PREDICATE FRONTING WITH VERB DOUBLING IN KRACHI
LEE-SCHOENFELD & OTT (EDS.)

PARAMETERS OF PREDICATE FRONTING
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Predicate Fronting with Verb Doubling in Krachi:
A Parallel Chains Analysis

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ABSTRACT

This article examines verb doubling predicate focus constructions in Krachi, an endangered language of Ghana. Krachi has three such constructions: one where V alone appears in the left periphery; another where VO has been fronted; and a third involving OV inversion in the fronted constituent. Regardless of the fronted constituent, the constructions can be interpreted either contrastively or exhaustively. We argue that all three constructions involve the same mechanism – the formation of parallel chains anchored to the same syntactic object. We propose that the parallel chains formed in all three cases are identical, involving one v^0-to-T^0 head movement chain and one v'-to-Spec, FocP A-bar chain. The reduction of these chains at PF yields the surface doubling of the predicate without appeal to multiple copy spell-out. We propose that minor differences in the PF interpretation of the peripheral v' copy account for the differences in word order between the three constructions.

KEYWORDS

PREDICATE FOCUS • PREDICATE CLEFT • VERB DOUBLING • PARALLEL CHAIN FORMATION
• MULTIPLE COPY SPELL-OUT • VO-OV INVERSION • KRACHI

1. INTRODUCTION

Many languages allow predicate fronting.[1] In some of those languages, there is more than one way to front the predicate – either a verb or a verb phrase moves to the left periphery and an additional copy of the verb is realized lower in the clause, as illustrated below in Spanish, Hebrew and Yiddish.

(1) a. Spanish (Vicente 2005)
    [Comprar], Juan ha comprado un libro (aunque luego no lo ha leido).
     buy.INF Juan has buy.PRF a book but later not CL has read.PRF
    'As for buying, Juan has bought a book (although he didn't read it later).'

   b. [Comprar un libro], Juan lo ha comprado.
     buy.INF a book Juan CL has buy.PRF
     'As for buying a book, Juan has bought it.'

   c. Hebrew (Landau 2006)
    [Liknot], hi kanta et ha-praxim.
     buy.INF she buy.PST ACC the-flower.PL
     'As for buying, she bought the flowers.'

   d. [Liknot et ha-praxim], hi kanta.
     buy.INF ACC the-flower.PL she buy.PST
     'As for buying the flowers, she bought.'

   e. Yiddish (Cable 2004)
    [Essen] est Maks fish.
     eat.INF eat.PRES Max fish
     'As for eating, Max eats fish.'

   f. [Essen fish] est Maks.
     eat.INF fish eat.PRES Max
     'As for eating fish, Max eats them.'

Krachi[2], an endangered North Guang language of the Volta region of eastern Ghana, is one such language. Regardless of the size of the fronted constituent, predicate fronting constructions in the language can be interpreted either contrastively or exhaustively[3], as shown below in (2b-c). It is currently unclear whether special discourse considerations aid speakers in the disambiguation of these structures or whether one reading is favored over the other by default.

(2) a. ɔkyɩ wʋ ɛ-dɪkɛ i-gyo.
    woman the PST-cook PL-yam
    'The woman cooked yams.'

b. Kɛ- [dɪkɛ] yɪ ɔkyɪ wʊ ɛ-dɪkɛ i-gyo.

NOM cook FOC woman the PST-cook PL-yam

'It was COOKING that the woman did to yams (not, say, eating).'

'It was only cooking that the woman did to yams (i.e. she did nothing else to them).'

c. Kɛ- [dɪkɛ i-gyo] yɪ ɔkyɪ wʊ ɛ-dɪkɛ.

NOM cook PL-yam FOC woman the PST-cook

'It was COOKING YAMS that the woman did (not, say, eating rice).'

'It was only cooking yams that the woman did (i.e. she did nothing else).'

Unlike many predicate fronting languages, however, there is a third way to raise the predicate in Krachi. This third fronting strategy involves object-verb inversion in the fronted constituent, once again with two possible resulting interpretations (contrastive focus and exhaustive focus).

(3)   Ke- [i-gyo dɪkɛ] yɪ ɔkyɪ wʊ ɛ-dɪkɛ.

NOM PL-yam cook FOC woman the PST-cook

'It was COOKING YAMS that the woman did (not, say, eating rice).'

'It was only cooking yams that the woman did (i.e. she did nothing else).'

In this article, we propose that all instances of predicate focus with verb doubling in Krachi involve the formation of identical PARALLEL CHAINS (Chomsky 2008), namely, $v^0 \rightarrow T^0$ and v^0-pied-piping $v' \rightarrow$ Spec, FocP. These parallel chains arise because different probes (Foc^0 & T^0) target the same goal (v^0). Moreover, we propose that differences in the PF interpretation of the chains with respect to scattered deletion and the height of the realized peripheral V occurrence account for the surface differences between the predicate focus constructions in the language. Krachi predicate focus thus provides additional support for PF scattered deletion (Wilder 1995, Ćavar & Fanselow 1997, Bošković 2001) as well as analyses of predicate fronting like Kandybowicz 2008 and Aboh & Dyakonova 2009 that attempt to derive verb doubling from narrow syntactic mechanisms like parallel chain formation rather than multiple copy spell-out at PF.

We've structured this article as follows. In section 2, we disclose and motivate our assumptions about the basic structure of the Krachi clausal middlefield. Section 3 initiates the investigation of predicate focus in the language by investigating instances of simple V focus. We lay out the core properties that any analysis of the construction must reckon with and provide an initial analysis that invokes the formation of dual V-related chains. In section 4, we extend our dual chains analysis to cover VO and OV predicate focus constructions in the language. Section 5 confronts a technical difficulty facing the dual chains analyses presented in sections 3 and 4 and makes the necessary refinements. We then reprise our analysis of the three predicate focus constructions in light of these refinements before concluding in section 6.

2. ASSUMPTIONS ABOUT KRACHI CLAUSE STRUCTURE

This section introduces aspects of basic Krachi clausal syntax. Specifically, we investigate verb movement and the structure of vP. The analytical conclusions in this section form the basis of our analysis of Krachi's three verb fronting constructions.
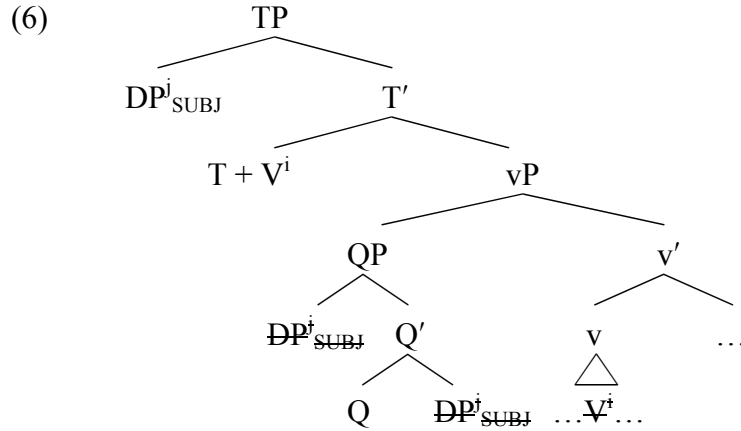
We first demonstrate that Krachi is a V^0-to-T^0 language. Initial evidence comes from the fact that the V and T heads form a prosodic word in the language, with T^0 prefixed to the verb. In Krachi, the prosodic word is the domain for vowel harmony and with very few exceptions, all word-internal vowels share the same ATR specification (Adonae 2005; Dundaa 2007). This is demonstrated below via different coordinated V-T complexes.

(4)   a. ɔkyι wʊ kɛ-dιkɛ kugyo wʊ yι Kofi ke-gyi brɔdιɛ.
        woman the FUT-cook yam   the and Kofi FUT-eat plantain
        'The woman will cook the yam and Kofi will eat a plantain.'

    b. ɔkyι   wʊ ɛ-dιkɛ kugyo wʊ yι Kofi e-gyi   brɔdιɛ.
        woman the PST-cook yam   the and Kofi PST-eat plantain
   'The woman cooked the yam and Kofi ate a plantain.'

This, of course, does not by itself guarantee that V^0 raises to T^0 because after all, the two heads could potentially undergo Morphological Merger under adjacency at PF. Stronger evidence comes from the distribution of subject-oriented floating quantifiers. In (5a), the subject *a-kyι* 'women' is accompanied by the quantifier *kpatii* 'few'. (5b) shows that it is possible for the quantifier to follow the tense-marked verb, while (5c) reveals that the quantifier may not intervene between T and V, as would be expected if V did not raise to T.

(5)   a. A-kyι   kpatii kɛ-dιkɛ   i-gyo.
        PL-woman few   FUT-cook PL-yam
        'Few women will cook yams.'

    b. A-kyι   kɛ-dιkɛ kpatii i-gyo.
        PL-woman FUT-cook few   PL-yam
        'Few women will cook yams.'
        Not: 'Women will cook few yams.'

    c. *A-kyι   kɛ kpatii dιkɛ i-gyo.
         PL-woman FUT few   cook PL-yam

Assuming the VP-Internal Subject Hypothesis, structures like (5b) arise when the verb raises to T^0 and the subject DP raises through the specifier of the QP containing it to Spec, TP, stranding the quantifier in its base position, as illustrated in (6) below. This yields a surface configuration in which the verb intervenes between the subject and the stranded quantifier. Structures like (5a) result when DP subjects pied-pipe the containing QP.

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(6)

$$TP$$

- DP^j_{SUBJ} — T'
  - $T + V^i$
  - vP
    - QP
      - $\overline{DP^j_{SUBJ}}$
      - Q'
        - Q
        - $\overline{DP^j_{SUBJ}}$ … $\overline{V^i}$ …
    - v'
      - v
      - …

We turn next to the structure of vP. We argue that Krachi vP contains an intermediate case-licensing functional projection ("FP") hosting the object (Travis 1991, 2010; Koizumi 1995; Kandybowicz & Baker 2003, Baker & Collins 2006, etc.):
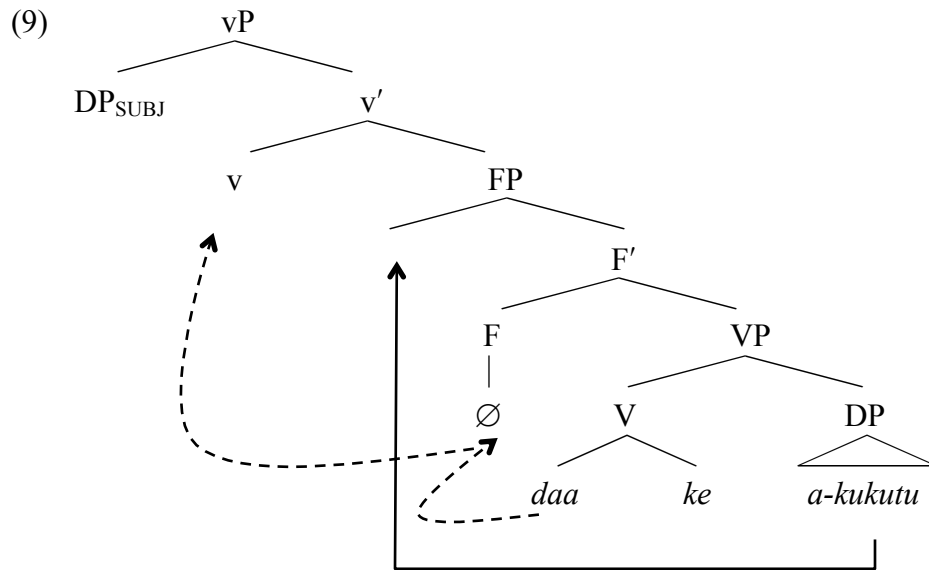
(7)

$$vP$$

- DP_{SUBJ}
- v'
  - v
  - FP
    - F'
      - F
        - $\varnothing$
      - VP
        - V
        - DP_{OBJ}
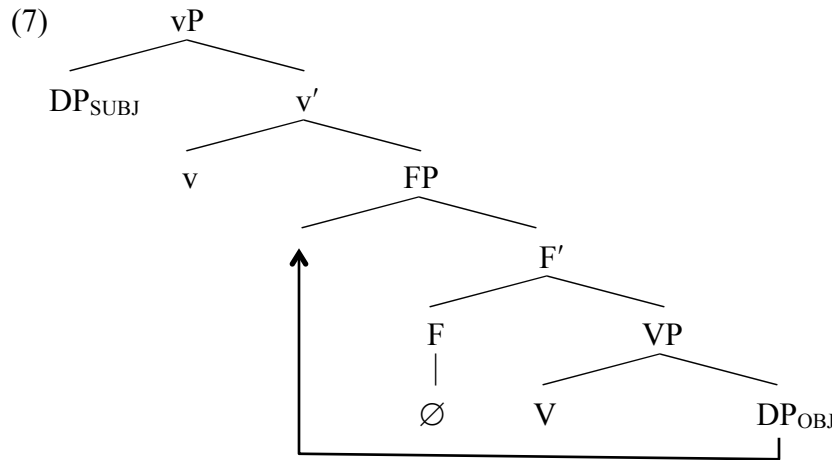
Evidence for the analysis in (7) comes from word order in so-called "split V" constructions. Krachi has a number of lexical verbs that consist of two distinct pieces, such as the verb *daa…ke* 'taste' (8a). In the split V construction, the pieces of the verb are obligatorily separated by the direct object, as is familiar from verb-particle constructions in English (compare (8a) with (8b) below).

(8)   a. Ama ɛ-daa   a-kukutu ke.
          Ama PST-taste PL-orange *ke*
          'Ama tasted oranges.'

       b. *Ama ɛ-daa   ke a-kukutu.
          Ama PST-taste *ke* PL-orange

For (8a), the object, *a-kukutu* 'oranges' originates in the complement position of the verb *daa…ke* 'taste', which we analyze as a complex lexical V^0 head, as shown in (9) below. The

direct object raises to a position higher than V^0 (i.e. Spec, FP in (9)). In this construction, only the first piece of the complex verb raises to v^0 (and ultimately T^0), just as verbs ordinarily do in the language. This is why the verb surfaces in two discontinuous pieces.

(9)

```
                      vP
              ┌───────┴───────┐
          DP_SUBJ            v′
                      ┌───────┴───────┐
                      v              FP
                              ┌───────┴───────┐
                                             F′
                                      ┌───────┴───────┐
                                      F              VP
                                      │        ┌──────┴──────┐
                                      ∅        V            DP
                                            ┌──┴──┐
                                          daa   ke     a-kukutu
```

Support for the analysis in (9) comes in two forms. First, the pieces of a split V do not separate when they take non case-bearing complements, as predicted by our analysis. Consider the following data.

(10)   a. Kofi ɛ-tʋŋ   sɔ [CP fɛɛ   Ama ɛ-dɪkɛ   kugyo wʋ].
          Kofi PST-cut *sɔ*   COMP Ama PST-cook yam   the
          'Kofi forgot that Ama cooked the yam.'

       b. *Kofi ɛ-tʋŋ [CP fɛɛ   Ama ɛ-dɪkɛ   kugyo wʋ] sɔ.
           Kofi PST-cut   COMP Ama PST-cook yam   the *sɔ*

       c. Kofi ɛ-kware   ɔ-gyɪ [CP fɛɛ   Ama ɛ-dɪkɛ   kugyo wʋ].
          Kofi PRS-collect 3RD.SG-eat COMP Ama PST-cook yam   the
          'Kofi believes that Ama cooked the yam.'

       d. *Kofi ɛ-kware [CP fɛɛ   Ama ɛ-dɪkɛ   kugyo wʋ] ɔ-gyɪ.
           Kofi PRS-collect   COMP Ama PST-cook yam   the 3RD.SG-eat

The second line of support comes from object Q-float facts, which show that objects originate lower than the second particle in the split V construction. In (11a) below, the direct object *a-kukutu* 'oranges' and its associated quantifier *kpatii* surface between the two pieces of the split verb, as expected. However, (11b) shows that it is also possible for the quantifier to surface to

the right of *ke*, the second piece of the split verb. This suggests that the entire object QP originates to the right of the split verb and subsequently raises.

(11)   a. Ama ɛ-daa [$_{QP}$ a-kukutu kpatii] ke.
        Ama PST-taste PL-orange few   *ke*
        'Ama tasted few oranges.'

    b. Ama ɛ-daa   a-kukutu ke [$_{QP}$ ___ kpatii].
        Ama PST-taste PL-orange *ke*   few
        'Ama tasted few oranges.'

Having examined basic Krachi verbal syntax, in the next section we begin our analysis of predicate fronting by first considering the case where just a simple V is in focus.

3. SIMPLE V FOCUS

To begin, we lay out the core properties of Krachi verb fronting constructions that any analysis must account for. Then in section 3.2, we entertain several analytical possibilities for dealing with the phenomenon.

3.1. Core Properties of Krachi Predicate Fronting, as Illustrated by Simple V Focus

In all of the constructions we examine, the verb has a bi-locational distribution. That is, as (12) below shows, two instances of the lexical verb must occur – V tripling is ungrammatical. One instance of the verb must be in T^0 and the other must appear in the left periphery, not in its base position. If the lower occurrence of the predicate is replaced by a dummy occurrence like *wa* 'do', the resulting structure is ungrammatical.

(12)   a. Kɛ-dɪkɛ   yɪ ɔkyɪ   wʊ ɛ-*(dɪkɛ) i-gyo (*dɪkɛ).
        NOM-cook FOC woman the PST-cook PL-yam cook
        'It was COOKING/only cooking that the woman did to yams.'

    b. *Kɛ-dɪkɛ   yɪ ɔkyɪ   wʊ ɛ-wa.
        NOM-cook FOC woman the PST-do
        Intended: 'It was COOKING/only cooking that the woman did.'

A second property of the construction is that the peripheral predicate is obligatorily nominalized via the morpheme *kɛ-*. The example below shows that without the nominalizer, the construction is ill-formed.

(13)   a. *Dɪkɛ yɪ ɔkyɪ   wʊ ɛ-dɪkɛ   i-gyo.
        cook FOC woman the PST-cook PL-yam

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Kɛ- independently functions as a nominalizer outside predicate focus structures in the language. The examples in (14) illustrate the function of *kɛ-* as a nominalizer in gerundive constructions. The same morpheme is enlisted to nominalize the fronted verb in Krachi predicate cleft structures.

(14)   a. Mɪ   ɛ-kɪrɪ   kɛ-dɪkɛ.
           1ST.SG PRS-like NOM-cook
           'I like cooking.'

       b. Kɛ-dɪkɛ   ɛ-bwarɛ.
           NOM-cook PRS-be good
           'Cooking is good.'

Further evidence that the fronted predicate has been nominalized comes from the fact that it may be accompanied by nominal modifiers, as in languages like Haitian (Piou 1982), Vata (Koopman 1984), and Edo (Stewart 2001). In (15) below, the nominalized verb *watɪ* 'pound' can be modified by the adjective *tɪma* 'good', which modifies nominals in other cases.

(15)   Kɛ- [watɪ   tɪma] yɪ ɔkyɪ   wʊ ɛ-watɪ   i-gyo.
       NOM pound good FOC woman the PST-pound PL-yam
       'It was a GOOD POUNDING/only a good pounding that the woman did to yams.'

Crucially, the dependency between the two occurrences of the verb is A′-like because it is unbounded. In (16), for example, two CP boundaries separate the nominalized verb from the inflected verb in the most embedded clause. More extreme examples are possible, but (16) suffices to illustrate that the dependency can be arbitrarily long.

(16)   Kɛ-watɪ   yɪ Gifty ɛ-gyenɪ [fɛɛ Kofi e-nu   [fɛɛ Ama ɛ-watɪ   i-gyo]].
       NOM-pound FOC Gifty PST-think COMP Kofi PST-hear COMP Ama PST-pound PL-yam
       'It was POUNDING/only pounding that Gifty thought that Kofi heard that Ama did to yams.'

Another clue that verb fronting involves A′-movement is that the two instances of the verb cannot be separated by an island boundary. This is the case for strong islands such as adjunct and relative clauses (17a-b) and weak islands like *wh-* islands (17c).

(17)   a. *Kɛ-dɪkɛ   yɪ Kofi ɛ-dɪ   [ansaŋ Ama ɛ-dɪkɛ   mwe].
           NOM-cook FOC Kofi PST-sleep before Ama PST-cook rice
           Intended: 'Kofi slept before Ama COOKED rice.'

       b. *Kɛ-watɪ   yɪ Kofi e-gyi [i-gyo kɛ Ama ɛ-watɪ].
           NOM-pound FOC Kofi PST-eat PL-yam REL Ama PST-pound
           Intended: 'Kofi ate the yams that Ama POUNDED.'

    c. *Kɛ-watɪ   yɪ mɪ   e-bise fɛɛ [nsɛ yɪ ɔ-watɪ   i-gyo].

        NOM-pound FOC 1ST.SG PST-ask COMP who FOC 3RD.SG-pound.PST PL-yam

        Intended: 'I asked who POUNDED yams.'

The dependency between the two occurrences of the predicate is also A–bar-like with respect to complementarity with *wh-* question formation. The data below illustrate that predicate fronting and *wh-* syntax are in complementary distribution, regardless of whether the fronted predicate is situated above (18a) or below (18b) the *wh-* expression and whether or not the *wh-* item has moved (18a-b) vs. (18c).

(18)   a. *Kɛ-mɔ (yɪ) nɛ   (yɪ) Ama ɛ-mɔ?

          NOM-kill FOC what FOC Ama PST-kill

          Intended: 'What did Ama SLAUGHTER?'

    b. *Nɛ (yɪ) kɛ-mɔ (yɪ) Ama ɛ-mɔ?

          what FOC NOM-kill FOC Ama PST-kill

          Intended: 'What did Ama SLAUGHTER?'

    c. *Kɛ-mɔ yɪ Ama ɛ-mɔ   nɛ?

          NOM-kill FOC Ama PST-kill what

          Intended: 'What did Ama SLAUGHTER?'

Despite these A–bar-like characteristics, the relevant dependency is unlike canonical A–bar movement with respect to gap formation. (19a-b) demonstrate that instances of non-predicate focus in the language result in the formation of a gap in the extraction site, unlike in the predicate cleft construction (19c).

(19)   a. [DP i-gyo] yɪ ɔkyɪ   wʊ ɛ-dɪkɛ (*i-gyo).

          PL-yam FOC woman the PST-cook PL-yam

          'The woman cooked YAMS.'

    b. [AdvP Ndiye]   yɪ ɔkyɪ   wʊ ɛ-dɪkɛ i-gyo (*ndiye).

          yesterday FOC woman the PST-cook PL-yam yesterday

          'The woman cooked yams YESTERDAY.'

    c. Kɛ- [v dɪkɛ] yɪ ɔkyɪ   wʊ ɛ-*(dɪkɛ) i-gyo.

          NOM- cook FOC woman the PST-cook PL-yam

   'It was COOKING that the woman did to yams.'

3.2. Analysis

The analysis of predicate focus in Krachi must account for the fact that (i) an instance of the verb is in T^0 while a second instance of the verb is in the left periphery; (ii) predicate focus involves A′-movement; and (iii) as revealed by (15), the moved phrase is larger than just a verb head.

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Several analytical pathways may be pursued to derive this constellation of facts, but only one, we argue, is adequate to fully capture the set of properties that characterize Krachi predicate fronting. In this section, we explore a few of these possibilities.

3.2.1. One V Chain

Some analyses of predicate fronting with doubling posit a single V head movement chain with multiple realized links (e.g. Vicente 2009, among others). Accordingly, the verb would cyclically raise through all heads on the clausal spine until reaching Foc^0 and some morpho-phonological requirement(s) would ensure that at PF the copies in Foc^0 and T^0 are realized. This type of analysis is illustrated below in (20).

(20)
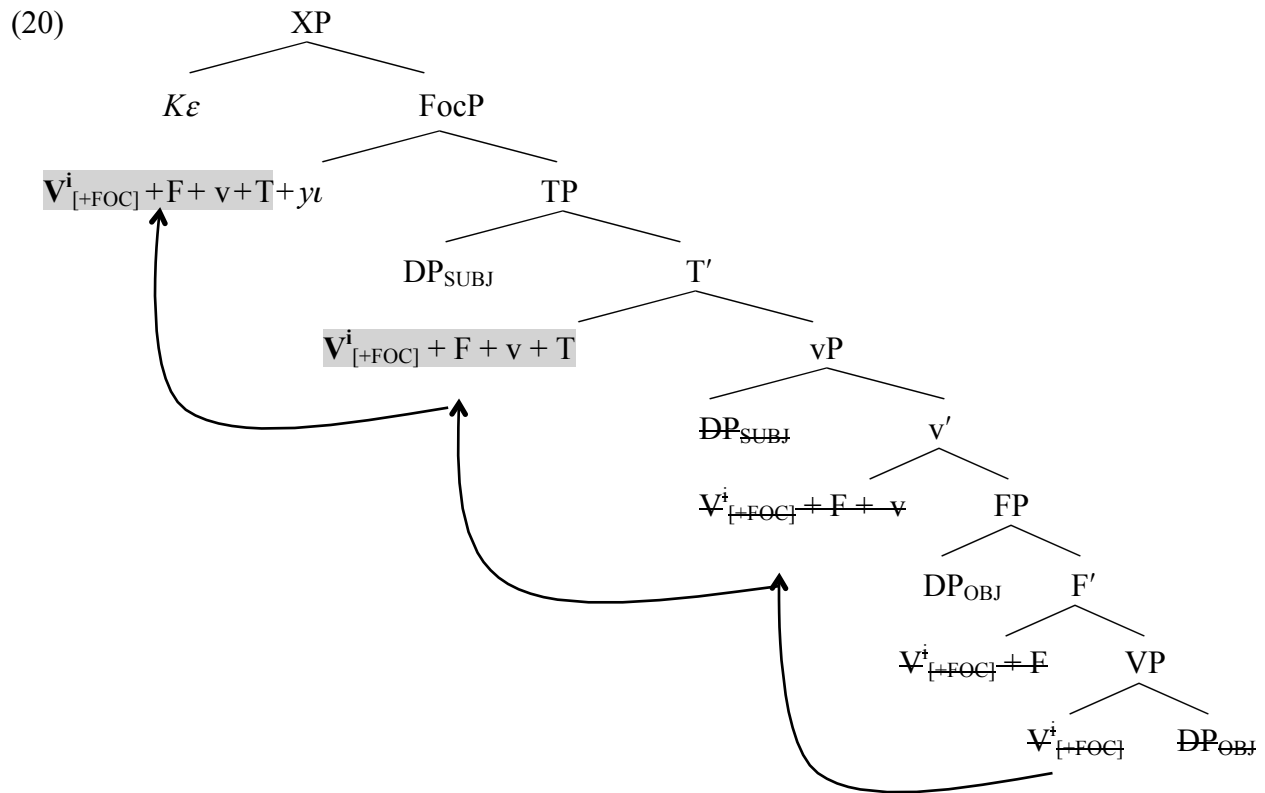
A single-chain analysis like (20) predicts that if anything, the focused predicate can only pied-pipe tense markers in affirmative clauses. However, tense markers cannot accompany the peripheral predicate as they may in languages like Haitian (Piou 1982) and Vata (Koopman 1984) (21) and surprising non-verbal material such as quantifiers associated with the predicate's nominal complement can be pied-piped (22c). Note that in (22c) the interpretation is one in which the quantifier is in focus and associates with the object – not one in which it acts like a nominal modifier.

(21) a. *Kɛ- [ɛ-dɪkɛ] yɪ ɔkyɪ wʊ ɛ-dɪkɛ i-gyo.
    NOM PST-cook FOC woman the PST-cook PL-yam

    b. *Kɛ- [kɛ-dɪkɛ] yɪ ɔkyɪ wʊ kɛ-dɪkɛ i-gyo.
        NOM FUT-cook FOC woman the FUT-cook PL-yam

(22)   a. Ama ɛ-fɛ   [a-kyʊŋ kpatii].
        Ama PST-sell PL-fowl few
        'Ama sold few fowls.'

    b. Kɛ-fɛ   yɪ Ama ɛ-fɛ   [a-kyʊŋ kpatii].
        NOM-sell FOC Ama PST-sell PL-fowl few
        'It was SELLING/only selling that Ama did to few fowls.'

    c. Kɛ- [fɛ kpatii] yɪ Ama ɛ-fɛ   [a-kyʊŋ __].
        NOM sell few   FOC Ama PST-sell PL-fowl
        'It was SELLING/only selling that Ama did to FEW fowls.'
        Not: 'It was FEW SELLINGS that Ama did to fowls.'

In addition, low (manner) adverbs may accompany the focused predicate, as is familiar from languages like Haitian (Piou 1982) and Vata (Koopman 1984). (23a) shows the canonical clause-final position for modifiers like 'quickly' and 'well'. These adverbs may not occupy clause-initial positions in neutral sentences, as illustrated in (23b). However, they may appear before the subject when pied piped under predicate focus (23d).

(23)   a. Kofi ɛ-mɔ   a-kyʊŋ bireŋ/damrase.
        Kofi PST-kill PL-fowl quickly/well
        'Kofi slaughtered fowls quickly/well.'

    b. *Bireŋ/damrase Kofi ɛ-mɔ   a-kyʊŋ.
        quickly/well   Kofi PST-kill PL-fowl

    c. Kɛ-mɔ yɪ Kofi ɛ-mɔ   a-kyʊŋ bireŋ/damrase.
        NOM-kill FOC Kofi PST-kill PL-fowl quickly/well
        'It was SLAUGHTERING/only slaughtering that Kofi did to fowls quickly/well.'

    d. Kɛ- [mɔ bireŋ/damrase] yɪ Kofi ɛ-mɔ   a-kyʊŋ.
        NOM- kill quickly/well   FOC Kofi PST-kill PL-fowl
        'It was SLAUGHTERING QUICKLY/WELL/only slaughtering quickly/well that Kofi
        did to fowls.'

Structurally higher adverbs, however, may not accompany the focused predicate. Adverbs like 'yesterday' and 'truly' may appear clause-finally or clause-initially, as revealed by (24a-b) and (24e-f), but they may not accompany the fronted predicate (24d), (24h).

(24) a. Kofi ɛ-mɔ   a-kyʋŋ ndiye.
          Kofi PST-kill PL-fowl yesterday
          'Kofi slaughtered fowls yesterday.'

      b. Ndiye   Kofi ɛ-mɔ   a-kyʋŋ.
          yesterday Kofi PST-kill PL-fowl
          'Kofi slaughtered the fowls yesterday.'

      c. Kɛ-mɔ   yɪ Kofi ɛ-mɔ   a-kyʋŋ ndiye.
          NOM-kill FOC Kofi PST-kill PL-fowl yesterday
          'It was SLAUGHTERING/only slaughtering that Kofi did to fowls yesterday.'

      d. *Kɛ- [mɔ ndiye]   yɪ Kofi ɛ-mɔ   a-kyʋŋ.
          NOM- kill yesterday FOC Kofi PST-kill PL-fowl
          Intended: 'It was SLAUGHTERING YESTERDAY/only slaughtering yesterday that
          Kofi did to fowls.'

      e. Kofi ɛ-mɔ   a-kyʋŋ kɛsɪŋtɪŋ.
          Kofi PST-kill PL-fowl truly
          'Kofi truly slaughtered fowls.'

      f. Kɛsɪŋtɪŋ Kofi ɛ-mɔ   a-kyʋŋ.
          truly   Kofi PST-kill PL-fowl
          'Kofi truly slaughtered fowls.'

      g. Kɛ-mɔ   yɪ Kofi ɛ-mɔ   a-kyʋŋ kɛsɪŋtɪŋ.
          NOM-kill FOC Kofi PST-kill PL-fowl truly
          'It was SLAUGHTERING/only slaughtering that Kofi truly did to fowls.'

      h. *Kɛ- [mɔ kɛsɪŋtɪŋ] yɪ Kofi ɛ-mɔ   a-kyʋŋ.
          NOM- kill truly   FOC Kofi PST-kill PL-fowl
          Intended: 'It was TRULY SLAUGHTERING that Kofi did to fowls.'

Another problem for the single V chain approach is the prediction it makes for predicate fronting
in split V constructions. Given the analysis of split V constructions sketched in (9) and word
order facts like those in (8), repeated below in (25a-b), a single head movement chain analysis
wrongly predicts that only the initial piece of the complex split V may be focused because under
that analysis only the first piece of the split verb raises. As revealed by (25c), both pieces of the
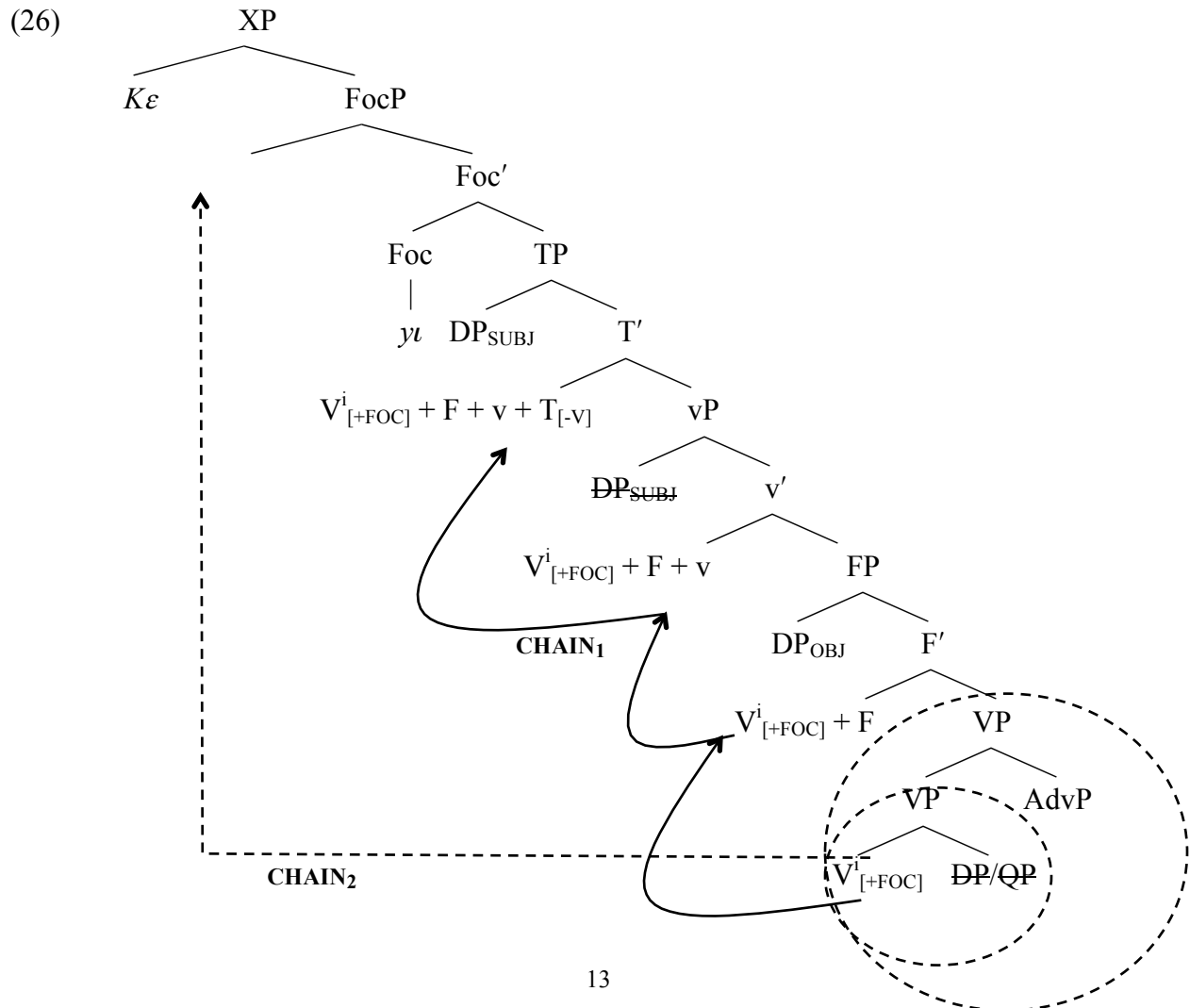complex verb may surface in the left periphery.

(25) a. Ama ɛ-daa   a-kukutu ke.
          Ama PST-taste PL-orange *ke*
          'Ama tasted oranges.'

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b. *Ama ɛ-daa   ke a-kukutu.
   Ama PST-taste *ke* PL-orange

c. Kɛ- [daa ke] yɩ   Ama ɛ-daa   a-kukutu.
   NOM- taste *ke* FOC Ama PST-taste PL-orange
   'It was TASTING/only tasting that Ama did to oranges.'

Lastly, a single-chain analysis provides no insight into the fact that Krachi predicate focus is island-sensitive (17), unless one adopts the proposal that heads can move into specifier positions like phrases do (Donati 2006; Vicente 2009; Hein (this volume); Müller (this volume)). For these reasons, we argue that the proper analysis of Krachi predicate fronting involves the formation of multiple V chains.

3.2.2. Two V Chains

We can overcome these shortcomings and account for all these facts if we posit that two independent V chains are formed in simple V focus derivations. Consider the consequences of an analysis in which the two movement chains formed are: 1) the V^0-to-T^0 head movement chain and 2) the movement of a remnant VP constituent to Spec, FocP.

(26)

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Under this analysis, the bi-locational distribution of the predicate is derived in an unremarkable way – only the heads of the two chains are phonetically realized, the default chain resolution strategy. The focused predicate's inability to appear with tense markers (21) is a consequence of the fact that it is part of a different chain than the independent $V^0 \to T^0$ chain. The focused predicate's ability to appear with floating quantifiers (22c), low adverbs (23d), and the second piece of a split V (25c) is a consequence of the fact that chain$_2$ involves a remnant VP (Nishiyama & Cho 1998; Koopman 1999; Cho & Nishiyama 2000; Abels 2001; Nunes 2003, 2004; Hiraiwa 2005; Landau 2006, among others). Lastly, the A–bar properties of the fronted predicate (unbounded movement, island sensitivity, etc.) stem from the fact that a phrase is moving, not a head.

4. EXTENDING THE ANALYSIS TO VO & OV FOCUS

By extending the multiple chains analysis of simple V fronting constructions to those instances of predicate clefting that pied-pipe the object, we're able to refine our analysis and reach a deeper level of descriptive adequacy. We begin by extending the analysis to VO focus constructions and then consider cases of predicate fronting involving OV inversion. Once the basic analyses are laid out in this section, we address a technical flaw in our approach and refine the analysis accordingly in the section that follows.

4.1. VO Focus

The complexity of the pied-piped post-verbal material appears to be unconstrained in Krachi. As (27b) shows, entire relative clauses may accompany the fronted predicate in the left periphery just as readily as syntactically simple direct objects may (27a). When the complement of V is clausal, CP may be pied-piped regardless of whether or not that CP is headed by a [+Q] complementizer (27c-d). Moreover, direct objects are not the only post-verbal constituents that can shift along with the verb in the language. Instrumental PPs may accompany the pied-piped object, as illustrated in (27e). In all cases, when extra material accompanies the fronted predicate, that material is only pronounced once – in the left periphery, not lower in the clause.

(27) a. Kɛ- [dɪkɛ i-gyo] yɪ Ama ɛ-dɪkɛ (*i-gyo).
        NOM cook PL-yam FOC Ama PST-cook PL-yam
        'It was COOKING YAMS/only cooking yams that Ama did.'

      b. Ke- [gyi i-gyo wʊ kɛ Ama ɛ-dɪkɛ wʊ] yɪ Kofi e-gyi.
        NOM eat PL-yam the REL Ama PST-cook the FOC Kofi PST-eat
        'It was EATING THE YAMS THAT AMA COOKED/only eating the yams that Ama cooked that Kofi did.'

      c. Kɛ- [gyɛnɪ fɛɛ Ama ɛ-dɪkɛ i-gyo] yɪ Kofi ɛ-gyɛnɪ.
        NOM think COMP Ama PST-cook PL-yam FOC Kofi PST-think
        'It was THINKING THAT AMA COOKED YAMS/only thinking that Ama cooked yams that Kofi did.'

    d. Ke- [bise fɛɛ   nsɛ   yɩ   ɔ-dɩkɛ   i-gyo]   yɩ   Kofi e-bise.
        NOM ask   COMP who FOC 3RD.SG-cook PL-yam FOC Kofi PST-ask

        NOM ask   COMP who FOC 3RD.SG-cook PL-yam FOC Kofi PST-ask
        'It was ASKING WHO COOKED YAMS/only asking who cooked yams that Kofi did.'

    e. Kɛ- [tɩŋ i-gyo   yɛ   ɔsɩkan] yɩ   Ama   ɛ-tɩŋ   (*i-gyo) (*yɛ   ɔsɩkan).
        NOM cut PL-yam   with knife   FOC Ama PST-cut PL-yam   with knife
        'It was CUTTING YAMS WITH A KNIFE/only cutting yams with a knife that Ama did.'

    As with simple V focus, the data in (27) can be analyzed as involving the formation of two V-related chains. A variety of facts suggest that cases like (27) involve a type of V fronting strategy in which a category larger than VP but smaller than vP is moved. The first consideration suggesting this is that all objects of a ditransitive verb must accompany the focused predicate. (28c) reveals that theme-stranding is impossible, while (28d) shows that goals may not be stranded either. Under the assumption that certainly indirect objects but, in Krachi, even post-verbal direct objects in double object constructions are case-licensed in functional projections above/outside the lexical VP (Collins and Thráinsson 1996), as discussed in section 2, the data in (28) below suggest that a category larger than VP has been fronted.

(28)   a. Ama ɛ-kyʊŋɛ Kofi   owore.
         Ama PST-send Kofi   book
         'Ama sent Kofi a book.'

     b. Kɛ- [kyʊŋɛ Kofi   owore] yɩ   Ama   ɛ-kyʊŋɛ.
        NOM send   Kofi   book   FOC Ama PST-send
        'It was SENDING KOFI A BOOK/only sending Kofi a book that Ama did.'

     c. *Kɛ- [kyʊŋɛ Kofi] yɩ   Ama ɛ-kyʊŋɛ owore.
        NOM send   Kofi FOC Ama PST-send book

     d. *Kɛ- [kyʊŋɛ owore] yɩ   Ama ɛ-kyʊŋɛ Kofi.
        NOM send   book   FOC Ama PST-send Kofi

Evidence that a category smaller than vP has been pied-piped comes from the fact that neither subjects (29a) nor subject-oriented floating quantifiers (29b) may appear inside the moved predicate phrase. If the fronted constituent was a remnant vP containing copies of the moved subject material, we would wrongly predict the ability of subjects or subject-oriented floating quantifiers to accompany the focused predicate in the left periphery.

(29)   a. *Kɛ- [ɔkyɩ   wʊ dɩkɛ i-gyo] yɩ   ɛ-dɩkɛ.
        NOM woman the cook PL-yam FOC PST-cook

     b. *Ke- [kpatii dɩkɛ i-gyo] yɩ   a-kyɩ   ɛ-dɩkɛ.
        NOM few   cook PL-yam FOC PL-woman PST-cook
        Intended: 'FEW women COOKED YAMS.'

More evidence that the fronted constituent is smaller than vP comes from adverbial modification. As was the case with simple V focus in the language, only low/vP-internal adverbs may accompany the focused predicate phrase. In (30) below, we show that low modifiers like 'quickly' and 'well' may appear with the fronted predicate (30a), but higher adjuncts such as temporal modifiers ('yesterday') and speaker-oriented adverbs ('certainly') may not (30b).

(30)   a. Kɛ- [dɪkɛ i-gyo   bireŋ/damrase] yɪ   ɔkyɪ   wʊ ɛ-dɪkɛ.
         NOM cook PL-yam quickly/well   FOC woman the PST-cook
         'It was COOKING YAMS QUICKLY/WELL/only cooking yams quickly/well that
         the woman did.'

       b. *Kɛ- [dɪkɛ i-gyo   ndiye/paa]   yɪ   ɔkyɪ   wʊ ɛ-dɪkɛ.
          NOM cook PL-yam yesterday/certainly FOC woman the PST-cook
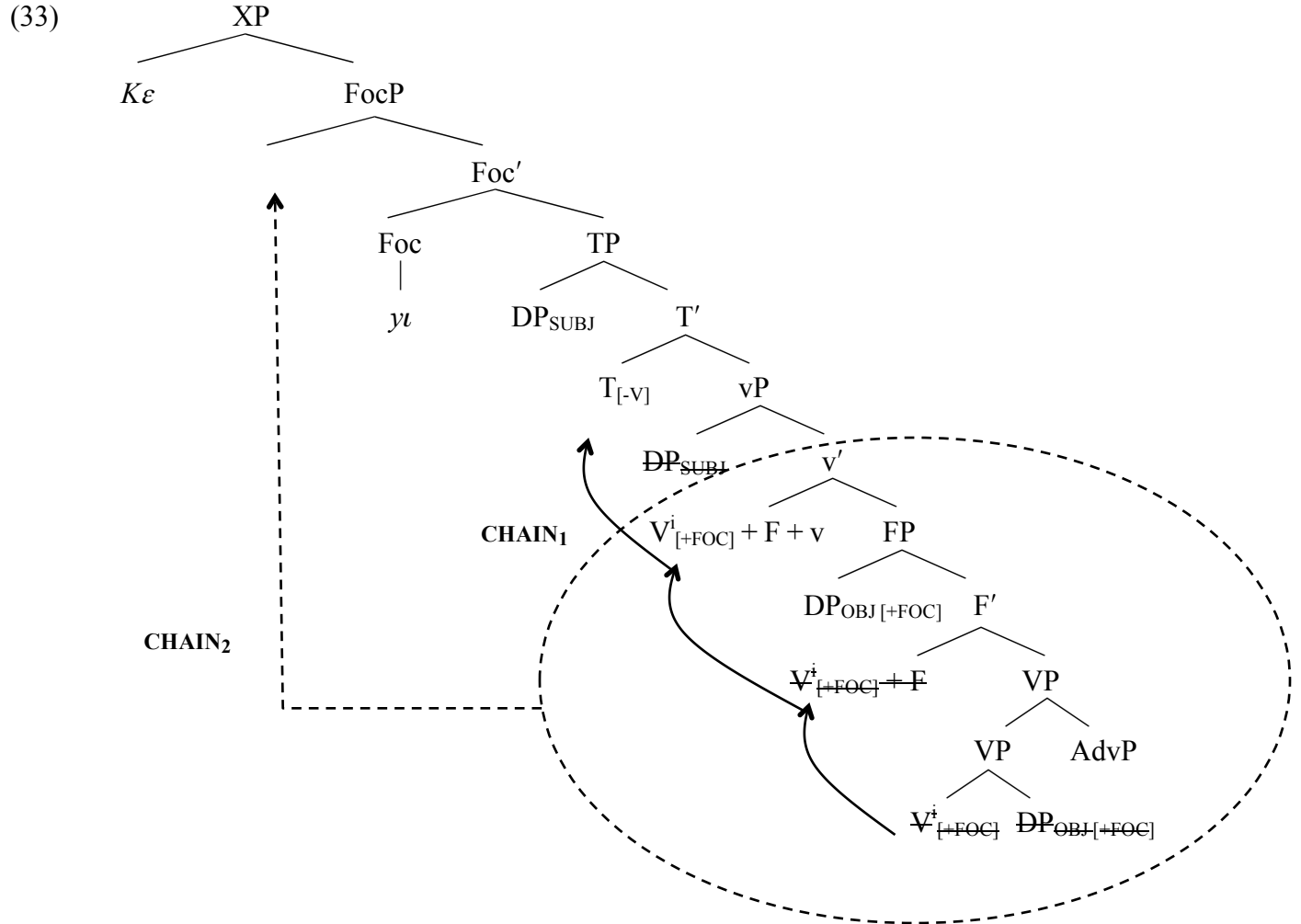
When the object is pied-piped, tense markers may not appear inside the fronted predicate phrase. This parallels the inability of tense markers to accompany the fronted predicate in simple V focus constructions (21) and is consistent with the sub-TP size of the moved constituent.

(31)   *Kɛ- [kɛ/ɛ-dɪkɛ   i-gyo] yɪ   ɔkyɪ   wʊ kɛ/ɛ-dɪkɛ.
        NOM FUT/PST-cook PL-yam FOC woman the FUT/PST-cook

One final piece of evidence for a sub-vP analysis of the fronted constituent concerns negation. As predicted, negation may not appear on the focused predicate phrase (32a). Negation can only be realized on the lower verb (32b).

(32)   a. *Kɛ- [m-mɔ   a-kyʊŋ] yɪ   Kofi ɛ-(m-)mɔ.
         NOM NEG-kill PL-fowl FOC Kofi PST-NEG-kill

       b. Kɛ- [mɔ a-kyʊŋ] yɪ   Kofi ɛ-m-mɔ.
         NOM kill PL-fowl FOC Kofi PST-NEG-kill
         'It was SLAUGHTERING FOWL/only slaughtering fowl that Kofi did not do.'

Given these considerations, we analyze Krachi VO fronting as dual chain formation involving a v^0-to-T^0 head movement chain (as before) and a second chain pied-piping the v′ constituent. Unlike the previous analysis of simple V focus, where the second chain was a remnant VP (26), the fronted constituent must be considerably larger in this case. It must exclude a copy of the verb's external argument as well as negation and the higher adverbials, but must be large enough to include all internal arguments and low modifiers. Given the analysis of Krachi clause structure presented in section 2, the v′ projection adequately accounts for the range of structures that may accompany the focused predicate, while excluding the material that may not. Our multiple chains analysis of Krachi VO fronting is schematized below in (33).

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(33)

XP
- *Kɛ*
- FocP
  - Foc′
    - Foc — *yı*
    - TP
      - DP$_{SUBJ}$
      - T′
        - T$_{[-V]}$
        - vP
          - ~~DP$_{SUBJ}$~~
          - v′
            - V$^i_{[+FOC]}$ + F + v
            - FP
              - DP$_{OBJ\,[+FOC]}$
              - F′
                - ~~V$^i_{[+FOC]}$ + F~~
                - VP
                  - VP
                    - ~~V$^i_{[+FOC]}$~~ ~~DP$_{OBJ[+FOC]}$~~
                  - AdvP

CHAIN$_1$

CHAIN$_2$

As was the case with our dual chains analysis of simple V focus in the language, only the heads of the two chains are preserved at PF, obviating the need to invoke the realization of multiple chain-internal copies.[4]

The analysis sketched above has implications for the mechanics of phase-based derivations. Current phase theory (Chomsky 2000, 2001, 2004, 2008) assumes that vP (among other constituents) is a phase. The Phase Impenetrability Condition [PIC] (Chomsky 2000, 2001) requires that as a phase, the domain of a phase head (i.e. in the case of the vP phase, the complement of v^0) is transferred to PF at a certain point in the derivation, rendering that domain opaque for future syntactic operations like agreement and extraction. The PIC exists in both strong and weak formulations. Under a strong formulation of the PIC (Chomsky 2000), the domain of a phase head is spelled out and rendered opaque immediately upon merger of the phase head. Because Krachi VO focus requires the extraction of the v′ constituent, a structure that includes the vP phase's head and its complement, the derivation sketched in (33) argues against the strong version of the PIC. The weak formulation of the PIC (Chomsky 2001) is sometimes referred to as the Phase Transfer Delay hypothesis. Under a weak version of the PIC, the domain of a phase head only becomes opaque once the next higher phase head is merged. In the case of our derivation in (33), this would mean that the vP phase is not transferred until C is

merged. Assuming that C is merged after the completion of the FocP and XP structures in (33), the weak PIC makes it possible to effectively move an entire phase, as in our proposed VO focus derivation. Alternatives to the Phase Transfer Delay hypothesis exist in the literature (for example, theories of Phase Extension, as pursued by den Dikken (2007) and Phase Sliding, as proposed by Gallego (2010)). Setting the specific details of these proposals aside, the Krachi VO focus construction, we argue, both requires and supports theories of phases that invoke either Phase Transfer Delay, Phase Extension or Phase Sliding.

4.2. OV Focus

OV focus structures like (34) below involve the bi-locational realization of V, but only one possible position in which to realize the verb's internal argument (i.e. a peripheral position).

(34)   Ke- [i-gyo   dɪkɛ] yɪ   ɔkyɪ   wʊ (*i-gyo) ɛ-dɪkɛ   (*i-gyo).
        NOM PL-yam cook FOC woman the   PL-yam PST-cook PL-yam
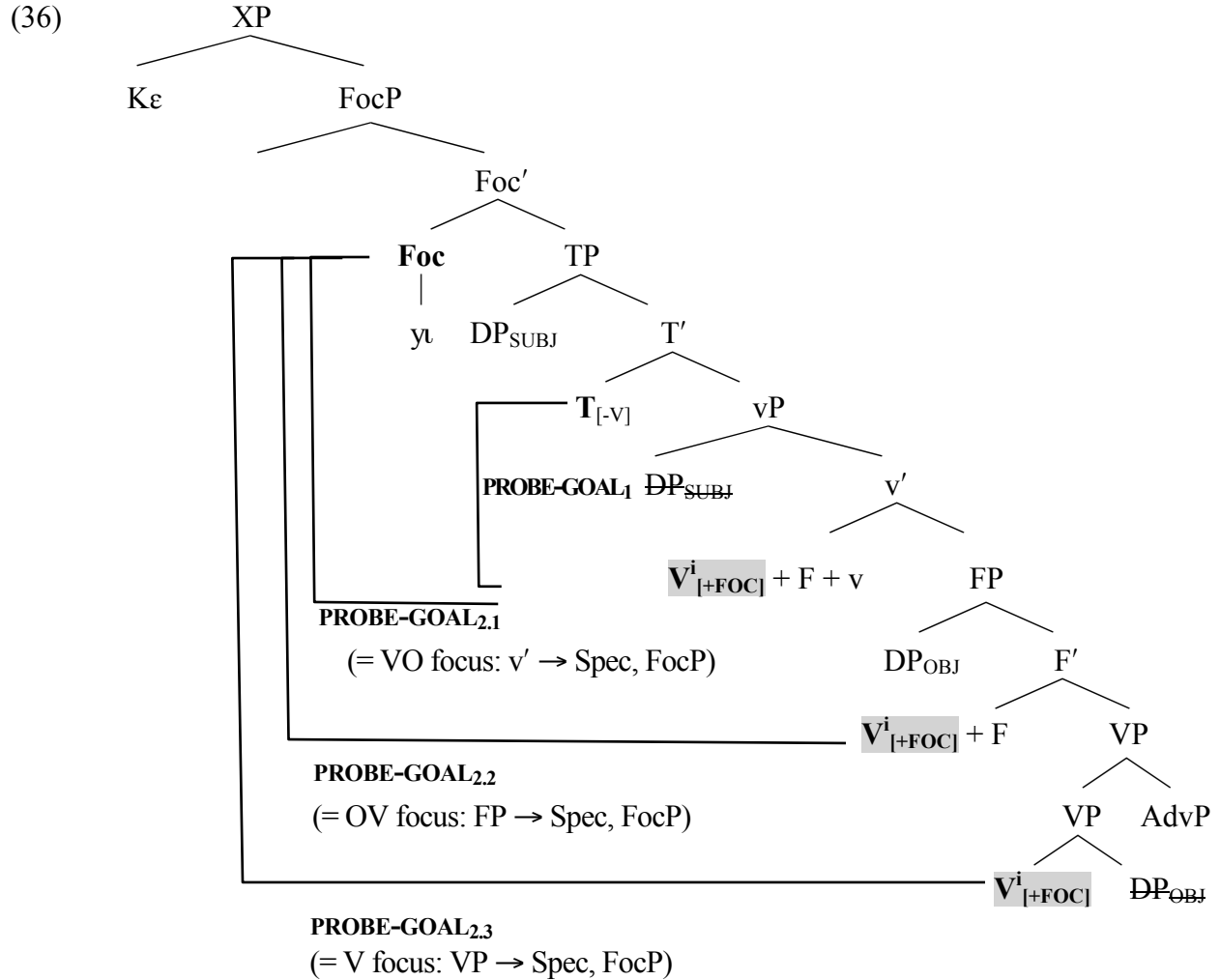   'It was COOKING YAMS/only cooking yams that the woman did.'

It is relatively straightforward to modify the dual chains analysis in (33) to derive instances of OV focus in the language. In the case of the A-bar chains involved in these constructions, our approach as been to posit variation in the size of the constituent that is pied-piped by the predicate. In the case of simple V focus, we have argued that the fronted constituent is a remnant VP. Instances of VO focus, we have claimed, involve movement of the v′ category. The Krachi middle field, we've argued, contains a maximal projection sandwiched between VP & v′ and it might be reasonable to wonder whether that projection may be implicated in predicate fronting. To account for OV focus structures like (34) we might invoke a dual chains approach similar to those previously sketched, only this time, the intermediate category FP is fronted. A derivation along these lines effectively yields the inverted OV word order because the (highest) copy of the shifted object in Spec, FP would asymmetrically c-command the highest copy of the verb in the left periphery. This analysis is fleshed out in (35).

(35)
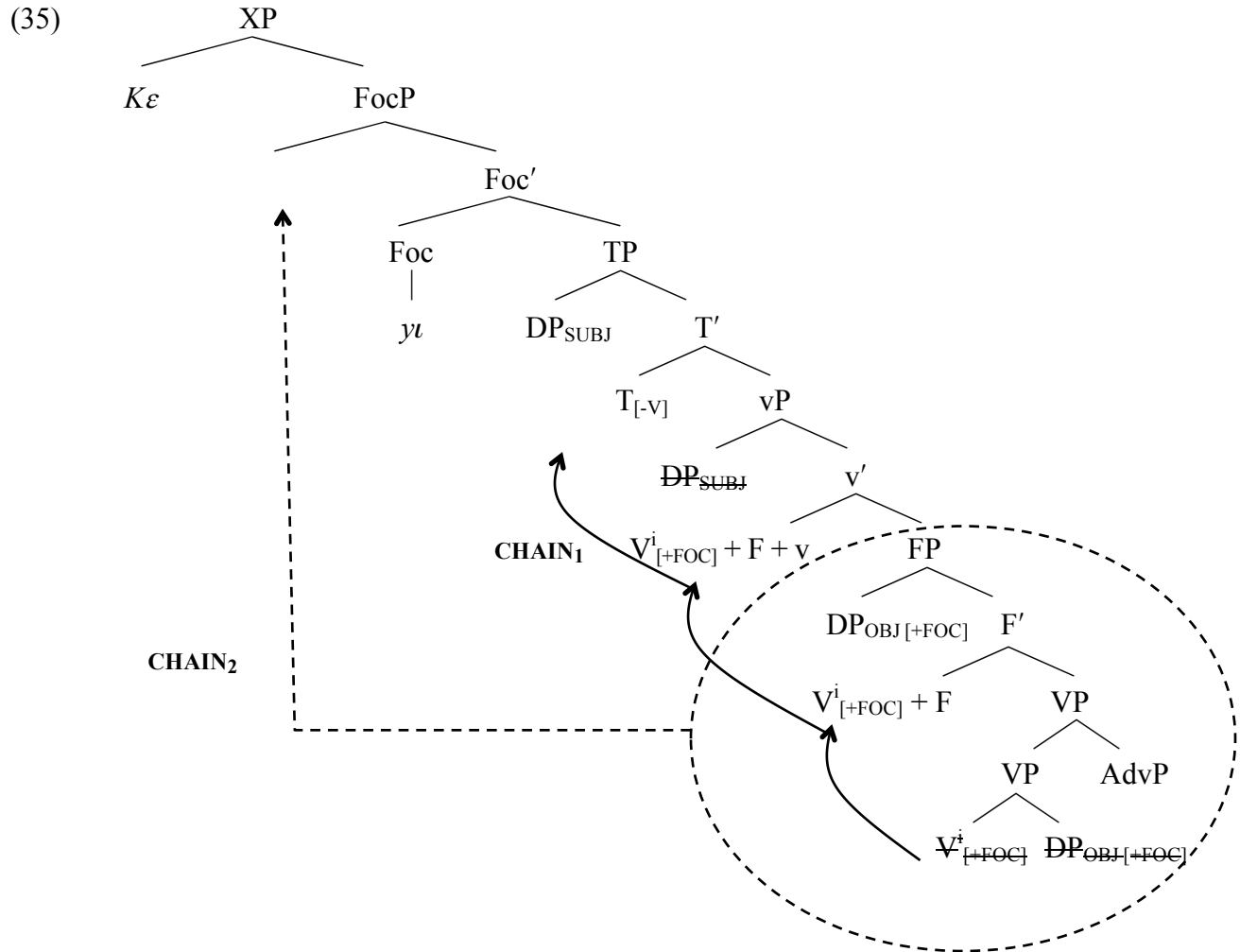
In this analysis as before, only the heads of the two chains in Spec, FocP and T^0 are interpreted at PF. The advantage of conceptualizing things in this way, as with our previous analyses, is that there is no need to assume the spell-out of multiple chain-internal copies.

5. REFINING THE ANALYSIS

The derivations of simple V focus (26) and OV focus (35) mapped out in the previous sections suffer a common technical flaw. The formation of what we have called "CHAIN$_2$" in each derivation violates Relativized Minimality/the Minimal Link Condition/Minimal Search because the Focus probe reaches further into the structure than is absolutely necessary to establish a relationship with its $V_{[+FOC]}$ goal. In doing so, the Agree relation skips a number of closer intervening potential targets. This is illustrated in the structure below.

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(36)

XP
- Kɛ
- FocP
  - Foc′
    - **Foc** — yɩ
    - TP
      - DP_{SUBJ}
      - T′
        - $T_{[-V]}$
        - vP
          - DP_{SUBJ} (struck through)
          - v′
            - $V^i_{[+FOC]} + F + v$
            - FP
              - DP_{OBJ}
              - F′
                - $V^i_{[+FOC]} + F$
                - VP
                  - VP
                    - $V^i_{[+FOC]}$
                    - DP_{OBJ} (struck through)
                  - AdvP

PROBE-GOAL₁

PROBE-GOAL₂.₁
(= VO focus: v′ → Spec, FocP)

PROBE-GOAL₂.₂
(= OV focus: FP → Spec, FocP)
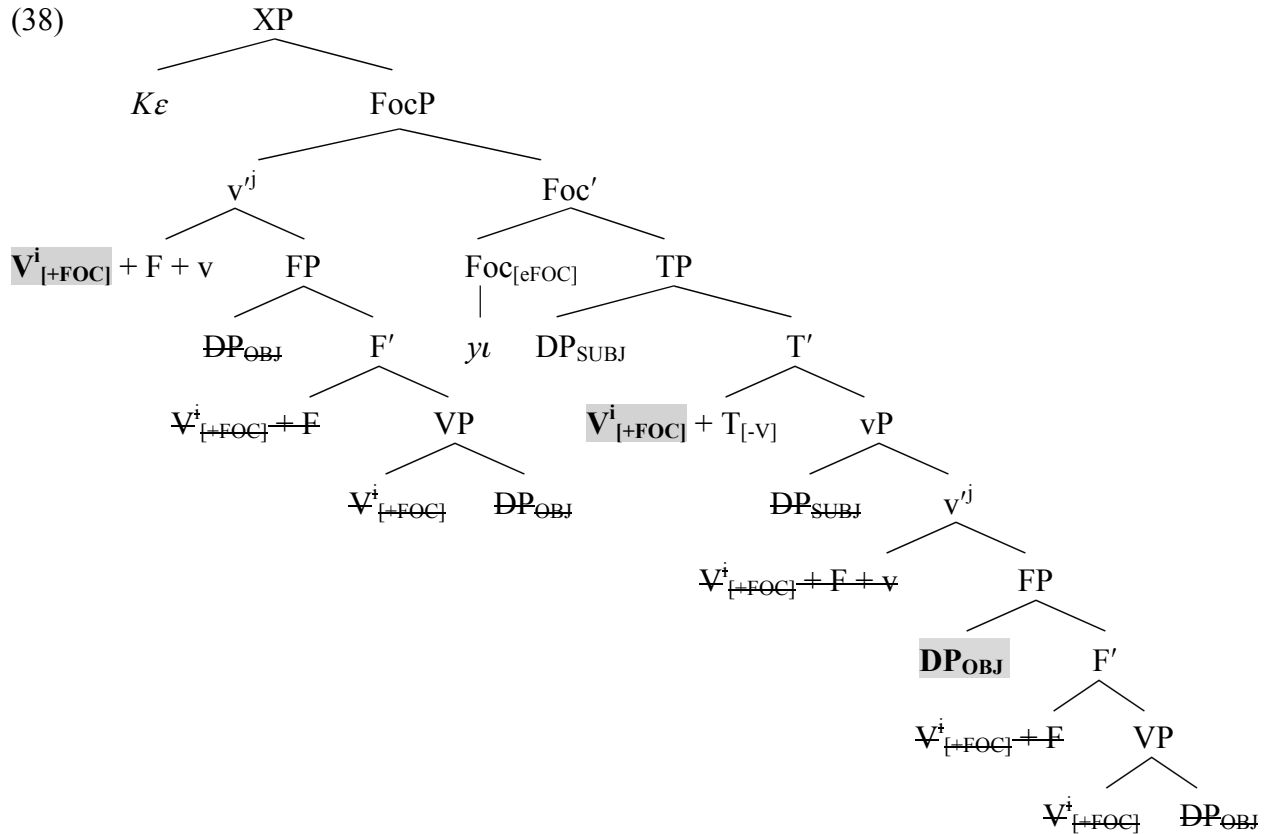
PROBE-GOAL₂.₃
(= V focus: VP → Spec, FocP)

In each derivation, although different probes target the same goal ($V_{[+FOC]}$), they do not always target the same/highest/closest copy of that goal. The Agree relation labeled above as "Probe-Goal 2.1" is the mechanism by which the A-bar chain involved in VO focus is formed according to the analysis sketched in (33). In this derivation, both Foc^0 and T^0 enter into an Agree relation with the highest copy of $V_{[+FOC]}$ in v^0 and the relationship between Foc^0 and the predicate in v^0 causes the verb to pied-pipe the v′ category. Because there are no closer intervening potential goals for either probe, the Minimal Link Condition is satisfied. The same, however, cannot be said for the probe-goal relationships involved in our hypothesized OV focus and simple V focus derivations. In the case of simple V focus, according to our analysis in (26), Foc^0 targets the lowest copy of $V_{[+FOC]}$ and the remnant VP category is pied-piped as a result. This Agree relation, labeled "Probe-Goal 2.3" in (36), clearly runs afoul of Relativized Minimality because the higher copies of $V_{[+FOC]}$ located in F^0 and v^0 represent intervening closer potential targets. With regard to our OV derivation, the analysis fleshed out in (35) requires Foc^0 to target as its goal the intermediate copy of $V_{[+FOC]}$ in F^0, which results in the pied-piping of the FP category. Because a closer potential goal in v^0 intervenes between the probe and the predicate in F^0, this Agree relation (identified as "Probe-Goal 2.2" in (36)) violates Minimal Search.

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To rectify this problem, we propose that all instances of predicate focus with verb doubling in Krachi involve the formation of identical V chains: $v^0 \rightarrow T^0$ (CHAIN 1) & $v' \rightarrow$ Spec, FocP (CHAIN 2). In this way, every chain formed uniformly respects Minimality. These V chains, we propose, are formed simultaneously, that is, in parallel (Kandybowicz 2008, Aboh & Dyakonova 2009). As the name implies, parallel chains arise when two distinct probes simultaneously target a single goal. As a result, the goal undergoes movement to two distinct positions in parallel. Overall, differences in the PF interpretation of the two v' copies (in ways that we outline below) will account for the surface word order differences between the three predicate focus constructions in the language.[5] We assume that phase heads trigger movement operations (Chomsky 2008) and that A′-chains are driven by EDGE FEATURES (Chomsky op cit). We also posit that in Krachi Foc^0 is a phase head that bears a +Focus edge feature [eFoc] and that T^0 inherits its [V] feature from Foc^0. In this way, when V^0 enters the derivation with an interpretable focus feature, it is targeted by both Foc^0 & T^0, which probe simultaneously giving rise to the formation of two independent chains ($v^0 \rightarrow T^0$ & $v' \rightarrow$ Spec, FocP (via pied-piping)). Under this analysis, the bi-locational distribution of the predicate is once again derived in an unremarkable way: only the heads of the two chains are phonetically realized, the default chain resolution strategy.

5.1. Simple V Focus Redux

We propose that simple V focus in Krachi involves scattered deletion of copies at PF. By "scattered deletion" we mean the deletion of different pieces of different chain links, allowing the contents of a single chain to be pronounced/scattered across multiple links. Although scattered deletion has been argued to be problematic (see Müller (this volume)), we think that it offers a promising means of analyzing simple V focus in Krachi. Along these lines, the only peripheral v'-internal copy that survives at PF in this variety of predicate fronting is the highest copy of V. In the lower copy of v', the only internal copy that survives at PF, we claim, is the shifted object in Spec, FP. This derives word orders in which only the focused predicate surfaces in the left periphery. We illustrate this scattered deletion analysis in (38) below, which is our proposed derivation for a simple V focus construction like (37). (In the representations that follow, we use grey shading to indicate copies that are interpreted/spelled-out at PF.)

(37) Kɛ- [dɪkɛ] yɪ   ɔkyɪ wʊ ɛ-dɪkɛ   i-gyo.
      NOM cook FOC woman the PST-cook PL-yam
      'It was COOKING/only cooking that the woman did to yams.'

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(38)

XP
├─ *Kɛ*
└─ FocP
   ├─ v′j
   │ ├─ **V^i$_{[+FOC]}$** + F + v
   │ └─ FP
   │   ├─ ~~DP$_{OBJ}$~~
   │   └─ F′
   │   ├─ ~~V^i$_{[+FOC]}$ + F~~
   │   └─ VP
   │   ├─ ~~V^i$_{[+FOC]}$~~
   │   └─ ~~DP$_{OBJ}$~~
   └─ Foc′
      ├─ Foc$_{[eFOC]}$ — *yɪ*
      └─ TP
         ├─ DP$_{SUBJ}$
         └─ T′
            ├─ **V^i$_{[+FOC]}$** + T$_{[-V]}$
            └─ vP
               ├─ ~~DP$_{SUBJ}$~~
               └─ v′j
                  ├─ ~~V^i$_{[+FOC]}$ + F + v~~
                  └─ FP
                     ├─ **DP$_{OBJ}$**
                     └─ F′
                        ├─ ~~V^i$_{[+FOC]}$ + F~~
                        └─ VP
                           ├─ ~~V^i$_{[+FOC]}$~~
                           └─ ~~DP$_{OBJ}$~~

What drives scattered deletion and prevents the non-focused object from being realized in Spec, FocP in this construction? To answer this question, we propose the following interface constraint, which we claim is active/undominated in Krachi.

(39)   At the interfaces, only items bearing [+FOC] features may be interpreted in Spec, FocP.

The empirical consequences of (39) are as follows. All peripheral copies of DP$_{OBJ}$ must delete at PF, unless they bear [+FOC] features. Because simple V focus constructions are characterized by their lack of additional [+FOC]-bearing occurrences, (39) ensures that only the predicate is realized in Spec, FocP at PF in these derivations. In addition, (39) ensures that peripheral copies of DP$_{OBJ}$ in simple V focus derivations must not be interpreted at LF. This is why simple V focus constructions are "simple" – only the predicate is in focus. We make no attempt to capture the fact that at LF two interpretations are available in this and all predicate fronting constructions – contrastive focus and exhaustive focus. We leave this for future research.

5.2. VO Focus Redux

In the VO fronting derivation, the peripheral v′-internal copies that survive at PF are the highest copy of V and the highest copy of the shifted object in Spec, FP. This is more or less the unmarked scenario that one would expect. All material internal to the lower v′ copy is deleted at PF. In other words, the entire lower copy of v′ is eliminated, the typical outcome of PF chain resolution. In (41) below, we illustrate the derivation of a VO focus structure such as (40).

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(40) Kɛ- [dɪkɛ i-gyo] yɪ ɔkyɪ wʊ ɛ-dɪkɛ.
      NOM cook PL-yam FOC woman the PST-cook
   'It was COOKING YAMS/only cooking yams that the woman did.'

(41)
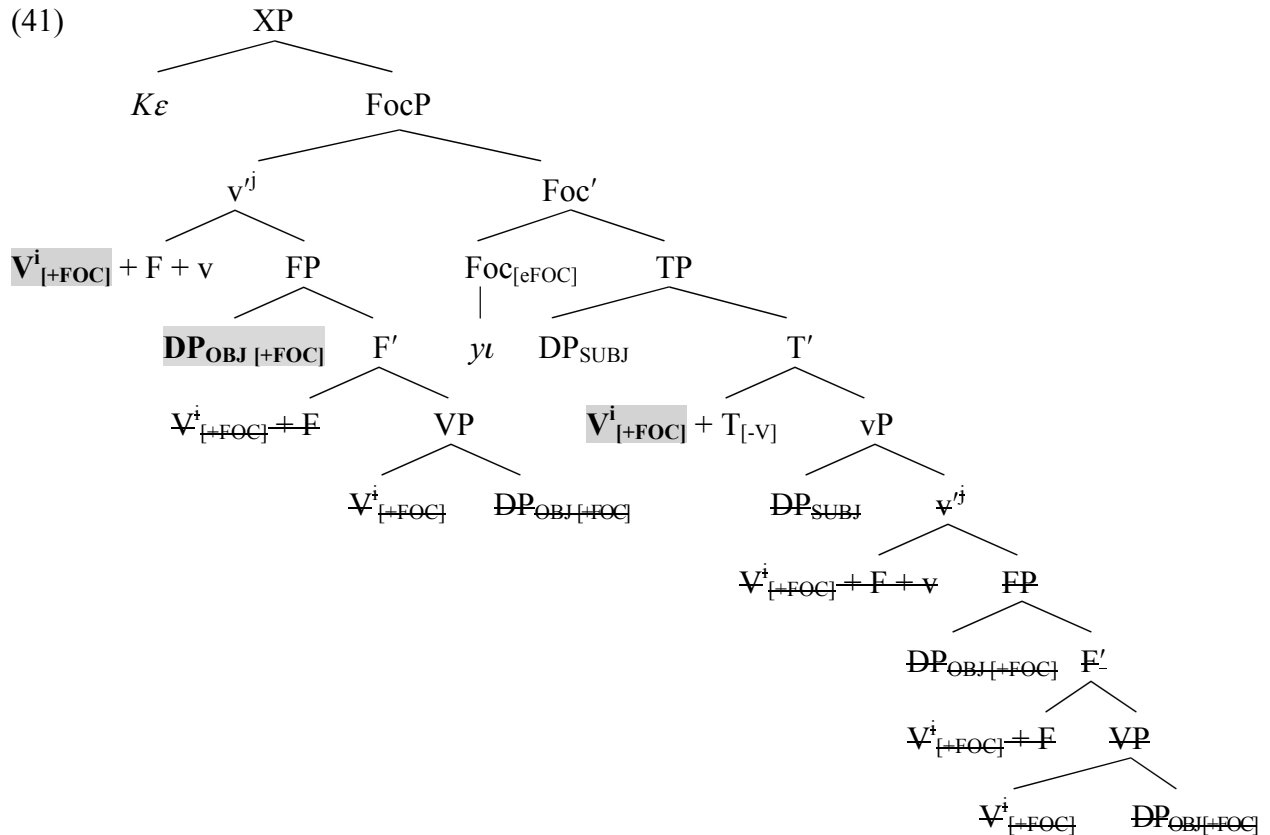
The absence of scattered deletion in this construction is due to the fact that both V and DP$_{OBJ}$ bear interpretable [+FOC] features. This allows both items to be pronounced in Spec, FocP by (39), which in turn necessitates the wholesale deletion of the lower v′ copy for reasons having to do with linearization (Nunes 2004). All in all, then, in order to reduce the v′ chain in this construction for PF convergence, four applications of Copy Deletion are required: (i) the copy of V in peripheral F^0; (ii) the copy of V in peripheral V^0; (iii) the peripheral VP-internal copy of DP$_{OBJ}$; and (iv) the lower copy of v′^{j}. Compare this with the eight applications of Copy Deletion required for linearization in simple V focus constructions like (38) involving scattered deletion. In this way, scattered deletion in the VO fronting construction is ruled out by considerations of economy (Nunes 2004).

5.3. OV Focus Redux

In this derivation, the highest copy of the shifted object inside the peripheral v′ copy survives at PF, as in the VO focus construction, but the highest v′-internal copy of V does not. For reasons that are currently unclear, a lower peripheral v′-internal copy of V is realized instead, yielding the inverted OV word order. As with VO focus constructions, all material internal to the lower

v′ copy is deleted at PF and scattered deletion of the v′ chain is uneconomical. We illustrate this analysis below.

(42) Ke- [i-gyo dɪkɛ] yɪ ɔkyɪ wʊ ɛ-dɪkɛ.
      NOM PL-yam cook FOC woman the PST-cook
      'It was COOKING YAMS/only cooking yams that the woman did.'

(43)
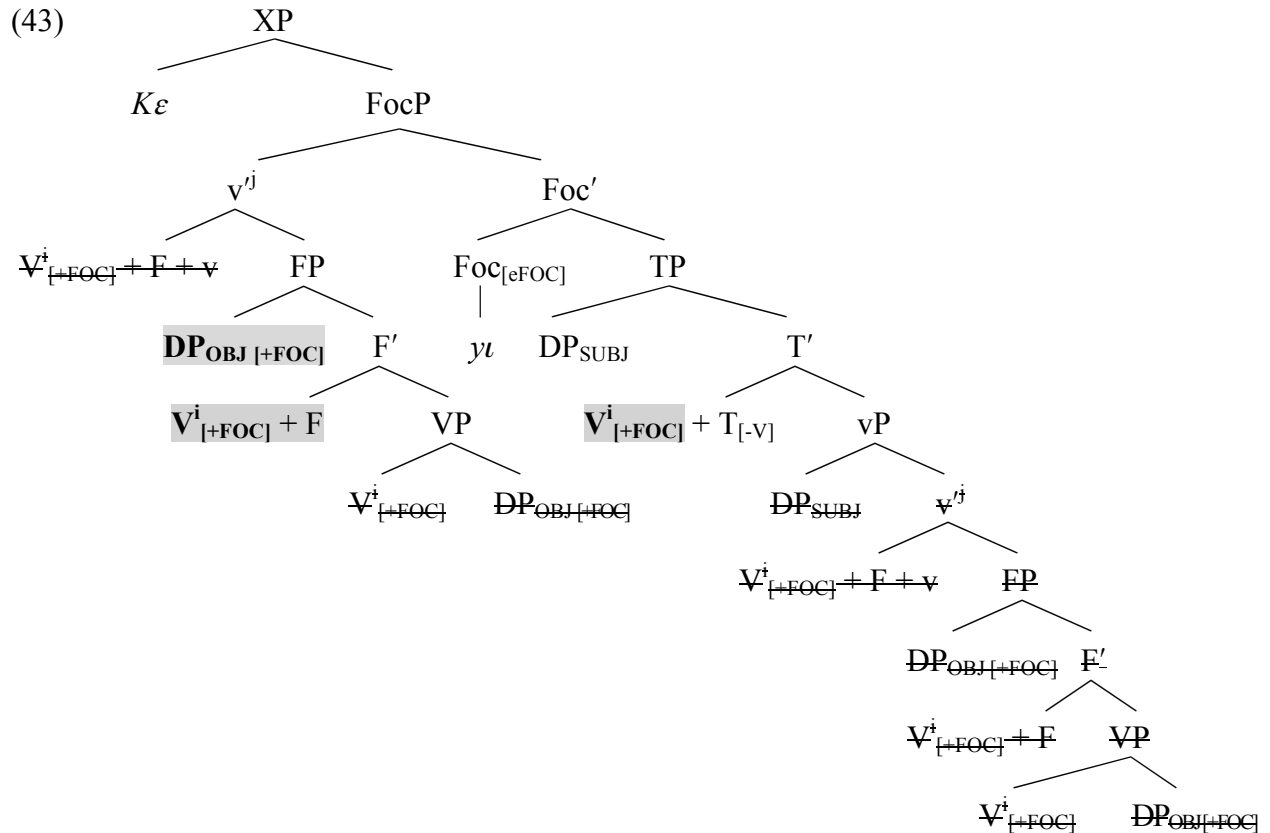
Note that the same interpretations that are available in VO focus constructions are also available in OV fronting constructions. Put another way, VO focus fronting is, as far as we can tell, semantically indistinguishable from OV focus fronting. We believe this vindicates our analytical move to derive the two constructions via the formation of identical parallel chains. What differentiates VO and OV focus fronting, we claim, is therefore a low-level difference in the PF interpretation of the two v′ copies – the highest peripheral copy of the predicate survives in one PF derivation (i.e. VO focus), whereas the intermediate peripheral copy of the predicate survives in another (i.e. OV focus).

6. CONCLUSION

We've proposed that all instances of predicate fronting with verb doubling in Krachi are characterized by the formation of identical parallel chains ($v^0 \rightarrow T^0$ & v′ → Spec, FocP) and that their surface differences stem from differences in the PF interpretations of the two v′ copies.

Our analysis carries several theoretical implications. First, Krachi predicate focus provides empirical evidence for the existence of parallel chain formation (Chomsky 2008) in Universal Grammar. Second, Krachi predicate focus provides additional support for analyses like Kandybowicz 2008 and Aboh & Dyakonova 2009 that attempt to derive verb doubling from narrow syntactic mechanisms like parallel chain formation rather than multiple copy spell-out at PF. Third, predicate focus in Krachi provides new evidence for the existence of PF scattered deletion (Wilder 1995, Ćavar & Fanselow 1997, Bošković 2001). Additionally, if a parallel chains analysis in terms of a fronted v′ constituent is on the right track, predicate focus in Krachi provides further support for the Phase Transfer Delay hypothesis of Chomsky 2001. And finally, Krachi predicate focus lends additional backing to the existence of head movement in narrow syntax.

REFERENCES

Abels, Klaus. 2001. The Predicate Cleft Construction in Russian. In Steven Franks, Tracy Holloway King, and Michael Yadroff (eds.), *Formal Approaches to Slavic Linguistics 9*, 1-18. Ann Arbor: Michigan Slavic Publications.

Aboh, Enoch O. and Marina Dyakonova. 2009. Predicate Doubling and Parallel Chains. *Lingua* 119: 1035-1065.

Adonae, Daniels Ananey. 2005. *Aspects of Kaakyi Tonology*. M.Phil. dissertation, University of Ghana, Legon.

Baker, Mark C. and Chris Collins. 2006. Linkers and the Internal Structure of vP. *Natural Language and Linguistic Theory* 24: 307-354.

Bošković, Željko. 2001. *On the Nature of the Syntax-Phonology Interface: Cliticization and Related Phenomena*. Amsterdam: Elsevier Science.

Cable, Seth. 2004. Predicate Clefts and Base-Generation: Evidence from Yiddish and Brazilian Portuguese. Ms. MIT.

Ćavar, Damir and Gisbert Fanselow. 1997. Split Constructions in Germanic and Slavic. Paper presented at International Conference on Pied-Piping, Friedrich Schiller Universität Jena.

Cho, Eun and Kunio Nishiyama. 2000. Yoruba Predicate Clefts from a Comparative Perpective. In Vicki Carstens and Frederick Parkinson (eds.), *Advances in African Linguistics. Trends in African Linguistics 4*, 37-49. Trenton: Africa World Press.

Chomsky, Noam. 2000. Minimalist Inquiries: The Framework. In Roger Martin, David Michaels and Juan Uriagereka (eds.), *Step by Step: Essays on Minimalist Syntax in Honor of Howard Lasnik*, 89-155. Cambridge, MA: MIT Press.

Chomsky, Noam. 2001. Derivation by Phase. In Michael Kenstowicz (ed.), *Ken Hale: A Life in Language*, 1-52. Cambridge, MA: MIT Press.

Chomsky, Noam. 2004. Beyond Explanatory Adequacy. In Adriana Beletti (ed.), *Structures and Beyond: The Cartography of Syntactic Structures*, Vol. 3, 104-131. Oxford: Oxford University Press.

Chomsky, Noam. 2008. On Phases. In Robert Freidin, Carlos P. Otero and Maria Luisa Zubizarreta (eds.), *Foundational Issues in Linguistic Theory*, 133-166. Cambridge, MA: MIT Press.

Collins, Chris and Höskuldur Thráinsson. 1996. VP Internal Structure and Object Shift in Icelandic. *Linguistic Inquiry* 27: 391-344.

Dikken, Marcel den. 2007. Phase Extension: Contours of a Theory of the Role of Head Movement in Phrasal Extraction. *Theoretical Linguistics* 33: 1-41.

Donati, Catarina. 2006. On *Wh*- Head Movement. In Lisa Lai-Shen Cheng and Norbert Corver (eds.), *Wh- Movement*: *Moving On*, 21-46. Cambridge, MA: MIT Press.

Dundaa, Mark. 2007. *Transitional Primer: Can you read and write in Kaakyi*? Tamale, Ghana: Ghana Insitute of Linguitics, Literacy, and Bible Translation.

Gallego, Ángel. 2010. *Phase Theory*. Amsterdam: John Benjamins.

Hein, Johannes. This volume. V(P)-fronting in Asante Twi and Limbum.

Hiraiwa, Ken. 2005. Predicate Clefts in Buli: Categories and Phases. *Linguistic Analysis* 32: 544-583.

Jo, Jung-Min. 2013. Predicate Contrastive Topic Constructions: Implications for Morpho-syntax in Korean and Copy Theory of Movement. *Lingua* 131: 80-111.

Kandybowicz, Jason. 2008. *The Grammar of Repetition: Nupe Syntax at the Syntax-Phonology Interface*. Amsterdam: John Benjamins.

Kandybowicz, Jason and Mark C. Baker. 2003. On Directionality and the Structure of the Verb Phrase: Evidence from Nupe. *Syntax* 6: 115-155.

Kandybowicz, Jason and Harold Torrence. 2016. Predicate Focus in Krachi: 2 Probes, 1 Goal, 3 PFs. In Kyeong-min Kim (et al. eds.), *Proceedings of the 33rd West Coast Conference on Formal Linguistics*, 227–236. Somerville, MA: Cascadilla Press.

Koizumi, Masatoshi. 1995. *Phrase Structure in Minimalist Syntax*. Ph.D. dissertation, MIT, Cambridge, MA.

Koopman, Hilda. 1984. *The Syntax of Verbs*. Dordrecht: Foris.

Koopman, Hilda. 1999. Unifying Predicate Cleft Constructions. In Koopman 2000, 366-382. London: Routledge.

Koopman, Hilda. 2000. *The Syntax of Specifiers and Heads*. London: Routledge.

Landau, Idan. 2006. Chain Resolution in Hebrew V(P)-fronting. *Syntax* 9: 32-66.

Müller, Gereon. This volume. Predicate Doubling by Phonological Copying.

Nishiyama, Kunio and Eun Cho. 1998. Predicate Cleft Constructions in Japanese and Korean: The Role of Dummy Verbs in TP/VP Preposing. *Japanese/Korean Linguistics* 7: 463-479.

Nunes, Jairo. 2003. Head Movement, Remnant Movement and Phonetic Realization of Chains. In Anoop Mahajan (ed.), *Syntax at Sunset 3: Head Movement and Syntactic Theory*, 161-177. (UCLA/Potsdam Working Papers in Linguistics 10)

Nunes, Jairo. 2004. *Linearization of Chains and Sideward Movement*. Cambridge, MA: MIT Press.

Piou, Nanie. 1982. Le Clivage du Prédicat. In Claire Lefebvre, Hélèn Magloire-Holly and Nanie Piou (eds.), *Syntax de L'Haitien*, 122-151. Ann Arbor: Karoma Press.

Stewart, Osamuyimen Thompson. 2001. *The Serial Verb Construction Parameter*. New York: Garland.

Travis, Lisa deMena. 1991. Derived Objects, Inner Aspect, and the Structure of VP. Paper presented at NELS 22, Newark, DE.

Travis, Lisa deMena. 2010. *Inner Aspect: The Articulation of VP*. Dordrecht: Springer.

Vicente, Luis. 2009. An Alternative to Remnant Movement for Partial Predicate Fronting. *Syntax* 12: 158-191.

Wilder, Chris. 1995. Rightward Movement as Leftward Deletion. In Uli Lutz and Jürgen Pafel (eds.), *On Extraction and Extraposition in German*, 273-309. Amsterdam: John Benjamins.

NOTES

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[2] The Krachi data presented in this article come exclusively from fieldwork and are presented in the official Krachi orthography developed by the Ghana Institute for Linguistics, Literacy & Bible Translation (Dundaa 2007). Because the orthography does not mark tone, tone marking has been omitted from the examples. We extend sincere thanks to our native speaker consultants Mark Nsekou Denteh, Matthew Donkor, and Joseph Agyei Korboe, as well as to Mark Dundaa and the Ghana Institute for Linguistics, Literacy & Bible Translation for logistical, material and scholarly support.

[3] This characterization differs slightly from the description presented in Kandybowicz & Torrence 2016, where it was claimed that simple verb focus constructions like (2b) yield both contrastive and exhaustive focus readings, while V+O focus constructions like (2c) only give rise to exhaustive interpretations. Follow up work suggests that our 2016 characterization is erroneous and that all instances of predicate fronting with doubling in the language give way to both contrastive and exhaustive focus interpretations, as described above.

[4] This analysis predicts that unlike simple V focus, V doubling would be blocked in this construction if $v^0 \rightarrow T^0$ movement were blocked. We currently lack the necessary data to verify the accuracy of this prediction and leave this for future research.

[5] For a proposal similar in spirit, see Jo 2013 on predicate contrastive topic constructions in Korean.