subcategorized NOT to have an element on the right.

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desirably) penultimate position clitics. The rankings of LINEARITY and a faithfulness constraint on subcategorization ('FAITH': clitic = suffix) will derive a typology of non-movement opposed to movement:

(65)   Movement Typology
       no movement: LINEARITY » FAITH
       clitic movement: FAITH » LINEARITY

In order to get the landing position of clitics, additional constraints are needed, including generalized alignment constraints (McCarthy & Prince 1993) of both the 'right' and 'left' orientations (where alignment violation is defined by each misaligned element in a string).

(66)   Position Typology
       2nd position clitics: FAITH » ALIGN L » LINEARITY, ALIGN R
       string-final clitics (Yorùbá): FAITH » ALIGN R » LINEARITY, ALIGN L
       2nd position clitics: FAITH » LINEARITY » ALIGN L » ALIGN R
       string-final clitics (Yorùbá): FAITH » LINEARITY » ALIGN R » ALIGN L
       clitics in situ: LINEARITY » FAITH, ALIGN L, ALIGN R
       clitic always initial (ALL clitics): ALIGN L » FAITH, LINEARITY, ALIGN R
       clitic always final (ALL clitics): ALIGN R » FAITH, LINEARITY, ALIGN L

Interestingly, in each case, ALIGN R has to outrank ALIGN L in Yorùbá in order to properly account for the behavior of the clitics. I leave this position open for future research.

6.   Conclusion and Discussion

This paper has shown that the right-edge particles in Yorùbá play a configurational role in the grammar of the language, and that the entire set of particles breaks down into a dichotomy of evidentials and polarity items. Furthermore, the right-edge effects in the Yorùbá pragmatic particles boil down to a prosodic requirement of clitics which triggers an inversion of elements in the surface structure. The configurational properties of the right-edge particles seems to support recent work by Speas (2003) and Speas and Tenny (2004) that pragmatic elements have a representation in syntax.

There still remain questions about the set of right edge particles, and in particular their interactions with each other. For instance, what exactly is the relationship between the evidentials and polarity operators? Can the two separate sets interact with each other? One further remaining question concerning the pragmatic particles is their diachronic development. Lord (1976) has suggested that bleached verbs tend to evolve into functional categories in Kwa languages. It may be the case that the particles at hand may have undergone the same type of development. There is, however, another possible explanation, namely that the particles derived from grammaticalized pronominals (Rooryck 2001). At least for the evidentials, this seems to be a plausible explanation, as the segmental content of both forms is identical to some of the pronominal clitics that currently exist in the language. The exact historical developments, and the diachrony of the polarity items will be left for future research.

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